CHAPTER

32

LANDING GEAR

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32-EFFECTIVE PAGES		
1 thru 28	SEP 05/2018	
32-CONTENTS		
1	Sep 05/2017	
2	Sep 05/2017	
3	Sep 05/2017	
4	May 05/2018	
5	Jul 25/2018	
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7	Jul 25/2018	
8	Jul 25/2018	
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12	Jan 05/2018	
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14	Jan 05/2018	
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16	Sep 05/2017	
17	Sep 05/2017	
18	Jan 05/2018	
19	Sep 05/2017	
20	Sep 05/2017	
O 21	Sep 05/2018	
22	Jan 05/2016	
23	Sep 05/2017	
24	Sep 05/2017	
25	Jan 05/2017	
26	Jan 05/2017	
27	Sep 05/2017	
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29	Jan 05/2017	
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32	Sep 05/2017	
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32-CONTENTS (cont)		
35	Jan 05/2017	
36	Jan 05/2018	
37	Jan 05/2018	
38	Jan 05/2018	
39	Sep 05/2017	
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43	Jan 05/2017	
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54	May 05/2018	
32-00-00		
201	Jan 05/2016	
202	Sep 05/2017	
203	Sep 05/2017	
204	Jan 05/2018	
205	Jan 05/2018	
206	Jan 05/2016	
207	Jan 05/2016	
208	Sep 05/2017	
209	Sep 05/2017	
210	BLANK	
32-00-00		
901	Jan 05/2015	
902	Jan 05/2015	
903	Jan 05/2015	
904	Jan 05/2015	
32-00-00 (cont)		
905	Jan 05/2015	
906	Jan 05/2018	
907	Jan 05/2018	
908	Jan 05/2018	
909	Jan 05/2018	
910	Jan 05/2018	
911	Sep 05/2017	
912	Sep 05/2017	
913	Sep 05/2017	
914	Sep 05/2017	
915	Sep 05/2017	
916	Sep 05/2017	
917	Sep 05/2017	
918	Sep 05/2017	
919	Sep 05/2017	
920	Sep 05/2017	
921	Sep 05/2017	
922	Sep 05/2017	
923	Sep 05/2017	
924	Sep 05/2017	
925	Sep 05/2017	
926	Sep 05/2017	
927	Sep 05/2017	
928	Sep 05/2017	
929	Sep 05/2017	
930	Sep 05/2017	
931	Sep 05/2017	
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934	Sep 05/2017	
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936	Sep 05/2017	
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32-00-00 (cont)			32-00-00 (cont)			32-00-15 (cont)		
941	May 05/2017		977	May 05/2018		209	May 05/2015	
942	May 05/2017		978	May 05/2018		210	BLANK	
943	Sep 05/2017		979	May 05/2018		32-00-20		
944	Sep 05/2017		980	May 05/2018		201	Jan 05/2015	
945	Sep 05/2017		981	May 05/2018		202	Sep 05/2016	
946	Sep 05/2017		982	Jul 25/2018		203	Sep 05/2016	
947	Sep 05/2017		983	Jul 25/2018		204	Sep 05/2016	
948	May 05/2017		984	Jul 25/2018		205	Sep 05/2016	
949	Sep 05/2017		985	Jul 25/2018		206	Sep 05/2016	
950	Sep 05/2017		986	Jul 25/2018		207	Sep 05/2016	
951	May 05/2017		987	Jul 25/2018		208	Sep 05/2016	
952	Sep 05/2017		988	Jul 25/2018		209	Sep 05/2016	
953	May 05/2017		989	Jul 25/2018		210	Sep 05/2016	
954	Sep 05/2017		990	Jul 25/2018		211	Sep 05/2016	
955	Sep 05/2017		32-00-10			212	Sep 05/2016	
956	Sep 05/2017		601	Sep 05/2017		213	Sep 05/2016	
957	Sep 05/2017		602	Sep 05/2017		214	Sep 05/2016	
958	May 05/2017		603	Sep 05/2017		215	Sep 05/2016	
959	May 05/2017		604	Sep 05/2017		216	Sep 05/2016	
960	May 05/2017		32-00-10			32-00-30		
961	Sep 05/2017		701	Sep 05/2017		201	May 05/2018	
962	Sep 05/2017		702	Sep 05/2017		202	Sep 05/2017	
963	Sep 05/2017		703	Sep 05/2017		203	Sep 05/2017	
964	Sep 05/2017		704	BLANK		204	Jan 05/2018	
965	Sep 05/2017		32-00-10			205	Sep 05/2016	
966	Sep 05/2017		801	Sep 05/2017		206	Sep 05/2016	
967	May 05/2017		802	Sep 05/2017		207	Sep 05/2016	
968	May 05/2017		32-00-15			208	Sep 05/2016	
969	Sep 05/2017		201	Sep 05/2017		209	May 05/2015	
970	Sep 05/2017		202	Sep 05/2017		210	May 05/2015	
971	May 05/2017		203	Sep 05/2017		211	Sep 05/2017	
972	Sep 05/2017		204	Sep 05/2016		212	Jan 05/2018	
973	Sep 05/2017		205	Sep 05/2016		32-00-40		
974	May 05/2017		206	Sep 05/2016		201	Sep 05/2017	
975	May 05/2017		207	Sep 05/2016		202	Sep 05/2017	
976	Sep 05/2017		208	Sep 05/2016		203	Sep 05/2016	

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32-00-40 (cont)			32-08-01 (cont)			32-09-02 (cont)		
204	Sep 05/2017		406	Sep 05/2017		210	BLANK	
205	Sep 05/2017		32-08-02			32-09-03		
206	Jan 05/2015		401	Sep 05/2017		201	Sep 05/2017	
207	Sep 05/2016		402	Sep 05/2017		202	Sep 05/2017	
208	BLANK		403	Sep 05/2017		203	Sep 05/2016	
32-00-50			404	Sep 05/2016		204	Sep 05/2016	
201	Jan 05/2015		405	Sep 05/2016		205	May 05/2018	
202	Jan 05/2015		406	Sep 05/2016		206	Sep 05/2017	
203	Sep 05/2016		407	Sep 05/2017		207	May 05/2017	
204	Sep 05/2017		408	Sep 05/2017		208	May 05/2017	
205	Jan 05/2015		32-09-00			209	Jan 05/2018	
206	BLANK		201	May 05/2018		210	May 05/2017	
32-05-03			202	Jan 05/2015		211	Sep 05/2016	
201	Sep 05/2017		203	May 05/2018		212	Sep 05/2016	
202	Sep 05/2017		204	Jan 05/2018		213	Sep 05/2016	
203	Sep 05/2016		205	Jan 05/2018		214	BLANK	
204	Sep 05/2016		206	Sep 05/2017		32-11-00		
205	Sep 05/2016		207	Jan 05/2015		201	Sep 05/2016	
206	Sep 05/2017		208	May 05/2018		202	Jan 05/2015	
207	Sep 05/2017		209	May 05/2018		203	Sep 05/2016	
208	Sep 05/2016		210	BLANK		204	BLANK	
209	Sep 05/2016		32-09-00			32-11-01		
210	Sep 05/2016		501	Jan 05/2016		401	Jan 05/2015	
211	Sep 05/2015		502	Jan 05/2016		402	Jul 25/2018	
212	Sep 05/2016		503	Jan 05/2016		403	May 05/2018	
32-08-00			504	BLANK		404	Jul 25/2018	
501	Jan 05/2015		32-09-02			405	May 05/2018	
502	Jan 05/2015		201	May 05/2015		406	Jul 25/2018	
503	Jan 05/2015		202	Sep 05/2017		407	Jul 25/2018	
504	BLANK		203	Sep 05/2016		408	Jul 25/2018	
32-08-01			204	Sep 05/2017		409	Jul 25/2018	
401	May 05/2015		205	Jan 05/2015		410	Jul 25/2018	
402	Sep 05/2017		206	Sep 05/2017		411	Jul 25/2018	
403	Sep 05/2016		207	Sep 05/2017		412	Jul 25/2018	
404	Sep 05/2016		208	May 05/2018		413	Sep 05/2017	
405	Sep 05/2017		209	Sep 05/2017		414	Sep 05/2017	

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32-11-01 (cont)			32-11-01 (cont)			32-11-01 (cont)		
415	Sep 05/2017		451	Sep 05/2017		487	May 05/2018	
416	Sep 05/2017		452	Sep 05/2017		488	Jul 25/2018	
417	Sep 05/2017		453	Sep 05/2017		489	May 05/2018	
418	Sep 05/2017		454	Jul 25/2018		490	BLANK	
419	Sep 05/2017		455	Jul 25/2018		32-11-01		
420	Sep 05/2017		456	Jul 25/2018		701	Jul 25/2018	
421	Sep 05/2017		457	Jul 25/2018		702	Jan 05/2018	
422	Sep 05/2017		458	Jan 05/2018		703	Jul 25/2018	
423	Sep 05/2017		459	Jul 25/2018		704	Jan 05/2017	
424	Sep 05/2017		460	Jan 05/2018		705	Sep 05/2017	
425	Sep 05/2017		461	Jan 05/2018		706	Jul 25/2018	
426	Sep 05/2017		462	Jul 25/2018		707	Jul 25/2018	
427	Sep 05/2017		463	Jul 25/2018		708	Jul 25/2018	
428	Sep 05/2017		464	Jan 05/2018		709	Jan 05/2017	
429	Sep 05/2017		465	Jul 25/2018		710	Jan 05/2017	
430	Sep 05/2017		466	Jul 25/2018		711	Jan 05/2017	
431	Sep 05/2017		467	Jul 25/2018		712	Jan 05/2017	
432	Sep 05/2017		468	Jul 25/2018		32-11-02		
433	Sep 05/2017		469	Jul 25/2018		R 401	Sep 05/2018	
434	Sep 05/2017		470	Jul 25/2018		402	Jul 25/2018	
435	Sep 05/2017		471	Jul 25/2018		403	Jul 25/2018	
436	Sep 05/2017		472	Sep 05/2017		404	Sep 05/2016	
437	Sep 05/2017		473	Sep 05/2017		405	Sep 05/2017	
438	Sep 05/2017		474	Sep 05/2017		406	Jan 05/2015	
439	May 05/2018		475	Sep 05/2017		407	Jul 25/2018	
440	Sep 05/2017		476	Jul 25/2018		408	Jul 25/2018	
441	Sep 05/2017		477	May 05/2018		409	Sep 05/2017	
442	May 05/2018		478	Jul 25/2018		410	BLANK	
443	Sep 05/2017		479	Jul 25/2018		32-11-03 Config 2		
444	Sep 05/2017		480	Jul 25/2018		401	Jan 05/2015	
445	Sep 05/2017		481	May 05/2018		402	Jan 05/2018	
446	Jul 25/2018		482	May 05/2018		403	Sep 05/2016	
447	May 05/2018		483	Jul 25/2018		404	Sep 05/2016	
448	Jul 25/2018		484	Jul 25/2018		405	Sep 05/2016	
449	May 05/2018		485	Jul 25/2018		406	Sep 05/2016	
450	Jul 25/2018		486	May 05/2018		407	Sep 05/2016	

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32-11-03 Config 2 (cont)			32-11-03 Config 2 (cont)			32-11-04 (cont)		
408	Sep 05/2016		444	Jul 25/2018		421	Jul 25/2018	
409	Sep 05/2016		445	Jul 25/2018		422	Jul 25/2018	
410	Sep 05/2016		446	Jul 25/2018		423	Jul 25/2018	
411	Sep 05/2016		447	Jul 25/2018		424	Jul 25/2018	
412	Sep 05/2016		448	Jul 25/2018		425	Jul 25/2018	
413	Sep 05/2016		449	Jul 25/2018		426	BLANK	
414	May 05/2018		450	Jul 25/2018		32-11-10		
415	Jan 05/2018		451	Jul 25/2018		401	May 05/2018	
416	Jan 05/2018		452	Jan 05/2018		402	Sep 05/2017	
417	May 05/2018		453	Jan 05/2018		403	Sep 05/2016	
418	Jan 05/2018		454	Jan 05/2018		404	May 05/2018	
419	Jul 25/2018		455	Jan 05/2018		405	Sep 05/2016	
420	Jul 25/2018		456	Jan 05/2018		406	Sep 05/2016	
421	Jul 25/2018		457	Jan 05/2018		407	May 05/2018	
422	Jul 25/2018		458	BLANK		408	Sep 05/2016	
423	Jul 25/2018		32-11-04			409	Sep 05/2016	
424	Jul 25/2018		401	Jul 25/2018		410	May 05/2018	
425	Jul 25/2018		R 402	Sep 05/2018		411	May 05/2018	
426	Jul 25/2018		403	Jul 25/2018		412	May 05/2018	
427	Jul 25/2018		404	Jul 25/2018		413	May 05/2018	
428	Jul 25/2018		405	Jul 25/2018		414	May 05/2018	
429	Jul 25/2018		406	Jul 25/2018		415	May 05/2018	
430	Jan 05/2018		407	Jul 25/2018		416	May 05/2018	
431	Jan 05/2018		408	Jul 25/2018		417	Jul 25/2018	
432	Jan 05/2018		409	Sep 05/2016		418	Jul 25/2018	
433	May 05/2018		410	Jul 25/2018		419	Jul 25/2018	
434	Jan 05/2018		411	Jul 25/2018		420	Jul 25/2018	
435	Jul 25/2018		412	Sep 05/2016		421	Jul 25/2018	
436	Jul 25/2018		413	Sep 05/2016		422	Jul 25/2018	
437	Jul 25/2018		414	Jul 25/2018		423	Jul 25/2018	
438	Jul 25/2018		415	Sep 05/2016		424	Jul 25/2018	
439	Jul 25/2018		416	Sep 05/2016		425	Jul 25/2018	
440	Jul 25/2018		417	Sep 05/2016		426	Jul 25/2018	
441	Jul 25/2018		418	Sep 05/2016		427	Jul 25/2018	
442	Jul 25/2018		419	Jul 25/2018		428	Jul 25/2018	
443	Jul 25/2018		420	Jul 25/2018		429	Jul 25/2018	

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32-11-10 (cont)		
430	Jul 25/2018	
431	Jul 25/2018	
432	Jul 25/2018	
433	Jul 25/2018	
434	Jul 25/2018	
435	Jul 25/2018	
436	Jul 25/2018	
437	Jul 25/2018	
438	Jul 25/2018	
439	Jul 25/2018	
440	Jul 25/2018	
441	Jul 25/2018	
442	Jul 25/2018	
443	Jul 25/2018	
444	Jul 25/2018	
445	Jul 25/2018	
446	Jul 25/2018	
32-11-18		
401	Jul 25/2018	
402	Sep 05/2017	
403	Jul 25/2018	
404	Jul 25/2018	
405	Sep 05/2016	
406	May 05/2018	
407	May 05/2018	
408	Jul 25/2018	
409	Jul 25/2018	
410	Jul 25/2018	
411	Jul 25/2018	
412	Jul 25/2018	
32-11-18		
601	Jan 05/2015	
602	Jan 05/2015	
603	Sep 05/2016	
604	Sep 05/2016	
32-11-20		
401	May 05/2018	
402	May 05/2018	
403	Sep 05/2016	
404	Sep 05/2016	
405	Sep 05/2016	
406	Sep 05/2016	
407	Sep 05/2016	
408	Sep 05/2016	
409	Sep 05/2016	
410	May 05/2018	
411	May 05/2018	
412	BLANK	
32-11-21		
401	Jan 05/2017	
402	Jul 25/2018	
403	Sep 05/2017	
404	Sep 05/2017	
405	Sep 05/2017	
406	Sep 05/2017	
407	Sep 05/2017	
408	Jul 25/2018	
409	Jul 25/2018	
410	Jul 25/2018	
411	Jul 25/2018	
412	Jul 25/2018	
413	Jul 25/2018	
414	Jul 25/2018	
415	Jul 25/2018	
416	Jul 25/2018	
417	Sep 05/2017	
418	Sep 05/2017	
419	Sep 05/2017	
420	Sep 05/2017	
421	Sep 05/2017	
422	Sep 05/2017	
423	Sep 05/2017	
32-11-21 (cont)		
424	Sep 05/2017	
425	Sep 05/2017	
426	Sep 05/2017	
427	Sep 05/2017	
428	Sep 05/2017	
32-11-22 Config 2		
401	Jul 25/2018	
402	Jul 25/2018	
403	Jul 25/2018	
404	Sep 05/2016	
405	Sep 05/2016	
406	Sep 05/2016	
407	Sep 05/2016	
408	Sep 05/2016	
409	Sep 05/2016	
410	May 05/2018	
411	Jan 05/2018	
412	Jan 05/2018	
413	May 05/2018	
414	Jul 25/2018	
415	Jul 25/2018	
416	Jul 25/2018	
417	Jul 25/2018	
418	Jul 25/2018	
419	Jul 25/2018	
420	Jul 25/2018	
421	Jul 25/2018	
422	Jul 25/2018	
423	Jul 25/2018	
424	Jul 25/2018	
425	Jul 25/2018	
426	Jul 25/2018	
427	Jul 25/2018	
428	BLANK	

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32-11-24		
401	Jul 25/2018	
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403	Jul 25/2018	
404	Jul 25/2018	
405	Jul 25/2018	
406	Jul 25/2018	
407	Jan 05/2018	
408	Jan 05/2018	
409	Sep 05/2016	
410	Jan 05/2018	
411	Sep 05/2016	
412	Sep 05/2016	
413	Sep 05/2016	
414	Sep 05/2016	
415	Sep 05/2016	
416	Sep 05/2016	
417	Sep 05/2016	
418	Sep 05/2016	
419	Jul 25/2018	
420	Jul 25/2018	
421	Jul 25/2018	
422	Jan 05/2018	
423	Jan 05/2018	
424	Jan 05/2018	
32-11-25 Config 2		
R 201	Sep 05/2018	
202	May 05/2018	
203	May 05/2018	
R 204	Sep 05/2018	
205	Sep 05/2016	
206	Sep 05/2016	
207	May 05/2018	
208	Sep 05/2016	
209	May 05/2018	
210	Sep 05/2016	
R 211	Sep 05/2018	
32-11-25 Config 2 (cont)		
212	May 05/2018	
213	May 05/2018	
214	May 05/2018	
215	Jul 25/2018	
R 216	Sep 05/2018	
217	May 05/2018	
218	May 05/2018	
R 219	Sep 05/2018	
R 220	Sep 05/2018	
221	May 05/2018	
222	Jul 25/2018	
223	Jul 25/2018	
224	BLANK	
32-11-25		
601	Sep 05/2017	
602	Sep 05/2017	
603	Sep 05/2017	
604	BLANK	
32-11-25		
801	Jan 05/2017	
802	Jan 05/2018	
803	Sep 05/2017	
804	Sep 05/2017	
805	Sep 05/2016	
806	Sep 05/2016	
32-11-26		
401	May 05/2018	
402	May 05/2018	
403	May 05/2018	
404	Sep 05/2016	
405	May 05/2018	
406	Sep 05/2017	
407	Sep 05/2017	
408	Jul 25/2018	
409	May 05/2018	
410	Jul 25/2018	
32-11-26 (cont)		
411	Jul 25/2018	
412	Sep 05/2017	
413	Sep 05/2017	
414	Jul 25/2018	
415	Jul 25/2018	
416	Jul 25/2018	
417	May 05/2018	
418	Jul 25/2018	
419	Sep 05/2017	
420	Sep 05/2017	
421	Sep 05/2017	
422	Jul 25/2018	
423	Jul 25/2018	
424	Sep 05/2017	
425	Sep 05/2017	
426	BLANK	
32-11-26		
601	Sep 05/2017	
602	Sep 05/2017	
603	Sep 05/2017	
604	Sep 05/2017	
605	Sep 05/2017	
606	BLANK	
32-11-27		
401	May 05/2018	
402	Sep 05/2017	
403	Sep 05/2017	
404	Sep 05/2016	
405	Sep 05/2016	
406	May 05/2018	
407	Sep 05/2017	
408	Sep 05/2017	
409	Sep 05/2017	
410	BLANK	

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32-11-28			32-12-00 (cont)			32-12-00 (cont)		
401	Sep 05/2016		512	Sep 05/2016		548	BLANK	
402	Jan 05/2018		513	Sep 05/2016		32-12-00		
403	Jan 05/2018		514	Sep 05/2016		601	Sep 05/2017	
404	Jan 05/2018		515	Sep 05/2016		602	Sep 05/2017	
405	Jan 05/2018		516	Sep 05/2016		603	Sep 05/2016	
406	Jan 05/2018		517	Sep 05/2016		604	Sep 05/2016	
407	Jan 05/2018		518	Sep 05/2017		605	Sep 05/2017	
408	Jan 05/2018		519	Jan 05/2018		606	Sep 05/2016	
409	Jan 05/2018		520	Jan 05/2018		607	Sep 05/2016	
410	Jan 05/2018		521	Jan 05/2018		608	BLANK	
32-11-30			522	Jan 05/2018		32-12-00		
201	Jan 05/2015		523	Jan 05/2018		801	Jan 05/2015	
202	Jan 05/2015		524	Jan 05/2018		802	BLANK	
203	Jan 05/2015		525	Jan 05/2018		32-12-01		
204	Sep 05/2016		526	Jan 05/2018		R 401	Sep 05/2018	
205	Sep 05/2016		527	Jan 05/2018		402	May 05/2018	
206	BLANK		528	Jan 05/2018		403	May 05/2018	
32-11-96			529	Jan 05/2018		404	Sep 05/2017	
401	Sep 05/2017		530	Jan 05/2018		405	Sep 05/2016	
402	Sep 05/2017		531	Jan 05/2018		406	Sep 05/2016	
403	Sep 05/2016		532	Jan 05/2018		407	May 05/2018	
404	Sep 05/2017		533	Jan 05/2018		408	Sep 05/2017	
405	Sep 05/2017		534	Jan 05/2018		409	Sep 05/2016	
406	BLANK		535	Jan 05/2018		R 410	Sep 05/2018	
32-12-00			536	Jan 05/2018		411	May 05/2018	
501	Jan 05/2015		537	Jan 05/2018		412	Sep 05/2017	
502	Jul 25/2018		538	Jan 05/2018		413	Sep 05/2017	
503	Jan 05/2018		539	Jan 05/2018		414	Sep 05/2017	
504	Jan 05/2018		540	Jan 05/2018		32-12-02		
505	Jan 05/2018		541	Jan 05/2018		401	Sep 05/2017	
506	Jan 05/2018		542	Jan 05/2018		402	Sep 05/2017	
507	Jul 25/2018		543	Jan 05/2018		403	Sep 05/2016	
508	Jan 05/2018		544	Jan 05/2018		404	Sep 05/2016	
509	Jan 05/2018		545	Jan 05/2018		405	Sep 05/2016	
510	Jan 05/2018		546	Jan 05/2018		406	Sep 05/2017	
511	Jan 05/2018		547	Jan 05/2018		407	Sep 05/2017	

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32-12-02 (cont)		
408	Sep 05/2017	
409	Sep 05/2016	
410	Sep 05/2016	
411	Sep 05/2017	
412	Sep 05/2017	
32-12-06		
401	Jan 05/2018	
402	Jan 05/2018	
403	May 05/2017	
404	May 05/2017	
405	May 05/2017	
406	Jan 05/2018	
407	Jan 05/2018	
408	Jan 05/2018	
409	Jan 05/2018	
410	BLANK	
32-12-08		
401	Sep 05/2017	
402	Jan 05/2018	
403	Jan 05/2018	
404	Jan 05/2018	
405	Jan 05/2018	
406	Jan 05/2018	
407	Jan 05/2018	
408	BLANK	
32-12-11		
401	Sep 05/2017	
402	Jan 05/2018	
403	Jan 05/2018	
404	Jan 05/2018	
405	Jan 05/2018	
406	Jan 05/2018	
407	Jan 05/2018	
408	Jan 05/2018	
32-21-00		
601	Sep 05/2017	
602	Sep 05/2017	
603	Sep 05/2016	
604	Sep 05/2016	
32-21-01		
401	Jul 25/2018	
402	Sep 05/2017	
403	Jan 05/2018	
404	Jan 05/2018	
405	Jul 25/2018	
406	Jan 05/2018	
407	Jan 05/2018	
408	Sep 05/2017	
409	Sep 05/2017	
410	Sep 05/2017	
411	Sep 05/2017	
412	Sep 05/2017	
413	Sep 05/2017	
414	Sep 05/2017	
415	Sep 05/2017	
416	Sep 05/2017	
417	Sep 05/2017	
418	Sep 05/2017	
419	Sep 05/2017	
420	Jul 25/2018	
421	Jul 25/2018	
422	Sep 05/2017	
423	Sep 05/2017	
424	Jul 25/2018	
425	Jul 25/2018	
426	Jul 25/2018	
427	Jul 25/2018	
428	Jul 25/2018	
429	Jul 25/2018	
430	Jul 25/2018	
32-21-03		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2017	
404	Sep 05/2017	
405	Sep 05/2016	
406	Jan 05/2015	
407	Sep 05/2017	
408	Sep 05/2016	
409	Sep 05/2016	
410	Sep 05/2017	
411	Sep 05/2017	
412	Sep 05/2017	
413	Jan 05/2018	
414	Sep 05/2017	
415	Jul 25/2018	
416	Sep 05/2017	
417	Sep 05/2017	
418	Sep 05/2017	
419	Sep 05/2017	
420	Jan 05/2018	
421	Sep 05/2017	
422	Sep 05/2017	
423	Sep 05/2017	
424	Sep 05/2017	
425	Sep 05/2017	
426	BLANK	
32-21-06		
401	May 05/2018	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	May 05/2018	
406	May 05/2018	
32-21-11		
201	Sep 05/2016	
202	Sep 05/2017	

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Subject/Page	Date	COC
32-21-11 (cont)		
203	Sep 05/2017	
204	Sep 05/2017	
205	Sep 05/2017	
206	Sep 05/2017	
207	Sep 05/2017	
208	Sep 05/2017	
209	Jan 05/2018	
210	Sep 05/2017	
211	Sep 05/2017	
212	Sep 05/2017	
213	Sep 05/2017	
214	Jan 05/2018	
215	Sep 05/2017	
216	Sep 05/2017	
217	Sep 05/2017	
218	Sep 05/2017	
219	Sep 05/2017	
220	BLANK	
32-21-12		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2017	
405	Sep 05/2017	
406	Sep 05/2017	
407	Sep 05/2017	
408	BLANK	
32-21-24		
201	Jan 05/2018	
202	Sep 05/2017	
203	Jan 05/2018	
204	May 05/2018	
205	Jan 05/2018	
206	BLANK	
32-21-24		
401	May 05/2017	
402	Jan 05/2018	
403	Jan 05/2018	
404	Jan 05/2018	
405	Jan 05/2018	
406	Jan 05/2018	
407	Jan 05/2018	
408	May 05/2018	
409	Jan 05/2018	
410	Jan 05/2018	
411	Jan 05/2018	
412	Jan 05/2018	
413	Jan 05/2018	
414	Jan 05/2018	
415	Jan 05/2018	
416	Jan 05/2018	
417	Jan 05/2018	
418	Jan 05/2018	
419	Jan 05/2018	
420	Jan 05/2018	
32-21-25 Config 2		
R 201	Sep 05/2018	
202	May 05/2018	
203	Jul 25/2018	
R 204	Sep 05/2018	
205	May 05/2018	
206	May 05/2018	
207	May 05/2018	
208	May 05/2018	
209	Sep 05/2016	
210	Sep 05/2016	
211	Sep 05/2016	
212	May 05/2018	
213	Sep 05/2016	
214	May 05/2018	
215	May 05/2018	
32-21-25 Config 2 (cont)		
216	May 05/2018	
217	May 05/2018	
218	May 05/2018	
219	May 05/2018	
220	May 05/2018	
221	Sep 05/2016	
222	Jul 25/2018	
32-21-25		
601	Sep 05/2017	
602	Sep 05/2017	
603	Sep 05/2017	
604	BLANK	
32-21-25		
801	Jan 05/2018	
802	May 05/2018	
803	May 05/2018	
804	May 05/2018	
805	May 05/2018	
806	May 05/2018	
807	May 05/2018	
808	BLANK	
32-21-28		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Sep 05/2016	
406	Sep 05/2016	
407	Sep 05/2016	
408	Sep 05/2016	
409	Jan 05/2018	
410	Sep 05/2017	
411	Sep 05/2017	
412	Sep 05/2017	
413	Jan 05/2017	
414	Jan 05/2017	

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Subject/Page	Date	COC	Subject/Page	Date	COC	Subject/Page	Date	COC
32-21-28 (cont)			32-22-01 (cont)			32-30-01 (cont)		
415	Jan 05/2017		208	Jul 25/2018		508	Sep 05/2016	
416	Sep 05/2017		209	Jul 25/2018		509	Sep 05/2016	
417	Sep 05/2017		210	Jul 25/2018		510	May 05/2015	
418	BLANK		211	Jul 25/2018		511	Sep 05/2017	
32-21-28			212	Jul 25/2018		512	Sep 05/2017	
801	Sep 05/2015		213	Jul 25/2018		513	Sep 05/2017	
802	Jan 05/2015		214	Jul 25/2018		514	Sep 05/2017	
803	Sep 05/2016		215	Jul 25/2018		515	Jul 25/2018	
804	Sep 05/2016		216	Jul 25/2018		516	May 05/2015	
805	Sep 05/2016		217	Jul 25/2018		517	Jan 05/2015	
806	Sep 05/2016		218	BLANK		518	Sep 05/2017	
807	Sep 05/2015		32-22-04			519	Sep 05/2017	
808	Jan 05/2015		201	Jan 05/2018		520	Sep 05/2017	
809	Sep 05/2016		202	Jan 05/2018		521	Jul 25/2018	
810	Sep 05/2016		203	Sep 05/2016		522	Jul 25/2018	
32-21-29			204	May 05/2016		523	Sep 05/2017	
401	Sep 05/2017		205	Jan 05/2018		524	Sep 05/2016	
402	Sep 05/2017		206	Jan 05/2018		525	Sep 05/2016	
403	Sep 05/2017		207	Jan 05/2018		526	BLANK	
404	Sep 05/2017		208	Jan 05/2018		32-31-00		
32-22-00			209	Jan 05/2018		501	Sep 05/2017	
601	Sep 05/2017		210	Jan 05/2018		502	Sep 05/2017	
602	Sep 05/2017		211	Jan 05/2018		503	Sep 05/2017	
603	Sep 05/2016		212	Jan 05/2018		504	Sep 05/2017	
604	BLANK		213	Jan 05/2018		505	Sep 05/2017	
32-22-00			214	Jan 05/2018		506	Sep 05/2017	
801	Jan 05/2015		215	Jan 05/2018		507	Sep 05/2017	
802	BLANK		216	May 05/2017		508	Sep 05/2017	
32-22-01			32-30-01			509	Sep 05/2017	
201	Sep 05/2017		501	Jul 25/2018		510	Sep 05/2017	
202	Sep 05/2017		502	Jul 25/2018		511	Sep 05/2017	
203	Sep 05/2016		503	Jul 25/2018		512	Sep 05/2017	
204	Sep 05/2016		504	Jul 25/2018		513	Sep 05/2016	
205	Sep 05/2017		505	Jul 25/2018		514	Sep 05/2016	
206	Sep 05/2017		506	Sep 05/2016		515	Sep 05/2016	
207	Jul 25/2018		507	Jul 25/2018		516	Sep 05/2016	

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Subject/Page	Date	COC	Subject/Page	Date	COC	Subject/Page	Date	COC
32-31-00 (cont)			32-31-03 (cont)			32-32-01 Config 1 (cont)		
517	Sep 05/2016		404	Sep 05/2017		414	Sep 05/2016	
518	BLANK		405	Sep 05/2016		415	Sep 05/2016	
32-31-01			406	Jan 05/2018		416	Sep 05/2016	
401	Sep 05/2017		407	Sep 05/2017		417	Sep 05/2016	
402	May 05/2017		408	Sep 05/2017		418	Sep 05/2016	
403	Sep 05/2016		R 409	Sep 05/2018		419	Sep 05/2016	
404	Sep 05/2016		R 410	Sep 05/2018		420	Sep 05/2016	
405	Sep 05/2016		R 411	Sep 05/2018		421	Jan 05/2018	
406	May 05/2017		O 412	Sep 05/2018		422	Jan 05/2018	
407	May 05/2017		O 413	Sep 05/2018		423	Sep 05/2016	
408	Sep 05/2017		R 414	Sep 05/2018		424	Jan 05/2017	
409	Sep 05/2017		O 415	Sep 05/2018		425	Jan 05/2018	
410	May 05/2017		O 416	Sep 05/2018		426	Jan 05/2018	
32-31-02			O 417	Sep 05/2018		427	Jan 05/2018	
401	May 05/2015		O 418	Sep 05/2018		428	Jan 05/2018	
402	Sep 05/2017		O 419	Sep 05/2018		429	Jan 05/2018	
403	Sep 05/2016		O 420	BLANK		430	Jan 05/2018	
404	Sep 05/2016		32-31-03			431	Jan 05/2018	
405	Jan 05/2018		501	Sep 05/2017		432	Jan 05/2018	
406	Sep 05/2017		502	Sep 05/2017		32-32-01 Config 2		
407	Sep 05/2017		503	Sep 05/2017		401	Sep 05/2015	
408	Sep 05/2017		504	Sep 05/2017		402	Jul 25/2018	
409	Sep 05/2017		32-32-01 Config 1			403	Sep 05/2017	
410	Sep 05/2017		401	Sep 05/2015		404	Sep 05/2017	
411	Sep 05/2017		402	Sep 05/2017		405	Sep 05/2017	
412	Sep 05/2017		403	Jan 05/2018		406	Jul 25/2018	
413	Sep 05/2016		404	Jan 05/2018		407	Sep 05/2017	
414	Sep 05/2017		405	Jan 05/2018		408	Sep 05/2016	
415	Sep 05/2017		406	Jan 05/2018		409	Sep 05/2016	
416	Sep 05/2017		407	Jan 05/2018		410	Sep 05/2016	
417	Sep 05/2017		408	Sep 05/2016		411	Sep 05/2016	
418	Sep 05/2017		409	Sep 05/2016		412	Sep 05/2016	
32-31-03			410	Sep 05/2016		413	Sep 05/2016	
401	May 05/2015		411	Sep 05/2016		414	Sep 05/2016	
402	Sep 05/2017		412	Sep 05/2016		415	Sep 05/2016	
403	Sep 05/2016		413	Sep 05/2016		416	Sep 05/2016	

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Subject/Page	Date	COC
32-32-01 Config 2 (cont)		
417	Sep 05/2016	
418	Sep 05/2016	
419	Sep 05/2017	
420	Sep 05/2017	
421	Jul 25/2018	
422	Jan 05/2018	
423	Sep 05/2017	
424	Jul 25/2018	
425	Sep 05/2017	
426	Sep 05/2017	
427	Sep 05/2017	
428	Sep 05/2017	
429	Sep 05/2017	
430	BLANK	
32-32-01		
601	Jan 05/2015	
602	Sep 05/2016	
603	Sep 05/2016	
604	Sep 05/2016	
32-32-02		
401	Jan 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	May 05/2018	
406	Sep 05/2017	
407	Sep 05/2017	
408	Sep 05/2017	
409	Sep 05/2016	
410	BLANK	
32-32-02		
601	Jan 05/2015	
602	Jan 05/2015	
603	Sep 05/2016	
604	Sep 05/2016	
32-32-03		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Sep 05/2016	
406	Sep 05/2017	
407	Sep 05/2017	
408	May 05/2016	
32-32-04 Config 2		
401	Jan 05/2015	
402	Sep 05/2017	
403	Sep 05/2017	
404	Sep 05/2017	
405	Sep 05/2017	
406	Jan 05/2018	
407	Sep 05/2017	
408	Sep 05/2017	
409	Sep 05/2017	
410	Sep 05/2017	
411	Jan 05/2018	
412	Sep 05/2017	
413	Sep 05/2017	
414	Sep 05/2017	
415	Sep 05/2017	
416	Jan 05/2018	
417	Sep 05/2017	
418	Sep 05/2017	
419	Sep 05/2017	
420	BLANK	
32-32-05 Config 2		
401	Jan 05/2015	
402	Sep 05/2017	
403	Jan 05/2015	
404	Sep 05/2016	
405	Sep 05/2016	
406	Sep 05/2016	
32-32-05 Config 2 (cont)		
407	Jan 05/2018	
408	Sep 05/2017	
409	Sep 05/2017	
410	Sep 05/2017	
411	Sep 05/2017	
412	Jan 05/2018	
413	Sep 05/2017	
414	Sep 05/2017	
415	Sep 05/2017	
416	Sep 05/2017	
417	Jan 05/2018	
418	Sep 05/2017	
419	Sep 05/2017	
420	Sep 05/2017	
32-32-06		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2017	
404	Sep 05/2017	
405	Sep 05/2017	
406	Sep 05/2017	
407	Sep 05/2017	
408	BLANK	
32-32-07		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2017	
404	Sep 05/2016	
405	Sep 05/2017	
406	Sep 05/2017	
32-32-08		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Jan 05/2018	

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Subject/Page	Date	COC
32-32-08 (cont)		
406	Sep 05/2017	
407	Sep 05/2017	
408	Sep 05/2017	
32-32-09		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2017	
404	May 05/2015	
405	Sep 05/2016	
406	Sep 05/2016	
407	Sep 05/2016	
408	Sep 05/2016	
409	Sep 05/2016	
410	Sep 05/2016	
411	Sep 05/2016	
412	Sep 05/2017	
413	Sep 05/2017	
414	Sep 05/2017	
415	Sep 05/2017	
416	BLANK	
32-32-09		
601	Jan 05/2018	
602	Jan 05/2018	
603	Jan 05/2018	
604	Sep 05/2016	
605	Jan 05/2018	
606	Jan 05/2018	
607	Sep 05/2016	
608	Sep 05/2016	
609	Sep 05/2016	
610	Sep 05/2016	
32-32-10		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
32-32-10 (cont)		
405	Sep 05/2017	
406	Sep 05/2017	
407	Sep 05/2017	
408	Sep 05/2017	
32-32-11		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Sep 05/2017	
406	Sep 05/2017	
407	Sep 05/2017	
408	BLANK	
32-32-12		
401	Jan 05/2018	
402	Jan 05/2018	
403	Sep 05/2016	
404	Jan 05/2018	
405	Jan 05/2018	
406	Jan 05/2018	
407	Jan 05/2018	
408	Jan 05/2018	
409	Jan 05/2018	
410	Jan 05/2018	
32-32-13		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2017	
404	Sep 05/2016	
405	Sep 05/2017	
406	Sep 05/2016	
407	Sep 05/2017	
408	Sep 05/2017	
409	Sep 05/2017	
410	Sep 05/2017	
32-32-14		
401	May 05/2015	
402	Sep 05/2017	
403	Sep 05/2017	
404	Sep 05/2016	
405	Sep 05/2016	
406	Sep 05/2016	
407	Sep 05/2017	
408	Sep 05/2017	
409	Sep 05/2016	
410	Jan 05/2018	
411	Sep 05/2017	
412	Sep 05/2017	
413	Sep 05/2017	
414	Sep 05/2017	
415	Sep 05/2017	
416	BLANK	
32-32-15		
401	May 05/2015	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Jan 05/2018	
406	Sep 05/2017	
407	Sep 05/2017	
408	Sep 05/2017	
409	Sep 05/2017	
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32-32-16		
401	Sep 05/2017	
402	Jan 05/2018	
403	Sep 05/2016	
404	Jan 05/2018	
405	Sep 05/2016	
R 406	Sep 05/2018	
407	Jan 05/2018	
408	Jan 05/2018	

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Subject/Page	Date	COC
32-32-16 (cont)		
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32-32-17		
401	Jan 05/2015	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Jan 05/2018	
406	Sep 05/2017	
407	Sep 05/2017	
408	Sep 05/2017	
32-32-19		
401	May 05/2018	
402	May 05/2018	
403	Sep 05/2016	
404	Sep 05/2016	
405	May 05/2018	
406	May 05/2018	
407	May 05/2018	
408	May 05/2018	
32-32-20		
401	May 05/2018	
402	Sep 05/2017	
403	Sep 05/2016	
404	Jan 05/2015	
405	Sep 05/2016	
406	Sep 05/2017	
407	Sep 05/2017	
408	BLANK	
32-32-21		
401	Sep 05/2017	
402	Sep 05/2017	
403	May 05/2017	
404	May 05/2017	
405	May 05/2017	
406	May 05/2017	
32-32-21 (cont)		
407	May 05/2017	
R 408	Sep 05/2018	
409	Sep 05/2017	
410	BLANK	
32-32-22		
401	Jan 05/2018	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
R 405	Sep 05/2018	
406	May 05/2018	
407	May 05/2018	
408	BLANK	
32-32-23		
401	Jan 05/2015	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Sep 05/2017	
406	Sep 05/2017	
32-32-24		
401	Jan 05/2018	
402	Jan 05/2018	
403	Jan 05/2018	
404	Sep 05/2017	
405	Sep 05/2017	
406	Sep 05/2017	
407	Jan 05/2018	
408	Jan 05/2018	
409	Jan 05/2018	
410	Jan 05/2018	
32-32-25		
401	Jul 25/2018	
402	Sep 05/2017	
403	Jul 25/2018	
404	Jul 25/2018	
32-32-25 (cont)		
405	Sep 05/2016	
406	Sep 05/2016	
407	Sep 05/2016	
408	Sep 05/2016	
409	Jul 25/2018	
410	Jul 25/2018	
411	Jul 25/2018	
412	May 05/2018	
413	May 05/2018	
414	May 05/2018	
415	May 05/2018	
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417	May 05/2018	
418	Sep 05/2017	
419	Sep 05/2016	
420	Jan 05/2017	
421	Jan 05/2017	
422	BLANK	
32-32-25		
701	Sep 05/2015	
702	Sep 05/2017	
703	Sep 05/2017	
704	Sep 05/2016	
705	Sep 05/2016	
706	BLANK	
32-34-01		
401	Jul 25/2018	
402	Sep 05/2017	
403	Jul 25/2018	
404	Sep 05/2016	
405	Sep 05/2016	
406	Sep 05/2016	
407	Sep 05/2016	
408	Sep 05/2016	
409	Jul 25/2018	
410	Sep 05/2017	

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Subject/Page	Date	COC
32-34-01 (cont)		
411	Jul 25/2018	
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413	Sep 05/2017	
414	BLANK	
32-34-03		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Jan 05/2017	
405	Jan 05/2017	
406	Sep 05/2017	
407	Sep 05/2017	
408	BLANK	
32-34-03		
601	Sep 05/2017	
602	Sep 05/2017	
603	Sep 05/2017	
604	BLANK	
32-34-04		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Jan 05/2018	
405	Sep 05/2017	
406	Sep 05/2017	
32-34-05		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2017	
404	Sep 05/2016	
405	Sep 05/2017	
406	Sep 05/2017	
407	Sep 05/2017	
408	BLANK	
32-34-06		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Sep 05/2017	
406	Sep 05/2017	
407	Sep 05/2017	
408	BLANK	
32-34-07		
401	Jan 05/2015	
402	Sep 05/2017	
403	Sep 05/2017	
404	Sep 05/2016	
405	Sep 05/2016	
406	Sep 05/2016	
407	Sep 05/2016	
408	Jan 05/2018	
409	Sep 05/2017	
410	Sep 05/2017	
411	Sep 05/2017	
412	BLANK	
32-34-09		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Sep 05/2017	
406	Sep 05/2017	
407	Sep 05/2017	
408	BLANK	
32-35-00		
501	May 05/2015	
502	Sep 05/2017	
503	Sep 05/2017	
504	Sep 05/2017	
505	Sep 05/2017	
32-35-00 (cont)		
506	Sep 05/2017	
507	Sep 05/2017	
508	Sep 05/2016	
509	Sep 05/2016	
510	Sep 05/2016	
511	May 05/2018	
512	May 05/2018	
513	May 05/2018	
514	Sep 05/2017	
515	Sep 05/2017	
516	Sep 05/2017	
517	Sep 05/2016	
518	Sep 05/2016	
519	Sep 05/2017	
520	Sep 05/2017	
521	Sep 05/2017	
522	BLANK	
32-35-02		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Sep 05/2017	
406	Sep 05/2017	
407	Sep 05/2017	
408	Sep 05/2017	
409	Sep 05/2017	
410	Sep 05/2017	
411	Sep 05/2017	
412	Sep 05/2017	
413	Sep 05/2017	
414	Sep 05/2016	
415	Sep 05/2016	
416	Sep 05/2016	

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Subject/Page	Date	COC
32-41-00 (cont)		
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527	Sep 05/2017	
528	Jan 05/2018	
529	Jan 05/2018	
530	Sep 05/2017	
531	Sep 05/2017	
532	BLANK	
32-41-00		
601	Sep 05/2017	
602	Sep 05/2017	
32-41-01		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Sep 05/2016	
406	Sep 05/2017	
407	Sep 05/2017	
408	BLANK	
32-41-02		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2017	
404	Sep 05/2016	
405	Sep 05/2016	
406	Sep 05/2016	
407	May 05/2018	
408	May 05/2018	
409	Jan 05/2018	
410	Jan 05/2018	
411	Jul 25/2018	
412	May 05/2018	
413	Sep 05/2017	
414	BLANK	
32-41-03		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Jan 05/2018	
406	Sep 05/2017	
32-41-04		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Jan 05/2016	
406	Sep 05/2017	
407	Sep 05/2017	
408	Sep 05/2017	
409	Sep 05/2017	
410	BLANK	
32-41-05		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Jan 05/2016	
406	Sep 05/2017	
32-41-06		
401	Sep 05/2017	
402	Sep 05/2017	
403	Jan 05/2015	
404	Sep 05/2016	
405	Sep 05/2016	
406	Sep 05/2017	
407	Sep 05/2017	
408	Jan 05/2015	
32-41-07		
401	Jan 05/2018	
402	Jan 05/2018	
32-41-07 (cont)		
403	Sep 05/2016	
404	Sep 05/2016	
405	Sep 05/2016	
406	Jan 05/2018	
407	Jan 05/2018	
408	BLANK	
32-41-08		
401	May 05/2018	
402	May 05/2018	
403	Sep 05/2016	
404	May 05/2018	
405	May 05/2018	
406	May 05/2018	
407	May 05/2018	
408	May 05/2018	
32-41-09		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Jan 05/2018	
406	Sep 05/2017	
407	Sep 05/2017	
408	BLANK	
32-41-10		
401	May 05/2018	
402	May 05/2018	
403	Sep 05/2016	
404	Sep 05/2016	
405	May 05/2018	
406	May 05/2018	
32-41-11		
401	Sep 05/2017	
402	Sep 05/2016	
403	Sep 05/2016	
404	Sep 05/2017	

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32-41-11 (cont)		
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32-41-12		
401	Jan 05/2018	
402	Jan 05/2018	
403	Sep 05/2016	
404	Jan 05/2018	
405	Jan 05/2018	
406	BLANK	
32-41-13		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Sep 05/2017	
406	Sep 05/2017	
32-41-14		
401	Jan 05/2018	
402	Jan 05/2018	
403	Sep 05/2016	
404	Sep 05/2016	
405	May 05/2018	
406	May 05/2018	
407	May 05/2018	
408	BLANK	
32-41-15		
401	Jan 05/2018	
402	Jan 05/2018	
403	Sep 05/2016	
404	Sep 05/2016	
405	Jan 05/2018	
406	Jan 05/2018	
407	Sep 05/2017	
408	BLANK	
32-41-16		
401	Jan 05/2018	
402	Jan 05/2018	
403	Sep 05/2016	
404	Sep 05/2016	
405	Jan 05/2018	
406	Sep 05/2017	
407	Sep 05/2017	
408	BLANK	
32-41-17		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Sep 05/2016	
406	Sep 05/2016	
407	Sep 05/2017	
408	Sep 05/2017	
409	Sep 05/2017	
410	BLANK	
32-42-00		
501	May 05/2017	
502	Jan 05/2018	
503	Jan 05/2018	
504	Jan 05/2018	
505	Sep 05/2016	
506	Sep 05/2016	
507	Sep 05/2016	
508	Sep 05/2016	
509	Sep 05/2016	
510	Jan 05/2015	
511	Jan 05/2018	
512	May 05/2018	
513	May 05/2018	
514	Jan 05/2018	
515	Jan 05/2018	
516	Jan 05/2018	
32-42-00 (cont)		
517	Jan 05/2018	
518	Jan 05/2018	
519	Jan 05/2018	
520	May 05/2018	
521	May 05/2018	
522	Jan 05/2018	
32-42-01		
201	Jan 05/2017	
202	May 05/2018	
203	May 05/2017	
204	May 05/2017	
32-42-01		
401	May 05/2015	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2017	
405	Sep 05/2017	
406	Sep 05/2017	
32-42-02		
401	Jan 05/2018	
402	Jan 05/2018	
403	Jan 05/2018	
404	Sep 05/2016	
405	Jan 05/2018	
406	Jan 05/2018	
407	Jan 05/2018	
408	Jan 05/2018	
409	Jan 05/2018	
410	Jan 05/2018	
411	Jan 05/2018	
R 412	Sep 05/2018	
413	Jan 05/2018	
414	Jan 05/2018	
415	Jan 05/2018	
416	Jan 05/2018	
417	Jan 05/2018	

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32-42-02 (cont)		
418	Jan 05/2018	
419	Jan 05/2018	
420	Jan 05/2018	
R 421	Sep 05/2018	
422	Jan 05/2018	
32-42-03		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2017	
404	Sep 05/2016	
405	Sep 05/2016	
406	Sep 05/2016	
407	Jan 05/2018	
408	Sep 05/2017	
409	Sep 05/2017	
410	Sep 05/2017	
411	Sep 05/2017	
412	Sep 05/2017	
R 413	Sep 05/2018	
414	Sep 05/2017	
415	Jul 25/2018	
416	Sep 05/2017	
417	Sep 05/2017	
418	Sep 05/2017	
419	Sep 05/2017	
420	Sep 05/2017	
421	Sep 05/2017	
422	Sep 05/2017	
R 423	Sep 05/2018	
424	Sep 05/2017	
425	Sep 05/2017	
426	BLANK	
32-42-04		
401	Jan 05/2018	
402	Jan 05/2018	
403	Jan 05/2018	
32-42-04 (cont)		
404	Jan 05/2018	
32-42-05		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Sep 05/2016	
406	Jan 05/2015	
407	Sep 05/2017	
408	Sep 05/2016	
409	Sep 05/2017	
410	BLANK	
32-42-06		
401	Jan 05/2018	
402	Jan 05/2018	
403	Sep 05/2016	
404	Jan 05/2018	
405	Jan 05/2018	
406	Jan 05/2018	
407	Jan 05/2018	
408	Jan 05/2018	
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410	Jan 05/2018	
411	Jan 05/2018	
412	Jan 05/2018	
413	Jan 05/2018	
414	Jan 05/2018	
415	Jan 05/2018	
416	Sep 05/2017	
32-42-07		
401	Sep 05/2017	
402	Sep 05/2016	
403	Sep 05/2017	
404	Sep 05/2017	
405	Jan 05/2015	
406	BLANK	
32-42-09		
401	May 05/2018	
402	May 05/2018	
403	Sep 05/2016	
404	May 05/2018	
405	May 05/2018	
406	May 05/2018	
407	May 05/2018	
408	May 05/2018	
409	May 05/2018	
410	May 05/2018	
411	May 05/2018	
412	May 05/2018	
413	May 05/2018	
414	May 05/2018	
32-42-10		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2017	
405	Sep 05/2017	
406	Sep 05/2017	
407	Sep 05/2017	
408	BLANK	
32-42-11		
401	Jan 05/2018	
402	Jan 05/2018	
403	Jan 05/2018	
404	Sep 05/2016	
405	Jan 05/2018	
406	Sep 05/2016	
407	Jan 05/2018	
408	Sep 05/2016	
409	Jan 05/2018	
R 410	Sep 05/2018	
411	Jan 05/2018	
412	Jan 05/2018	

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Subject/Page	Date	COC
32-42-11 (cont)		
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502	Jan 05/2015	
503	Jan 05/2015	
504	Jan 05/2015	
505	Sep 05/2016	
506	Sep 05/2016	
507	Sep 05/2016	
508	May 05/2017	
509	Sep 05/2016	
510	Sep 05/2016	
511	Sep 05/2016	
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513	Sep 05/2017	
514	Sep 05/2017	
515	Sep 05/2017	
516	Sep 05/2017	
517	Sep 05/2017	
518	BLANK	
32-44-01		
401	Sep 05/2017	
402	Sep 05/2016	
403	Sep 05/2017	
404	Sep 05/2017	
32-44-02		
401	Sep 05/2017	
402	Sep 05/2016	
403	Sep 05/2016	
404	Sep 05/2017	
32-44-04		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2017	
32-44-04 (cont)		
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406	Sep 05/2017	
407	Sep 05/2017	
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32-44-08		
401	Sep 05/2017	
402	Sep 05/2016	
403	Sep 05/2017	
404	Sep 05/2016	
405	Sep 05/2017	
406	BLANK	
32-44-10		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Sep 05/2016	
406	Jan 05/2018	
407	Sep 05/2017	
408	Sep 05/2017	
32-44-11		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2016	
404	Sep 05/2016	
405	Sep 05/2017	
406	Sep 05/2017	
32-45-01		
401	Jan 05/2016	
402	Jan 05/2018	
403	Jul 25/2018	
404	Jul 25/2018	
405	Jan 05/2018	
406	Jan 05/2018	
407	Sep 05/2016	
408	Jan 05/2018	
32-45-01 (cont)		
409	Jul 25/2018	
410	Jul 25/2018	
411	Jul 25/2018	
412	Jul 25/2018	
413	Jul 25/2018	
414	Jul 25/2018	
32-45-02		
401	Sep 05/2017	
402	Sep 05/2017	
403	Sep 05/2017	
404	Jan 05/2018	
405	Sep 05/2016	
406	Sep 05/2016	
407	Sep 05/2016	
408	Sep 05/2016	
409	Jan 05/2018	
410	Jan 05/2018	
411	Jan 05/2018	
412	Sep 05/2017	
413	Sep 05/2016	
414	BLANK	
32-45-03		
601	Sep 05/2017	
602	Sep 05/2017	
603	Sep 05/2017	
604	Jan 05/2015	
605	Sep 05/2016	
606	Sep 05/2016	
607	Sep 05/2016	
608	Sep 05/2016	
609	Sep 05/2016	
610	Sep 05/2016	
611	Sep 05/2016	
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Subject/Page	Date	COC	Subject/Page	Date	COC	Subject/Page	Date	COC
32-45-04			32-45-07 (cont)			32-45-08 (cont)		
601	Sep 05/2017		408	Sep 05/2016		410	BLANK	
602	Jan 05/2018		409	Sep 05/2016		32-45-08		
603	Jan 05/2018		410	Sep 05/2016		801	Sep 05/2017	
604	Jan 05/2018		411	Sep 05/2016		802	Sep 05/2017	
605	Sep 05/2017		412	Sep 05/2016		803	Sep 05/2017	
606	Sep 05/2016		413	Sep 05/2016		804	Sep 05/2017	
607	Sep 05/2016		414	Sep 05/2016		32-46-00		
608	Sep 05/2016		415	May 05/2018		501	Sep 05/2017	
609	Sep 05/2016		416	May 05/2018		502	Jan 05/2016	
610	Sep 05/2016		417	May 05/2018		503	Sep 05/2016	
611	Sep 05/2016		418	May 05/2018		504	Sep 05/2016	
612	Sep 05/2016		419	May 05/2018		32-46-02		
613	Sep 05/2016		420	May 05/2018		401	Sep 05/2017	
614	BLANK		32-45-07			402	Sep 05/2017	
32-45-05			601	Sep 05/2017		403	Sep 05/2017	
201	Jan 05/2018		602	Sep 05/2017		404	Sep 05/2017	
202	Jan 05/2018		603	Jan 05/2015		32-46-03		
203	Sep 05/2016		604	Sep 05/2017		401	Sep 05/2017	
204	Sep 05/2016		605	Sep 05/2017		402	Sep 05/2017	
205	Jan 05/2018		606	Sep 05/2017		403	Sep 05/2016	
206	Jan 05/2018		607	Sep 05/2017		404	Jan 05/2018	
207	Jan 05/2018		608	Jul 25/2018		405	Sep 05/2017	
208	Jan 05/2018		609	Jan 05/2015		406	BLANK	
32-45-06			610	May 05/2018		32-46-04		
401	Jan 05/2018		611	May 05/2018		401	May 05/2018	
402	Jul 25/2018		612	May 05/2018		402	Sep 05/2016	
403	Sep 05/2016		32-45-08			403	May 05/2018	
404	Jan 05/2018		401	Sep 05/2017		404	May 05/2018	
32-45-07			402	Sep 05/2017		32-49-00		
401	May 05/2018		403	Sep 05/2016		201	Jul 25/2018	
402	May 05/2018		404	Sep 05/2016		202	Jul 25/2018	
403	Jul 25/2018		405	Jan 05/2015		203	Jul 25/2018	
404	Jul 25/2018		406	Sep 05/2017		204	Jul 25/2018	
405	Sep 05/2016		407	Sep 05/2016		205	Jul 25/2018	
406	Sep 05/2016		408	Sep 05/2016		206	Jul 25/2018	
407	Sep 05/2016		409	May 05/2016		207	Jul 25/2018	

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Subject/Page	Date	COC	Subject/Page	Date	COC	Subject/Page	Date	COC
32-49-00 (cont)			32-51-00 (cont)			32-51-00 (cont)		
208	Jul 25/2018		212	Sep 05/2017		531	Jan 05/2017	
209	Jul 25/2018		213	Jan 05/2018		532	Jan 05/2017	
210	Jul 25/2018		214	Jan 05/2018		533	Jan 05/2017	
211	Jul 25/2018		215	Jan 05/2018		534	BLANK	
212	Jul 25/2018		216	BLANK		32-51-01		
32-49-00			32-51-00			401	May 05/2015	
501	Sep 05/2017		501	May 05/2017		402	Sep 05/2017	
502	Sep 05/2017		502	Sep 05/2017		403	Sep 05/2017	
503	Sep 05/2017		503	Sep 05/2017		404	Sep 05/2017	
504	Sep 05/2016		504	Sep 05/2017		405	Sep 05/2017	
505	Sep 05/2016		505	Sep 05/2017		406	May 05/2015	
506	BLANK		506	Sep 05/2017		407	Sep 05/2017	
32-49-04			507	Sep 05/2016		408	Sep 05/2017	
401	Jan 05/2015		508	Sep 05/2016		409	Sep 05/2017	
402	BLANK		509	Jan 05/2017		410	BLANK	
32-49-05			510	Jan 05/2018		32-51-01		
401	Sep 05/2017		511	Sep 05/2017		601	Jan 05/2015	
402	Sep 05/2017		512	Sep 05/2017		602	Jan 05/2015	
403	Sep 05/2017		513	Sep 05/2017		603	Sep 05/2016	
404	Sep 05/2016		514	Sep 05/2017		604	BLANK	
405	Sep 05/2016		515	Sep 05/2017		32-51-02		
406	Sep 05/2017		516	Sep 05/2017		401	Sep 05/2017	
407	Sep 05/2017		517	Sep 05/2017		402	Sep 05/2017	
408	Sep 05/2017		518	Sep 05/2017		403	Sep 05/2017	
32-51-00			519	Sep 05/2017		404	Sep 05/2016	
201	Jan 05/2016		520	Sep 05/2017		405	Sep 05/2016	
202	Jan 05/2018		521	Sep 05/2017		406	Sep 05/2016	
203	Jan 05/2018		522	Sep 05/2017		407	Sep 05/2016	
204	Jan 05/2018		523	Jan 05/2017		408	Sep 05/2016	
205	Jan 05/2018		524	Jan 05/2017		409	Sep 05/2016	
206	Jan 05/2018		525	Jan 05/2017		410	Sep 05/2016	
207	Jan 05/2018		526	Jan 05/2017		411	Sep 05/2017	
208	Jan 05/2018		527	Jan 05/2017		412	Sep 05/2017	
209	Sep 05/2017		528	Jan 05/2017		413	Sep 05/2017	
210	Sep 05/2017		529	Jan 05/2017		414	Sep 05/2017	
211	Sep 05/2017		530	Jan 05/2017		415	Sep 05/2017	

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32-51-09 (cont)			32-53-00 (cont)			32-53-04 (cont)		
407	Sep 05/2016		506	Sep 05/2017		403	Sep 05/2016	
408	Sep 05/2016		32-53-01			404	Sep 05/2016	
409	Jan 05/2018		401	Jan 05/2018		405	Sep 05/2017	
410	Jan 05/2018		402	Sep 05/2016		406	Sep 05/2017	
411	Jan 05/2018		403	Sep 05/2016		32-53-06		
412	Jan 05/2018		404	Jan 05/2018		401	May 05/2018	
413	Jan 05/2018		405	Jan 05/2018		402	Jan 05/2018	
414	Jan 05/2018		406	Jan 05/2018		403	Sep 05/2016	
415	Jan 05/2018		407	Jan 05/2018		404	Sep 05/2016	
416	BLANK		408	Jan 05/2018		405	May 05/2018	
32-51-10			32-53-02			406	May 05/2018	
401	May 05/2015		401	Sep 05/2017		407	May 05/2018	
402	Sep 05/2017		402	Sep 05/2016		408	BLANK	
403	Sep 05/2016		403	Sep 05/2017		32-53-06		
404	May 05/2015		404	Sep 05/2017		601	Jan 05/2015	
405	Sep 05/2017		405	Sep 05/2017		602	Sep 05/2016	
406	BLANK		406	Sep 05/2017		32-53-07		
32-53-00			32-53-03			401	Jan 05/2018	
201	Jan 05/2016		401	May 05/2018		402	Jan 05/2018	
202	Sep 05/2017		402	May 05/2018		403	Sep 05/2016	
203	Sep 05/2017		403	May 05/2018		404	Sep 05/2016	
204	Sep 05/2017		404	Sep 05/2016		405	Jan 05/2018	
205	Sep 05/2017		405	Jan 05/2017		406	Jan 05/2018	
206	Jan 05/2016		406	May 05/2018		32-53-07		
207	Jan 05/2016		407	May 05/2018		601	Jan 05/2015	
208	Jan 05/2016		408	May 05/2018		602	Jan 05/2015	
209	Sep 05/2016		409	Jan 05/2018		603	Sep 05/2016	
210	Sep 05/2017		410	Jan 05/2018		604	Sep 05/2016	
211	Sep 05/2017		32-53-03			605	Sep 05/2016	
212	Sep 05/2017		601	Jan 05/2015		606	BLANK	
32-53-00			602	Jan 05/2015		32-61-00		
501	Jan 05/2015		603	Jan 05/2018		501	May 05/2015	
502	Sep 05/2017		604	Jan 05/2018		502	Sep 05/2017	
503	Sep 05/2017		32-53-04			503	May 05/2015	
504	Sep 05/2017		401	Sep 05/2017		504	Jan 05/2015	
505	Sep 05/2017		402	Sep 05/2017		505	Jan 05/2015	

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507	Jan 05/2015	
508	Jan 05/2015	
509	Jan 05/2015	
510	Jan 05/2015	
511	Jan 05/2015	
512	Jan 05/2015	
513	Jan 05/2015	
514	Jan 05/2015	
515	Jan 05/2015	
516	Jan 05/2015	
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521	Sep 05/2017	
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523	Sep 05/2016	
524	Sep 05/2016	
525	Sep 05/2016	
526	Sep 05/2016	
527	Sep 05/2016	
528	BLANK	
32-61-01		
201	Sep 05/2017	
202	Sep 05/2017	
203	Sep 05/2017	
204	Sep 05/2016	
205	Sep 05/2016	
206	Sep 05/2016	
207	Sep 05/2016	
208	Sep 05/2016	
209	Sep 05/2016	
210	Jan 05/2015	
211	Jan 05/2015	
212	Jan 05/2018	
32-61-01 (cont)		
213	Sep 05/2017	
214	Sep 05/2017	
215	Sep 05/2017	
216	May 05/2017	
217	Sep 05/2017	
218	Sep 05/2017	
219	Sep 05/2017	
220	Sep 05/2017	
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222	Sep 05/2017	
223	Sep 05/2017	
224	BLANK	
32-61-02		
201	Sep 05/2017	
202	Sep 05/2017	
203	Sep 05/2017	
204	Sep 05/2016	
205	Sep 05/2016	
206	Sep 05/2016	
207	Sep 05/2016	
208	Sep 05/2016	
209	Jan 05/2018	
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213	Sep 05/2017	
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215	Sep 05/2017	
216	Sep 05/2017	
217	Sep 05/2017	
218	Sep 05/2017	
219	Sep 05/2017	
220	BLANK	
32-61-03		
201	Sep 05/2017	
202	Sep 05/2017	
32-61-03 (cont)		
203	Sep 05/2016	
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205	Sep 05/2017	
206	Sep 05/2017	
207	Sep 05/2017	
208	Sep 05/2017	
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210	BLANK	
32-61-04		
401	Sep 05/2017	
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403	Sep 05/2017	
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405	Sep 05/2017	
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32-61-05		
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202	Sep 05/2017	
203	Sep 05/2016	
204	Sep 05/2016	
205	Sep 05/2017	
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207	Sep 05/2017	
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210	Sep 05/2017	
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32-61-06		
201	Sep 05/2017	
202	Sep 05/2017	
203	Sep 05/2016	

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32-61-06 (cont)			32-61-09 (cont)			32-72-01 (cont)		
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205	Sep 05/2017		208	Sep 05/2017		207	Sep 05/2017	
206	Sep 05/2017		209	Sep 05/2017		208	Jan 05/2018	
207	Sep 05/2017		210	Sep 05/2017		209	Sep 05/2017	
208	Sep 05/2017		32-71-00			210	Sep 05/2017	
209	Sep 05/2017		501	Sep 05/2017		211	Sep 05/2017	
210	Sep 05/2017		502	Jan 05/2015		212	Sep 05/2017	
211	Sep 05/2017		503	Jan 05/2015		213	Sep 05/2017	
212	Sep 05/2017		504	Jan 05/2015		214	Sep 05/2017	
32-61-07			505	Sep 05/2016		32-72-01		
201	Sep 05/2017		506	BLANK		601	Sep 05/2017	
202	Sep 05/2017		32-71-01			602	Sep 05/2017	
203	Sep 05/2016		401	Sep 05/2015		603	Sep 05/2017	
204	Sep 05/2017		402	May 05/2017		604	Jan 05/2015	
205	Sep 05/2017		403	Sep 05/2016		605	Jan 05/2015	
206	Sep 05/2017		404	May 05/2017		606	Sep 05/2017	
207	Sep 05/2017		405	May 05/2017		32-72-02		
208	Sep 05/2017		406	May 05/2017		201	Sep 05/2017	
32-61-08			407	May 05/2017		202	Sep 05/2017	
201	Sep 05/2017		408	May 05/2017		203	Jan 05/2015	
202	Sep 05/2017		32-72-00			204	Sep 05/2017	
203	Sep 05/2016		201	Sep 05/2017		205	Jan 05/2015	
204	Sep 05/2017		202	Sep 05/2017		206	Sep 05/2017	
205	Sep 05/2017		203	Sep 05/2017		207	Sep 05/2017	
206	Sep 05/2017		204	Jan 05/2015		208	Jan 05/2018	
207	Sep 05/2017		205	Jan 05/2015		209	Sep 05/2017	
208	Sep 05/2017		206	BLANK		210	Sep 05/2017	
209	Sep 05/2017		32-72-00			211	Sep 05/2017	
210	BLANK		501	Sep 05/2017		212	Sep 05/2017	
32-61-09			502	Sep 05/2017		213	Sep 05/2017	
201	Sep 05/2017		32-72-01			214	Sep 05/2017	
202	Sep 05/2017		201	Sep 05/2017		215	Sep 05/2017	
203	Sep 05/2016		202	Sep 05/2017		216	Sep 05/2017	
204	Sep 05/2017		203	Jan 05/2018		32-72-04		
205	Sep 05/2017		204	Sep 05/2017		401	Sep 05/2017	
206	Sep 05/2017		205	Jan 05/2015		402	Jan 05/2018	

A = Added, R = Revised, D = Deleted, O = Overflow, C = Customer Originated Change

Subject/Page	Date	COC	Subject/Page	Date	COC	Subject/Page	Date	COC
32-72-04 (cont)								
403	Sep 05/2017							
404	Jan 05/2015							
405	Sep 05/2017							
406	Jan 05/2018							
407	Sep 05/2017							
408	BLANK							
32-72-05								
401	Sep 05/2017							
402	Jan 05/2018							
403	Jan 05/2018							
404	Jan 05/2015							
405	Jan 05/2015							
406	Jan 05/2015							
407	Jan 05/2018							
408	May 05/2015							
409	Sep 05/2017							
410	Jan 05/2018							
411	Sep 05/2017							
412	Jan 05/2018							
413	Jan 05/2018							
414	BLANK							
32-72-10								
201	May 05/2018							
202	May 05/2018							
203	May 05/2018							
204	May 05/2018							
205	May 05/2018							
206	May 05/2018							
207	May 05/2018							
208	May 05/2018							
209	May 05/2018							
210	May 05/2018							
211	May 05/2018							
212	May 05/2018							
213	May 05/2018							
214	May 05/2018							

A = Added, R = Revised, D = Deleted, O = Overflow, C = Customer Originated Change

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LANDING GEAR

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LANDING GEAR - MAINTENANCE PRACTICES

1. **General**
   A. This procedure has these tasks:
      (1) Landing Gear Deactivation.
      (2) Landing Gear Activation.

TASK 32-00-00-040-836

2. **Landing Gear - Deactivation**
   (Figure 201)

   A. **General**

ARO 005-999

(1) This task will deactivate these components in the Landing Gear System.
- Nose Landing Gear
- Main Landing Gear

ARO 001-004

(2) This task will deactivate these components in the Landing Gear and Tail Skid Extension and Retraction system.
- Nose Landing Gear
- Main Landing Gear
- Tail Skid

ARO ALL

B. **References**

Reference	Title
10-11-05-500-801	Chock Installation in Winds or Wind Gusts to a Maximum of 35 Knots (P/B 201)
10-11-05-500-802	Chock Installation in Winds of More than 35 Knots (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. **Tools/Equipment**

Reference	Description
STD-858	Tag - DO NOT OPERATE

D. **Location Zones**

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

(Continued)

Zone	Area
710	Subzone 710 - Nose Landing Gear and Landing Gear Doors
730	Subzone 730 - Left Main Landing Gear and Landing Gear Doors
740	Subzone 740 - Right Main Landing Gear and Landing Gear Doors

E. Procedure

SUBTASK 32-00-00-860-135

WARNING MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE FLIGHT CONTROLS SURFACES. MAKE SURE THAT THE INBOARD FAN DUCT COWL AND THE INBOARD AND OUTBOARD THRUST REVERSERS ARE CLOSED. THE FLIGHT CONTROL SURFACES CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure clearance zones are established at the following areas of flight control surfaces:

(a) Ailerons

(b) Rudders

(c) Elevators

(d) Flaps

(e) Slats

(f) Spoilers

ARO 005-999

(g) Landing Gear

ARO 001-004

(h) Landing Gear and Tail Skid

ARO ALL

(i) Thrust Reversers

(j) Drive mechanisms

SUBTASK 32-00-00-210-017

WARNING MAKE SURE THAT ALL PERSONNEL AND EQUIPMENT ARE AWAY FROM THE AREA AROUND THE LANDING GEAR. IF THE LANDING GEAR MOVES, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

ARO 001-004

WARNING MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE AREA AROUND THE TAIL SKID. THE MOVEMENT OF THE TAIL SKID CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

ARO ALL

(2) Make sure the Landing Gear Control lever is in the DN position.

SUBTASK 32-00-00-480-031

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

WARNING: MAKE SURE THAT ALL PERSONNEL AND EQUIPMENT ARE AWAY FROM THE AREA AROUND THE LANDING GEAR. IF THE LANDING GEAR MOVES, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

ARO 001-004

WARNING: MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE AREA AROUND THE TAIL SKID. THE MOVEMENT OF THE TAIL SKID CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

ARO ALL

(3) If the downlock pins are not installed in the nose and main landing gear, do this task: (Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801).

SUBTASK 32-00-00-480-035

WARNING: KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR. THE DOORS OPEN, AND CLOSE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-00-00-480-032

(5) Attach a DO NOT OPERATE tag, STD-858 on the Landing Gear Control lever.

SUBTASK 32-00-00-860-137

(6) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-00-00-860-138

(7) Depressurize the Center Hydraulic System, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-00-00-860-139

(8) Do this task: Chock Installation in Winds or Wind Gusts to a Maximum of 35 Knots, TASK 10-11-05-500-801 or Chock Installation in Winds of More than 35 Knots, TASK 10-11-05-500-802.

F. Landing Gear - Tryout

ARO 005-999

NOTE: This tryout is to make sure the landing gear system is in a zero energy state.

ARO 001-004

NOTE: This tryout is to make sure the Landing Gear and Tail Skid Extension and Retraction System are in a zero energy state.

ARO ALL

SUBTASK 32-00-00-860-140

(1) Make sure the warning streamers hanging from the downlock pins can be seen from the ground.

(2) Make sure the warning streamers hanging from the doorlock safety pins can be seen from the ground.

SUBTASK 32-00-00-860-141

WARNING	MAKE SURE THAT ALL PERSONNEL AND EQUIPMENT ARE AWAY FROM THE AREA AROUND THE LANDING GEAR. IF THE LANDING GEAR MOVES, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

ARO 001-004

WARNING	MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE AREA AROUND THE TAIL SKID. THE MOVEMENT OF THE TAIL SKID CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

ARO ALL

(3) Move the control lever for the landing gear to the UP position.

ARO 005-999

(a) Make sure that the landing gear does not retract.

ARO 001-004

(b) Make sure that the landing gear and tail skid do not retract.

ARO ALL

SUBTASK 32-00-00-860-142

> **WARNING**
> MAKE SURE THAT ALL PERSONNEL AND EQUIPMENT ARE AWAY FROM THE AREA AROUND THE LANDING GEAR. IF THE LANDING GEAR MOVES, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

ARO 001-004

> **WARNING**
> MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE AREA AROUND THE TAIL SKID. THE MOVEMENT OF THE TAIL SKID CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

ARO ALL

(4) Move the control lever for the landing gear to the DN position.

ARO 005-999

(a) Make sure that the landing gear does not extend.

ARO 001-004

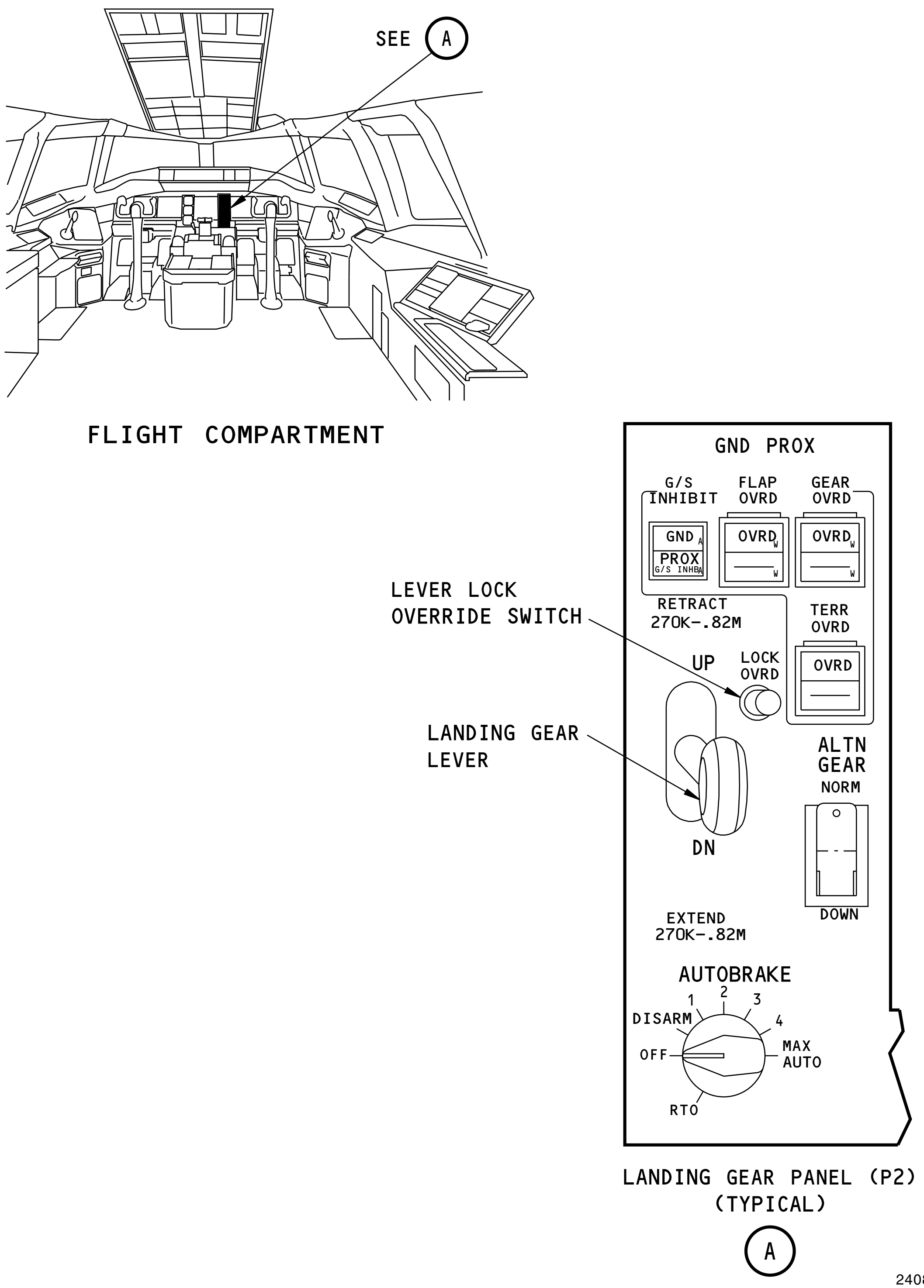
(b) Make sure that the landing gear and tail skid do not extend.

ARO ALL

SUBTASK 32-00-00-480-034

(5) Attach a DO NOT OPERATE tag, STD-858 on the control lever for the landing gear.

END OF TASK



Landing Gear System
Figure 201/32-00-00-990-809

TASK 32-00-00-440-831

3. Landing Gear - Activation

(Figure 201)

A. General

ARO 005-999

(1) This task will activate these components in the Landing Gear System.

- Nose Landing Gear
- Main Landing Gear

ARO 001-004

(2) This task will activate these components in the Landing Gear and Tail Skid Extension and Retraction system.

- Nose Landing Gear
- Main Landing Gear
- Tail Skid

ARO ALL

B. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)

C. Tools/Equipment

Reference	Description
STD-858	Tag - DO NOT OPERATE

D. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
710	Subzone 710 - Nose Landing Gear and Landing Gear Doors
730	Subzone 730 - Left Main Landing Gear and Landing Gear Doors
740	Subzone 740 - Right Main Landing Gear and Landing Gear Doors

E. Procedure

SUBTASK 32-00-00-210-016

WARNING

MAKE SURE THAT ALL PERSONNEL AND EQUIPMENT ARE AWAY FROM THE AREA AROUND THE LANDING GEAR. IF THE LANDING GEAR MOVES, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

ARO 001-004

WARNING

MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE AREA AROUND THE TAIL SKID. THE MOVEMENT OF THE TAIL SKID CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

ARO ALL

(1) Make sure that the Landing Gear Control lever is in the DN position.

SUBTASK 32-00-00-860-143

(2) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-00-00-080-020

WARNING

MAKE SURE THAT ALL PERSONNEL AND EQUIPMENT ARE AWAY FROM THE AREA AROUND THE LANDING GEAR. IF THE LANDING GEAR MOVES, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

ARO 001-004

WARNING

MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE AREA AROUND THE TAIL SKID. THE MOVEMENT OF THE TAIL SKID CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

ARO ALL

(3) If necessary, do this task: (Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801).

SUBTASK 32-00-00-080-022

WARNING

KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR. THE DOORS OPEN, AND CLOSE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

(WARNING PRECEDES)

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Do this task: (Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801).

SUBTASK 32-00-00-080-021

(5) Remove the DO NOT OPERATE tag, STD-858 on the Landing Gear Control lever.

END OF TASK

LANDING GEAR - DDG MAINTENANCE PROCEDURES

1. **General**

   A. This procedure has the maintenance tasks for the Master Minimum Equipment List (MMEL) maintenance requirements as shown in the Dispatch Deviations Guide (DDG). These tasks prepare the airplane for flight with certain systems/components inoperative.

   B. This procedure also has the tasks that put the airplane back to its usual condition.

   C. These are the tasks for the components in the landing gear system:

      (1) MMEL 32-08-1 (DDG) Preparation - Proximity Sensor Electronic Unit Channels Inoperative

      (2) MMEL 32-08-1 (DDG) Restoration - Proximity Sensor Electronic Unit Channels Inoperative

      (3) MMEL 32-09-1 (DDG) Preparation - Air/Ground System - Weight on Wheels Inoperative

      (4) MMEL 32-09-1 (DDG) Restoration - Air/Ground System - Weight on Wheels Inoperative

      (5) MMEL 32-30-1 (DDG) Preparation - Landing Gear Normal Extension and Retraction System Inoperative

      (6) MMEL 32-30-1 (DDG) Restoration - Landing Gear Normal Extension and Retraction System Inoperative

      (7) MMEL 32-30-2 (DDG) Preparation - Semi-Lever Gear System Inoperative

      (8) MMEL 32-30-2 (DDG) Restoration - Semi-Lever Gear System Inoperative

      (9) MMEL 32-31-2 (DDG) Preparation - Landing Gear Selector/Bypass Valve Electrical Control Circuit Inoperative

      (10) MMEL 32-31-2 (DDG) Restoration - Landing Gear Selector/Bypass Valve Electrical Control Circuit Inoperative

      (11) MMEL 32-32-1 (DDG) Preparation - Main Landing Gear Door Uplock Spring Broken Or Missing

      (12) MMEL 32-32-1 (DDG) Restoration - Main Landing Gear Door Uplock Spring Broken Or Missing

      (13) MMEL 32-32-2 (DDG) Preparation - Main Landing Gear Uplock Spring Broken Or Missing

      (14) MMEL 32-32-2 (DDG) Restoration - Main Landing Gear Uplock Spring Broken Or Missing

      (15) MMEL 32-35-1 (DDG) Preparation - Landing Gear Alternate Extension System Inoperative (this has two procedures, the complete system inoperative, and only hydraulic pressure switch inoperative)

      (16) MMEL 32-35-1 (DDG) Restoration - Landing Gear Alternate Extension System Inoperative (this has two procedures, complete system restoration, and only hydraulic pressure switch restoration)

      (17) MMEL 32-35-2 (DDG) Preparation - Landing Gear Ground Door Release System Inoperative (this has two procedures, one for landing gear door switches failed open, and one for landing gear door switches failed closed)

      (18) MMEL 32-35-2 (DDG) Restoration - Landing Gear Ground Door Release System Inoperative (this has two restorations, one for landing gear door switches failed open, and for landing gear door switches failed closed)

      (19) MMEL 32-41-2 (DDG) Preparation - Brake Accumulator Pressure Gage Inoperative (Flight Deck)

      (20) MMEL 32-41-2 (DDG) Restoration - Brake Accumulator Pressure Gage Inoperative (Flight Deck)

      (21) MMEL 32-41-3 (DDG) Preparation - Brake Source Indication System

(22) MMEL 32-41-3 (DDG) Restoration - Brake Source Indication System

(23) MMEL 32-42-1 (DDG) Preparation - Normal Antiskid Valves Inoperative

(24) MMEL 32-42-1 (DDG) Restoration - Normal Antiskid Valves Inoperative

(25) MMEL 32-42-3 (DDG) Preparation - Alternate Antiskid Valves Inoperative

(26) MMEL 32-42-3 (DDG) Restoration - Alternate Antiskid Valves Inoperative

(27) MMEL 32-42-4A (DDG) Preparation - Autobrake System Inoperative (verify solenoid valve is closed)

(28) MMEL 32-42-4A (DDG) Restoration - Autobrake System Inoperative (verify solenoid valve is closed)

(29) MMEL 32-42-4B (DDG) Preparation - Autobrake System Inoperative

(30) MMEL 32-42-4B (DDG) Restoration - Autobrake System Inoperative

(31) MMEL 32-44-3 (DDG) Preparation - Parking Brake Set Indication System Inoperative (Flight Deck)

(32) MMEL 32-44-3 (DDG) Restoration - Parking Brake Set Indication System Inoperative (Flight Deck)

(33) MMEL 32-45-1A (DDG) Preparation - Main Landing Gear Wheel Brakes Inoperative (Flight Dispatch Disconnect Procedure)

(34) MMEL 32-45-1A (DDG) Restoration - Main Landing Gear Wheel Brakes Inoperative (Flight Dispatch Disconnect Procedure)

(35) MMEL 32-45-1B (DDG) Preparation - Main Landing Gear Wheel Brakes Inoperative (Brake Line Disconnection Procedure)

(36) MMEL 32-45-1B (DDG) Restoration - Main Landing Gear Wheel Brakes Inoperative (Brake Line Disconnection Procedure)

(37) MMEL 32-45-1C (DDG) Preparation - Main Landing Gear Wheel Brakes Inoperative (Brake Removal Procedure)

(38) MMEL 32-45-1C (DDG) Restoration - Main Landing Gear Wheel Brakes Inoperative (Brake Removal Procedure)

(39) MMEL 32-45-2 (DDG) Preparation - Landing Gear Wheel Tie Bolts Broken or Missing

(40) MMEL 32-45-2 (DDG) Restoration - Landing Gear Wheel Tie Bolts Broken or Missing

(41) MMEL 32-49-2 (DDG) Preparation - Tire Pressure Monitoring System (TBMS) Inoperative

(42) MMEL 32-49-2 (DDG) Restoration - Tire Pressure Monitoring System (TBMS) Inoperative

(43) MMEL 32-53-1 (DDG) Preparation - Main Landing Gear Steering System (Including Indication) Inoperative

(44) MMEL 32-53-1 (DDG) Restoration - Main Landing Gear Steering System (Including Indication) Inoperative

(45) MMEL 32-61-1 (DDG) Preparation - Landing Gear Position Indication Systems Inoperative

(46) MMEL 32-61-1 (DDG) Restoration - Landing Gear Position Indication Systems Inoperative

(47) MMEL 32-61-2 (DDG) Preparation - Landing Gear Door Position Sensors Inoperative

(48) MMEL 32-61-2 (DDG) Restoration - Landing Gear Door Position Sensors Inoperative

(49) MMEL 32-61-3 (DDG) Preparation - Landing Gear Uplock Position Sensors Inoperative

(50) MMEL 32-61-3 (DDG) Restoration - Landing Gear Uplock Position Sensors Inoperative

ARO 001-004

(51) MMEL 32-72-1 (DDG) Preparation - Tail Skid Extended Inoperative

(52) MMEL 32-72-1 (DDG) Restoration - Tail Skid Extended Inoperative

(53) MMEL 32-72-2 (DDG) Preparation - Tail Skid Position Sensing System Inoperative

(54) MMEL 32-72-2 (DDG) Restoration - Tail Skid Position Sensing System Inoperative

ARO ALL

TASK 32-00-00-040-824

2. MMEL 32-08-1 (DDG) Preparation - Proximity Sensor Electronic Unit Channels Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Proximity Sensor Electronic Unit Channels Inoperative.

(2) EICAS Status Messages

(a) PSEU 1 CHANNEL

(b) PSEU 2 CHANNEL

B. References

Reference	Title
31-61-00-800-804	Showing a Maintenance Page (P/B 201)

C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. Examine for the Proximity Sensor Electronic Unit Channels

SUBTASK 32-00-00-200-004

(1) Make sure the PSEU 1 transmission on the left and PSEU 2 transmission on the right ARINC 629 systems busses is operational.

(a) Select the LANDING GEAR ACTN/INDN maintenance page, do this task: Showing a Maintenance Page, TASK 31-61-00-800-804.

1) Make sure the indications below the PSEU 1 column and the PSEU 2 column are shown on the LANDING GEAR ACTN/INDN maintenance page display.

2) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

3) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

4) Make sure the indications below the PSEU 1 column are removed from the LANDING GEAR ACTN/INDN maintenance page display.

5) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

Row	Col	Number	Name
D	2	C32624	PSEU 2 ALTN PWR

6) Make sure the indications below the PSEU 2 column are removed from the LANDING GEAR ACTN/INDN maintenance page display.

7) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	2	C32624	PSEU 2 ALTN PWR

SUBTASK 32-00-00-200-005

(2) Make sure the PSEU 1 transmission on the right and PSEU 2 transmission on the left ARINC 629 systems busses are operational.

(a) Select the LANDING GEAR ACTN/INDN maintenance page, do this task: Showing a Maintenance Page, TASK 31-61-00-800-804.

1) Make sure the indications below the PSEU 1 column and the PSEU 2 column display on the LANDING GEAR ACTN/INDN maintenance page display.

2) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

a) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR

3) Make sure the indications below the PSEU 1 column are removed from the LANDING GEAR ACTN/INDN maintenance page display.

4) Open this circuit breaker and install safety tag:

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

5) Make sure the indications below the PSEU 2 column are removed from the LANDING GEAR ACTN/INDN maintenance page display.

6) Remove the safety tags and close these circuit breakers:

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR

F. **Landing Gear Deactivation in the Down Position**

SUBTASK 32-00-00-040-008

(1) Lock the nose and main landing gear in the down and locked position for gear down dispatch, do this task: MMEL 32-30-1 (DDG) Preparation - Landing Gear Normal Extension and Retraction System Inoperative, TASK 32-00-00-040-801.

——— END OF TASK ———

TASK 32-00-00-440-820

3. **MMEL 32-08-1 (DDG) Restoration - Proximity Sensor Electronic Unit Channels Inoperative**

A. **General**

(1) This task puts the airplane back to its usual condition after operation with the Proximity Sensor Electronic Unit Channels Inoperative.

B. **References**

Reference	Title
32-08-00-730-801	Proximity Sensor Electronics Unit - System Test (P/B 501)

C. **Location Zones**

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right

D. **Landing Gear Position Indication System Repair**

SUBTASK 32-00-00-810-019

(1) Go to the maintenance access terminal (MAT) and find the EICAS status message.

(a) Find the fault code and the correlated maintenance message numbers on the MAT.

SUBTASK 32-00-00-810-020

(2) Go to the Fault Code Index in the FIM and find the fault code (the first two digits of the fault code are the FIM chapter).

(a) For each correlated maintenance message, find the maintenance message number to the right side of the fault code.

(b) Find the task number on the same line as the maintenance message number.

SUBTASK 32-00-00-810-021

(3) Go to the task in the FIM and do the steps in the task.

E. **Reactivate the Landing Gear**

SUBTASK 32-00-00-440-007

(1) Do this task: MMEL 32-30-1 (DDG) Restoration - Landing Gear Normal Extension and Retraction System Inoperative, TASK 32-00-00-440-822.

F. **Proximity Sensor Electronic Unit Channels Test**

SUBTASK 32-00-00-700-001

(1) Do this task: Proximity Sensor Electronics Unit - System Test, TASK 32-08-00-730-801.

——— END OF TASK ———

TASK 32-00-00-040-823

4. MMEL 32-09-1 (DDG) Preparation - Air/Ground System - Weight on Wheels Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Air/Ground System - Weight on Wheels Inoperative.

(2) EICAS Status Messages

(a) AIR/GROUND L

(b) AIR/GROUND R

B. References

Reference	Title
20-10-01 P/B 401	E/E RACK-MOUNTED COMPONENTS AND PRINTED CIRCUIT CARD - REMOVAL/INSTALLATION

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. Air/Ground System - Weight on Wheels Deactivation

NOTE: The left and right Weight on Wheels (WOW) cards are interchangeable (E/E RACK-MOUNTED COMPONENTS AND PRINTED CIRCUIT CARD - REMOVAL/INSTALLATION, PAGEBLOCK 20-10-01/401).

SUBTASK 32-00-00-010-005

(1) To get access to the applicable left or right system card file:

Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-00-00-040-014

(2) Do these steps to deactivate the left air/ground system:

(a) Open this circuit breaker and install safety tag:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	13	C32628	AIR/GROUND 1

NOTE: The WINDSHEAR SYS advisory message and WINDSHEAR PRED status message may be displayed. The airplane must also be dispatched using MMEL item 34-43-01-01.

NOTE: Some on-ground functionality of the left EFB will be inoperative. The airplane must also be dispatched per MMEL item 46-11-02-01.

(b) Set the power switch for the air/ground control card on the front of the left system card file to the OFF position:

1) Left WOW card (A16) in the left system card file (P85)

Table 901/32-00-00-993-801

Card File	SW ID	Slot	Card
LSCF	A18S6	A16	L WOW Card

SUBTASK 32-00-00-040-013

(3) Do these steps to deactivate the right air/ground system:

(a) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	26	C32626	AIR/GROUND 3
G	26	C32627	AIR/GROUND 2

NOTE: The WINDSHEAR SYS advisory message and WINDSHEAR PRED status message may be displayed. The airplane must also be dispatched using MMEL item 34-43-01-01.

NOTE: Some on-ground functionality of the right EFB will be inoperative. The airplane must also be dispatched per MMEL item 46-11-02-01.

(b) Set the power switch for the air/ground control card on the front of the right system card file to the OFF position:

1) Right WOW card (A16) in the right system card file (P84)

Table 902/32-00-00-993-802

Card File	SW ID	Slot	Card
RSCF	A18S6	A16	R WOW Card

(c) Close the water supply and shut off valves to the galley sinks, lavatory sinks and drinking fountains (if installed).

——— END OF TASK ———

TASK 32-00-00-440-819

5. MMEL 32-09-1 (DDG) Restoration - Air/Ground System - Weight on Wheels Inoperative

A. General

(1) This task puts the airplane back to its usual condition after operation with the Air/Ground System - Weight on Wheels Inoperative.

B. References

Reference	Title
32-09-00-730-801	Air/Ground System (AGS) - System Test (P/B 501)

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. Reactivate the Air/Ground System

SUBTASK 32-00-00-010-006

(1) To get access to the applicable left or right system card file:

Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-00-00-440-010

(2) Do these steps to reactivate the left air/ground system:

(a) Remove the safety tag and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	13	C32628	AIR/GROUND 1

(b) Set the power switch for the air/ground control card on the front of the left system card file to the ON position:

1) Left WOW card (A16) in the left system card file (P85)

Table 903/32-00-00-993-803

Card File	SW ID	Slot	Card
LSCF	A18S6	A16	L WOW Card

SUBTASK 32-00-00-440-009

(3) Do these steps to reactivate the right air/ground system:

(a) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	26	C32626	AIR/GROUND 3
G	26	C32627	AIR/GROUND 2

(b) Set the power switch for the air/ground control card on the front of the right system card file to the ON position:

1) Right WOW card (A16) in the right system card file (P84)

Table 904/32-00-00-993-804

Card File	SW ID	Slot	Card
RSCF	A18S6	A16	R WOW Card

SUBTASK 32-00-00-860-057

(4) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

F. Air/Ground System Repair

SUBTASK 32-00-00-740-008

(1) Go to the MAT and find the EICAS status message.

(a) Find the fault code and the correlated maintenance message numbers on the MAT.

SUBTASK 32-00-00-810-017

(2) Go to the Fault Code Index in the FIM and find the fault code (the first two digits of the fault code are the FIM chapter).

(a) For each correlated maintenance message, find the maintenance message number to the right side of the fault code.

(b) Find the task number on the same line as the maintenance message number.

SUBTASK 32-00-00-810-018

(3) Go to the task in the FIM and do the steps in the task.

G. **Air/Ground System Test**

SUBTASK 32-00-00-730-006

(1) Do this task: Air/Ground System (AGS) - System Test, TASK 32-09-00-730-801.

——— END OF TASK ———

TASK 32-00-00-040-801

6. MMEL 32-30-1 (DDG) Preparation - Landing Gear Normal Extension and Retraction System Inoperative

A. **General**

(1) This task gives the maintenance steps which prepare the airplane for flight with the Landing Gear Normal Extension and Retraction System Inoperative.

B. **References**

Reference	Title
06-41-00-800-801	Finding an Access Door or Panel on the Fuselage (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. **Location Zones**

Zone	Area
118	Main Equipment Center, Right

D. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door

E. **Downlock Pin Installation (To lock all the landing gear in the extended position)**

SUBTASK 32-00-00-480-001

(1) Do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

NOTE: This task supplies instructions to install the downlock pins to prepare for usual maintenance. This task also supplies special instructions to install the downlock pins to prepare for flight with the landing gear locked in the extended position.

F. **Alternate Gear Down Dispatch**

SUBTASK 32-00-00-860-131

(1) Place the switch for ALTERNATE GEAR DOWN DISPATCH, S27033, to the VMO position.

NOTE: The Alternate Gear Down Dispatch switch is in the Main Equipment Center above the lower access door.

G. Deactivation of the Lock Solenoid for the Landing Gear Control Lever

SUBTASK 32-00-00-010-001

(1) Open this access panel:

(TASK 06-41-00-800-801)

Number	Name/Location
117AL	Main Equipment Center Access Door

NOTE: Do this to get access to the right power management panel, P210.

SUBTASK 32-00-00-860-001

(2) Open this circuit breaker and install safety lock:

Right Power Management Panel, P210

Row	Col	Number	Name
M	2	C32623	LG LEVER LOCK

SUBTASK 32-00-00-410-001

(3) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

——— END OF TASK ———

TASK 32-00-00-440-822

7. MMEL 32-30-1 (DDG) Restoration - Landing Gear Normal Extension and Retraction System Inoperative

A. General

(1) This task puts the airplane back to its usual condition after operation with the Landing Gear Normal Extension and Retraction System Inoperative.

B. References

Reference	Title
06-41-00-800-801	Finding an Access Door or Panel on the Fuselage (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)

C. Location Zones

Zone	Area
118	Main Equipment Center, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. Activation of the Lock Solenoid for the Landing Gear Control Lever

SUBTASK 32-00-00-010-002

(1) Open this access panel:

(TASK 06-41-00-800-801)

Number	Name/Location
117AL	Main Equipment Center Access Door

NOTE: Do this to get access to the right power management panel, P210.

SUBTASK 32-00-00-860-002

(2) Remove the safety lock and close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
M	2	C32623	LG LEVER LOCK

SUBTASK 32-00-00-410-002

(3) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

F. Deactivate Alternate Gear Down Dispatch

SUBTASK 32-00-00-860-150

(1) Move the switch for ALTERNATE GEAR DOWN DISPATCH, S27033, to the NORMAL position.

NOTE: The Alternate Gear Down Dispatch switch is in the Main Equipment Center above the lower access door.

G. Downlock Pin Removal (To release all the landing gear from the extended position)

SUBTASK 32-00-00-080-001

(1) Do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

H. Landing Gear Normal Extension and Retraction System Repair

SUBTASK 32-00-00-810-001

(1) Go to the Observed Faults List at the front of the Fault Isolation Manual (FIM).

(a) Find the fault description for problems with the normal extension and retraction system.

(b) Find the task number on the same line as the fault description.

SUBTASK 32-00-00-810-002

(2) Go to the task in the FIM and do the steps in the task.

——— END OF TASK ———

TASK 32-00-00-040-831

8. MMEL 32-30-2 (DDG) Preparation - Semi-Lever Gear System Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Semi-Lever Gear System Inoperative.

(2) EICAS Status Messages

(a) SEMI LEVER GEAR

(b) SEMI LEVER GEAR SYS

(c) SEMI LEVER GEAR LOCK

B. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)

C. Location Zones

Zone	Area
117	Main Equipment Center, Left

(Continued)

Zone	Area
118	Main Equipment Center, Right

D. Deactivation of the Semi-Lever Gear System

SUBTASK 32-00-00-040-015

(1) For the EICAS status message SEMI LEVER GEAR or SEMI LEVER GEAR SYS displayed:

Open these circuit breakers and install safety locks:

Left Power Management Panel, P110

Row	Col	Number	Name
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Right Power Management Panel, P210

Row	Col	Number	Name
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

SUBTASK 32-00-00-040-016

(2) For the EICAS status message SEMI LEVER GEAR LOCK displayed:

(a) Open these circuit breakers and install safety locks:

Left Power Management Panel, P110

Row	Col	Number	Name
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Right Power Management Panel, P210

Row	Col	Number	Name
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

(b) Make sure that persons and equipment are sufficiently clear of the airplane to allow for possible downward vertical motion.

WARNING MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE AIRPLANE. AN AIRPLANE THAT WEIGHS LESS THAN 500,000 POUNDS CAN MOVE DOWN WHEN THE SEMI LEVER GEAR IS PRESSURIZED. THIS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(c) Pressurize the center hydraulic system, Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(d) Make sure the indications for both SLG sensors indicate FAR on the LANDING GEAR ACTN/INDN maintenance page display.

NOTE: If either sensor indicates NEAR, then dispatch is not allowed.

(e) Remove the pressure from the center hydraulic system, SUBTASK 29-11-00-860-001.

NOTE: The EICAS status message SEMI LEVER GEAR SYS will remain displayed during dispatch with the L and R SLG circuit breakers open.

END OF TASK

TASK 32-00-00-440-826

9. MMEL 32-30-2 (DDG) Restoration - Semi-Lever Gear System Inoperative

A. General

(1) This task puts the airplane back to its usual condition after operation with the Semi-Lever Gear System Inoperative.

B. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right

C. Semi-Lever Gear System Restoration

SUBTASK 32-00-00-440-011

(1) Close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Right Power Management Panel, P210

Row	Col	Number	Name
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

——— END OF TASK ———

TASK 32-00-00-040-802

10. MMEL 32-31-2 (DDG) Preparation - Landing Gear Selector/Bypass Valve Electrical Control Circuit Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the one Landing Gear Selector/Bypass Valve Electrical Control Circuit Inoperative.

(2) EICAS Status Messages

(a) GEAR CONTROL

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Landing Gear Control System Test (To make sure that one of the two electrical control circuits operates correctly)

NOTE: During this test, it is possible that the GEAR DISAGREE and the GEAR DOOR messages will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the messages go away. The messages will go away automatically when you complete this test.

SUBTASK 32-00-00-480-002

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-00-860-003

(2) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-00-00-860-004

(3) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-00-00-860-005

(4) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-00-00-860-006

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-00-00-210-001

WARNING MAKE SURE THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. THE DOORS OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(6) Make sure the area around the doors for the nose and main landing gear is clear of persons and equipment.

SUBTASK 32-00-00-480-003

> **WARNING**
> MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(7) Make sure the downlock pins are installed in all the landing gear (TASK 32-00-30-480-801).

SUBTASK 32-00-00-860-007

(8) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

SUBTASK 32-00-00-210-002

(9) Make sure the doors for the nose and main landing gear open.

SUBTASK 32-00-00-860-008

(10) Move the control lever for the landing gear to the DN position.

SUBTASK 32-00-00-210-003

(11) Make sure the doors for the nose and main landing gear close.

SUBTASK 32-00-00-860-009

(12) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-00-00-080-002

> **WARNING**
> DO NOT REMOVE THE DOWNLOCK PINS UNLESS ALL MAINTENANCE AND SERVICING OF THE AIRPLANE IS COMPLETE. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(13) If all maintenance and servicing of the airplane is complete, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

END OF TASK

TASK 32-00-00-440-802

11. MMEL 32-31-2 (DDG) Restoration - Landing Gear Selector/Bypass Valve Electrical Control Circuit Inoperative

A. General

(1) This task puts the airplane back to its usual condition after operation with one Landing Gear Selector/Bypass Valve Electrical Control Circuit Inoperative.

B. Landing Gear Control System Repair

SUBTASK 32-00-00-740-001

(1) Go to the Maintenance Access Terminal (MAT) and find the GEAR CONTROL status message.

(a) Find the fault code and the correlated maintenance message numbers on the MAT.

SUBTASK 32-00-00-810-003

(2) Go to the Fault Code Index in the Fault Isolation Manual (FIM) and find the fault code (the first two digits of the fault code are the FIM chapter)

(a) For each correlated maintenance message, find the maintenance message number to the right side of the fault code.

(b) Find the task number on the same line as the maintenance message number.

SUBTASK 32-00-00-810-004

(3) Go to the task in the FIM and do the steps in the task.

——— END OF TASK ———

TASK 32-00-00-040-803

12. MMEL 32-32-1 (DDG) Preparation - Main Landing Gear Door Uplock Spring Broken Or Missing

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with one Main Landing Gear Door Uplock Spring Broken Or Missing.

B. References

Reference	Title
32-32-21-000-801	Main Landing Gear Door Uplock Spring Removal (P/B 401)

C. Main Landing Gear Door Uplock Spring Removal

SUBTASK 32-00-00-020-011

(1) If there are pieces of broken spring on the airplane, do this task: Main Landing Gear Door Uplock Spring Removal, TASK 32-32-21-000-801

for the broken spring.

——— END OF TASK ———

TASK 32-00-00-440-803

13. MMEL 32-32-1 (DDG) Restoration - Main Landing Gear Door Uplock Spring Broken Or Missing

A. General

(1) This task puts the airplane back to its usual condition after operation with one Main Landing Gear Door Uplock Spring Broken Or Missing.

B. References

Reference	Title
32-32-21-400-801	Main Landing Gear Door UpLock Spring Installation (P/B 401)

C. Main Landing Gear Door Uplock Spring Installation

SUBTASK 32-00-00-420-009

(1) For the missing spring, do this task: Main Landing Gear Door UpLock Spring Installation, TASK 32-32-21-400-801.

——— END OF TASK ———

TASK 32-00-00-040-804

14. MMEL 32-32-2 (DDG) Preparation - Main Landing Gear Uplock Spring Broken Or Missing

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with one Main Landing Gear Uplock Spring Broken Or Missing.

B. References

Reference	Title
32-32-20-000-801	Main Landing Gear Uplock Spring Removal (P/B 401)

C. Main Landing Gear Uplock Spring Removal

SUBTASK 32-00-00-020-012

(1) If there are pieces of broken spring on the airplane, then remove the broken spring. For the broken spring, do this task: Main Landing Gear Uplock Spring Removal, TASK 32-32-20-000-801.

——— END OF TASK ———

TASK 32-00-00-440-804

15. MMEL 32-32-2 (DDG) Restoration - Main Landing Gear Uplock Spring Broken Or Missing

A. General

(1) This task puts the airplane back to its usual condition after operation with one Main Landing Gear Uplock Spring Broken Or Missing.

B. References

Reference	Title
32-32-20-400-801	Main Landing Gear UpLock Spring Installation (P/B 401)

C. Main Landing Gear Uplock Spring Installation

SUBTASK 32-00-00-420-010

(1) For the missing spring, do this task: Main Landing Gear UpLock Spring Installation, TASK 32-32-20-400-801.

——— END OF TASK ———

TASK 32-00-00-040-805

16. MMEL 32-35-1 (DDG) Preparation - Landing Gear Alternate Extension System Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Landing Gear Alternate Extension System inoperative. There are two separate tasks. The first task is for the Alternate Extend system completely inoperative. The second task is for the Alternate Extend Hydraulic Pressure switch being inoperative.

(2) EICAS Status Messages

(a) ALTN GEAR EXTEND

B. References

Reference	Title
06-41-00-800-801	Finding an Access Door or Panel on the Fuselage (P/B 201)
27-32-01 P/B 401	ALTERNATE GEAR DOWN DISPATCH SWITCH GUARD - REMOVAL/INSTALLATION
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

C. Location Zones

Zone	Area
118	Main Equipment Center, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. Landing Gear Alternate Extend System Inoperative

NOTE: The airplane must fly with the landing gear lock down with this condition.

SUBTASK 32-00-00-480-004

(1) Install the downlock pins in flight prepared configuration (To lock all the landing gear in the extended position):

(a) Do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

NOTE: This task supplies instructions to install the downlock pins to prepare for usual maintenance. This task also supplies special instructions to install the downlock pins to prepare for flight with the landing gear locked in the extended position. The warning streamers must be removed and the pins bolted in place.

SUBTASK 32-00-00-860-073

(2) Deactivate the alternate extend system:

(a) Open these circuit breakers and install safety locks:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

SUBTASK 32-00-00-010-011

(3) Open this access panel:

(TASK 06-41-00-800-801)

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-00-00-010-008

(4) Activate the switch for ALTERNATE GEAR DOWN DISPATCH:

(a) Remove the cotter pin from the switch guard (PAGEBLOCK 27-32-01/401).

(b) Move the switch for ALTERNATE GEAR DOWN DISPATCH, S27033, to the VMO position.

NOTE: The switch is located directly inside of the main equipment center, next to the switch for the E/E bay lights.

NOTE: The switch must be pulled from its locked position to move it.

SUBTASK 32-00-00-860-010

(5) Deactivate the lock solenoid for the Landing Gear Control Lever:

(a) Open this circuit breaker and install safety lock:

Right Power Management Panel, P210

Row	Col	Number	Name
M	2	C32623	LG LEVER LOCK

SUBTASK 32-00-00-410-003

(6) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

F. Alternate Extend Hydraulic Pressure Switch Inoperative

NOTE: The airplane will fly with the landing gear up in this condition. This task makes sure the landing gear doors open using the alternate extend system. Do NOT dispatch the airplane using this procedure if the ALTN GEAR EXTEND status message is displayed. If the ALTN GEAR EXTEND status message is displayed, additional faults may exist in the alternate extend system that could cause alternate landing gear extension to fail. In this case, dispatch can only be made by deactivating the alternate gear extend system and securing the landing gear down.

SUBTASK 32-00-00-480-027

(1) Install the downlock pins (To lock all the landing gear in the extended position):

(a) Do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-00-860-075

(2) Activate the alternate extend system:

(a) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

SUBTASK 32-00-00-860-076

(3) Select the Landing Gear (GEAR) synoptic on to a Multi-Function Display (MFP). Use the Display Select Panel (DSP) on the Glareshield Panel (P55) for this task.

SUBTASK 32-00-00-720-007

(4) Move and hold the switch for the Alternate Gear (ALTN GEAR) to the DOWN position for up to 45 seconds until all landing gear doors are open, indicated by in-transit (three cross-hatched boxes) on the GEAR synoptic. The EICAS message GEAR DOOR will be show.

SUBTASK 32-00-00-720-008

(5) Close the landing gear doors:

NOTE: The Ground Door Release function which closes the landing gear doors must be operative.

NOTE: For maintenance ground operations, the landing gear doors must be opened by placing the ALTN GEAR switch DOWN and holding (45 seconds maximum) until all gear doors are open, indicated by in-transit (three cross-hatched boxes) on the GEAR synoptic.

(a) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

——— END OF TASK ———

TASK 32-00-00-440-805

17. MMEL 32-35-1 (DDG) Restoration - Landing Gear Alternate Extension System Inoperative

A. General

(1) This task puts the airplane back to its usual condition after operation with the Landing Gear Alternate Extension System Inoperative. There are two separate tasks. The first task restores the Alternate Extend system. The second task replaces the Alternate Extend Hydraulic Pressure Switch.

B. References

Reference	Title
06-41-00-800-801	Finding an Access Door or Panel on the Fuselage (P/B 201)
27-32-01 P/B 401	ALTERNATE GEAR DOWN DISPATCH SWITCH GUARD - REMOVAL/INSTALLATION
32-35-09-000-801	Hydraulic Pressure Switch Removal (P/B 401)
32-35-09-400-801	Hydraulic Pressure Switch Installation (P/B 401)

C. Location Zones

Zone	Area
118	Main Equipment Center, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. Landing Gear Alternate Extend System Inoperative

SUBTASK 32-00-00-010-009

(1) Open this access panel:

(TASK 06-41-00-800-801)

Number	Name/Location
117AL	Main Equipment Center Access Door

NOTE: Do this to get access to the right power management panel, P210.

SUBTASK 32-00-00-860-077

(2) Activate the lock solenoid for the Landing Gear Control Lever.

(a) Remove the safety lock and close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
M	2	C32623	LG LEVER LOCK

SUBTASK 32-00-00-860-067

(3) Deactivate the switch for ALTERNATE GEAR DOWN DISPATCH.

(a) Move the switch for ALTERNATE GEAR DOWN DISPATCH, S27033, to the NORMAL position.

NOTE: The switch is located directly inside of the main equipment center, next to the switch for the E/E bay lights.

(b) Install the cotter pin in the switch guard (PAGEBLOCK 27-32-01/401).

1) Bend the longest leg of the cotter pin around the flange of the switch guard to prevent cotter pin rotation.

2) If necessary, trim the end of the cotter pin to prevent snags.

SUBTASK 32-00-00-410-007

(4) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-00-00-860-011

(5) Activate the alternate extend system.

(a) Close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

SUBTASK 32-00-00-080-003

(6) Reconfigure the downlock pins for normal operation:

(a) Remove the cross bolts,

(b) Replace the warning streamer.

NOTE: Leave the downlock pins installed in the landing gear.

SUBTASK 32-00-00-740-002

(7) Repair the landing gear alternate extension system.

(a) Go to the Maintenance Access Terminal (MAT) and find the ALTN GEAR EXTEND status message.

(b) Find the fault code and the correlated maintenance message numbers on the MAT.

SUBTASK 32-00-00-810-005

(8) Go to the Fault Code Index in the Fault Isolation Manual (FIM) and find the fault code (the first two digits of the fault code are the FIM chapter)

(a) For each correlated maintenance message, find the maintenance message number to the right side of the fault code.

(b) Find the task number on the same line as the maintenance message number.

SUBTASK 32-00-00-810-006

(9) Go to the task in the FIM and do the steps in the task.

F. Alternate Extend Hydraulic Pressure Switch Inoperative

SUBTASK 32-00-00-960-001

(1) These are the tasks:

Hydraulic Pressure Switch Removal, TASK 32-35-09-000-801,

Hydraulic Pressure Switch Installation, TASK 32-35-09-400-801.

——— END OF TASK ———

TASK 32-00-00-040-806

18. MMEL 32-35-2 (DDG) Preparation - Landing Gear Ground Door Release System Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Landing Gear Ground Door Release System Inoperative. There are two separate tasks. In the first task one or both of the operating switches are failed open (with no continuity across the switch). In the second task one or both of the switches are failed closed (with continuity across the switch).

NOTE: The terms "failed open" and "failed closed" refer to the electrical condition of the switches themselves. It does not refer to the position of the landing gear doors. A switch that is electrically failed closed will try to open the doors. A switch that is electrically failed open will keep the landing gear doors closed.

(2) EICAS Status Messages

(a) ALTN GEAR EXTEND

B. References

Reference	Title
06-41-00-800-801	Finding an Access Door or Panel on the Fuselage (P/B 201)
27-32-01 P/B 401	ALTERNATE GEAR DOWN DISPATCH SWITCH GUARD - REMOVAL/INSTALLATION
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. **Ground Door Release Control System inoperative when the switches are failed open (with no continuity across the switch)**

NOTE: The airplane will fly with the landing gear up with this condition.

SUBTASK 32-00-00-210-004

(1) Make sure the downlock pins are installed:

(a) Do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-00-210-005

(2) Make sure the doors for the nose and main landing gear are closed.

WARNING: MAKE SURE THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. THE DOORS OPEN QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(a) Make sure the area around the doors for the nose and main landing gear is clear of persons and equipment.

SUBTASK 32-00-00-860-012

(3) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-00-00-860-013

(4) Make sure the Alternate Extend System circuit breakers are closed.

NOTE: This will also supply power to the Ground Door Release System.

(a) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

SUBTASK 32-00-00-860-079

(5) Make sure at least one switch for the door open control is failed open (with no continuity across the switch).

(a) Make sure the switch for Arm Doors and the switch for All Doors Open/Main Landing Gear Doors Close are positioned OFF.

(b) Move the switch for Arm Doors to the ARM DOORS position and hold for 5 seconds.

(c) Release the switch and verify none of the gear doors opened.

(d) Move the switch for All Doors Open/Main Landing Gear Doors Close to the ALL DOORS OPEN position and hold for 5 seconds.

(e) Release the switch and verify none of the gear doors opened.

1) If the gear doors opened with either switch, then the other switch is failed closed (with continuity). The airplane must be repaired or can be dispatched with the landing gear secured down per the task "Ground Door Release Control System inoperative" when the switches are failed closed (with continuity across the switch).

SUBTASK 32-00-00-860-014

(6) Momentarily move the ALTN GEAR switch on the landing gear module to the DOWN position.

NOTE: Before you move the switch, you must pull the switch guard down, away from the switch. After you do this the GEAR DOOR message will show on the Engine Indicating and Crew Alerting System (EICAS).

(a) Make sure the doors for the nose and main landing gear open.

1) If the doors do not open, push and hold the ALTN GEAR switch until all the doors open (maximum 45 seconds). If the doors open then the switch for alternate gear extend hydraulic pressure is inoperative. MMEL 32-35-1 provides dispatch instructions. If the doors did not open, then the alternate extend system is inoperative and the airplane must be dispatched with gear down per MMEL 32-35-1. MMEL 32-35-1 has two task, one for each of these conditions.

SUBTASK 32-00-00-210-006

(7) Close the landing gear doors.

(a) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

F. Ground Door Release Control System inoperative when the switches are failed closed (with continuity across the switch):

NOTE: The airplane must fly with the landing gear lock down with this condition.

SUBTASK 32-00-00-210-010

(1) Install the downlock pins in flight prepared configuration (To lock all the landing gear in the extended position):

(a) Do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

NOTE: This task supplies instructions to install the downlock pins to prepare for usual maintenance. This task also supplies special instructions to install the downlock pins to prepare for flight with the landing gear locked in the extended position. The warning streamers must be removed and the pins bolted into place.

SUBTASK 32-00-00-210-011

(2) Make sure the doors for the nose and main landing gear are closed.

WARNING	MAKE SURE THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. THE DOORS OPEN QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(a) Make sure the area around the doors for the nose and main landing gear is clear of persons and equipment.

SUBTASK 32-00-00-860-080

(3) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-00-00-860-081

(4) Verify at least one door open control switch is failed closed (with continuity across the switch).

(a) Ensure the switch for Arm Doors and the switch for All Doors Open/Main Landing Gear Doors Close are positioned OFF.

NOTE: If the doors open with no input from either switch then both switches are failed closed.

(b) Move the switch for Arm Doors switch to the ARM DOORS position and hold for 5 seconds. Release the switch and verify none of the gear doors opened. If the doors open then the switch for All Doors Open/Main Landing Gear Doors Close is failed closed.

(c) Move the switch for All Doors Open/Main Landing Gear Doors Close to the ALL DOORS OPEN position and hold for 5 seconds. Release the switch and verify none of the gear doors opened. If the doors open then the switch for ARM DOORS switch is failed closed.

SUBTASK 32-00-00-860-015

(5) Close the landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

NOTE: Some of the faults that cause the ground door release system to be inoperative will not let you close the landing gear doors.

The landing gear doors must be closed before you do a takeoff. You are not permitted to do a takeoff with the landing gear doors open.

SUBTASK 32-00-00-860-082

(6) Deactivate the Alternate Extend System and the Ground Door Release controls.

(a) Open these circuit breakers and install safety locks:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

SUBTASK 32-00-00-010-012

(7) Open this access panel:

(TASK 06-41-00-800-801)

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-00-00-860-083

(8) Activate the switch for ALTERNATE GEAR DOWN DISPATCH:

(a) Remove the cotter pin from the switch guard (PAGEBLOCK 27-32-01/401).

(b) Move the switch for ALTERNATE GEAR DOWN DISPATCH, S27033, to the VMO position.

NOTE: The switch is located directly inside of the main equipment center, next to the E/E bay lights switch.

NOTE: The switch must be pulled from its locked position to move it.

SUBTASK 32-00-00-860-084

(9) Deactivate the lock solenoid for the Landing Gear Control Lever:

(a) Open this circuit breaker and install safety lock:

Right Power Management Panel, P210

Row	Col	Number	Name
M	2	C32623	LG LEVER LOCK

SUBTASK 32-00-00-410-008

(10) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

——— END OF TASK ———

TASK 32-00-00-440-806

19. MMEL 32-35-2 (DDG) Restoration - Landing Gear Ground Door Release System Inoperative

A. General

(1) This task puts the airplane back to its usual condition after operation with the Landing Gear Ground Door Release System Inoperative. There are two separate tasks. The first task repairs switches failed open. The second task restores normal configuration and replaces switches failed closed.

B. References

Reference	Title
06-41-00-800-801	Finding an Access Door or Panel on the Fuselage (P/B 201)
27-32-01 P/B 401	ALTERNATE GEAR DOWN DISPATCH SWITCH GUARD - REMOVAL/INSTALLATION

C. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

D. Landing Gear Ground Door Release System Repair for switches failed open (with no continuity across the switch).

SUBTASK 32-00-00-350-001

(1) Repair the broken switch in the Ground Door Release Control. Either the switch for Arm Doors or the switch for All Doors Open/Main Landing Gear Doors Close or both switches could be inoperative.

E. Landing Gear Ground Door Release System Repair for switches failed closed (with continuity across the switch).

SUBTASK 32-00-00-860-085

(1) Activate the Alternate Extend System and the Ground Door Release controls.

(a) Close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

SUBTASK 32-00-00-010-013

(2) Open this access panel:

(TASK 06-41-00-800-801)

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-00-00-860-086

(3) Deactivate the switch for the ALTERNATE GEAR DOWN DISPATCH:

(a) Move the switch for ALTERNATE GEAR DOWN DISPATCH, S27033, to the NORMAL position.

NOTE: The switch is located directly inside of the main equipment center, next to the E/E bay lights switch.

(b) Install the cotter pin in the switch guard (PAGEBLOCK 27-32-01/401).

1) Bend the longest leg of the cotter pin around the flange of the switch guard to prevent cotter pin rotation.

2) If necessary, trim the end of the cotter pin to prevent snags.

SUBTASK 32-00-00-860-087

(4) Activate the lock solenoid for the Landing Gear Control Lever:

(a) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
M	2	C32623	LG LEVER LOCK

SUBTASK 32-00-00-410-009

(5) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-00-00-740-003

(6) Repair the broken switch in the Ground Door Release Control. Either the switch for Arm Doors or the switch for All Doors Open/Main Landing Gear Doors Close or both switches could be inoperative.

SUBTASK 32-00-00-810-007

(7) Reconfigure the downlock pins for normal operation:

(a) Remove the cross bolts,

(b) Replace the warning streamer.

NOTE: Leave the downlock pins installed in the landing gear.

END OF TASK

TASK 32-00-00-040-834

20. MMEL 32-41-2 (DDG) Preparation - Brake Accumulator Pressure Gage (Flight Deck) Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Brake Accumulator Pressure Gage Inoperative (Flight Deck).

B. References

Reference	Title
12-15-04-610-801	Check of the Brake Accumulator Precharge Pressure (P/B 301)

C. Brake Accumulator Precharge Pressure Check

SUBTASK 32-00-00-710-001

(1) Do this task: Check of the Brake Accumulator Precharge Pressure, TASK 12-15-04-610-801.

——— END OF TASK ———

TASK 32-00-00-440-829

21. MMEL 32-41-2 (DDG) Restoration - Brake Accumulator Pressure Gage (Flight Deck) Inoperative

A. General

(1) This task puts the airplane back to its usual condition after operation with the Brake Accumulator Pressure Gage (Flight Deck) Inoperative.

B. References

Reference	Title
32-41-11-000-801	Brake Accumulator Pressure Gage (Flight Compartment) Removal (P/B 401)
32-41-11-400-801	nyufBrake Accumulator Pressure Gage (Flight Compartment) Installation (P/B 401)

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Brake Accumulator Pressure Gage Replacement

SUBTASK 32-00-00-020-001

(1) Do this task: Brake Accumulator Pressure Gage (Flight Compartment) Removal, TASK 32-41-11-000-801.

SUBTASK 32-00-00-420-001

(2) Do this task: nyufBrake Accumulator Pressure Gage (Flight Compartment) Installation, TASK 32-41-11-400-801.

——— END OF TASK ———

TASK 32-00-00-040-833

22. MMEL 32-41-3 (DDG) Preparation - Brake Source Indication System

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Brake Source Indication System inoperative.

(2) During towing and taxi operations, monitor the brake accumulator pressure indicator. If the brake accumulator pressure is less than 2800 psi (19,305 kPa) for longer than three seconds, discontinue operations.

(3) Make sure that the normal brake system, the alternate brake system, and the brake accumulator isolation valve operate normally.

B. References

Reference	Title
24-22-00 P/B 201	AC GENERATION AND BUS CONTROL - MAINTENANCE PRACTICES
29-11-00 P/B 201	MAIN (LEFT, RIGHT, AND CENTER) HYDRAULIC SYSTEMS - MAINTENANCE PRACTICES
32-00-15 P/B 201	LANDING GEAR DOOR SAFETY PINS - MAINTENANCE PRACTICES
32-00-30 P/B 201	LANDING GEAR DOWNLOCK PINS - MAINTENANCE PRACTICES

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Brake Source Indication System Inoperative

SUBTASK 32-00-00-860-092

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed in the nose and main landing gear (LANDING GEAR DOWNLOCK PINS - MAINTENANCE PRACTICES, PAGEBLOCK 32-00-30/201).

SUBTASK 32-00-00-860-093

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Open the doors for the landing gear and install the door safety pins (LANDING GEAR DOOR SAFETY PINS - MAINTENANCE PRACTICES, PAGEBLOCK 32-00-15/201).

SUBTASK 32-00-00-860-094

(3) Supply electrical power on the airplane (AC GENERATION AND BUS CONTROL - MAINTENANCE PRACTICES, PAGEBLOCK 24-22-00/201).

SUBTASK 32-00-00-860-095

(4) Pressurize the right and center hydraulic systems (MAIN (LEFT, RIGHT, AND CENTER) HYDRAULIC SYSTEMS - MAINTENANCE PRACTICES, PAGEBLOCK 29-11-00/201).

SUBTASK 32-00-00-040-018

(5) Make sure the brake accumulator pressure is between 2800 psi (19,305 kPa) and 3000 psi (20,684 kPa).

NOTE: Brake accumulator pressure is available on two different gages, either of which can be used. One gage is in the right main landing gear wheel well below the brake accumulator. The other gage is on the flight deck on the main instrument panel (P1) labeled BRAKE ACCUM.

SUBTASK 32-00-00-860-096

(6) Quickly apply the captain’s brake pedals full down. There should be a momentary decrease in brake accumulator pressure.

SUBTASK 32-00-00-860-097

(7) Release the captain’s brake pedals.

SUBTASK 32-00-00-860-098

(8) Fully push and hold the captain’s brake pedals.

NOTE: The parking brake can be set to hold the pedals.

SUBTASK 32-00-00-210-012

(9) Examine the pistons for each brake to make sure that all brakes operated.

SUBTASK 32-00-00-780-001

(10) Make sure the Landing Gear Brakes/Steering Maintenance page left and right BRAKE METERED PRESS for the NORMAL brake hydraulic system is approximately 3000 psi (20,684 kPa).

SUBTASK 32-00-00-860-099

(11) Release the captain’s brake pedals (or parking brake).

SUBTASK 32-00-00-210-013

(12) Examine the pistons for each brake to make sure that all brakes are released.

SUBTASK 32-00-00-860-100

(13) Remove power and depressurize the right hydraulic system (MAIN (LEFT, RIGHT, AND CENTER) HYDRAULIC SYSTEMS - MAINTENANCE PRACTICES, PAGEBLOCK 29-11-00/201).

(a) Position Hydraulic Panel (P5) right system hydraulic pumps to OFF.

(b) Position Overhead Maintenance Panel (P61) C TAIL FLT CONTROL HYD POWER switch to SHUTOFF.

(c) Position Overhead Maintenance Panel (P61) R TAIL FLT CONTROL HYD POWER switch to NORM.

(d) Operate the pitch trim with the alternate pitch trim lever to decrease the pressure in the right hydraulic system to zero.

SUBTASK 32-00-00-780-002

(14) Make sure the brake accumulator pressure is between 2800 psi (19,305 kPa) and 3000 psi (20,684 kPa).

SUBTASK 32-00-00-860-101

(15) Quickly apply the captain's brake pedals full down. There should be no momentary decrease in brake accumulator pressure.

NOTE: Steady pressure when the captain's brakes are applied indicates the accumulator isolation valve is in the secondary position, which isolates the accumulator.

SUBTASK 32-00-00-860-102

(16) Release the captain's brake pedals.

SUBTASK 32-00-00-860-103

(17) Fully push and hold the captain's brake pedals.

NOTE: The parking brake can be set to hold the pedals.

SUBTASK 32-00-00-210-014

(18) Examine the pistons for each brake to make sure that all brakes operated.

SUBTASK 32-00-00-780-003

(19) On Landing Gear Brake/Steering Maintenance page, confirm left and right Brake Metered Pressure for the Normal brake hydraulic system is approximately 3000 psi (20,684 kPa).

SUBTASK 32-00-00-860-104

(20) Release the captain's brake pedals (or parking brake).

SUBTASK 32-00-00-210-015

(21) Examine the pistons for each brake to make sure that all brakes are released.

SUBTASK 32-00-00-860-105

(22) Remove power from the center hydraulic system (MAIN (LEFT, RIGHT, AND CENTER) HYDRAULIC SYSTEMS - MAINTENANCE PRACTICES, PAGEBLOCK 29-11-00/201).

SUBTASK 32-00-00-860-106

(23) Position Overhead Maintenance Panel (P61) C TAIL FLT CONTROL HYD POWER switch to NORM.

SUBTASK 32-00-00-860-107

(24) If all maintenance and servicing of the airplane is complete, then remove the nose and main landing gear downlock pins (LANDING GEAR DOWNLOCK PINS - MAINTENANCE PRACTICES, PAGEBLOCK 32-00-30/201).

SUBTASK 32-00-00-860-108

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(25) Remove the landing gear door safety pins (LANDING GEAR DOOR SAFETY PINS - MAINTENANCE PRACTICES, PAGEBLOCK 32-00-15/201).

END OF TASK

TASK 32-00-00-440-828

23. MMEL 32-41-3 (DDG) Restoration - Brake Source Indication System

A. General

(1) This task puts the airplane back to its usual condition after operation with a Brake Source Indication System inoperative.

B. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Brake Source Indication System Activation

SUBTASK 32-00-00-710-016

(1) Go to the MAT and find the Brake Source Status message.

(a) Find the fault code and the correlated maintenance message numbers on the MAT.

SUBTASK 32-00-00-710-017

(2) Go to the Fault Code Index in the FIM and find the fault code (the first two digits of the fault code are the FIM chapter).

(a) For each correlated maintenance message, find the maintenance message number to the right side of the fault code.

(b) Find the task number on the same line as the maintenance message number.

SUBTASK 32-00-00-710-018

(3) Go to the task in the FIM and do the steps in the task.

——— END OF TASK ———

TASK 32-00-00-040-807

24. MMEL 32-42-1 (DDG) Preparation - Normal Antiskid Valves Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Normal Antiskid Valves Inoperative.

(2) EICAS Status Messages

(a) ANTISKID NORM VLV L

(b) ANTISKID NORM VLV R

B. Brake Deactivation

SUBTASK 32-00-00-040-001

(1) Do this task: MMEL 32-45-1A (DDG) Preparation - Main Landing Gear Wheel Brakes Inoperative (Flight Dispatch Disconnect Procedure), TASK 32-00-00-040-811 or MMEL 32-45-1B (DDG) Preparation - Main Landing Gear Wheel Brakes Inoperative (Brake Line Disconnection Procedure), TASK 32-00-00-040-812 or MMEL 32-45-1C (DDG) Preparation - Main Landing Gear Wheel Brakes Inoperative (Brake Removal Procedure), TASK 32-00-00-040-813.

——— END OF TASK ———

TASK 32-00-00-440-807

25. MMEL 32-42-1 (DDG) Restoration - Normal Antiskid Valves Inoperative

A. General

(1) This task puts the airplane back to its usual condition after operation with the Normal Antiskid Valves Inoperative.

B. Fault Isolation

SUBTASK 32-00-00-740-004

(1) Go to the MAT and find the ANTISKID NORM VLV L or ANTISKID NORM VLV R status message.

(a) Find the fault code and the correlated maintenance message numbers on the MAT.

SUBTASK 32-00-00-810-009

(2) Go to the Fault Code Index in the FIM and find the fault code (the first two digits of the fault code are the FIM chapter).

(a) For each correlated maintenance message, find the maintenance message number to the right side of the fault code.

(b) Find the task number on the same line as the maintenance message number.

SUBTASK 32-00-00-810-010

(3) Go to the task in the FIM and do the steps in the task.

C. Brake Activation

SUBTASK 32-00-00-440-001

(1) Do this task: MMEL 32-45-1A (DDG) Restoration - Main Landing Gear Wheel Brakes Inoperative (Flight Dispatch Disconnect Procedure), TASK 32-00-00-440-809 or MMEL 32-45-1B (DDG) Restoration - Main Landing Gear Wheel Brakes Inoperative (Brake Line Disconnection Procedure), TASK 32-00-00-440-810 or MMEL 32-45-1C (DDG) Restoration - Main Landing Gear Wheel Brakes Inoperative (Brake Removal Procedure), TASK 32-00-00-440-811.

——— END OF TASK ———

TASK 32-00-00-040-808

26. MMEL 32-42-3 (DDG) Preparation - Alternate Antiskid Valves Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Alternate Antiskid Valves Inoperative.

(2) This task makes sure that the alternate antiskid valve is not inoperable in a way that would make the brakes inoperable.

(3) EICAS Status Messages

(a) ANTISKID ALTN VALVE

B. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Alternate Brake System Check

SUBTASK 32-00-00-480-005

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-00-860-016

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-00-00-860-017

(3) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-00-00-710-002

(4) Fully push and hold the captain's brake pedals.

SUBTASK 32-00-00-710-003

(5) Make sure all twelve brakes are set.

SUBTASK 32-00-00-710-004

(6) Release the captain's brake pedals.

SUBTASK 32-00-00-860-018

(7) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-00-00-080-004

WARNING	DO NOT REMOVE THE DOWNLOCK PINS UNLESS ALL MAINTENANCE AND SERVICING OF THE AIRPLANE IS COMPLETE. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(8) If all maintenance and servicing of the airplane is complete, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

——— END OF TASK ———

TASK 32-00-00-040-809

27. MMEL 32-42-3 (DDG) Restoration - Alternate Antiskid Valves Inoperative

A. General

(1) This task puts the airplane back to its usual condition after operation with the Alternate Antiskid Valves Inoperative.

(2) EICAS Status Messages

(a) ANTISKID ALTN VALVE

B. **Location Zones**

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

C. **Fault Isolation**

SUBTASK 32-00-00-740-005

(1) Go to the MAT and find the EICAS status message.

(a) Find the fault code and the correlated maintenance message numbers on the MAT.

SUBTASK 32-00-00-810-011

(2) Go to the Fault Code Index in the FIM and find the fault code (the first two digits of the fault code are the FIM chapter).

(a) For each correlated maintenance message, find the maintenance message number to the right side of the fault code.

(b) Find the task number on the same line as the maintenance message number.

SUBTASK 32-00-00-810-012

(3) Go to the task in the FIM and do the steps in the task.

——— END OF TASK ———

TASK 32-00-00-040-825

28. MMEL 32-42-4A (DDG) Preparation - Autobrake System Inoperative (verify solenoid valve is closed)

A. **General**

(1) This task gives the maintenance steps which prepare the airplane for flight with the Autobrake System Inoperative.

(2) EICAS Status Messages

(a) AUTOBRAKE

(b) AUTOBRAKE SOL VALVE

B. **References**

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30 P/B 201	LANDING GEAR DOWNLOCK PINS - MAINTENANCE PRACTICES
32-42-09-000-801	Autobrake Valve Module Removal (P/B 401)
FIM 32-42 TASK 833	BSCU Pin Program Disagree or Invalid - Fault Isolation

C. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1213	Plug - Hydraulic Pressure Tube, 5/8 Inch Line, Corrosion Resistant Steel Part #: AS5231J10 Supplier: 81205 Part #: BACP20AU10J Supplier: 81205 Opt Part #: MS21913J10 Supplier: 88277
SPL-1214	Plug - Hydraulic Return Tube, 1/2 Inch Line, Aluminum Part #: AS5231W08 Supplier: 81205 Part #: BACP20AU8D Supplier: 81205 Opt Part #: MS21913W8 Supplier: 81205

D. **Location Zones**

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

E. **Autobrake Solenoid Valve Closed Verification**

SUBTASK 32-00-00-860-109

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed in the nose and main landing gear (LANDING GEAR DOWNLOCK PINS - MAINTENANCE PRACTICES, PAGEBLOCK 32-00-30/201).

SUBTASK 32-00-00-860-058

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-00-00-480-022

(3) Make sure the tires have chocks installed around them.

SUBTASK 32-00-00-860-059

(4) Release the parking brake.

SUBTASK 32-00-00-860-072

(5) Make sure the autobrake selector switch is in the OFF position.

SUBTASK 32-00-00-710-008

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(6) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-00-00-020-025

(7) If the AUTOBRAKE SOL VALVE message is not displayed, the autobrake solenoid valve is closed.

SUBTASK 32-00-00-020-022

(8) If the AUTOBRAKE SOL VALVE message is displayed, then an electrical malfunction or a solenoid valve malfunction is indicated, do the steps that follow:

(a) For the right and center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

(b) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

(c) If the AUTOBRAKE SOL VALVE message remains displayed, then an autobrake solenoid valve pressure switch or indication system malfunction is indicated and the autobrake solenoid valve is assumed to be closed.

(d) If the AUTOBRAKE SOL VALVE message is not displayed, then the solenoid valve has failed open. Deactivate the autobrake control module:

1) Do this task: Autobrake Valve Module Removal, TASK 32-42-09-000-801.

NOTE: The autobrake valve module is located in the right hand wheel well on the forward end of the center panel.

2) Install caps on the electrical connectors and stow them securely.

3) Install caps on the hydraulic tubes.

a) Recommend two high pressure steel caps for the hydraulic pressure tubes (5/8 inch corrosion resistant steel hydraulic line pressure tube plug, SPL-1213, or equivalent) and an aluminum cap for the return tube (1/2 inch aluminum hydraulic line return tube plug, SPL-1214, or equivalent).

4) Check the capped lines for leaks, for the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

ARO ALL; AIRPLANES WITH A 142-123 OR 142-123-01 (S294W401-XX) BSCU INSTALLED.

SUBTASK 32-00-00-860-110

(9) Use the MAT to confirm the pin program configuration of the BSCU primary and secondary channel.

NOTE: The presence of maintenance message 32-30701 or 32-30702, indicates that the BSCU pin programming selection may be faulted.

(a) If the MAT shows maintenance message 32-30701 or 32-30702, then do this task: FIM 32-42 TASK 833.

(b) Make these selections on the MAT:

1) ONBOARD MAINTENANCE

2) LINE MAINTENANCE

3) SYSTEM CONFIGURATION

4) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM

ARO ALL

(c) Confirm pin program configuration is 0001.

SUBTASK 32-00-00-860-060

(10) If the hydraulic system is pressurized, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-00-00-860-111

(11) If all maintenance and servicing of the airplane is complete, then remove the nose and main landing gear downlock pins (LANDING GEAR DOWNLOCK PINS - MAINTENANCE PRACTICES, PAGEBLOCK 32-00-30/201).

END OF TASK

TASK 32-00-00-440-821

29. MMEL 32-42-4A (DDG) Restoration - Autobrake System Inoperative (verify solenoid valve is closed)

A. General

(1) This task puts the airplane back to its usual condition after operation with the Autobrake System Inoperative in the event that the autobrake solenoid valve had not failed to its open position or the autobrake valve module was removed from the airplane.

(2) EICAS Status Messages

(a) AUTOBRAKE

(b) AUTOBRAKE SOL VALVE

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-42-09-400-801	Autobrake Valve Module Installation (P/B 401)

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Autobrake System Restoration

SUBTASK 32-00-00-860-146

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-00-00-480-036

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-00-860-147

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-00-00-480-037

(4) Make sure the tires have chocks installed around them.

SUBTASK 32-00-00-860-148

(5) Release the parking brake.

SUBTASK 32-00-00-860-149

(6) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-00-00-020-027

(7) Remove the caps from the hydraulic tubes.

SUBTASK 32-00-00-420-018

(8) Do this task: Autobrake Valve Module Installation, TASK 32-42-09-400-801.

SUBTASK 32-00-00-740-009

(9) Go to the Maintenance Access Terminal (MAT) and find the cause of the AUTOBRAKE/AUTOBRAKE SOL VALVE message:

(a) Find the fault code and the correlated maintenance message numbers on the MAT.

SUBTASK 32-00-00-810-022

(10) Go to the Fault Code Index in the Fault Isolation Manual (FIM) and find the fault code (the first two digits of the fault code are the FIM chapter)

(a) For each correlated maintenance message, find the maintenance message number to the right side of the fault code.

(b) Find the task number on the same line as the maintenance message number.

SUBTASK 32-00-00-810-023

(11) Go to the task in the FIM and do the steps in the task.

END OF TASK

TASK 32-00-00-040-810

30. MMEL 32-42-4B (DDG) Preparation - Autobrake System Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Autobrake System Inoperative, in the event that the autobrake solenoid valve has failed to its open position.

(2) EICAS Status Messages

(a) AUTOBRAKE

(b) AUTOBRAKE SOL VALVE

B. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-42-09-000-801	Autobrake Valve Module Removal (P/B 401)
FIM 32-42 TASK 833	BSCU Pin Program Disagree or Invalid - Fault Isolation

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1213	Plug - Hydraulic Pressure Tube, 5/8 Inch Line, Corrosion Resistant Steel Part #: AS5231J10 Supplier: 81205 Part #: BACP20AU10J Supplier: 81205 Opt Part #: MS21913J10 Supplier: 88277

(Continued)

Reference	Description
SPL-1214	Plug - Hydraulic Return Tube, 1/2 Inch Line, Aluminum Part #: AS5231W08 Supplier: 81205 Part #: BACP20AU8D Supplier: 81205 Opt Part #: MS21913W8 Supplier: 81205
STD-1215	Strap - Self-Locking, Plastic

D. **Location Zones**

Zone	Area
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

E. **Autobrake Control Module Deactivation**

(Figure 901)

SUBTASK 32-00-00-480-023

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-00-020-002

(2) Do this task: Autobrake Valve Module Removal, TASK 32-42-09-000-801.

SUBTASK 32-00-00-040-010

(3) Install a 1/2 inch aluminum hydraulic line return tube plug, SPL-1214, or equivalent on the hydraulic return tube.

SUBTASK 32-00-00-040-011

(4) Install a 5/8 inch corrosion resistant steel hydraulic line pressure tube plug, SPL-1213, or equivalent on the two hydraulic pressure tubes.

SUBTASK 32-00-00-040-012

(5) Install caps on the four electrical connectors.

SUBTASK 32-00-00-420-002

(6) Attach the three hydraulic tubes and the four wire bundles to the airplane structure, with a plastic strap, STD-1215, to prevent damage (Figure 901).

SUBTASK 32-00-00-710-005

(7) Do a leak check of the hydraulic tubes for the autobrake valve:

WARNING: KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Make sure the hydraulic tubes do not leak.

SUBTASK 32-00-00-860-020

(8) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

ARO ALL; AIRPLANES WITH A 142-123 OR 142-123-01 (S294W401-XX) BSCU INSTALLED.

SUBTASK 32-00-00-860-112

(9) Use the MAT to confirm the pin program configuration of the BSCU primary and secondary channel.

NOTE: The presence of maintenance message 32-30701 or 32-30702, indicates that the BSCU pin programming selection may be faulted.

(a) If the MAT shows maintenance message 32-30701 or 32-30702, then do this task: FIM 32-42 TASK 833.

(b) Make these selections on the MAT:

1) ONBOARD MAINTENANCE

2) LINE MAINTENANCE

3) SYSTEM CONFIGURATION

4) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM

ARO ALL

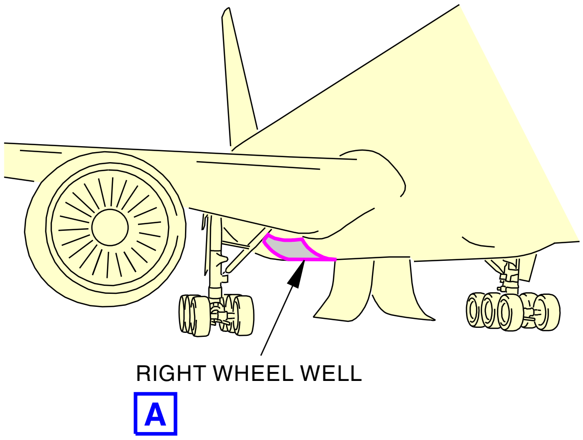
(c) Confirm pin program configuration is 0001.

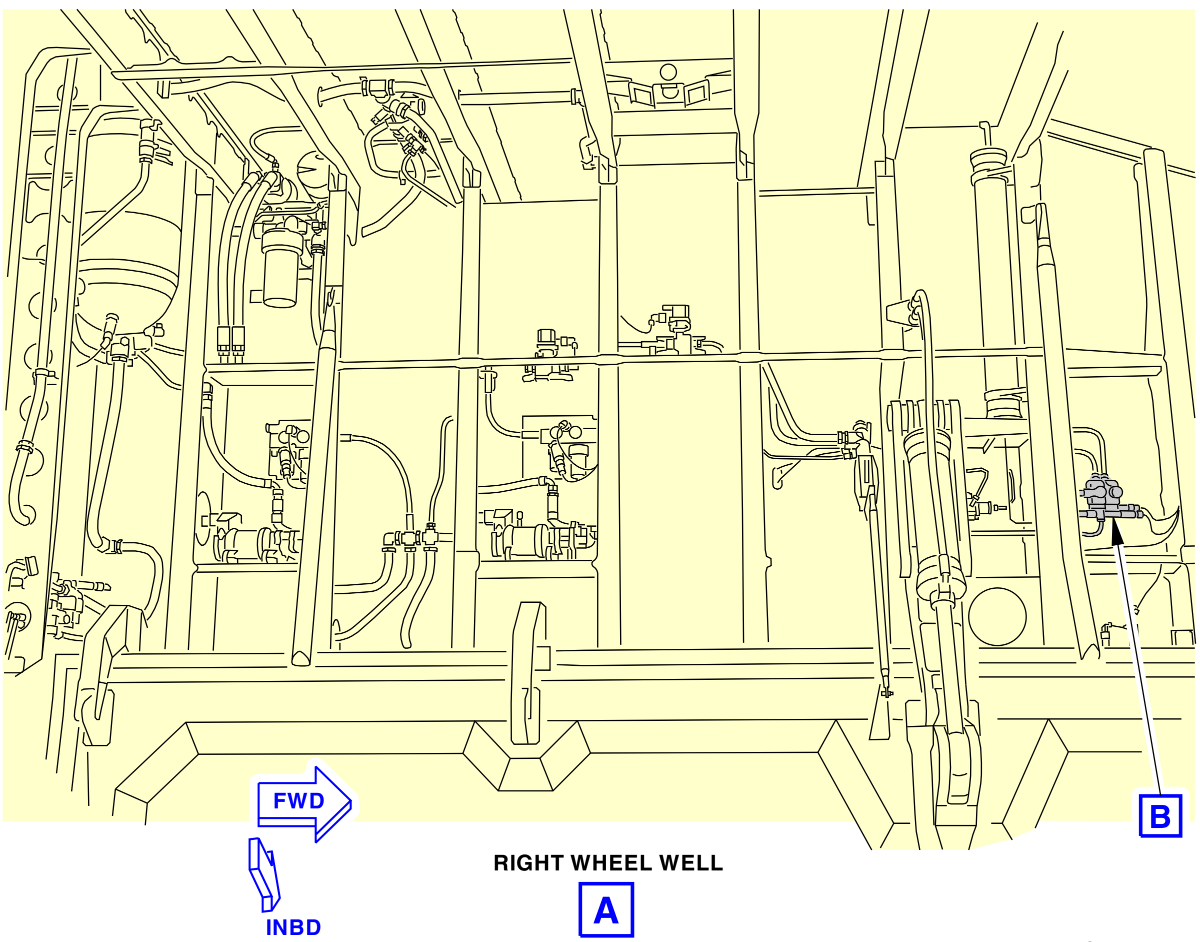
SUBTASK 32-00-00-080-005

WARNING	DO NOT REMOVE THE DOWNLOCK PINS UNLESS ALL MAINTENANCE AND SERVICING OF THE AIRPLANE IS COMPLETE. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(10) If all maintenance and servicing of the airplane is complete, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

END OF TASK





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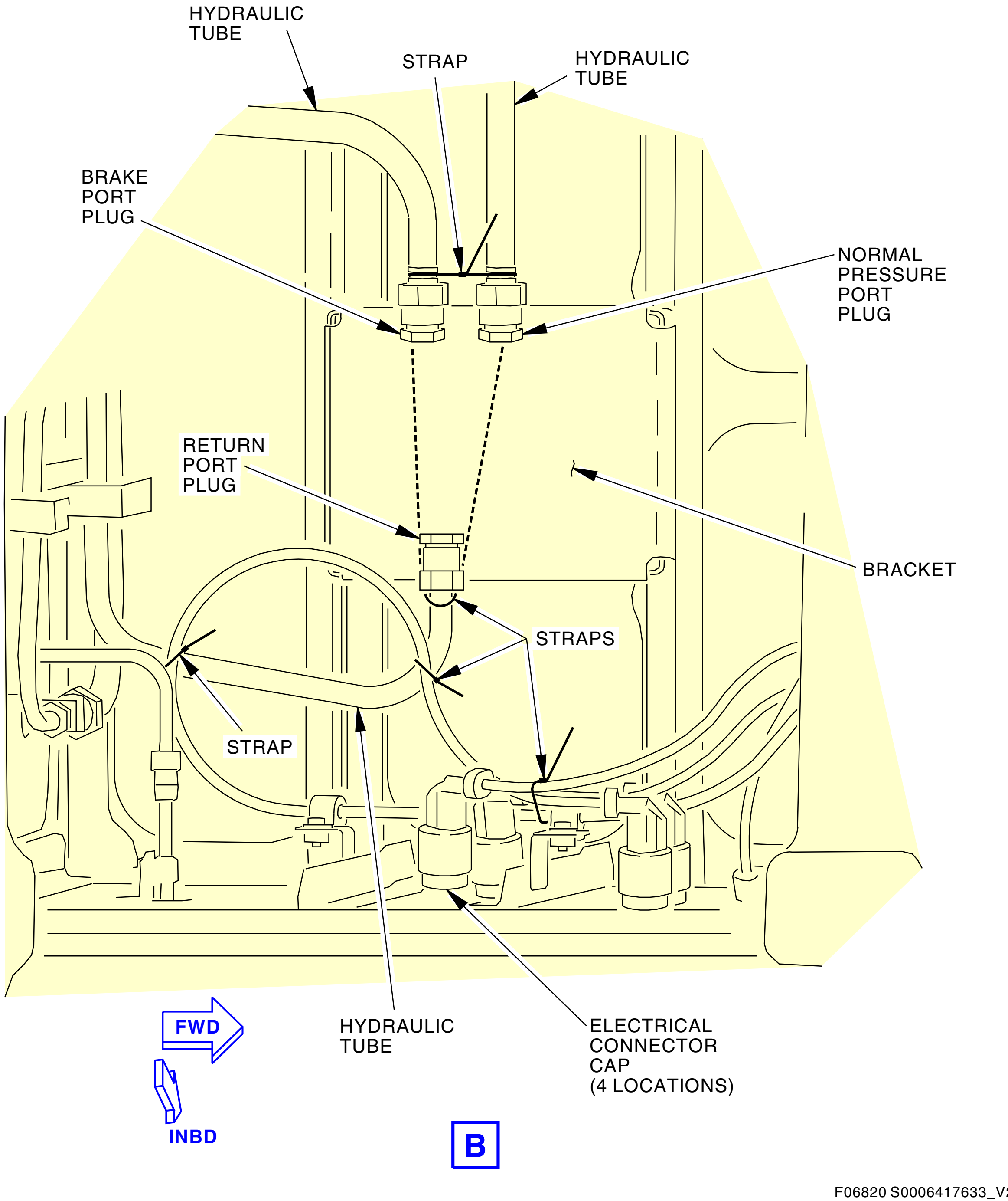
Autobrake System Procedure
Figure 901/32-00-00-990-801 (Sheet 1 of 2)



Autobrake System Procedure
Figure 901/32-00-00-990-801 (Sheet 2 of 2)

TASK 32-00-00-440-808

31. MMEL 32-42-4B (DDG) Restoration - Autobrake System Inoperative

A. General

(1) This task puts the airplane back to its usual condition after operation with the Autobrake System Inoperative and autobrake valve module removed.

(2) EICAS Status Messages

(a) AUTOBRAKE

(b) AUTOBRAKE SOL VALVE

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-42-09-400-801	Autobrake Valve Module Installation (P/B 401)

C. Location Zones

Zone	Area
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Autobrake System Restoration

SUBTASK 32-00-00-860-022

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-00-00-480-006

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-00-860-023

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-00-00-480-007

(4) Make sure the tires have chocks installed around them.

SUBTASK 32-00-00-860-024

(5) Release the parking brake.

SUBTASK 32-00-00-860-025

(6) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-00-00-020-026

(7) Remove the caps from the hydraulic tubes.

SUBTASK 32-00-00-420-011

(8) Do this task: Autobrake Valve Module Installation, TASK 32-42-09-400-801.

SUBTASK 32-00-00-440-002

(9) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
M	20	C32613	LG AUTOBRAKE/BITE/R-COMM CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
N	1	C32614	LG AUTOBRAKE/BITE/R-COMM CB 2

SUBTASK 32-00-00-080-006

WARNING DO NOT REMOVE THE DOWNLOCK PINS UNLESS ALL MAINTENANCE AND SERVICING OF THE AIRPLANE IS COMPLETE. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(10) If all maintenance and servicing of the airplane is complete, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

——— **END OF TASK** ———

TASK 32-00-00-040-835

32. MMEL 32-44-3 (DDG) Preparation - Parking Brake Indication System (Flight Deck) Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Parking Brake memo message Inoperative.

NOTE: The flight deck parking brake set indication system will not display the "PARKING BRAKE" memo message on the Primary EICAS display when the parking brake lever is set and the parking brake valve is closed.

(2) EICAS Memo Messages

(a) PARKING BRAKE SET

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Access Panels

Number	Name/Location
651DB	Inboard Fixed Trailing Edge Panel

D. PARKING BRAKE SET INOPERATIVE

SUBTASK 32-00-00-860-088

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-00-00-580-001

(2) Make sure the tires have chocks installed around them.

SUBTASK 32-00-00-480-029

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-00-860-089

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) For the right and hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-00-00-710-009

(5) Make sure the pressure shown on the BRAKE ACCUM PRESS gage approximately the same as the right hydraulic system pressure.

NOTE: The BRAKE ACCUM PRESS gage is in the flight compartment on the main instrument panel for the captain (P1).

SUBTASK 32-00-00-710-010

(6) Release the parking brake.

SUBTASK 32-00-00-710-011

(7) Make sure that operation of the parking brake valve is correct.

(a) Gain access to parking brake valve is on the right

Number	Name/Location
651DB	Inboard Fixed Trailing Edge Panel

(b) Make sure the parking brake valve manual override lever displays the valve is open.

SUBTASK 32-00-00-710-012

(8) Do these steps to set the parking brakes:

NOTE: The "PARKING BRAKE SET" memo message may not display on the Primary EICAS display. Make sure the parking brake valve is closed for normal system operation.

(a) Push the captain's or first officer's two brake pedals fully to their stops.

(b) Pull the parking brake lever on the control stand.

(c) Make sure the parking brake engages.

WARNING	MAKE SURE THE PARKING BRAKE VALVE IS FULLY CLOSED. PERFORM A VISUAL CHECK THE PARKING BRAKE VALVE MANUAL OVERRIDE LEVER POSITION. FAILURE TO INSPECT THE MANUAL OVERRIDE LEVER POSITION MAY RESULT IN THE PARKING BRAKE NOT SET CONDITION AND CAUSE DAMAGE TO EQUIPMENT OR PERSONNEL.

(d) Make sure the parking brake valve manual override lever displays the valve is fully closed.

NOTE: If the parking brake valve is not fully closed, move the manual override lever to the fully closed position.

SUBTASK 32-00-00-710-013

(9) Make sure the parking brake and brake antiskid interface indication operates normal.

(a) Open and collar this circuit breaker:

1) Overhead Circuit Breaker Panel, p11:

a) 11A22 LDG GEAR PARKING BRAKE VALVE.

(b) Release the parking brake.

(c) Make sure the EICAS alerting message ANTISKID is displayed on the EICAS display.

(d) Close and remove the collar from this circuit breaker:

1) Overhead Circuit Breaker Panel, p11:

a) 11A22 LDG GEAR PARKING BRAKE VALVE.

(e) Make sure the EICAS alerting message ANTISKID is no longer displayed on the EICAS.

SUBTASK 32-00-00-710-014

(10) Make sure the parking brake takeoff configuration warning system operates normal.

(a) Set the parking brake.

NOTE: If the parking brake valve is not fully closed, move the manual override lever to the fully closed position.

(b) Perform the Warning Electronic System Takeoff Configuration Test (AMM 31-51-00/501).

(c) Make sure the EICAS warning level message CONFIG PARKING BRAKE is displayed, the master warning lights will illuminate and the siren sounds.

(d) Release the parking brake.

NOTE: If the parking brake valve is not fully open, move the manual override lever to the fully open position.

(e) Perform the Warning Electronic System Takeoff Configuration Test (AMM 31-51-00/501).

NOTE: Make sure the EICAS warning level message "CONFIG PARKING BRAKE" is not displayed.

(f) Make sure when the test is complete the MAT indicates that the test condition has passed.

SUBTASK 32-00-00-410-010

(11) Close the right access panel:

Number	Name/Location
651DB	Inboard Fixed Trailing Edge Panel

SUBTASK 32-00-00-860-090

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(12) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

TASK 32-00-00-440-830

33. MMEL 32-44-3 (DDG) Restoration - Parking Brake Indication System (Flight Deck) Inoperative

A. General

(1) This task puts the airplane back to its usual condition after the operation of the parking brake system without a visual display of the "PARKING BRAKE SET" memo message on the Primary EICAS display.

(2) EICAS MEMO Message

(a) PARKING BRAKE SET

B. References

Reference	Title
31-51-00 P/B 501	WARNING ELECTRONIC SYSTEM - ADJUSTMENT/TEST

C. Fault Isolation

SUBTASK 32-00-00-740-012

(1) Go to the MAT and find the EICAS memo message and find the cause of EICAS message PARKING BRAKE SET.

(a) Find the fault code and the correlated maintenance message numbers on the MAT.

SUBTASK 32-00-00-810-028

(2) Go to the Fault Code Index in the FIM and find the fault code (the first two digits of the fault code are the FIM chapter).

(a) For each correlated maintenance message, find the maintenance message number to the right side of the fault code.

(b) Find the task number on the same line as the maintenance message number.

SUBTASK 32-00-00-810-029

(3) Go to the task in the FIM and do the steps in the task.

SUBTASK 32-00-00-710-015

(4) Make sure the parking brake takeoff configuration warning system operates normal.

(a) Set the parking brake.

(b) Do the Warning Electronic System Takeoff Configuration Test (WARNING ELECTRONIC SYSTEM - ADJUSTMENT/TEST, PAGEBLOCK 31-51-00/501).

(c) Make sure the EICAS warning level message CONFIG PARKING BRAKE is not displayed, the master warning lights will illuminate and the siren sounds.

(d) Release the parking brake.

(e) Do the Warning Electronic System Takeoff Configuration Test (WARNING ELECTRONIC SYSTEM - ADJUSTMENT/TEST, PAGEBLOCK 31-51-00/501).

NOTE: Make sure the EICAS warning level message "CONFIG PARKING BRAKE" is not displayed.

(f) Make sure when the test is complete the MAT indicates that the test condition has passed.

——— END OF TASK ———

TASK 32-00-00-040-811

34. MMEL 32-45-1A (DDG) Preparation - Main Landing Gear Wheel Brakes Inoperative (Flight Dispatch Disconnect Procedure)

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with a Main Landing Gear Wheel Brake Inoperative (Flight Dispatch Disconnect Procedure).

NOTE: Only one brake on each truck may be made inoperative.

NOTE: The ANTISKID advisory message may reappear if airplane power is cycled or if power to the AIMS is cycled. If this happens, repeat the MAT deactivation procedure.

(2) A maintenance access terminal is necessary for this procedure. For instructions on how to use a maintenance access terminal, do this task: How to Use the Central Maintenance Computing System, TASK 45-10-00-740-808.

(3) EICAS Status Messages

(a) ANTISKID NORM VLV L

(b) ANTISKID NORM VLV R

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
45-10-00-740-808	How to Use the Central Maintenance Computing System (P/B 201)

C. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Brake Deactivation

(Figure 902)

SUBTASK 32-00-00-860-026

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-00-00-480-008

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-00-860-027

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-00-00-480-009

(4) Make sure the tires have chocks installed around them.

SUBTASK 32-00-00-860-028

(5) Release the parking brake.

SUBTASK 32-00-00-860-029

(6) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-00-00-720-001

(7) Use the MAT to disable the antiskid EICAS advisory message for the applicable brake:

NOTE: It is only possible to disable one brake per landing gear truck. If a brake is already disabled on a truck, you must enable it to disable a different brake on the same truck.

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE
2) OTHER FUNCTIONS
3) SPECIAL FUNCTIONS
4) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM
5) ANTISKID INDICATION DISABLE
6) CONTINUE
7) CONTINUE
8) START FUNCTION
9) Select one of these:
   a) LEFT NORMAL VALVE
   b) RIGHT NORMAL VALVE
10) CONTINUE
11) Select the NORMAL VALVE for the brake you will disable.
12) CONTINUE
13) RETURN
14) CONTINUE
15) COMPLETE

16) CONTINUE

NOTE: A BRAKE message will be displayed on the synoptic page next to the wheel whose antiskid indication has been disabled. A BRAKE DEACT message will be displayed on the maintenance page next to the wheel whose antiskid indication has been disabled. Maximum of one wheel per gear.

SUBTASK 32-00-00-040-003

(8) Do these steps to deactivate the brake (Figure 902):

(a) Remove the flight dispatch disconnect [3] from it storage location on the antiskid shuttle valve module [1].

(b) Remove the cover [2] from the applicable shuttle valve [5].

(c) Install the brake flight dispatch disconnect [3] on the applicable shuttle valve [5].

1) Tighten the flight dispatch disconnect [3], by hand, until it bottoms out.

(d) Install the cover [2] in the storage location for the flight dispatch disconnect [3] on the antiskid shuttle valve module [1].

1) Tighten the cover [2] by hand, until it bottoms out.

SUBTASK 32-00-00-710-006

(9) Do these steps to do a check of the brake:

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Fully push the captain's brake pedals.

(c) Make sure the applicable brake does not operate.

SUBTASK 32-00-00-860-030

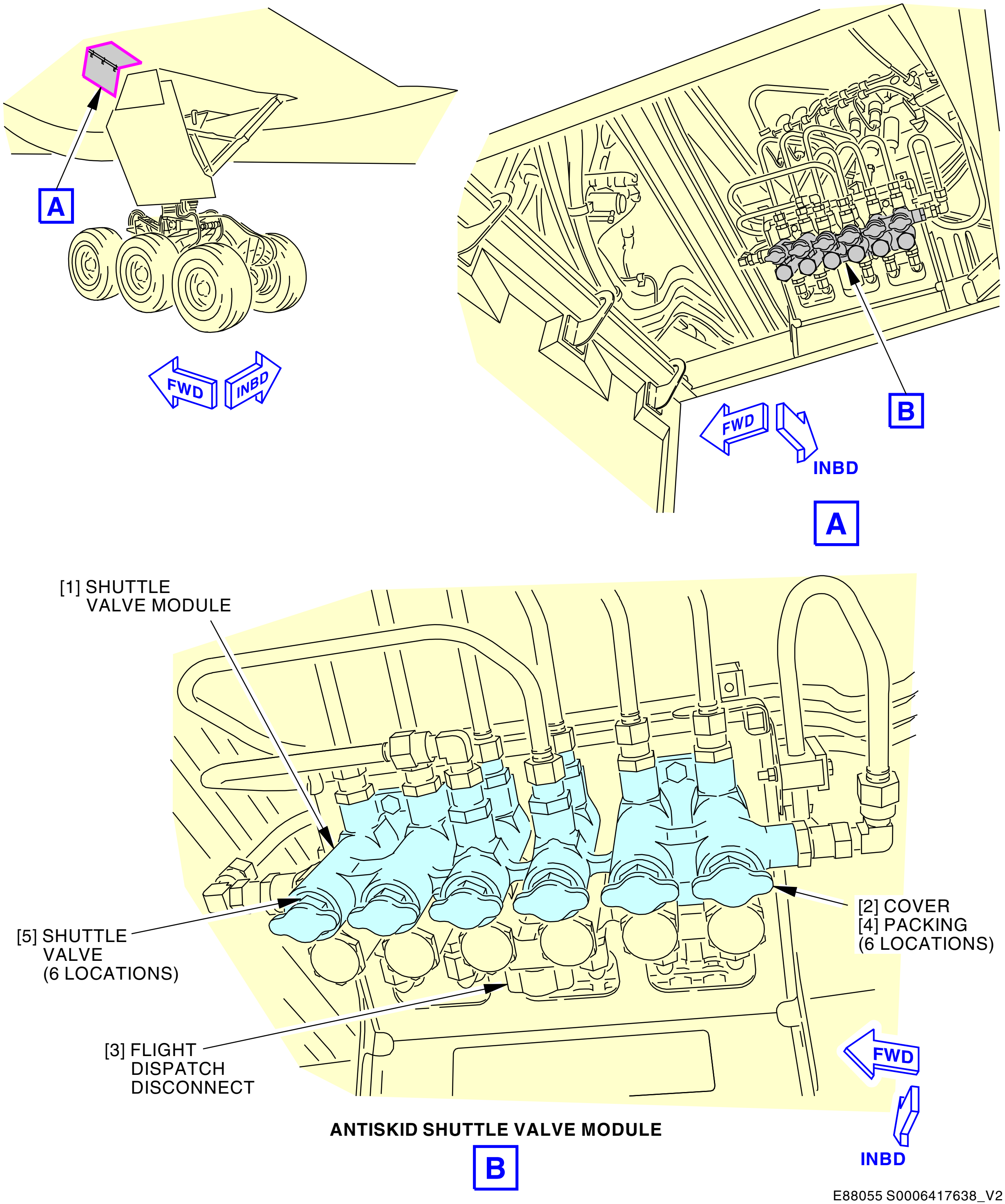
(10) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-00-00-080-007

WARNING DO NOT REMOVE THE DOWNLOCK PINS UNLESS ALL MAINTENANCE AND SERVICING OF THE AIRPLANE IS COMPLETE. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(11) If all maintenance and servicing of the airplane is complete, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

END OF TASK



Antiskid Shuttle Valve Module Installation
Figure 902/32-00-00-990-802

TASK 32-00-00-440-809

35. MMEL 32-45-1A (DDG) Restoration - Main Landing Gear Wheel Brakes Inoperative (Flight Dispatch Disconnect Procedure)

A. General

(1) This task puts the airplane back to its usual condition after operation with a Main Landing Gear Wheel Brake Inoperative.

NOTE: Only one brake on each truck may be made inoperative at one time.

(2) A maintenance access terminal is necessary for this procedure. For instructions on how to use a maintenance access terminal, do this task: How to Use the Central Maintenance Computing System, TASK 45-10-00-740-808.

(3) EICAS Status Messages

(a) ANTISKID NORM VLV L

(b) ANTISKID NORM VLV R

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
45-10-00-740-808	How to Use the Central Maintenance Computing System (P/B 201)

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
4	Packing	32-42-03-02-090	ARO ALL

D. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Brake Restoration

(Figure 902)

SUBTASK 32-00-00-860-032

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-00-00-480-010

WARNING

MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-00-860-033

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-00-00-480-011

(4) Make sure the tires have chocks installed around them.

SUBTASK 32-00-00-860-034

(5) Release the parking brake.

SUBTASK 32-00-00-860-035

(6) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-00-00-720-002

(7) Use the MAT to enable the antiskid EICAS advisory message for the applicable brake:

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE
2) OTHER FUNCTIONS
3) SPECIAL FUNCTIONS
4) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM
5) ANTISKID INDICATION DISABLE
6) CONTINUE
7) CONTINUE
8) START FUNCTION
9) Select one of these:
   a) LEFT NORMAL VALVE
   b) RIGHT NORMAL VALVE
10) CONTINUE
11) ENABLE
12) CONTINUE
13) RETURN
14) CONTINUE
15) COMPLETE
16) CONTINUE

SUBTASK 32-00-00-440-003

(8) Do these steps to activate the brake (Figure 902):

(a) Remove the flight dispatch disconnect [3] from the applicable shuttle valve [5].

(b) Remove the cover [2] from the storage location for the flight dispatch disconnect [3] on the antiskid shuttle valve module [1].

(c) Remove the old packing [4] from the cover [2].

(d) Install a new packing [4] on the cover [2].

(e) Install the cover [2] on the applicable shuttle valve [5].

1) Tighten the cover [2] by hand, until it bottoms out.

(f) Install the flight dispatch disconnect [3] in its storage place on the antiskid shuttle valve module [1].

1) Tighten the flight dispatch disconnect [3] by hand, until it bottoms out.

SUBTASK 32-00-00-710-007

(9) Do these steps to do a check of the brake:

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Fully push the captain's brake pedals.

(c) Make sure the applicable brake operates.

SUBTASK 32-00-00-860-036

(10) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-00-00-080-008

WARNING	DO NOT REMOVE THE DOWNLOCK PINS UNLESS ALL MAINTENANCE AND SERVICING OF THE AIRPLANE IS COMPLETE. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(11) If all maintenance and servicing of the airplane is complete, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

END OF TASK

TASK 32-00-00-040-812

36. MMEL 32-45-1B (DDG) Preparation - Main Landing Gear Wheel Brakes Inoperative (Brake Line Disconnection Procedure)

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Main Landing Gear Wheel Brakes Inoperative (Brake Line Disconnection Procedure).

NOTE: Only one brake on each truck may be made inoperative at one time.

NOTE: The ANTISKID advisory message may reappear if airplane power is cycled or if power to the AIMS is cycled. If this happens, repeat the MAT deactivation procedure.

(2) A maintenance access terminal is necessary for this procedure. For instructions on how to use a maintenance access terminal, do this task: How to Use the Central Maintenance Computing System, TASK 45-10-00-740-808.

(3) EICAS Status Messages

(a) ANTISKID NORM VLV L

(b) ANTISKID NORM VLV R

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
45-10-00-740-808	How to Use the Central Maintenance Computing System (P/B 201)

C. Tools/Equipment

Reference	Description
STD-1215	Strap - Self-Locking, Plastic

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Brake Deactivation

(Figure 903)

SUBTASK 32-00-00-860-038

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-00-00-480-012

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-00-860-039

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-00-00-480-013

(4) Make sure the tires have chocks installed around them.

SUBTASK 32-00-00-860-040

(5) Release the parking brake.

SUBTASK 32-00-00-860-041

(6) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-00-00-720-003

(7) Use the MAT to disable the antiskid EICAS advisory message for the applicable brake:

NOTE: It is only possible to disable one brake per landing gear truck. If a brake is already disabled on a truck, you must enable it to disable a different brake on the same truck.

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE

2) OTHER FUNCTIONS
3) SPECIAL FUNCTIONS
4) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM
5) ANTISKID INDICATION DISABLE
6) CONTINUE
7) CONTINUE
8) START FUNCTION
9) Select one of these:
   a) LEFT NORMAL VALVE
   b) RIGHT NORMAL VALVE
10) CONTINUE
11) Select the NORMAL VALVE for the brake you will disable.
12) CONTINUE
13) RETURN
14) CONTINUE
15) COMPLETE
16) CONTINUE

NOTE: A BRAKE message will be displayed on the synoptic page next to the wheel whose antiskid indication has been disabled. A BRAKE DEACT message will be displayed on the maintenance page next to the wheel whose antiskid indication has been disabled. Maximum of one wheel per gear.

SUBTASK 32-00-00-040-004

(8) Do these steps to disconnect the brake line (Figure 903):

(a) Disconnect the coupling [21] (hose half) from the coupling [22] (brake half) at the brake disconnect:

1) Pull up on the barrel of the coupling [21].
2) Turn the barrel counterclockwise to disconnect the coupling [21] from the coupling [22].

(b) Attach the brake hose to the landing gear truck:

NOTE: This will make sure the brake hose does not catch on the brake when the gear retracts.

1) For the forward brake hose, attach the brake hose to the swivel joint using a plastic strap, STD-1215.
2) For the center brake hose, attach the brake hose to the pressure brake hose [19] using a plastic strap, STD-1215.
3) For the aft brake hose, attach the brake hose to the aft arm assembly using a plastic strap, STD-1215.

SUBTASK 32-00-00-790-001

(9) Do these steps to do a check of the brake:

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Fully push the captain's brake pedals and hold for two minutes.

NOTE: You can set the parking brake to hold the brake pedals.

(c) Make sure there are no leaks at the brake disconnect.

(d) Release the brakes.

SUBTASK 32-00-00-860-042

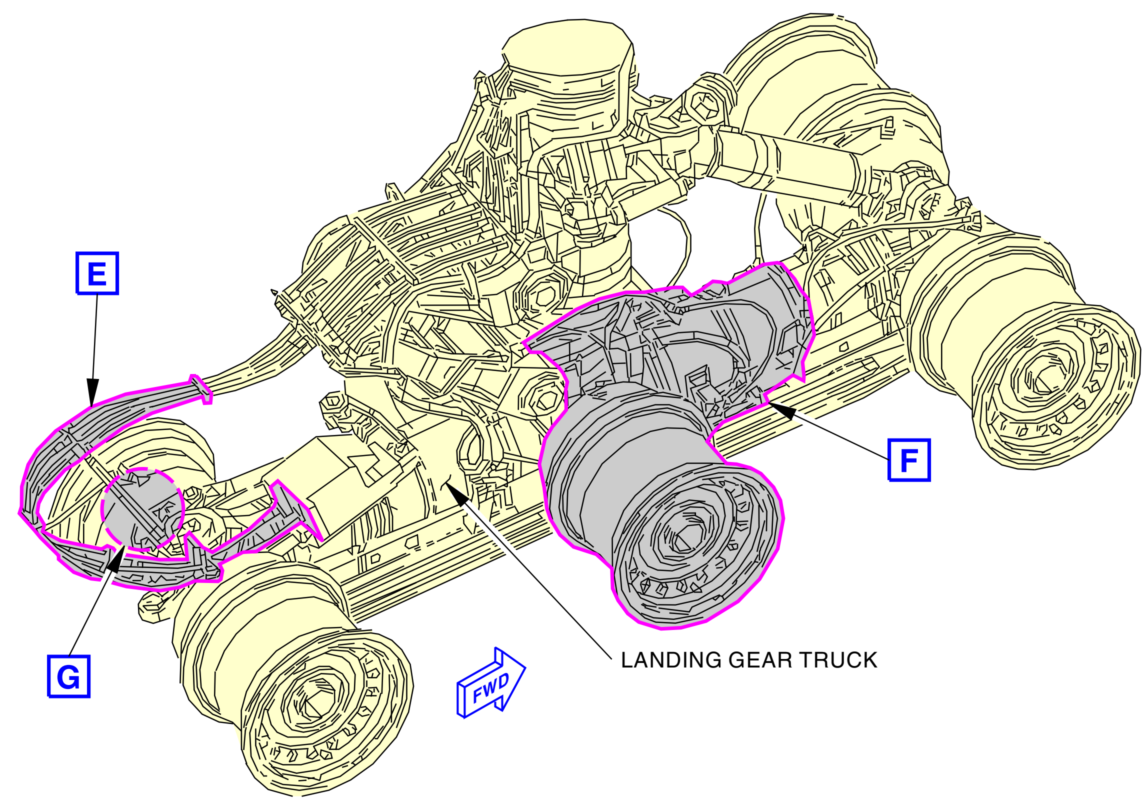
(10) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-00-00-080-009

WARNING DO NOT REMOVE THE DOWNLOCK PINS UNLESS ALL MAINTENANCE AND SERVICING OF THE AIRPLANE IS COMPLETE. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

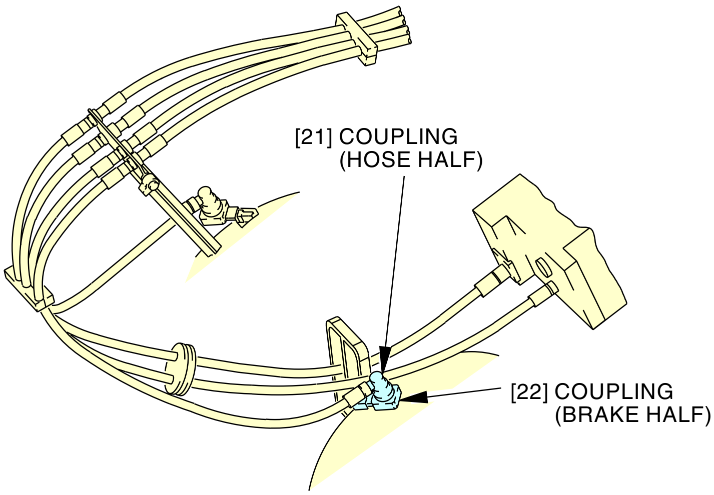
(11) If all maintenance and servicing of the airplane is complete, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

END OF TASK



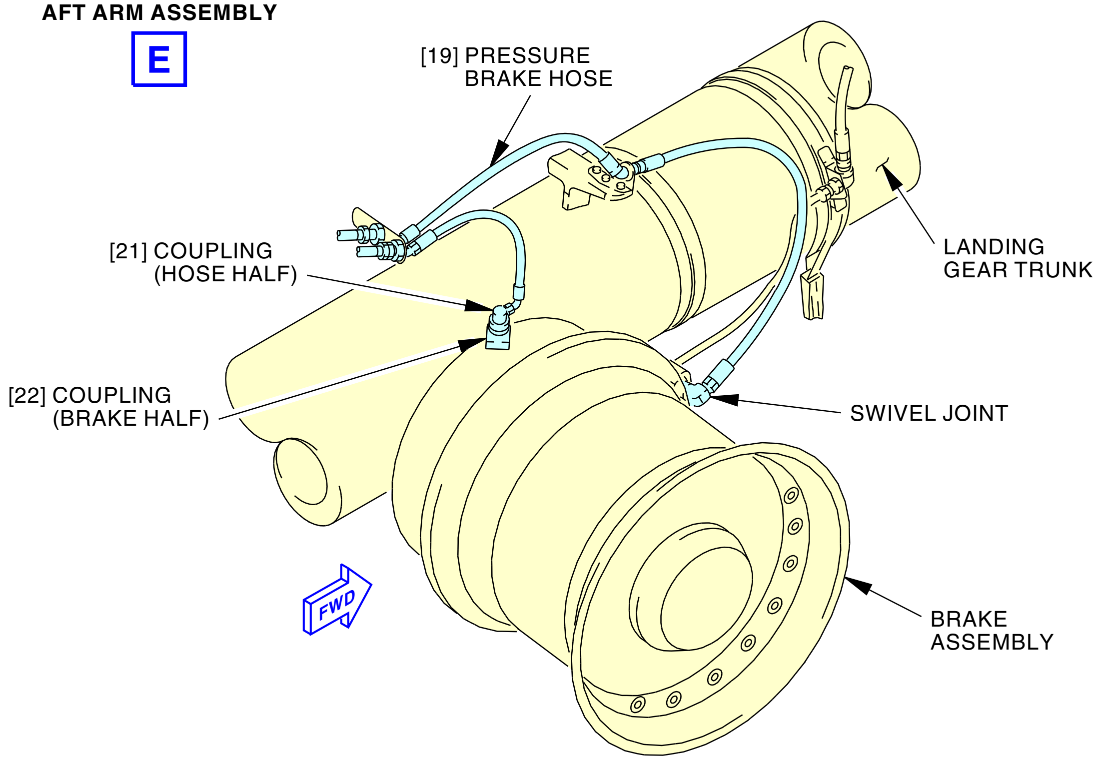
2484296 S0000582818_V1

Brake Line Disconnection Procedure
Figure 903/32-00-00-990-804 (Sheet 1 of 3)



AFT ARM ASSEMBLY

E

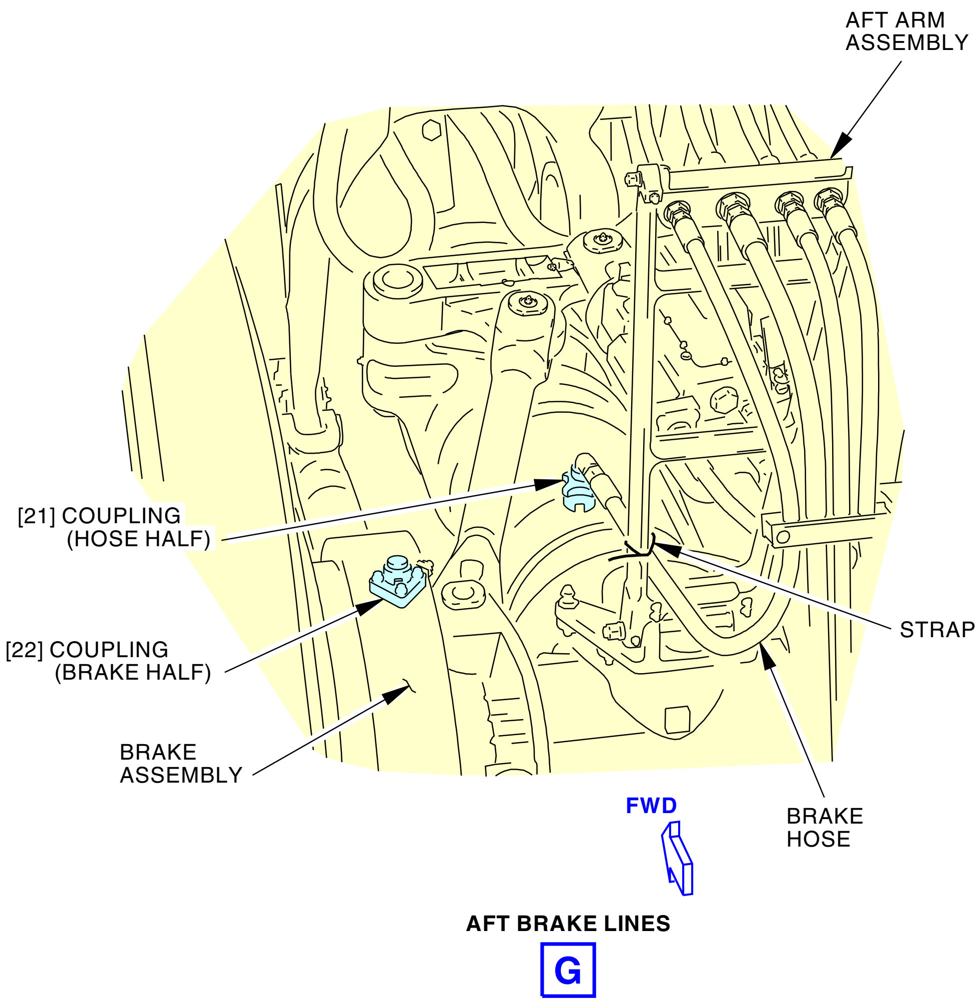


CENTER BRAKE LINES
(LEFT VIEW IS OPPOSITE)

F

2484297 S0000582819_V1

Brake Line Disconnection Procedure
Figure 903/32-00-00-990-804 (Sheet 2 of 3)



2484091 S0000582820_V1

Brake Line Disconnection Procedure
Figure 903/32-00-00-990-804 (Sheet 3 of 3)

TASK 32-00-00-440-810

37. MMEL 32-45-1B (DDG) Restoration - Main Landing Gear Wheel Brakes Inoperative (Brake Line Disconnection Procedure)

A. General

(1) This task puts the airplane back to its usual condition after operation with the Main Landing Gear Wheel Brakes Inoperative.

NOTE: Only one brake on each truck may be made inoperative at one time.

(2) A maintenance access terminal is necessary for this procedure. For instructions on how to use a maintenance access terminal, do this task: How to Use the Central Maintenance Computing System, TASK 45-10-00-740-808.

(3) EICAS Status Messages

(a) ANTISKID NORM VLV L

(b) ANTISKID NORM VLV R

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
45-10-00-740-808	How to Use the Central Maintenance Computing System (P/B 201)

C. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Brake Restoration

(Figure 903)

SUBTASK 32-00-00-860-044

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-00-00-480-014

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-00-860-045

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-00-00-480-015

(4) Make sure the tires have chocks installed around them.

SUBTASK 32-00-00-860-046

(5) Release the parking brake.

SUBTASK 32-00-00-860-047

(6) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-00-00-720-004

(7) Use the MAT to enable the antiskid EICAS advisory message for the applicable brake:

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE
2) OTHER FUNCTIONS
3) SPECIAL FUNCTIONS
4) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM
5) ANTISKID INDICATION DISABLE
6) CONTINUE
7) CONTINUE
8) START FUNCTION
9) Select one of these:
   a) LEFT NORMAL VALVE
   b) RIGHT NORMAL VALVE
10) CONTINUE
11) ENABLE
12) CONTINUE
13) RETURN
14) CONTINUE
15) COMPLETE
16) CONTINUE

SUBTASK 32-00-00-420-012

(8) Do these steps to connect the brake hose to the brake assembly at the brake disconnect (Figure 903):

(a) Remove the strap that connects the brake hose to the landing gear truck at either the lower link assembly, the swivel joint, or the aft arm assembly.

(b) Clean the brake coupling halves [21], [22] on the brake hose and on the brake.

(c) Install the coupling [21] (hose half) on the coupling [22] (brake half):

1) Turn the coupling [21] until the internal tangs align with the slots inside the coupling [22] and you can push the coupling [21] down.
2) Push down on the barrel and turn it clockwise to engage the threads.
3) Turn the barrel clockwise until the slots in the bottom of the barrel snap into place on the external tangs on the coupling [22].

(d) Do a visual check to make sure the slots on coupling [21] are fully and correctly engaged with the tangs on the coupling [22].

SUBTASK 32-00-00-790-004

(9) Do these steps to do a leak check of the brake disconnect:

> **WARNING:** KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Fully push the captain's brake pedals and hold for two minutes.

NOTE: You can set the parking brake to hold the brake pedals.

(c) Make sure there are no leaks around the brake disconnect.

(d) Release the brakes.

SUBTASK 32-00-00-860-049

(10) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-00-00-080-010

> **WARNING:** DO NOT REMOVE THE DOWNLOCK PINS UNLESS ALL MAINTENANCE AND SERVICING OF THE AIRPLANE IS COMPLETE. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(11) If all maintenance and servicing of the airplane is complete, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

——— END OF TASK ———

TASK 32-00-00-040-813

38. MMEL 32-45-1C (DDG) Preparation - Main Landing Gear Wheel Brakes Inoperative (Brake Removal Procedure)

(Figure 903, Figure 904)

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Main Landing Gear Wheel Brakes Inoperative.

NOTE: One brake per each six wheel truck may be removed from the center axle only.

NOTE: The ANTISKID advisory message may reappear if airplane power is cycled or if the power to the AIMS is cycled. If this happens, repeat the MAT deactivation procedure.

(2) A maintenance access terminal is necessary for this procedure. For instructions on how to use a maintenance access terminal, do this task: How to Use the Central Maintenance Computing System, TASK 45-10-00-740-808.

(3) EICAS Status Messages

(a) ANTISKID NORM VLV L

(b) ANTISKID NORM VLV R

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-45-01-400-801	Main Landing Gear Wheel and Tire Assembly Installation (P/B 401)
32-45-07-000-801	Main Landing Gear Brake Removal (P/B 401)
45-10-00-740-808	How to Use the Central Maintenance Computing System (P/B 201)

C. Tools/Equipment

Reference	Description
STD-1215	Strap - Self-Locking, Plastic

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Brake Deactivation

(Figure 903, Figure 904)

SUBTASK 32-00-00-860-062

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-00-00-480-024

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-00-720-005

(3) Use the MAT to disable the antiskid EICAS advisory message for the applicable brake:

NOTE: It is only possible to disable one brake per landing gear truck. If a brake is already disabled on a truck, you must enable it to disable a different brake on the same truck.

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE
2) OTHER FUNCTIONS
3) SPECIAL FUNCTIONS
4) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM
5) ANTISKID INDICATION DISABLE
6) CONTINUE
7) CONTINUE

8) START FUNCTION
9) Select one of these:
   a) LEFT NORMAL VALVE
   b) RIGHT NORMAL VALVE
10) CONTINUE
11) Select the NORMAL VALVE for the brake you will disable.
12) CONTINUE
13) RETURN
14) CONTINUE
15) COMPLETE
16) CONTINUE

NOTE: A BRAKE message will be displayed on the synoptic page next to the wheel whose antiskid indication has been disabled. A BRAKE DEACT message will be displayed on the maintenance page next to the wheel whose antiskid indication has been disabled. Maximum of one wheel per gear.

SUBTASK 32-00-00-020-003

(4) Do these steps to remove the center axle brake:

(a) Do this task: Main Landing Gear Brake Removal, TASK 32-45-07-000-801.

(b) Make sure the brake sleeve is in its location on the axle.

(c) Cap the electrical wiring for the brake temperature sensor.

(d) Attach the electrical wiring and the brake hose to the gear truck at the swivel joint with a plastic strap, STD-1215 (Figure 903).

NOTE: This will make sure the electrical wiring and the brake hose does not rub on a rotating wheel.

SUBTASK 32-00-00-420-004

(5) Install the wheel and tire assembly:

(a) Make sure the brake sleeve is in its location on the axle before you install the wheel and tire assembly.

(b) Do this task: Main Landing Gear Wheel and Tire Assembly Installation, TASK 32-45-01-400-801.

SUBTASK 32-00-00-790-003

(6) Do these steps to do a leak check:

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Fully push the captain's brake pedals and hold for two minutes.

NOTE: You can set the parking brake to hold the brake pedals.

(c) Make sure there are no leaks around the brake disconnect.

(d) Release the brakes.

SUBTASK 32-00-00-860-051

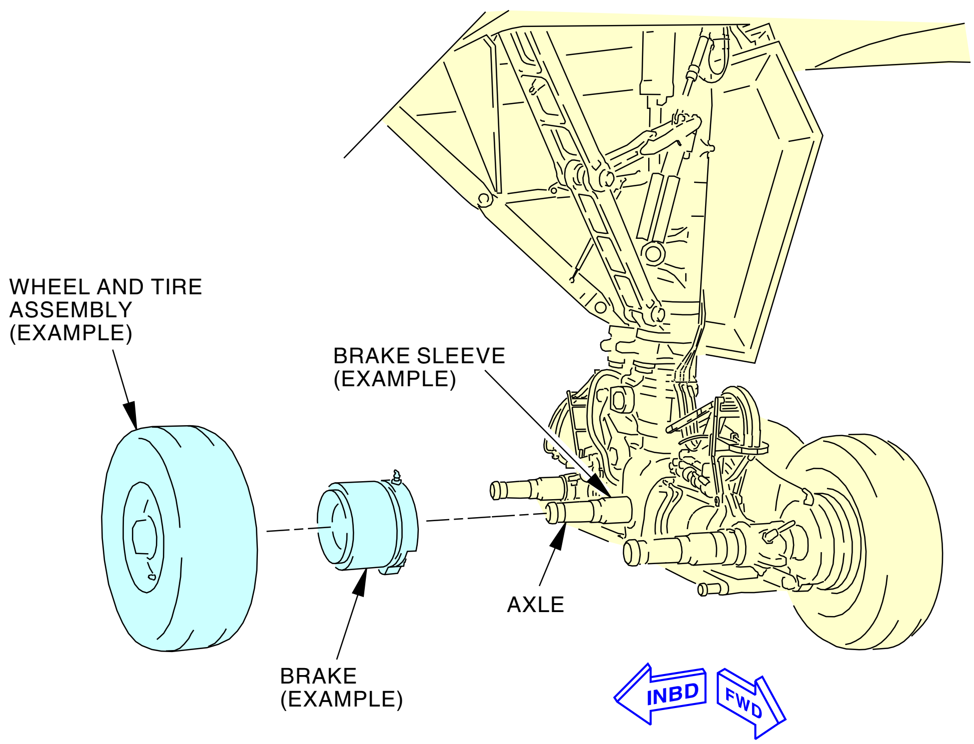
(7) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-00-00-080-011

WARNING DO NOT REMOVE THE DOWNLOCK PINS UNLESS ALL MAINTENANCE AND SERVICING OF THE AIRPLANE IS COMPLETE. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(8) If all maintenance and servicing of the airplane is complete, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

END OF TASK



F07792 S0006417646_V2

Brake Removal Procedure
Figure 904/32-00-00-990-803

TASK 32-00-00-440-811

39. MMEL 32-45-1C (DDG) Restoration - Main Landing Gear Wheel Brakes Inoperative (Brake Removal Procedure)

(Figure 903, Figure 904)

A. General

(1) This task puts the airplane back to its usual condition after operation with a Main Landing Gear Wheel Center Brake Removed.

(2) A maintenance access terminal is necessary for this procedure. For instructions on how to use a maintenance access terminal, do this task: How to Use the Central Maintenance Computing System, TASK 45-10-00-740-808.

(3) EICAS Status Messages

(a) ANTISKID NORM VLV L

(b) ANTISKID NORM VLV R

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-45-07-400-801	Main Landing Gear Brake Installation (P/B 401)
45-10-00-740-808	How to Use the Central Maintenance Computing System (P/B 201)

C. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Brake Restoration

(Figure 903, Figure 904)

SUBTASK 32-00-00-860-063

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-00-00-720-006

(2) Use the MAT to enable the antiskid EICAS advisory message for the applicable brake:

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE

2) OTHER FUNCTIONS

3) SPECIAL FUNCTIONS

4) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM

5) ANTISKID INDICATION DISABLE

6) CONTINUE

7) CONTINUE

8) START FUNCTION

9) Select one of these:

a) LEFT NORMAL VALVE

b) RIGHT NORMAL VALVE

10) CONTINUE

11) ENABLE

12) CONTINUE

13) RETURN

14) CONTINUE

15) COMPLETE

16) CONTINUE

SUBTASK 32-00-00-420-013

(3) Do these steps for the brake hose:

(a) Remove the strap that connect the brake hose and the temperature sensor's wiring to the landing gear truck at the swivel joint.

(b) Remove the cap from the temperature sensor's wiring.

(c) Clean the brake disconnect on the brake hose and on the brake assembly.

SUBTASK 32-00-00-420-005

(4) Do this task: Main Landing Gear Brake Installation, TASK 32-45-07-400-801.

SUBTASK 32-00-00-080-012

WARNING DO NOT REMOVE THE DOWNLOCK PINS UNLESS ALL MAINTENANCE AND SERVICING OF THE AIRPLANE IS COMPLETE. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) If all maintenance and servicing of the airplane is complete, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

END OF TASK

TASK 32-00-00-040-814

40. MMEL 32-45-2 (DDG) Preparation - Landing Gear Wheel Tie Bolts Broken or Missing

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Landing Gear Wheel Tie Bolts Broken or Missing.

B. References

Reference	Title
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-45-01-000-801	Main Landing Gear Wheel and Tire Assembly Removal (P/B 401)
32-45-01-400-801	Main Landing Gear Wheel and Tire Assembly Installation (P/B 401)
32-45-03-700-801	Wheels Fast Check (Wheel Installed on the Airplane) (P/B 601)
32-45-03-700-802	Wheels Inspection (Wheel Removed from the Airplane) (P/B 601)
32-45-07-700-803	Main Landing Gear Brake Inspection (Wheel Removed from the Airplane) (P/B 601)

C. Wheel Inspection

SUBTASK 32-00-00-020-017

(1) Do the task that follows to inspect the nose landing gear wheels when they are installed on the airplane.

(a) Do this task: Wheels Fast Check (Wheel Installed on the Airplane), TASK 32-45-03-700-801.

SUBTASK 32-00-00-020-018

(2) Do the tasks that follow to inspect the main landing gear wheels when they are removed from the airplane.

(a) Do this task: Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-01-000-801.

(b) Do this task: Wheels Inspection (Wheel Removed from the Airplane), TASK 32-45-03-700-802.

(c) Do this task: Main Landing Gear Brake Inspection (Wheel Removed from the Airplane), TASK 32-45-07-700-803.

(d) Do this task: Main Landing Gear Wheel and Tire Assembly Installation, TASK 32-45-01-400-801.

SUBTASK 32-00-00-080-013

WARNING DO NOT REMOVE THE DOWNLOCK PINS UNLESS ALL MAINTENANCE AND SERVICING OF THE AIRPLANE IS COMPLETE. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) If all maintenance and servicing of the airplane is complete, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

END OF TASK

TASK 32-00-00-040-815

41. MMEL 32-45-2 (DDG) Restoration - Landing Gear Wheel Tie Bolts Broken or Missing

A. General

(1) This task puts the airplane back to its usual condition after operation with Landing Gear Wheel Tie Bolts Broken or Missing.

B. References

Reference	Title
32-45-01-000-801	Main Landing Gear Wheel and Tire Assembly Removal (P/B 401)
32-45-01-400-801	Main Landing Gear Wheel and Tire Assembly Installation (P/B 401)

C. Wheel Replacement

SUBTASK 32-00-00-020-005

(1) Do this task: Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-01-000-801.

SUBTASK 32-00-00-420-007

(2) Do this task: Main Landing Gear Wheel and Tire Assembly Installation, TASK 32-45-01-400-801.

END OF TASK

TASK 32-00-00-040-819

42. MMEL 32-53-1 (DDG) Preparation - Main Landing Gear Steering System (Including Indication) Inoperative

(Figure 905)

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Main Landing Gear Steering System (Including Indication) Inoperative.

NOTE: Maintenance message 32-68840 will appear when the main gear steering system is disabled per MMEL 32-53-1.

(2) EICAS Status Messages

(a) MAIN GEAR STEERING

B. References

Reference	Title
07-11-03-580-801	Lift the Airplane with Axle Jacks (P/B 201)
09-11-00-580-801	Maintenance Towing (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)

C. Consumable Materials

Reference	Description	Specification
A00386	Adhesive - Silicone RTV, Non-Corrosive, Sealant Primer	MIL-A-46146
B00335	Cleaner - Alkaline - TEC 86-2	

D. Lock the Power Control Actuator in the Centered Position

SUBTASK 32-00-00-860-068

(1) Make sure the metal pin is not visible in the lock indication window on the PCA (Power Control Actuator) for the main landing gear.

NOTE: If you can see any portion of the pin, the PCA is not locked in the center position.

(a) If you can see the metal pin through the lock indication window on the PCA, do one of the following two tasks:

(b) Procedure #1: Push Back Method:

NOTE: This task pushes the unlocked aft axle against a chock to force the PCA to the locked position.

1) Connect a tow vehicle to the nose landing gear or the forward tow fitting on the affected main landing gear (TASK 09-11-00-580-801).

2) Move the towing lever, on the forward side of the nose landing gear, to the TOW position.

NOTE: This isolates the steering system for the nose landing gear from hydraulic power.

3) Release the parking brake.

4) Move the manual shutoff valve handle on the unlocked PCA to the OFF position to isolate the steering/PCA actuator.

5) Remove all chocks from around the nose landing gear tires and the main landing gear tires.

6) Put a chock behind the aft axle tire that is nearest the unlocked PCA (wheel #10 on the left gear, wheel #12 on the right gear).

NOTE: Do not put a chock behind the other aft axle tire (wheel #9 on the left gear, wheel #11 on the right gear).

7) Make sure the area around the tires of the aft axle is clear of persons and equipment.

8) Use the tow vehicle to slowly push the airplane rearwards onto the chock.

9) Stop the airplane movement if the airplane tire moves onto the chock, the PCA locks, or the chock moves.

10) Make sure the metal pin is not visible in the lock indication window on the PCA.

NOTE: This shows that the PCA is locked in the center position.

NOTE: You will not be able to see any portion of the pin if the PCA is locked in the center position.

11) If a PCA remains unlocked, place a chock behind the aft axle tire that is farthest from the unlocked PCA, but on the same truck (wheel #9 on the left gear, wheel #11 on the right gear).

NOTE: Do not place a chock behind the other aft axle tire (wheel #10 on the left gear, wheel #12 on the right gear).

12) Use the tow vehicle to slowly push the airplane rearwards onto the chock.

13) Stop airplane movement if the airplane tire moves onto the chock, the PCA locks, or the chock moves.

14) Look through the lock indication window and make sure that you cannot see a metal pin.

NOTE: This shows that the PCA is locked in the center position.

WARNING: THE HYDRAULIC FLUID TRAPPED IN THE PCA IS UNDER PRESSURE, EVEN WHEN THE CENTER HYDRAULIC SYSTEM IS DEPRESSURIZED. USE EXTREME CAUTION WHEN PERFORMING THIS TASK. HYDRAULIC FLUID CAN CAUSE INJURY TO PERSONS. IF THE HYDRAULIC FLUID TOUCHES YOUR SKIN, FLUSH THE SKIN WITH WATER. IF THE HYDRAULIC FLUID TOUCHES YOUR EYES, FLUSH THE EYES WITH WATER AND GET MEDICAL AID.

(c) Procedure #2: Check Valve Bleeding Method:

NOTE: The check valves on the steering/locking PCA are also known as the anti-cavitation check valves.

NOTE: This task loosens the forward check valve on the unlocked PCA. If you do this you can void the warranty with the supplier Parker/Abex/NWL. It is recommended that this task be used only after you have tried Procedure #1.

1) Make sure the parking brake is set.

2) Lift the aft axle of the main landing gear with the unlocked PCA until the aft tires do not touch the ground (TASK 07-11-03-580-801).

NOTE: Make sure you use the jack pad that is part of the pivot pin for the aft axle.

3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

4) Move the manual shutoff valve handle on the unlocked PCA to the OFF position to isolate the steering/PCA actuator.

5) Use TEC 86-2 cleaner, B00335 (or equivalent) to clean the area around the forward check valve on the unlocked PCA.

6) Remove the sealant and the lockwire from the forward check valve on the unlocked PCA.

WARNING	PUT A RAG AROUND THE PCA CHECK VALVE TO CATCH THE LEAK OF HYDRAULIC FLUID. A HYDRAULIC FLUID CAN CAUSE INJURY TO PERSONS. IF THE HYDRAULIC FLUID TOUCHES YOUR SKIN, FLUSH THE SKIN WITH WATER. IF THE HYDRAULIC FLUID TOUCHES YOUR EYES, FLUSH THE EYES WITH WATER AND GET MEDICAL AID.

7) Put a rag around the forward check valve on the unlocked PCA to catch the leak of fluid from the valve.

8) Slowly turn the forward check valve 1 to 2 turns counter-clockwise until hydraulic fluid starts to leak from under the head of the check valve.

   NOTE: Do not remove the check valve from the PCA.

9) Wait until the hydraulic fluid does not leak from under the check valve.

10) Push on the right aft tire in the forward direction to apply a compressive force on the unlocked PCA.

   NOTE: This will force the PCA to the locked position.

   NOTE: It can be necessary to apply the force for 30 to 60 seconds.

   NOTE: Hydraulic fluid can leak from under the head of the check valve when you apply the force.

   a) You can use a lever between tires #5 and #9 on the left gear and #7 and #11 on the right gear to help apply the force on the PCA.

11) Make sure the metal pin is not visible in the lock indication window on the PCA.

   NOTE: This shows that the PCA is locked in the center position.

   NOTE: You will not be able to see any portion of the pin if the PCA is locked in the center position.

12) If you can see the indicator pin through the indication window on the PCA, wait approximately 5 minutes and then reapply the force.

13) Tighten the check valve to 175 - 200 pound-inches (19.8 - 22.6 Nm).

14) Move the manual shutoff valve handle on the PCA to the STEER position to activate the steering/PCA actuator.

15) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

16) Make sure there is no leakage from under the head of the check valve.

   a) If the check valve leaks, you will need to replace the seals on the check valve.

17) Lower the aft axle and remove the jack.

18) Install lockwire on the check valve.

19) Apply adhesive, A00386 around the interface between the check valve and the PCA manifold and allow to cure..

NOTE: This step can be temporarily deferred.

E. Deactivation of the Main Landing Gear Steering System

SUBTASK 32-00-00-860-064

(1) Open this circuit breaker and install safety tag:

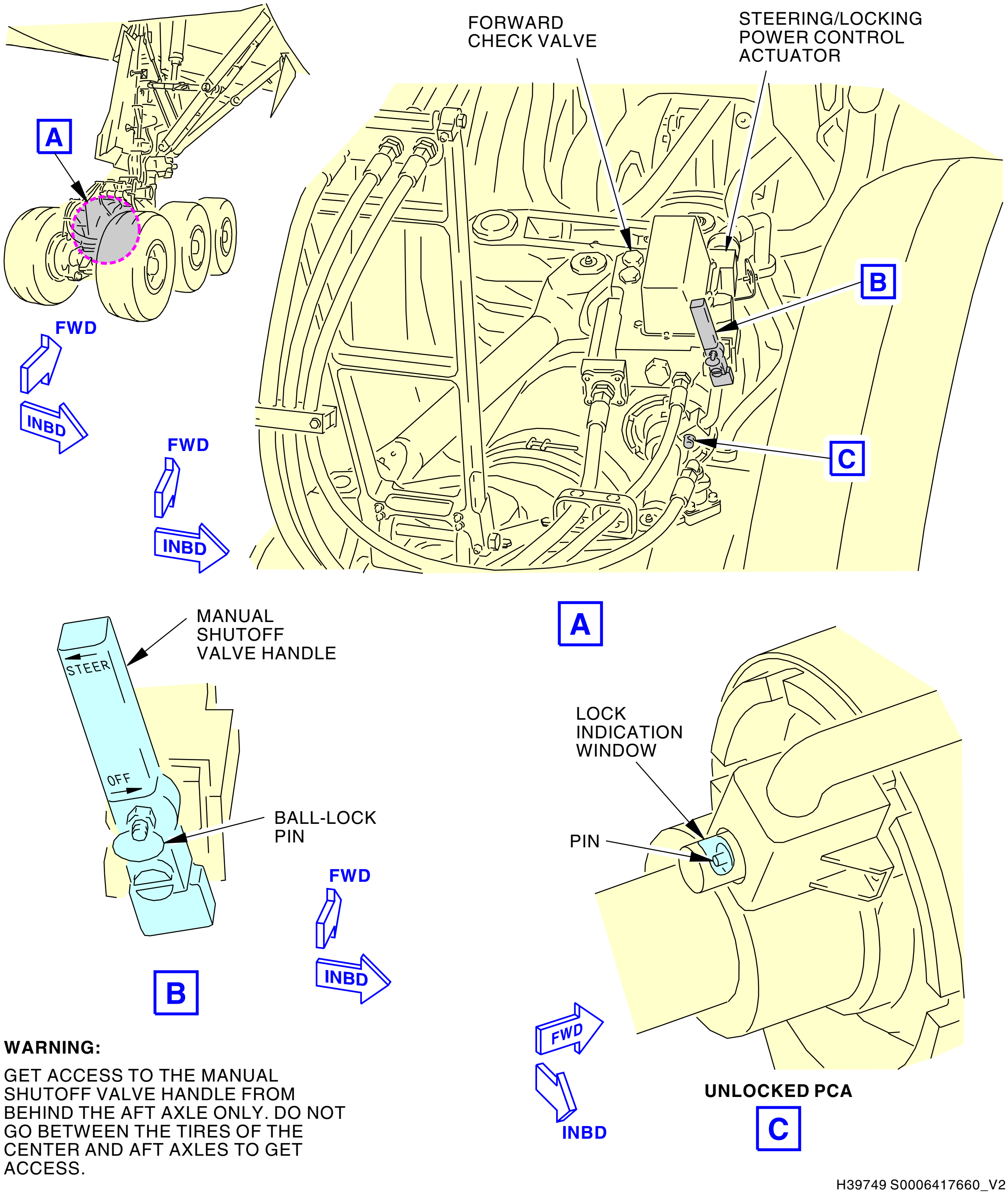
Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

SUBTASK 32-00-00-860-053

(2) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

END OF TASK



Main Landing Gear Steering System
Figure 905/32-00-00-990-805

TASK 32-00-00-440-815

43. MMEL 32-53-1 (DDG) Restoration - Main Landing Gear Steering System (Including Indication) Inoperative

A. General

(1) This task puts the airplane back to its usual condition after operation with the Main Landing Gear Steering System (Including Indication) Inoperative.

B. References

Reference	Title
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)

C. Activation of the Main Landing Gear Steering System

SUBTASK 32-00-00-860-054

WARNING: MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER, THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

SUBTASK 32-00-00-860-065

(2) Remove the safety tag and close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

D. Main Landing Gear Steering System Repair

SUBTASK 32-00-00-740-006

(1) Go to the Maintenance Access Terminal (MAT) and find the MAIN GEAR STEERING status message.

(a) Find the fault code and the correlated maintenance message numbers on the MAT.

SUBTASK 32-00-00-810-013

(2) Go to the Fault Code Index in the Fault Isolation Manual (FIM) and find the fault code (the first two digits of the fault code are the FIM chapter)

(a) For each correlated maintenance message, find the maintenance message number to the right side of the fault code.

(b) Find the task number on the same line as the maintenance message number.

SUBTASK 32-00-00-810-014

(3) Go to the task in the FIM and do the steps in the task.

END OF TASK

TASK 32-00-00-040-820

44. MMEL 32-61-1 (DDG) Preparation - Landing Gear Position Indication Systems Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Landing Gear Position Indication Systems Inoperative.

(2) EICAS Status Messages

(a) GEAR INDICATION SYS

B. References

Reference	Title
27-00-00-040-807	MMEL 27-62-1 (DDG) Preparation - Automatic Speed Brake Function Inoperative (P/B 901)
32-61-00-700-801	Landing Gear Position Indicating and Warning System - System Test (P/B 501)

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Examine the Landing Gear Position Indication Sensors

SUBTASK 32-00-00-860-091

(1) Make sure the nose gear lock, nose gear down, main gear side brace, and main gear drag brace sensors operate normally (TASK 32-61-00-700-801).

(a) Make sure both nose gear lock sensors show NEAR on the LANDING GEAR ACTN/INDN Maintenance page.

(b) Make sure both nose gear, gear down sensors show NEAR on the LANDING GEAR ACTN/INDN Maintenance page.

(c) Make sure all main gear side brace sensors show NEAR on the LANDING GEAR ACTN/INDN Maintenance page.

(d) Make sure all main gear drag brace sensors show NEAR on the LANDING GEAR ACTN/INDN Maintenance page.

SUBTASK 32-00-00-040-025

(2) If the truck tilt sensors are inoperative, then the airplane must be dispatched with MMEL 27-62-01. Do this task: MMEL 27-62-1 (DDG) Preparation - Automatic Speed Brake Function Inoperative, TASK 27-00-00-040-807.

E. Landing Gear Deactivation in the Down Position

SUBTASK 32-00-00-480-020

(1) Lock the nose and main landing gear in the down and locked position for gear down dispatch, do this task: MMEL 32-30-1 (DDG) Preparation - Landing Gear Normal Extension and Retraction System Inoperative, TASK 32-00-00-040-801.

——— END OF TASK ———

TASK 32-00-00-440-816

45. MMEL 32-61-1 (DDG) Restoration - Landing Gear Position Indication Systems Inoperative

A. General

(1) This task puts the airplane back to its usual condition after operation with the Landing Gear Position Indication Systems Inoperative.

B. References

Reference	Title
27-00-00-440-807	MMEL 27-62-1 (DDG) Restoration - Automatic Speed Brake Function Inoperative (P/B 901)
32-61-00-700-801	Landing Gear Position Indicating and Warning System - System Test (P/B 501)

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Landing Gear Position Indication System Repair

SUBTASK 32-00-00-440-021

(1) If the truck tilt sensors were inoperative, then preform the restoration task for MMEL 27-62-01. Do this task: MMEL 27-62-1 (DDG) Restoration - Automatic Speed Brake Function Inoperative, TASK 27-00-00-440-807.

SUBTASK 32-00-00-740-007

(2) Go to the MAT and find the EICAS status message.

(a) Find the fault code and the correlated maintenance message numbers on the MAT.

SUBTASK 32-00-00-810-015

(3) Go to the Fault Code Index in the FIM and find the fault code (the first two digits of the fault code are the FIM chapter).

(a) For each correlated maintenance message, find the maintenance message number to the right side of the fault code.

(b) Find the task number on the same line as the maintenance message number.

SUBTASK 32-00-00-810-016

(4) Go to the task in the FIM and do the steps in the task.

E. Reactivate the Landing Gear

SUBTASK 32-00-00-730-001

(1) Do this task: MMEL 32-30-1 (DDG) Restoration - Landing Gear Normal Extension and Retraction System Inoperative, TASK 32-00-00-440-822.

F. Landing Gear Position Indication Test

SUBTASK 32-00-00-730-002

(1) Do this task: Landing Gear Position Indicating and Warning System - System Test, TASK 32-61-00-700-801.

——— END OF TASK ———

TASK 32-00-00-040-821

46. MMEL 32-61-2 (DDG) Preparation - Landing Gear Door Position Sensors One Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight for Landing Gear Door Position Sensors Inoperative.

(2) EICAS Status Messages

(a) L GEAR DOOR SENSOR

(b) R GEAR DOOR SENSOR

(c) NOSE GEAR DOOR SNSR

B. References

Reference	Title
31-61-00-800-804	Showing a Maintenance Page (P/B 201)

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Landing Gear Door Position Sensor Deactivation

SUBTASK 32-00-00-860-055

(1) Do these steps to select the maintenance page (TASK 31-61-00-800-804).

(a) Select a Display Unit from the Display Select Panel on the glare shield panel, P55.

(b) Push the MAINT INFO DISPLAY prompt from a control display unit (CDU).

(c) Make sure the Display Selection Menu is shown on the display.

(d) Push the REAL SHOW DISPLAY button for the ATA 32 System LANDING GEAR ACTN/INDN.

NOTE: The ATA 32 LANDING GEAR ACTN/INDN maintenance page selection is on the second page.

SUBTASK 32-00-00-200-001

(2) Make sure the defective door sensor is in target FAR condition or blank.

SUBTASK 32-00-00-020-009

(3) If the defective door sensor is in target NEAR condition, then do these steps that follows:

(a) Disconnect the connector from the defective door sensor.

(b) Cap and stow the wires.

——— END OF TASK ———

TASK 32-00-00-440-817

47. MMEL 32-61-2 (DDG) Restoration - Landing Gear Door Position Sensors One Inoperative

A. General

(1) This task puts the airplane back to its usual condition after operation with the Landing Gear Door Position Sensors Inoperative.

B. References

Reference	Title
32-61-00-700-801	Landing Gear Position Indicating and Warning System - System Test (P/B 501)
32-61-05-000-801	Door Closed Sensor Removal (P/B 201)
32-61-05-400-801	Door Closed Sensor Installation (P/B 201)
32-61-06-000-801	Door Closed Sensor Removal (P/B 201)
32-61-06-400-801	Door Closed Sensor Installation (P/B 201)

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Defective Door Position Sensor Replacement

SUBTASK 32-00-00-900-001

(1) Replace the landing gear door sensors that do not operate.

These are the tasks:

Door Closed Sensor Removal, TASK 32-61-05-000-801,

Door Closed Sensor Installation, TASK 32-61-05-400-801.

These are the tasks:

Door Closed Sensor Removal, TASK 32-61-06-000-801,

Door Closed Sensor Installation, TASK 32-61-06-400-801.

SUBTASK 32-00-00-410-005

(2) Remove the cap and connect the wires to the door sensor.

E. Landing Gear Door Position Sensor Test

SUBTASK 32-00-00-730-003

(1) Do this task: Landing Gear Position Indicating and Warning System - System Test, TASK 32-61-00-700-801.

——— END OF TASK ———

TASK 32-00-00-040-822

48. MMEL 32-61-3 (DDG) Preparation - Landing Gear Uplock Position Sensors Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Landing Gear Uplock Position Sensors Inoperative.

(2) EICAS Status Messages

(a) L GEAR UPLOCK SENSOR

(b) R GEAR UPLOCK SENSOR

(c) NOSE GEAR UP SENSOR

B. References

Reference	Title
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)

(Continued)

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. **Location Zones**

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

D. **Landing Gear Uplock Position Sensor Deactivation**

SUBTASK 32-00-00-860-056

(1) Do these steps to select the maintenance page (TASK 31-61-00-800-804).

(a) Select a Display Unit from the Display Select Panel on the glare shield panel, P55.

(b) Push the MAINT INFO DISPLAY prompt from a control display unit (CDU).

(c) Make sure the Display Selection Menu is shown on the display.

(d) Push the REAL SHOW DISPLAY button for the ATA 32 System LANDING GEAR ACTN/INDN.

NOTE: The ATA 32 LANDING GEAR ACTN/INDN maintenance page selection is on the second page.

SUBTASK 32-00-00-200-002

(2) Make sure the main uplock sensors and the nose up sensor is in target FAR condition.

SUBTASK 32-00-00-200-003

(3) Make sure the defective uplock or up sensor is in target FAR condition or blank.

SUBTASK 32-00-00-040-007

(4) If the defective uplock or up sensor is in target NEAR, then do these steps that follows:

(a) Do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

(b) Disconnect the connector from the defective uplock or up sensor.

(c) Cap and stow the wires.

(d) Do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

END OF TASK

TASK 32-00-00-440-818

49. MMEL 32-61-3 (DDG) Restoration - Landing Gear Uplock Position Sensors Inoperative

A. **General**

(1) This task puts the airplane back to its usual condition after operation with the Landing Gear Uplock Position Sensors Inoperative.

B. **References**

Reference	Title
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-61-00-700-801	Landing Gear Position Indicating and Warning System - System Test (P/B 501)
32-61-01-000-801	Proximity Sensors for the Main Landing Gear Removal (P/B 201)

(Continued)

Reference	Title
32-61-01-400-801	Proximity Sensors for the Main Landing Gear Installation (P/B 201)
32-61-02-000-801	Proximity Sensors for the Nose Landing Gear - Removal (P/B 201)
32-61-02-400-801	Proximity Sensors for the Nose Landing Gear - Installation (P/B 201)

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Defective Uplock Position Sensor Replacement

SUBTASK 32-00-00-840-005

(1) Do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-00-900-002

(2) Replace the main uplock sensors or the nose up sensor that do not operate,

These are the tasks:

Proximity Sensors for the Main Landing Gear Removal, TASK 32-61-01-000-801,

Proximity Sensors for the Main Landing Gear Installation, TASK 32-61-01-400-801.

These are the tasks:

Proximity Sensors for the Nose Landing Gear - Removal, TASK 32-61-02-000-801,

Proximity Sensors for the Nose Landing Gear - Installation, TASK 32-61-02-400-801.

SUBTASK 32-00-00-410-006

(3) Remove the cap and connect the wires to the defective uplock or up sensor.

E. Landing Gear Uplock Position Sensor Test

SUBTASK 32-00-00-730-005

(1) Do this task: Landing Gear Position Indicating and Warning System - System Test, TASK 32-61-00-700-801.

SUBTASK 32-00-00-840-004

(2) Do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

——— END OF TASK ———

TASK 32-00-00-040-837

50. MMEL 32-71-01-02 (DDG) Preparation - Tail Strike Detector Channels Both Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Tail Strike Detector Channels both inoperative.

(2) EICAS Status Messages

(a) TAIL STRIKE

(b) TAIL STRIKE CHANNEL 1

(c) TAIL STRIKE CHANNEL 2

B. **References**

Reference	Title
32-71-01-000-801	Tail Strike Assembly Removal (P/B 401)
32-71-01-400-801	Tail Strike Assembly Installation (P/B 401)

C. **Consumable Materials**

Reference	Description	Specification
F50013	Wire - AWG 20	QQ-W-343

D. **Location Zones**

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

E. **Prepare for Deactivation**

SUBTASK 32-00-00-210-018

(1) Before each departure, visually inspect the tail section for damage from a tail strike.

F. **Tail Strike Detector Deactivation**

SUBTASK 32-00-00-040-026

(1) Disable the Tail Strike Assembly (TSA)

(a) Remove the TSA. Do this task: Tail Strike Assembly Removal, TASK 32-71-01-000-801.

(b) Disconnect the TSA electrical connector (DM32010).

(c) Install a 5 ±1 in. (13 ±3 cm) jumper made of AWG 20 Wire, F50013 between sockets 4 and 11 of the TSA electrical connector (DM32010).

(d) Secure the jumper wire with a bundle strap.

SUBTASK 32-00-00-200-014

(2) Go to the Maintenance Access Terminal (MAT) and make sure that this EICAS message displays:

(a) TAIL STRIKE CHANNEL 1

(3) Make sure that these EICAS messages do not display:

(a) TAIL STRIKE

(b) TAIL STRIKE CHANNEL 2

SUBTASK 32-00-00-420-019

(4) Bag and stow the TSA connector (DM32010).

SUBTASK 32-00-00-420-020

(5) Install the TSA. Do this task: Tail Strike Assembly Installation, TASK 32-71-01-400-801.

——— END OF TASK ———

TASK 32-00-00-440-832

51. MMEL 32-71-01-02 (DDG) Restoration – Tail Strike Detector Channels Both Inoperative

A. **General**

(1) This task puts the airplane back to its usual condition after operation with the Tail Strike Detector Channels both inoperative.

(2) EICAS messages:

(a) TAIL STRIKE

(b) TAIL STRIKE CHANNEL 1

(c) TAIL STRIKE CHANNEL 2

B. References

Reference	Title
32-71-01-000-801	Tail Strike Assembly Removal (P/B 401)
32-71-01-400-801	Tail Strike Assembly Installation (P/B 401)

C. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

D. Tail Strike Detector Repair

SUBTASK 32-00-00-900-003

(1) Replace the Tail Strike Assembly (TSA):

(a) Remove the TSA. Do this task: Tail Strike Assembly Removal, TASK 32-71-01-000-801.

(b) Unstow the wiring.

(c) Remove the bag from the TSA electrical connector (DM32010).

(d) Remove the jumper wire.

(e) Install a serviceable TSA. Do this task: Tail Strike Assembly Installation, TASK 32-71-01-400-801.

SUBTASK 32-00-00-200-015

(2) Go to the Maintenance Access Terminal (MAT) and make sure that these EICAS messages related to the Tail Strike Detector do not display:

(a) TAIL STRIKE

(b) TAIL STRIKE CHANNEL 1

(c) TAIL STRIKE CHANNEL 2

SUBTASK 32-00-00-800-001

(3) If the messages show on EICAS, use the Fault Isolation Manual (FIM) to troubleshoot the maintenance messages.

——— END OF TASK ———

ARO 001-004

TASK 32-00-00-040-826

52. MMEL 32-72-1 (DDG) Preparation - Tail Skid Extended Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Tail Skid Extended Inoperative.

(2) Dispatch is permitted only if the tail skid is fully extended or can be fully extended manually. Dispatch is not permitted if you find hydraulic leakage from the tail skid actuation system.

(3) EICAS Status Messages

(a) TAIL SKID

ARO 001-004 (Continued)

B. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1884	Pin - Lockout, Retractable Tail Skid Fwd and Aft Lock Link Part #: J32071-10 Supplier: 81205

D. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

E. Tail Skid Extended Deactivation

SUBTASK 32-00-00-480-025

(1) Open the Service Access Door 311 BL to get access to the tail skid assembly.

SUBTASK 32-00-00-860-069

(2) Make sure the tail skid is in the DN position.

(a) If you will manually extend the tail skid, do these steps:

1) Open the bleed valve for the tail skid actuator a small amount if you want to increase the speed of the tail skid extension.

2) Unlock the tail skid lock links with your hands and move the mechanism over-center.

3) Close the bleed valve when the tail skid is fully extended, if it was opened.

SUBTASK 32-00-00-420-014

WARNING: MAKE SURE THE AREA AROUND THE TAIL SKID IS CLEAR OF PERSONS AND EQUIPMENT. THE TAIL SKID EXTEND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Install the tail skid lockout pin, SPL-1884, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-00-200-007

(4) Check the tail skid actuator and hydraulic lines for leakage.

SUBTASK 32-00-00-200-008

(5) Close the Service Access Door 311 BL.

ARO 001-004 (Continued)

SUBTASK 32-00-00-200-009

(6) Close the water supply valves to the gallery service basins, lavatory washbasins and drinking fountains that drain through the aft drain mast.

NOTE: Some airplanes have different configurations, each airplane operator must determine the specific shutoff valves for their airplane.

——— END OF TASK ———

TASK 32-00-00-040-827

53. MMEL 32-72-1 (DDG) Restoration - Tail Skid Extended Inoperative

A. General

(1) This task put the airplane back to its usual condition after operation with the Tail Skid Extended Inoperative.

(2) EICAS Status Messages

(a) TAIL SKID

B. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

D. Tail Skid Extended Activation

SUBTASK 32-00-00-420-015

WARNING MAKE SURE THE AREA AROUND THE TAIL SKID IS CLEAR OF PERSONS AND EQUIPMENT. THE TAIL SKID EXTEND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Remove the tail skid downlock pin, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-00-200-011

(2) Close the Service Access Door 311 BL.

SUBTASK 32-00-00-200-012

(3) Open the water supply valves to the gallery service basins, lavatory washbasins and drinking fountains that drain through the aft drain mast.

E. Tail Skid Extended Repair

SUBTASK 32-00-00-740-010

(1) Go to the Maintenance Access Terminal (MAT) and find the EICAS status message.

(a) Find the fault code and the correlated maintenance message numbers on the MAT.

SUBTASK 32-00-00-810-024

(2) Go the Fault Code Index in the Fault Isolation Manual (FIM) and find the fault code (the first two digits of the fault code are the FIM chapter).

ARO 001-004 (Continued)

(a) For each correlated maintenance message, find the maintenance message number to the right side of the fault code.

(b) Find the task number on the same line as the maintenance message number.

SUBTASK 32-00-00-810-025

(3) Go to the task in the FIM and do the steps in the task.

END OF TASK

TASK 32-00-00-040-830

54. MMEL 32-72-2 (DDG) Preparation - Tail Skid Position Sensing System Inoperative

A. General

(1) This task gives the maintenance steps which prepare the airplane for flight with the Tail Skid Position Sensing System Inoperative. The airplane can be dispatched with the tail skid sensors inoperative if the tail skid extends and retracts normally and is checked once every flight day. If the tail skid does not operate it must be locked in the extended position.

(2) If the tail skid does not operate it must be locked in the extended position.

(3) EICAS Status Messages

(a) TAIL SKID SENSOR

B. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

D. Tail Skid: System Check

SUBTASK 32-00-00-480-028

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

ARO 001-004 (Continued)

SUBTASK 32-00-00-480-030

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801

SUBTASK 32-00-00-480-026

(3) Open the Service Access Door 311 BL to get access to the tail skid assembly.

SUBTASK 32-00-00-860-071

(4) Make sure the tail skid extension/retraction system operates normally, once each flight day:

WARNING	MAKE SURE THE AREA AROUND THE TAIL SKID IS CLEAR OF PERSONS AND EQUIPMENT. THE TAIL SKID EXTEND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(a) If it is installed, remove the tail skid downlock pin, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(b) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

WARNING	MAKE SURE THAT THE AREA AROUND THE DOOR FOR THE MAIN LANDING GEAR IS CLEAR OF PERSONNEL, AND EQUIPMENT. THE DOORS CLOSE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

(c) Move the GND PROX GEAR switch, on the landing gear P2-2 panel, to OVRD.

(d) Push and hold the landing gear lever LOCK OVRD switch.

(e) Move the landing gear control lever to the UP position.

(f) Release the landing gear lever LOCK OVRD switch.

(g) Visually make sure the tail skid retracts.

(h) Move the landing gear control lever to the DOWN position.

(i) Visually make sure the tail skid extends.

(j) Move the GND PROX GEAR switch, on the landing gear P2-2 panel, to off (OVRD not visible).

(k) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

(l) If the tail skid does not extend and retract normally, do this task: MMEL 32-72-1 (DDG) Preparation - Tail Skid Extended Inoperative, TASK 32-00-00-040-826.

ARO 001-004 (Continued)

SUBTASK 32-00-00-200-013

(5) Close the Service Access Door 311 BL.

SUBTASK 32-00-00-080-018

> **WARNING** OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801

——— END OF TASK ———

TASK 32-00-00-440-825

55. MMEL 32-72-2 (DDG) Restoration - Tail Skid Position Sensing System Inoperative

A. General

(1) This task put the airplane back to its usual condition after operation with the Tail Skid Position System Inoperative.

(2) EICAS Status Messages

(a) TAIL SKID SENSOR

B. References

Reference	Title
32-72-10-700-801	Test of the Proximity Sensor for the Tail Skid (P/B 201)

C. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

D. Tail Skid Activation

SUBTASK 32-00-00-740-011

(1) Go to the MAT and find the EICAS status message.

(a) Find the fault code and the correlated maintenance message numbers on the MAT.

SUBTASK 32-00-00-810-026

(2) Go to the Fault Code Index in the FIM and find the fault code (the first two digits of the fault code are the FIM chapter).

(a) For each correlated maintenance message, find the maintenance message number to the right side of the fault code.

(b) Find the task number on the same line as the maintenance message number.

SUBTASK 32-00-00-810-027

(3) Go to the task in the FIM and do the steps in the task.

E. Reactivate the Tail Skid

SUBTASK 32-00-00-730-007

(1) Do this task: MMEL 32-72-1 (DDG) Restoration - Tail Skid Extended Inoperative, TASK 32-00-00-040-827.

F. Tail Skid Position Indication Test

SUBTASK 32-00-00-730-008

(1) Do this task: Test of the Proximity Sensor for the Tail Skid, TASK 32-72-10-700-801.

———— END OF TASK ————

LANDING GEAR INNER CYLINDER CHROME - INSPECTION

1. General

A. This procedure provides instructions to examine the chrome surface of the landing gear inner cylinder.

B. This procedure is applicable to the nose landing gear and the main landing gear.

TASK 32-00-10-211-801

2. Landing Gear Inner Cylinder Chrome Inspection

A. References

Reference	Title
12-15-01-610-810	Main Landing Gear Shock Strut Servicing (P/B 301)
12-15-02-610-805-002	Nose Landing Gear Shock Strut Servicing (P/B 301)
32-00-10-100-802	Landing Gear Inner Cylinder Chrome Cleaning (P/B 701)
32-00-10-300-801	Landing Gear Inner Cylinder Chrome Repair (P/B 801)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-11-24-020-801	Main Landing Gear Shock Strut Inner Cylinder with Truck Assembly Removal (P/B 401)
32-11-25-200-802	Main Landing Gear Shock Strut Seal Leakage Check (P/B 601)
32-11-25-960-807-002	Replace the Active and the Spare Seals (P/B 201)
32-11-25-960-808	Replace the Gland Nut Scraper Ring (P/B 801)
32-21-24-960-801	Remove the NLG Shock Strut Inner Cylinder (P/B 401)
32-21-25-210-801	Nose Landing Gear Shock Strut Seal Leakage Check (P/B 601)
32-21-25-360-801	Replace the Gland Nut Scraper Ring with a Split Scraper Ring (P/B 801)
32-21-25-960-807-002	Replace the Active Seals, Spare Seals and the Gland Nut Scraper Ring (P/B 201)

B. Tools/Equipment

Reference	Description
STD-765	Scraper - Plastic
STD-8888	Scribe - Metal

C. Location Zones

Zone	Area
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for the Procedure

SUBTASK 32-00-10-490-004

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-10-490-005

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-00-10-212-001

(3) Inspect the scraper ring and shock strut seals for damage.

(a) Visually examine the chrome surface of the inner cylinder before you clean it.

NOTE: If you find vertical streaks of fluid or accumulated debris on the chrome surface, it is an indication that part of the scraper ring may be defective.

(b) Make sure the scraper ring is in the installed position. Normal operation can force the scraper ring down the inner cylinder.

NOTE: A mirror and flashlight can help you to examine the scraper ring. Put the mirror below the outer cylinder and against the inner cylinder to see the condition and position of the scraper ring.

(c) If one of the two inspections finds a fault with the scraper ring, do the steps that follow:

1) Examine the shock strut for seal leakage (TASK 32-21-25-210-801 or TASK 32-11-25-200-802).

2) Deflate the strut and drain the oil (TASK 12-15-01-610-810 or TASK 12-15-02-610-805-002).

3) Disconnect the gland nut from the outer cylinder (TASK 32-11-24-020-801 or TASK 32-21-24-960-801), then lower the gland nut to examine the scraper ring.

4) If the scraper ring is damaged then replace the scraper ring with a new production scraper ring (TASK 32-11-25-960-807-002 or TASK 32-21-25-960-807-002).

NOTE: This task requires the removal of the inner cylinder from the outer cylinder.

a) If replacement of the scraper ring is required and removal of the inner cylinder is not possible, the installation of a split scraper ring can be used as a temporary repair (TASK 32-11-25-960-808 or TASK 32-21-25-360-801)

(d) Examine the shock strut for seal leakage (TASK 32-21-25-210-801 or TASK 32-11-25-200-802).

SUBTASK 32-00-10-100-004

(4) Do this task: Landing Gear Inner Cylinder Chrome Cleaning, TASK 32-00-10-100-802.

E. Procedure

SUBTASK 32-00-10-200-001

(1) Do the steps that follow to examine the chrome surface on the outer diameter of the shock strut inner cylinder:

NOTE: Chrome plating on large diameter parts will show very small and narrow lines that look like cracks. These lines (chicken-wire cracks) naturally occur when the chrome plate was initially applied on the base metal. When you look at these parts in dim light or with a light source angled to the surface for the inspection, you will see these lines.

(a) Shine light at an angle to the chrome surface of the inner strut.

NOTE: You can use a flashlight for this check.

(b) Look at the surface from different directions to make sure you see all of the cracks or scratches.

NOTE: Do not use a magnifying glass to do this inspection. A scratch on the chrome will have sharp edges along its length and can be seen without the aid of a magnifying glass or plastic scraper. A wide crack on the chrome surface has a gradual contour to its edges which makes it difficult to see and requires the use of the plastic scraper to identify.

(c) Move the sharp edge of a new hard plastic scraper, STD-765 perpendicular over all the exposed chrome plated surface with a smooth movement and light hand pressure.

NOTE: You will feel a "grab" or a "catch" when you go over a wide crack with this method. Make sure the plastic scraper is new, as used scrapers will not satisfactorily find the wide cracks.

(d) If you see any possible area of corrosion, chipping, or lifting chrome plate, or if you felt a wide crack with the plastic scraper, STD-765, inspect the area again with a metal scribe, STD-8888.

1) Move the sharp point of the scribe with medium hand pressure to go over the area of suspected damage.

2) Go over the area with the metal scribe, STD-8888 from multiple directions.

a) If the chrome is lifting and/or loose try to pick it off with the metal scribe, STD-8888.

NOTE: If you feel a sudden high resistance when you go over the area, but do not see signs of possible corrosion, then this is a site with a wide crack. It is an area that must have more protection and be closely monitored. Repair this area with the crack repair procedure. If you are able to remove or lift small pieces of chrome plate from the base metal, if there are bubbles in the chrome, or if the crack extends to the base metal the inner cylinder is not serviceable.

SUBTASK 32-00-10-200-002

(2) If you find scratches or wide cracks, do the steps that follow:

(a) Look for one or more of the conditions that follow; if any of the conditions that follow are present then the inner cylinder is not serviceable:

1) Corrosion exists in the damaged area of the chrome.

NOTE: You must use a 4x (minimum) magnifier to examine the area of damage.

2) Poor chrome bonds with the base metal.

3) Bubbles in the chrome plating.

4) An area of chrome plate that moves above the smooth surface of the adjacent chrome plate when you move the dental explorer across it.

5) Chrome plate that comes off in flakes when you move the dental explorer over the chrome plate.

(b) Make sure the scratches or wide cracks have not penetrated to the base metal of the strut.

(c) If the base metal is exposed you must measure the depth of the damage.

(d) If the measured depth of damage to the base metal exceeds 0.0005 inches, excluding chrome thickness, or the area of damage exceeds 1 square inch then you must replace or overhaul the inner cylinder.

(e) If the base metal is exposed by a scratch then the scratch will be considered a gouge and be repaired as a crack.

(f) Measure the size of the area that has the cracks, and make a sketch of the location and shape of each area, and mark the dimensions on the sketch.

1) Make sure you keep this data so it can be used for the next inspection.

(g) Repair the scratches on the chrome surface (TASK 32-00-10-300-801), if identified.

(h) Repair the cracks on the chrome surface (TASK 32-00-10-300-801), if identified.

(i) If you repaired the chrome surface then you must do this inspection task again in four months or 400 cycles (whichever comes first), and then again until the shock strut is removed and replaced. Once chrome is damaged, there is no permanent repair, and the damage can continue to spread. The only permanent repair is to strip and replate the chrome.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-00-10-480-005

WARNING	USE THE CORRECT PROCEDURE TO REMOVE THE DOOR LOCKS. THE DOORS CAN OPEN AND CLOSE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

LANDING GEAR INNER CYLINDER CHROME - CLEANING/PAINTING

1. General

A. This procedure provides instruction to clean the dirt and grit from the chrome surfaces of the landing gear inner cylinders. Cleaning these chrome surfaces will make it easier to determine if any seals leak and it will also prolong the life of the seals.

B. This procedure is applicable to the nose landing gear and the main landing gear.

TASK 32-00-10-100-802

2. Landing Gear Inner Cylinder Chrome Cleaning

A. References

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
32-00-10-211-801	Landing Gear Inner Cylinder Chrome Inspection (P/B 601)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00070	Fluid - Hydraulic, Petroleum Base	MIL-PRF-5606 (Replaces MIL-H-5606)
D00106	Fluid - Hydraulic, Petroleum Base, For Preservation And Operation	MIL-PRF-6083 (NATO C-635)
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
D00300	Oil - Mineral	
D00467	Fluid - Landing Gear Shock Strut	BMS3-32 Type II
D50022	Fluid - Landing Gear Shock Strut (Specifically For Preservation)	BMS3-32 Type I

C. Location Zones

Zone	Area
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for the procedure

SUBTASK 32-00-10-490-002

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-10-490-003

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-00-10-480-002

WARNING	MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-00-10-980-001

(4) To clean as much of the chrome surface possible, do one of these steps:

(a) Clean the chrome before you fill the airplane with fuel.

(b) Use airplane jacks to lift the airplane until the tires do not touch the ground (TASK 07-11-01-580-804).

E. Procedure

SUBTASK 32-00-10-212-002

(1) Do this task: Landing Gear Inner Cylinder Chrome Inspection, TASK 32-00-10-211-801.

SUBTASK 32-00-10-100-002

CAUTION	DO NOT RUB THE SMEAR MARKS TO TRY TO REMOVE THEM. THIS COULD CAUSE DAMAGE TO THE WEAR SURFACE.

(2) Examine the shock strut inner cylinder chrome for dark smear marks that have a small amount of texture and are difficult to remove. These smear marks are created by oxidation of the self lubricating material that is deposited on the chrome by the shock strut bearings. These smear marks are considered acceptable.

(3) Clean the dirt, oil and other unwanted materials from the chrome surface of the shock strut inner cylinder with a clean cloth that is soaked in one of these:

(a) fluid, D00070

(b) fluid, D50022

(c) fluid, D00467

(d) fluid, D00106

(e) mineral oil, D00300.

SUBTASK 32-00-10-100-003

(4) Clean the dirt, oil and other unwanted materials from the chrome cylinder surface of the retract actuator and the steering actuator with a clean cloth that is soaked in hydraulic fluid, D00153.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-00-10-840-001

(1) Do this task: Lower the Airplane Off of the Jacks, TASK 07-11-01-580-805.

SUBTASK 32-00-10-480-004

WARNING MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

SUBTASK 32-00-10-090-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

LANDING GEAR INNER CYLINDER CHROME - REPAIR

1. General

A. This procedure provides instructions to repair cracks and minor scratches to the chrome surface of the landing gear inner cylinder.

B. This procedure is applicable to the nose landing gear and the main landing gear.

TASK 32-00-10-300-801

2. Landing Gear Inner Cylinder Chrome Repair

A. References

Reference	Title
32-00-10-100-802	Landing Gear Inner Cylinder Chrome Cleaning (P/B 701)
32-00-10-211-801	Landing Gear Inner Cylinder Chrome Inspection (P/B 601)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Consumable Materials

Reference	Description	Specification
C00259	Coating - Chemical And Solvent Resistant Finish, Corrosion Inhibiting Primer	BMS10-11 Type I
D00467	Fluid - Landing Gear Shock Strut	BMS3-32 Type II
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	BMS15-5 Class A
G01601	Abrasive - Aluminum Oxide Coated Cloth, 400 to 600 grit	
G50220	Pad - Abrasive, Scotch- Brite 7447	
G50338	Abrasive Paper - Aluminum Oxide, 800 Grit	

C. Location Zones

Zone	Area
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for the procedure

SUBTASK 32-00-10-490-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-10-615-001

(2) Make sure these tasks are accomplished before you do the repair:

(a) Landing Gear Inner Cylinder Chrome Cleaning, TASK 32-00-10-100-802

(b) Landing Gear Inner Cylinder Chrome Inspection, TASK 32-00-10-211-801

E. Procedure

SUBTASK 32-00-10-350-001

CAUTION

DO NOT USE POWER TOOLS TO DO THIS TASK. YOU MUST USE HAND TOOLS. IF YOU USE POWER TOOLS, YOU CAN CAUSE MORE DAMAGE TO COMPONENTS.

(1) To repair cracks to the chrome surface, do these steps:

(a) Use 400 to 600 grit abrasive cloth, G01601, that is soaked in fluid, D00467, to hand blend the exposed base metal and remove any corrosion and sharp edges to the chrome.

NOTE: Ensure reworked edges can not be caught with the sharp point of the dental explorer.

(b) Use a cotton wiper, G00034 to apply a thick layer of primer, C00259 to the exposed base metal with adequate overlap on the chrome surface.

(c) Before the primer dries, remove the excess primer with a clean, dry cloth.

NOTE: Make sure no primer gets on the seals or scraper, as they can be damaged by the primer and may start to leak.

(d) Let the primer cure for at least 4 hours., then apply a second layer of primer and allow to dry an additional 4 hours.

(e) Use Scotch-Brite 7447 pad, G50220, that is soaked in fluid, D00467, to blend and smooth out the primer surface to acheive a similar contour as the chrome surface.

(f) Use abrasive paper, G50338, that is soaked in fluid, D00467, to polish the chrome surface.

SUBTASK 32-00-10-350-002

CAUTION

DO NOT USE POWER TOOLS TO DO THIS TASK. YOU MUST USE HAND TOOLS. IF YOU USE POWER TOOLS, YOU CAN CAUSE MORE DAMAGE TO COMPONENTS.

(2) To repair minor scratches to the chrome surface, do these steps:

(a) Use 400 to 600 grit abrasive cloth, G01601, that is soaked in fluid, D00467, to smooth out the chrome surface until you can not see evidence of a scratch.

(b) Use abrasive paper, G50338, that is soaked in fluid, D00467, to polish the chrome surface.

SUBTASK 32-00-10-615-002

(3) Do this task: Landing Gear Inner Cylinder Chrome Cleaning, TASK 32-00-10-100-802

END OF TASK

LANDING GEAR DOOR SAFETY PINS - MAINTENANCE PRACTICES

1. General

A. This procedure has two tasks:

(1) An installation of the safety pins for the landing gear doors

(2) A removal of the safety pins for the landing gear doors.

B. The safety pins (NLG Door Lock (J32028-2 Lock Pin), SPL-1849 for the nose landing gear doors, and MLG Door Lock (J32028-3 Lock Pin), SPL-1848 for the main landing gear doors) for the landing gear doors are items of safety equipment. You install the safety pins to make sure the landing gear doors do not close when you do work in or near the wheel wells for the landing gear.

TASK 32-00-15-480-801

2. Landing Gear Door Safety Pins Installation

A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1848	Equipment - Lock Pin, MLG Door (J32028-3 Lock included in J32028-1 Lock Pin Equipment) Part #: J32028-1 Supplier: 81205
SPL-1849	Equipment - Lock Pin, NLG Door (J32028-2 Lock included in J32028-1 Lock Pin Equipment) Part #: J32028-1 Supplier: 81205
STD-1049	Stepladder - 12 foot

C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
154	Area Below Aft Cargo Compartment, Right
711	Nose Landing Gear

D. Prepare for the Installation

SUBTASK 32-00-15-480-003

> **WARNING**
> MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-15-860-001

(2) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

E. Landing Gear Door Safety Pins Installation

SUBTASK 32-00-15-480-001

(1) Do the steps below to install the safety pins (MLG Door Lock (J32028-3 Lock Pin), SPL-1848) for the doors for the main landing gear:

WARNING: MAKE SURE THE DOOR UNSAFE LIGHT IN EACH WHEEL WELL FOR THE MAIN LANDING GEAR IS OFF. IF A DOOR UNSAFE LIGHT IS ON, DO NOT GO INTO THE RELATED WHEEL WELL. WHEN A DOOR UNSAFE LIGHT IS ON, THE DOOR FOR THE RELATED MAIN LANDING GEAR IS IN A NOT SAFE CONDITION AND CAN ACCIDENTALLY CLOSE. THE DOORS CLOSE QUICKLY AND CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(a) Make sure the door unsafe light in each wheel well for the main landing gear is off (Figure 201).

NOTE: Do not go into the wheel wells to do this. You can see the door unsafe lights from outside the wheel wells.

(b) On the main wheel well electrical service panel, P56, push the MLG DOOR UNSAFE LT PRESS TO TEST button and hold it in.

(c) Make sure the door unsafe light in each wheel well for the main landing gear is on.

NOTE: You can see the door unsafe lights from the main wheel well electrical service panel, P56.

(d) Release the MLG DOOR UNSAFE LT PRESS TO TEST button and make sure the door unsafe light in each wheel well for the main landing gear goes off.

(e) Do the steps below for each main landing gear:

WARNING: BEFORE YOU GO INTO THE WHEEL WELL FOR THE MAIN LANDING GEAR, MAKE SURE THE DOOR UNSAFE LIGHT IN THE WHEEL WELL IS OFF. IF THE DOOR UNSAFE LIGHT IS ON, DO NOT GO INTO THE WHEEL WELL. WHEN THE DOOR UNSAFE LIGHT IS ON, THE DOOR FOR THE MAIN LANDING GEAR IS IN A NOT SAFE CONDITION AND CAN ACCIDENTALLY CLOSE. THE DOORS CLOSE QUICKLY AND CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

1) Use the 12 foot stepladder, STD-1049 to get access to the door release/safety valve module for the main landing gear.

2) Install the safety pin (MLG Door Lock (J32028-3 Lock Pin), SPL-1848) in the door release/safety valve module for the main landing gear (Figure 201).

3) Make sure the REMOVE-BEFORE-FLIGHT streamer is extended and can be easily seen.

SUBTASK 32-00-15-480-002

(2) Do the steps below to install the safety pin (NLG Door Lock (J32028-2 Lock Pin), SPL-1849) for the doors for the nose landing gear:

WARNING	MAKE SURE THE DOOR UNSAFE LIGHT IN THE WHEEL WELL FOR THE NOSE LANDING GEAR IS OFF. IF THE DOOR UNSAFE LIGHT IS ON, DO NOT GO INTO THE WHEEL WELL. WHEN THE DOOR UNSAFE LIGHT IS ON, THE DOORS FOR THE NOSE LANDING GEAR ARE IN A NOT SAFE CONDITION AND CAN ACCIDENTALLY CLOSE. THE DOORS CLOSE QUICKLY AND CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(a) Make sure the door unsafe light in the wheel well for the nose landing gear is off (Figure 202).

NOTE: Do not go into the wheel well to do this. You can see the door unsafe light from outside the wheel well.

(b) On the service and APU shutdown panel, P40, push the NLG DOORS UNSAFE LIGHT PRESS TO TEST button and hold it in (Figure 202).

(c) Make sure the door unsafe light in the wheel well for the nose landing gear is on.

NOTE: You can see the door unsafe light from the service and APU shutdown panel, P40.

(d) Release the NLG DOORS UNSAFE LIGHT PRESS TO TEST button and make sure the door unsafe light in the wheel well for the nose landing gear goes off.

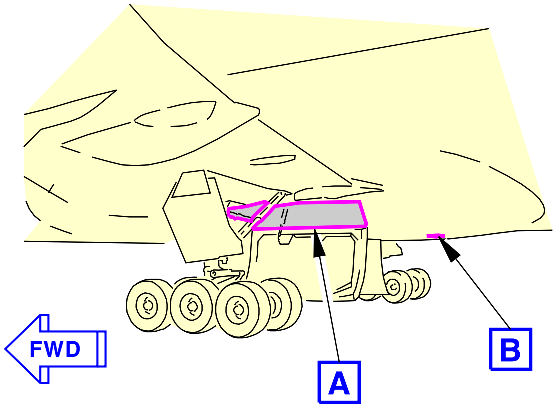
WARNING	BEFORE YOU GO INTO THE WHEEL WELL FOR THE NOSE LANDING GEAR, MAKE SURE THE DOOR UNSAFE LIGHT IN THE WHEEL WELL IS OFF. IF THE DOOR UNSAFE LIGHT IS ON, DO NOT GO INTO THE WHEEL WELL. WHEN THE DOOR UNSAFE LIGHT IS ON, THE DOORS FOR THE NOSE LANDING GEAR ARE IN A NOT SAFE CONDITION AND CAN ACCIDENTALLY CLOSE. THE DOORS CLOSE QUICKLY AND CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

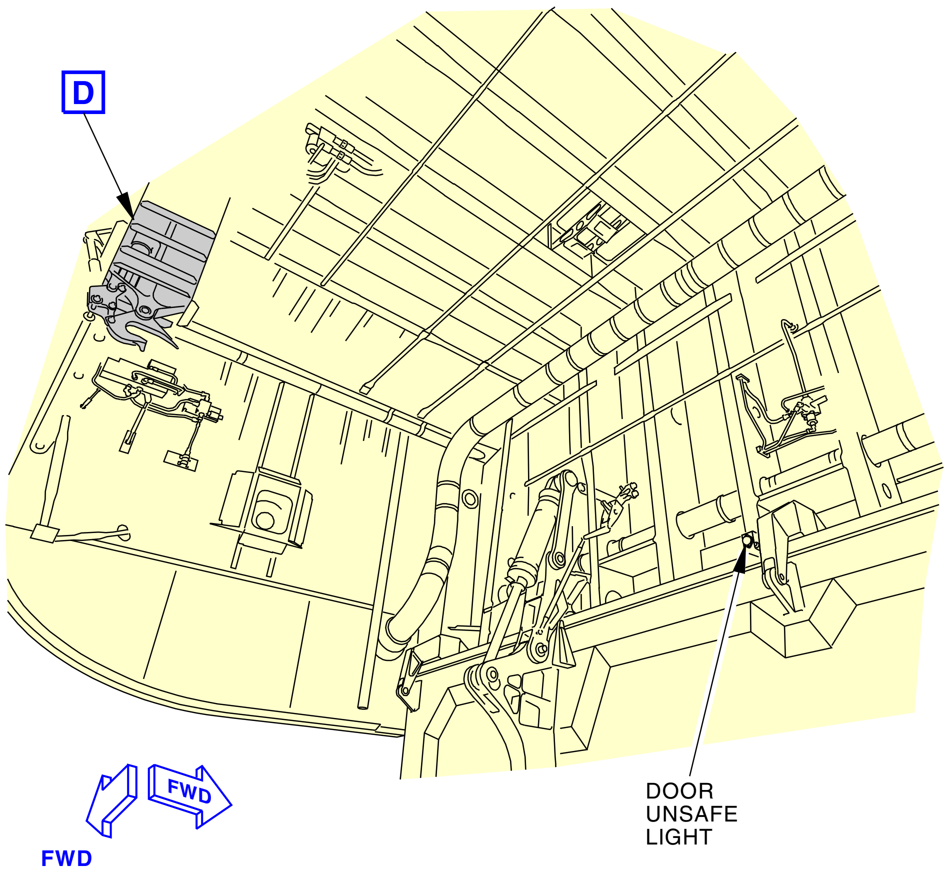
(e) Use the 12 foot stepladder, STD-1049 to get access to the door release/safety valve module for the nose landing gear.

(f) Install the safety pin (NLG Door Lock (J32028-2 Lock Pin), SPL-1849) in the door release/safety valve module for the nose landing gear (Figure 202).

(g) Make sure the REMOVE-BEFORE-FLIGHT streamer is extended and can be easily seen.

END OF TASK



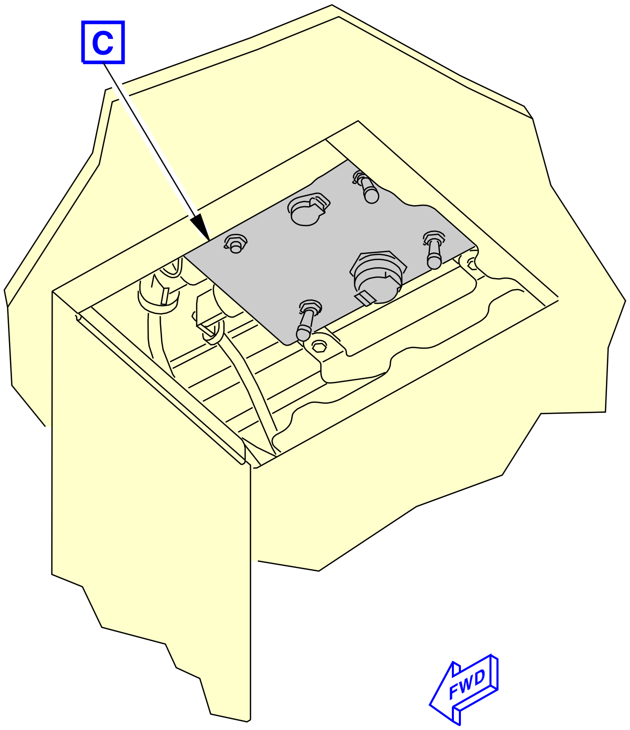


LEFT MAIN WHEEL WELL

A

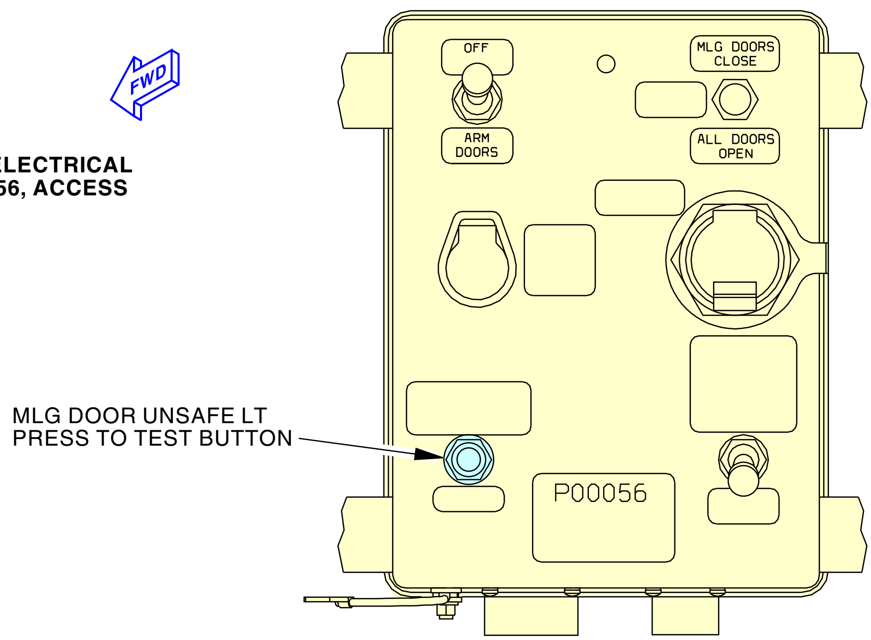
C89629 S0006417678_V2

Main Landing Gear Door Safety Pins Installation
Figure 201/32-00-15-990-801 (Sheet 1 of 3)



MAIN WHEEL WELL ELECTRICAL
SERVICE PANEL, P56, ACCESS

B

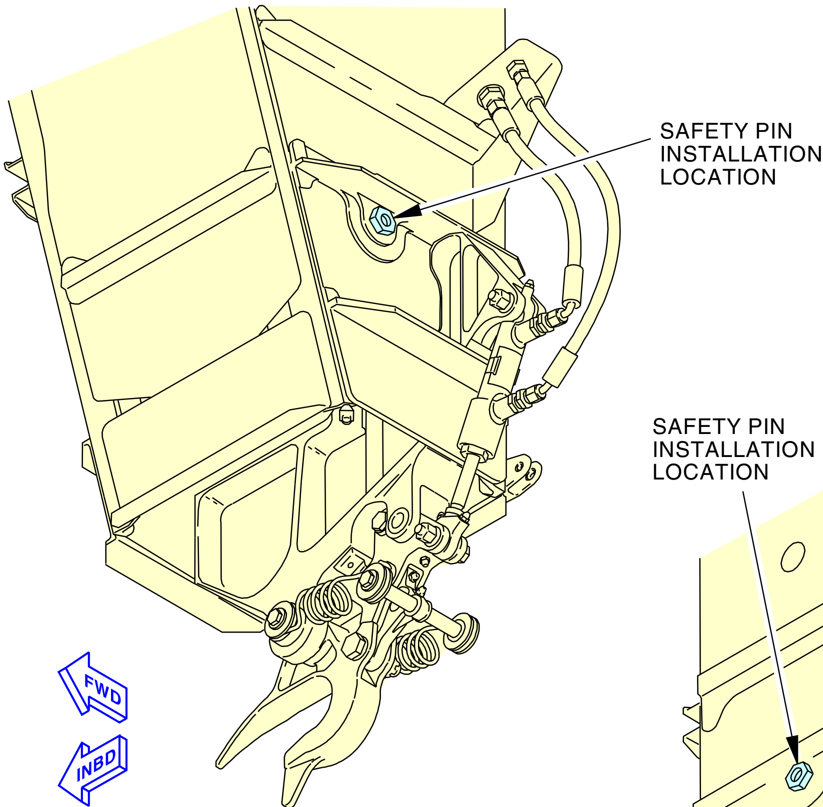


MAIN WHEEL WELL ELECTRICAL
SERVICE PANEL, P56

C

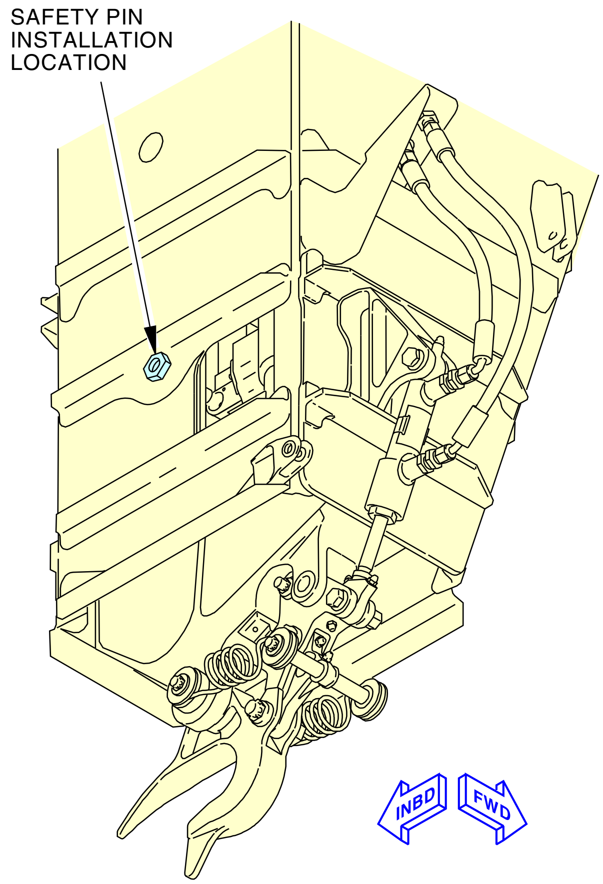
C91394 S0006417679_V2

Main Landing Gear Door Safety Pins Installation
Figure 201/32-00-15-990-801 (Sheet 2 of 3)



LEFT DOOR RELEASE/SAFETY
VALVE MODULE

D

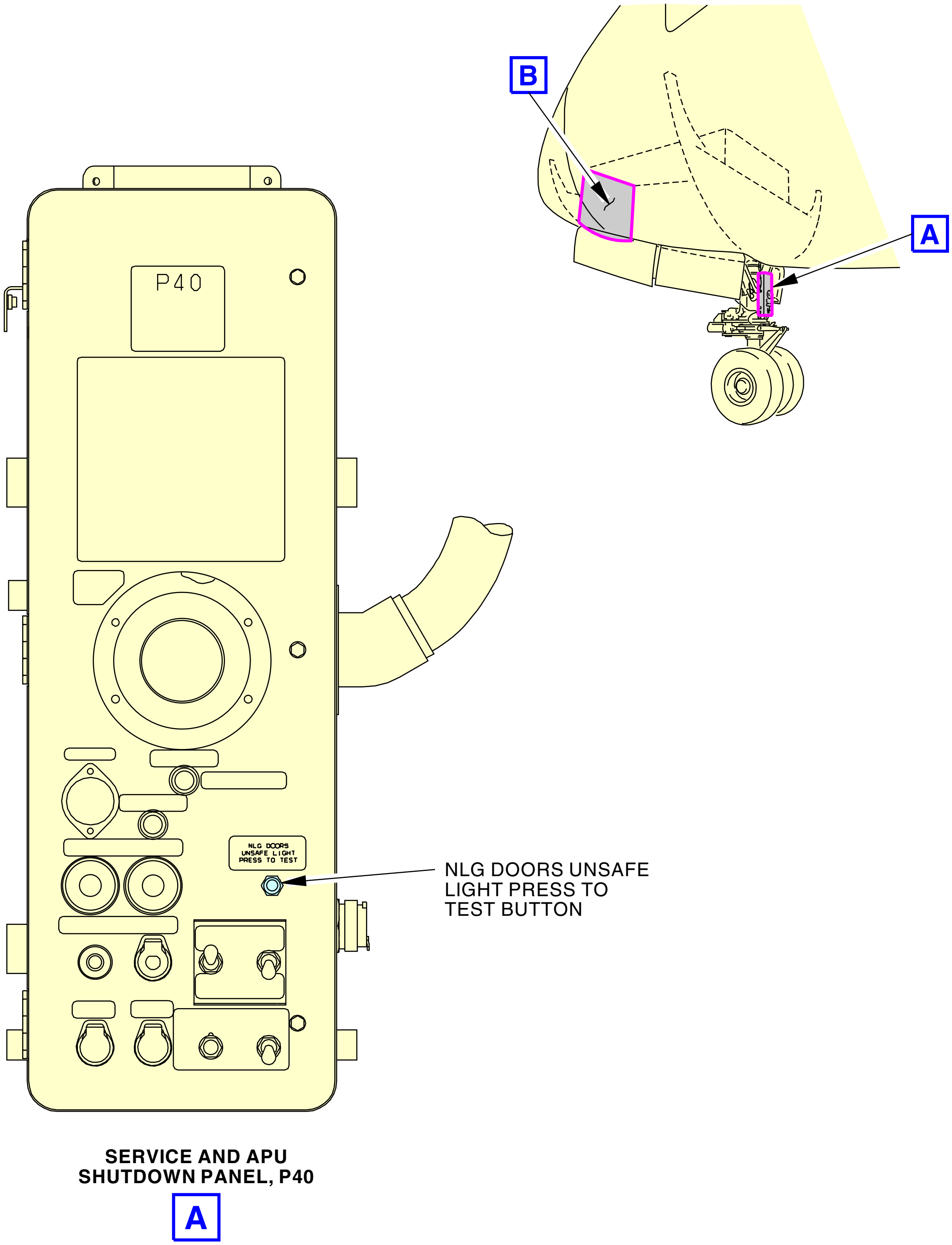


RIGHT DOOR RELEASE/SAFETY
VALVE MODULE

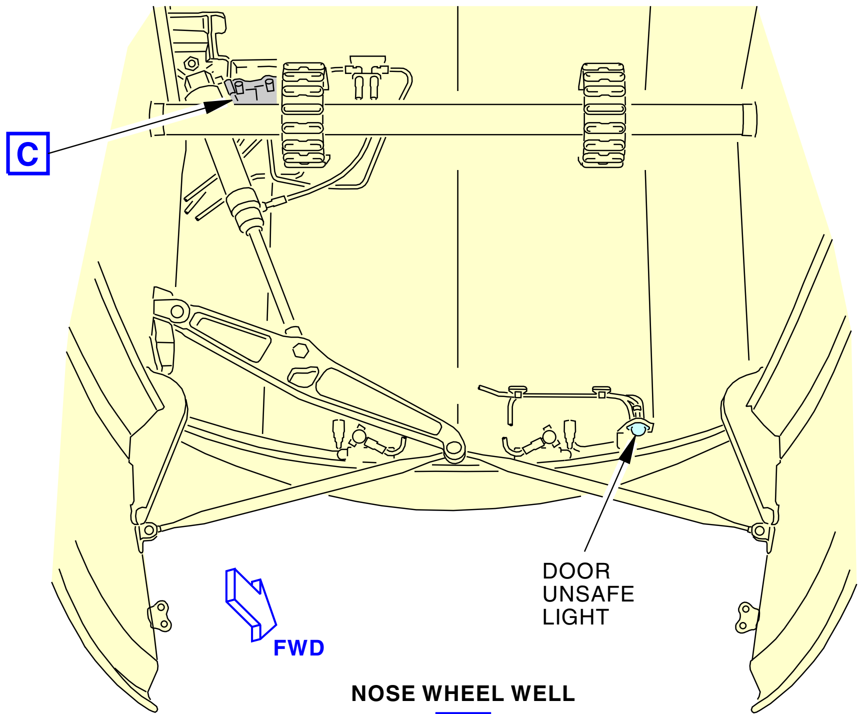
D

C91271 S0006417680_V2

Main Landing Gear Door Safety Pins Installation
Figure 201/32-00-15-990-801 (Sheet 3 of 3)

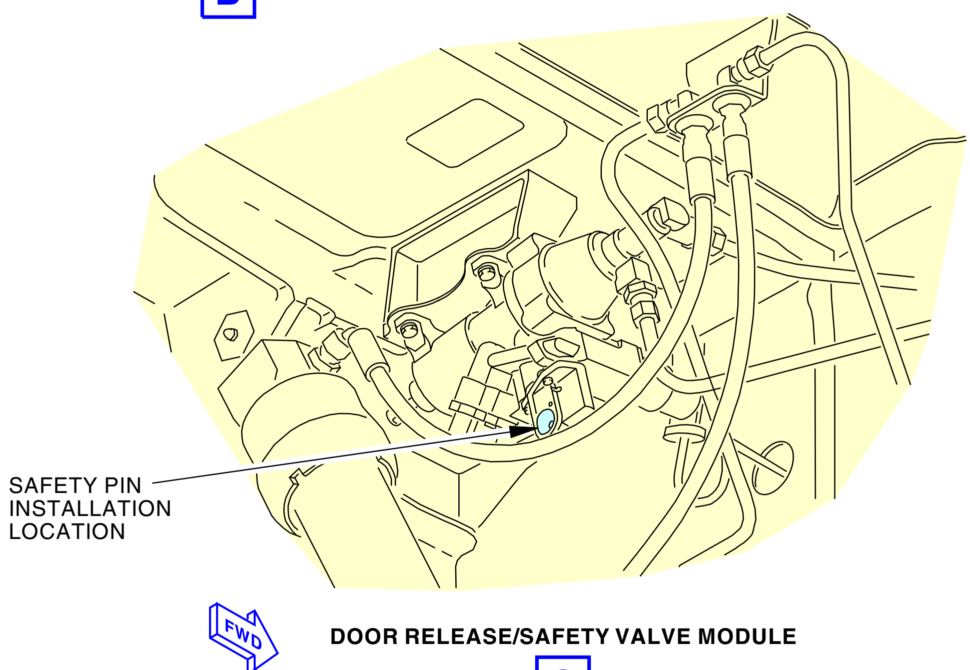


Nose Landing Gear Door Safety Pin Installation
Figure 202/32-00-15-990-802 (Sheet 1 of 2)



NOSE WHEEL WELL

B



DOOR RELEASE/SAFETY VALVE MODULE

C

C89812 S0006417682_V2

Nose Landing Gear Door Safety Pin Installation
Figure 202/32-00-15-990-802 (Sheet 2 of 2)

TASK 32-00-15-080-801

3. Landing Gear Door Safety Pins Removal

A. References

Reference	Title
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1848	Equipment - Lock Pin, MLG Door (J32028-3 Lock included in J32028-1 Lock Pin Equipment) Part #: J32028-1 Supplier: 81205
SPL-1849	Equipment - Lock Pin, NLG Door (J32028-2 Lock included in J32028-1 Lock Pin Equipment) Part #: J32028-1 Supplier: 81205
STD-1049	Stepladder - 12 foot

C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

D. Landing Gear Door Safety Pins Removal

SUBTASK 32-00-15-080-001

(1) Do the steps below to remove the safety pins (MLG Door Lock (J32028-3 Lock Pin), SPL-1848) for the doors for the main landing gear:

(a) Do the steps below for each main landing gear:

1) Use the 12 foot stepladder, STD-1049 to get access to the door release/safety valve module for the main landing gear.

2) Remove the safety pin (MLG Door Lock (J32028-3 Lock Pin), SPL-1848) from the door release/safety valve module for the main landing gear (Figure 201).

SUBTASK 32-00-15-080-002

(2) Do the steps below to remove the safety pin (NLG Door Lock (J32028-2 Lock Pin), SPL-1849) for the doors for the nose landing gear:

(a) Use the 12 foot stepladder, STD-1049 to get access to the door release/safety valve module for the nose landing gear.

(b) Remove the safety pin (NLG Door Lock (J32028-2 Lock Pin), SPL-1849) from the door release/safety valve module for the nose landing gear (Figure 202).

E. Put the Airplane Back to Its Usual Condition

SUBTASK 32-00-15-860-002

(1) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

END OF TASK

LANDING GEAR CONTROL CABLES - MAINTENANCE PRACTICES

1. General

A. This procedure shows the location of the control cables for the landing gear. This procedure also supplies the data necessary to make the control cables for the landing gear.

B. The landing gear has two primary groups of control cables:

(1) Control cables for the brake control system

(2) Control cables for the steering system for the nose landing gear.

C. This procedure does not supply instructions to remove or install the control cables for the landing gear. Refer to (TASK 20-10-03-000-801) for the instructions to remove and install the control cables.

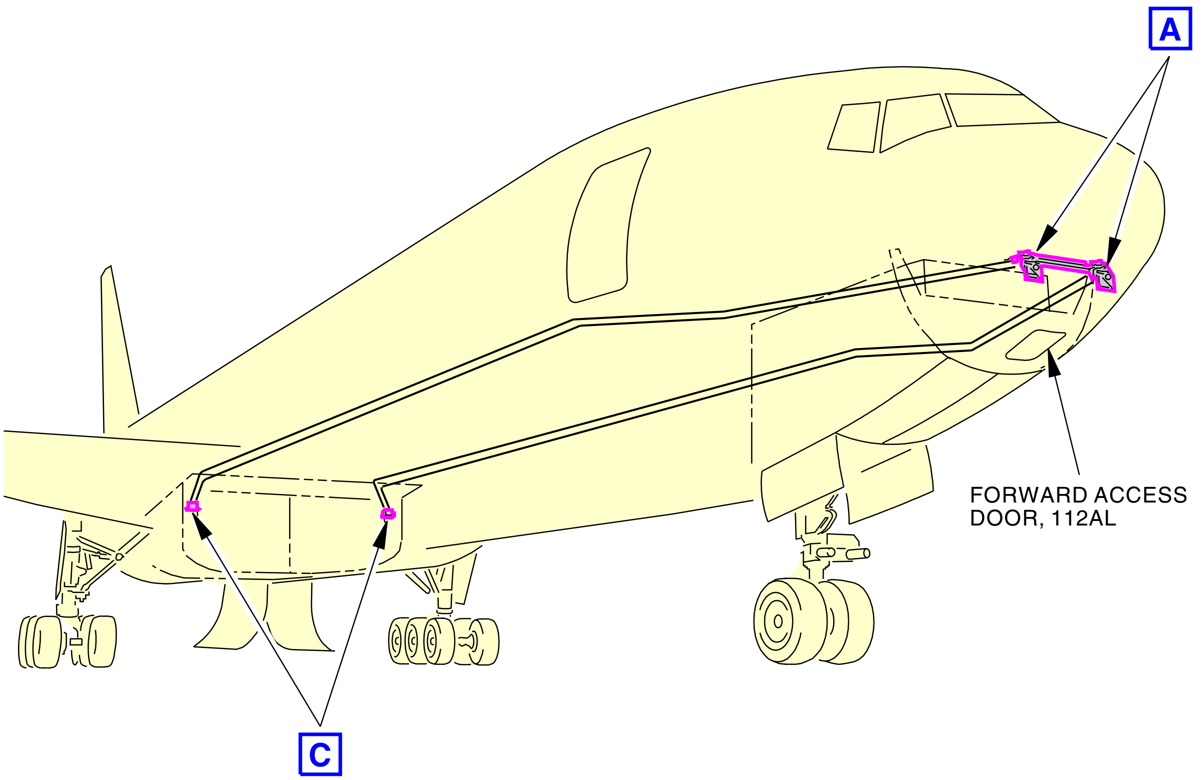
D. This procedure does not supply instructions to adjust the control cables for the landing gear. Refer to (TASK 32-41-00-820-801) for the instructions to adjust the control cables for the brake control system. Refer to (TASK 32-51-00-820-801) for the instructions to adjust the control cables for the steering system for the nose landing gear.

TASK 32-00-20-800-801

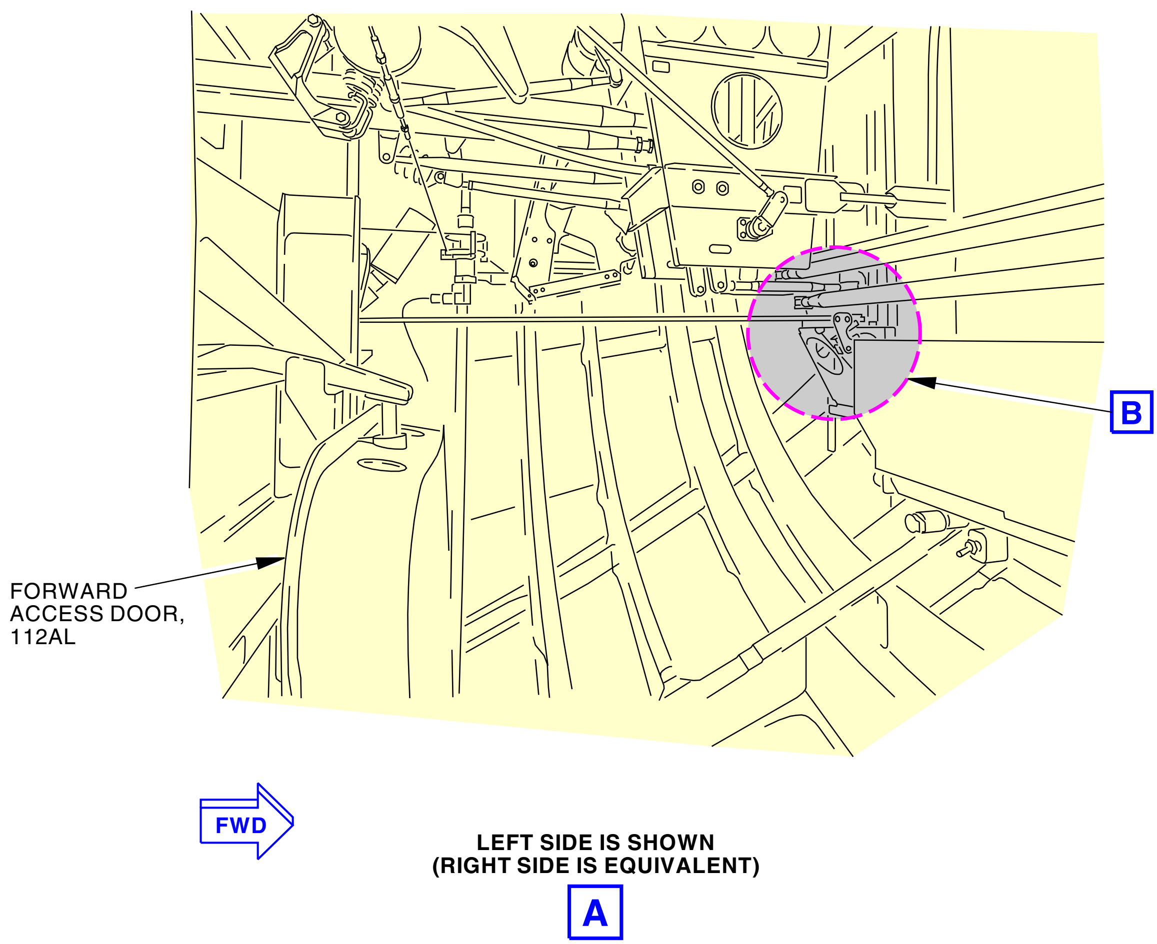
2. Landing Gear Control Cables - Location and Part Data

(Figure 201, Figure 202, Figure 203)

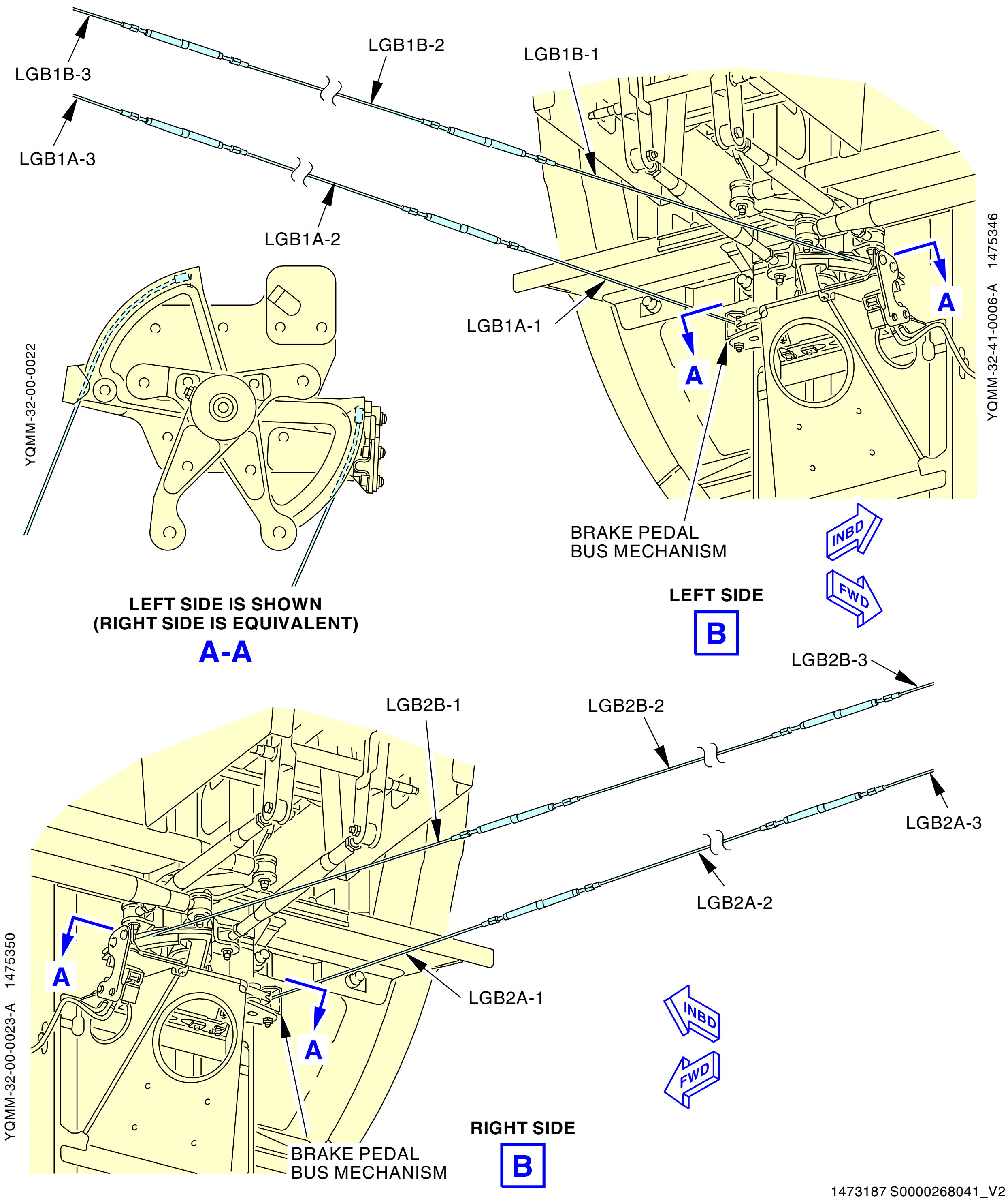
——— END OF TASK ———



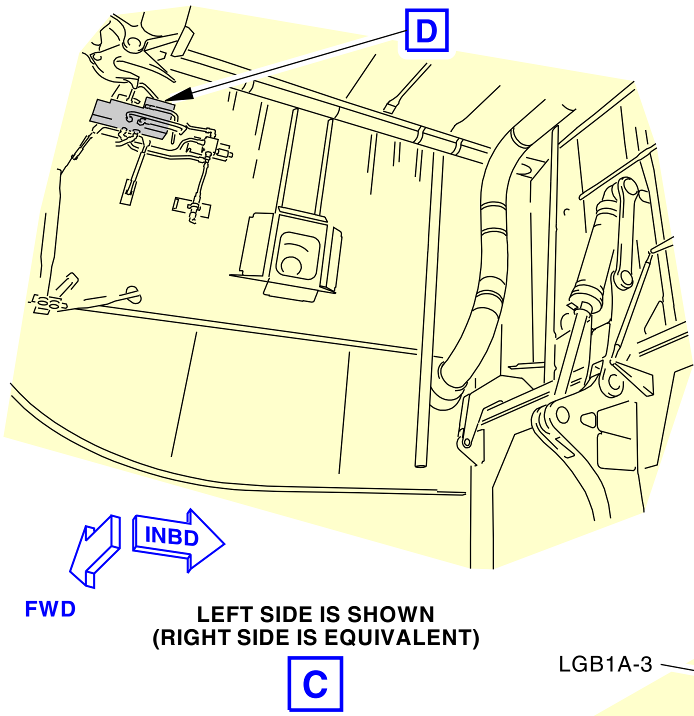
Brake Control System Control Cables
Figure 201/32-00-20-990-801 (Sheet 1 of 6)

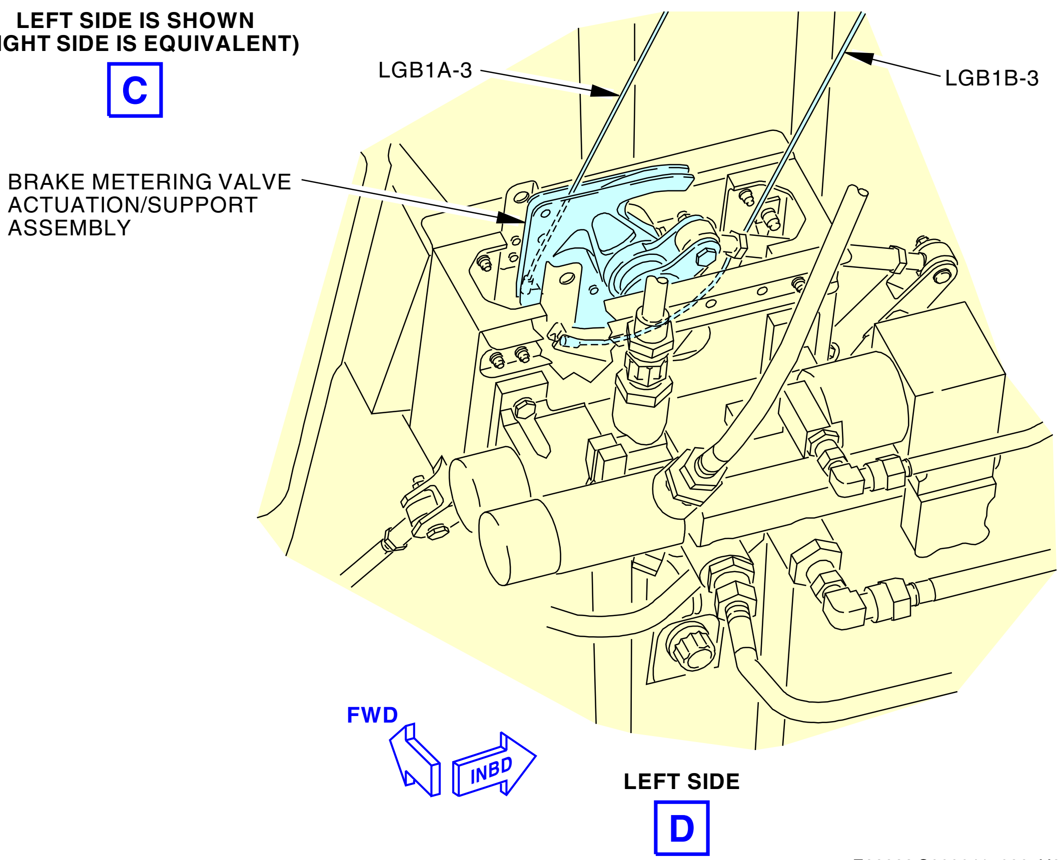


Brake Control System Control Cables
Figure 201/32-00-20-990-801 (Sheet 2 of 6)



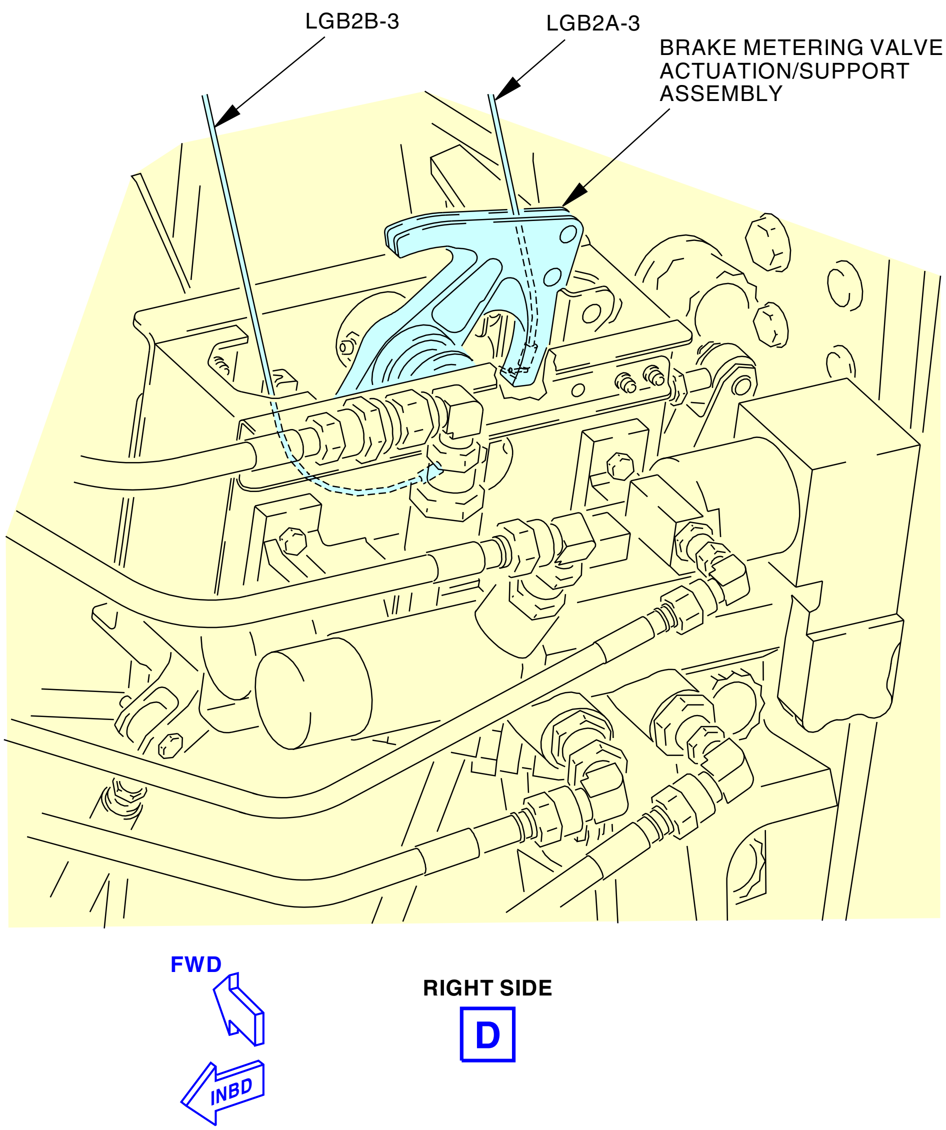
Brake Control System Control Cables
Figure 201/32-00-20-990-801 (Sheet 3 of 6)



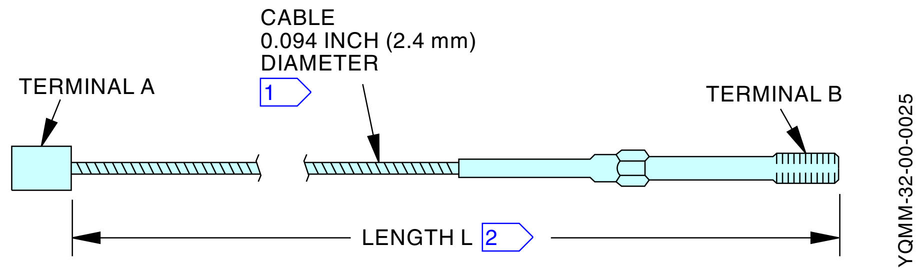


E22983 S0006417690_V2

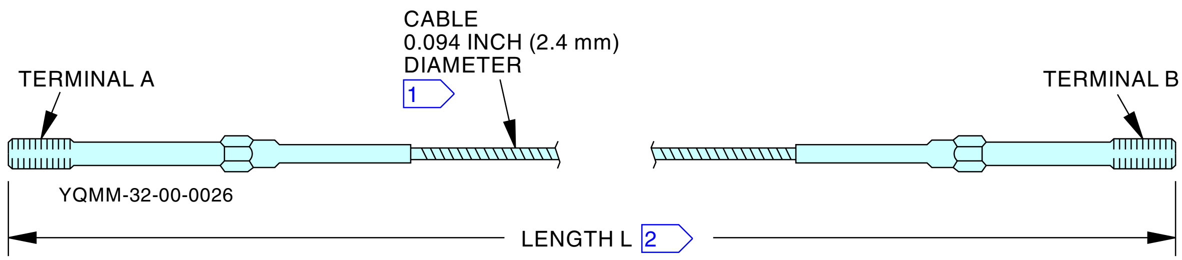
Brake Control System Control Cables
Figure 201/32-00-20-990-801 (Sheet 4 of 6)



Brake Control System Control Cables
Figure 201/32-00-20-990-801 (Sheet 5 of 6)



LGB1A-1, LGB1A-3, LGB1B-1, LGB1B-3, LGB2A-1, LGB2A-3, LGB2B-1, LGB2B-3



LGB1A-2, LGB1B-2, LGB2A-2, LGB2B-2

CABLE NAME	LENGTH L [2]	TERMINAL A	TERMINAL B
LGB1A-1	20.1 ±0.12 (511 ±3.0 mm)	BACT14A3	MS21260L3LH
LGB1A-2	981.2 ±0.12 (24922 ±3.0 mm)	MS21260L3RH	MS21260L3RH
LGB1A-3	375.2 ±0.50 (9530 ±13.0 mm)	BACT14A3	MS21260L3LH
LGB1B-1	21.9 ±0.12 (556 ±3.0 mm)	BACT14A3	MS21260L3RH
LGB1B-2	959.5 ±0.12 (24371 ±3.0 mm)	MS21260L3LH	MS21260L3LH
LGB1B-3	397.8 ±0.50 (10104 ±13.0 mm)	BACT14A3	MS21260L3RH
LGB2A-1	20.7 ±0.12 (526 ±3.0 mm)	BACT14A3	MS21260L3LH
LGB2A-2	980.6 ±0.12 (24907 ±3.0 mm)	MS21260L3RH	MS21260L3RH
LGB2A-3	375.8 ±0.50 (9545 ±13.0 mm)	BACT14A3	MS21260L3LH
LGB2B-1	21.3 ±0.12 (540 ±3.0 mm)	BACT14A3	MS21260L3RH
LGB2B-2	960.0 ±0.12 (24384 ±3.0 mm)	MS21260L3LH	MS21260L3LH
LGB2B-3	397.3 ±0.50 (10091 ±13.0 mm)	BACT14A3	MS21260L3RH

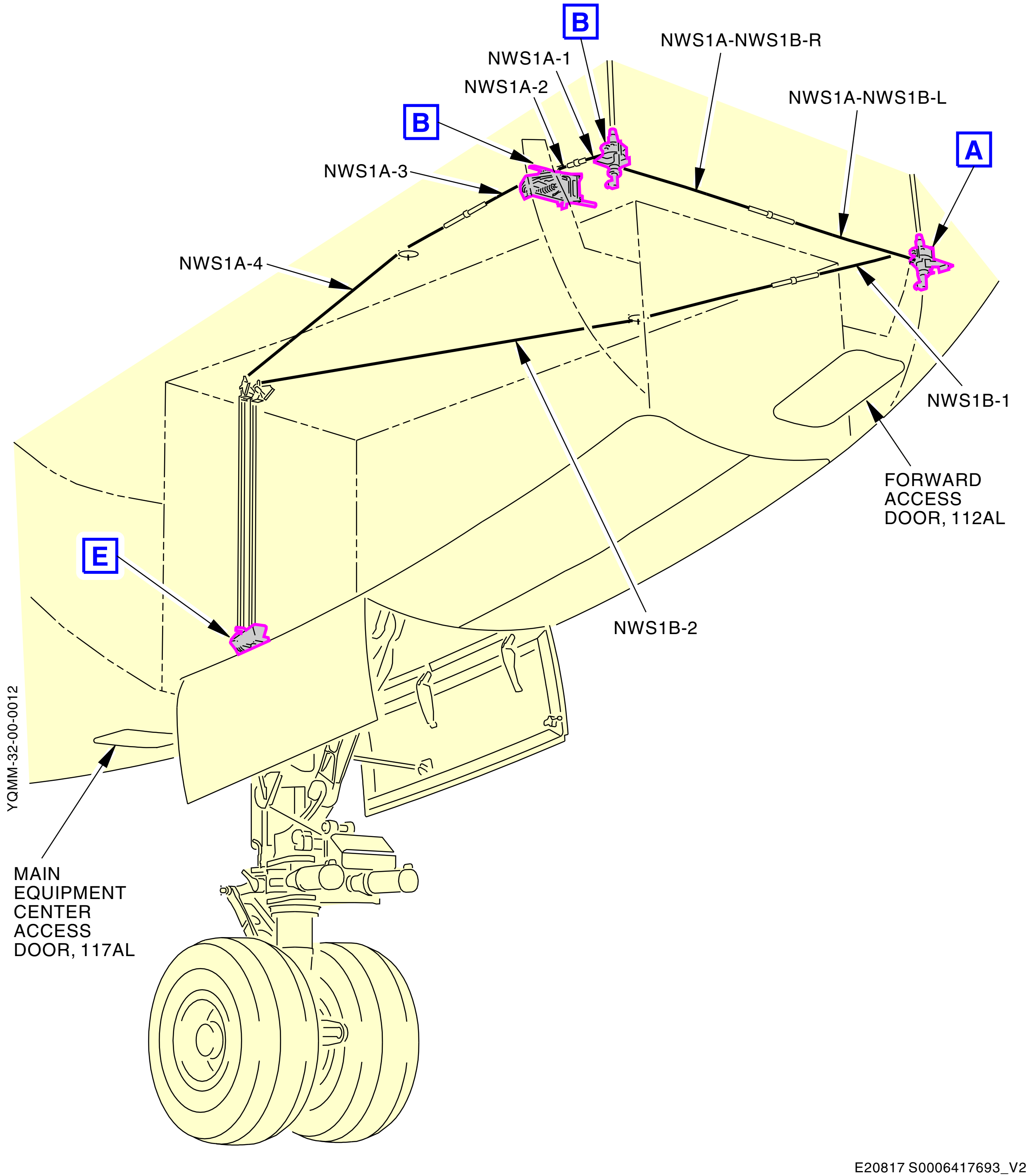
NOTE:

[1] CABLE CONSTRUCTION IS CARBON STEEL - PER BMS 7-265, TYPE 1, COMPOSITION A (TIN OVER ZINC), 7 X 7.

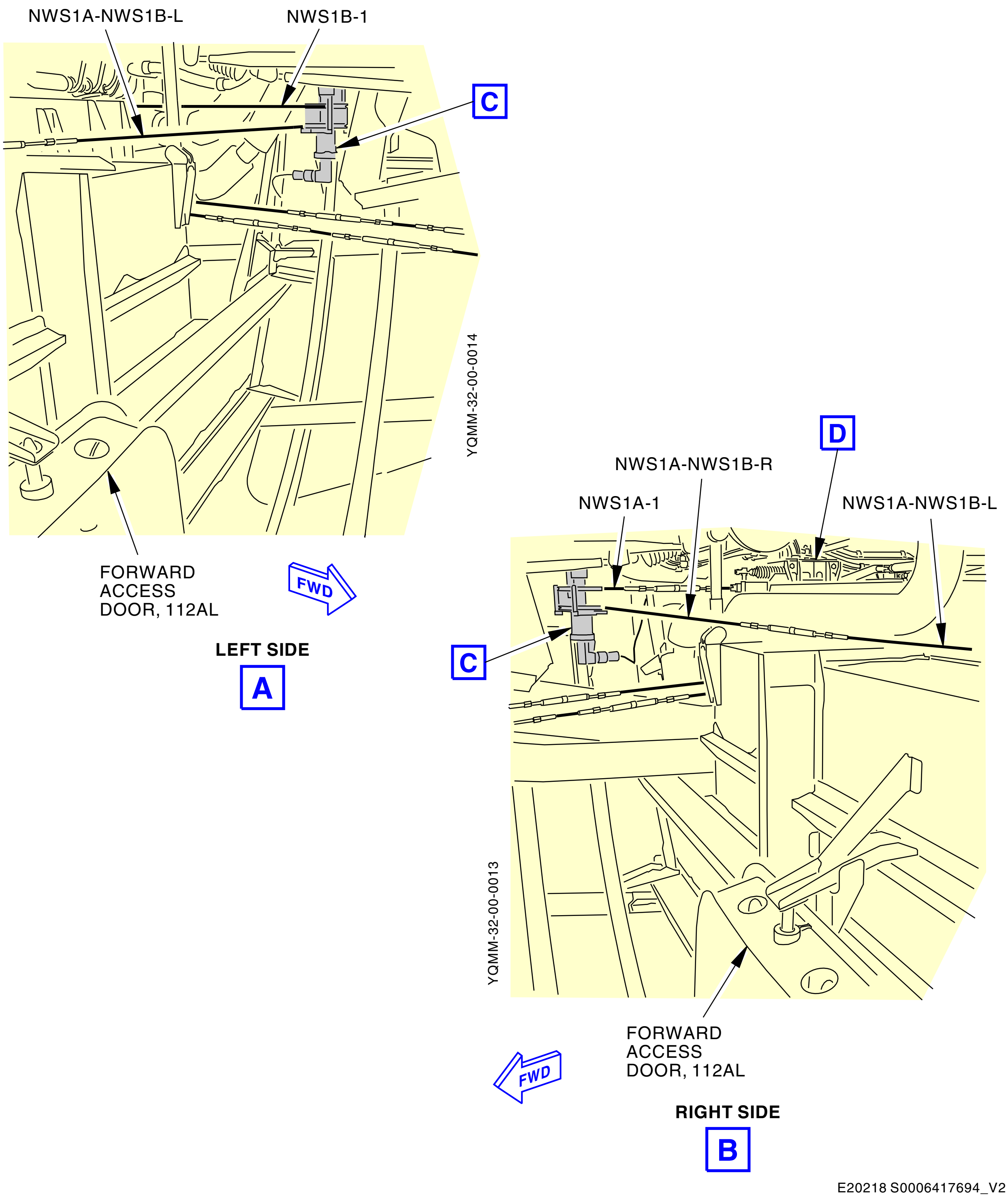
[2] MEASURE CABLE WITH A LOAD OF 20 ±3 POUNDS (9.1 ±1.4 KG).

1463319 S0000267094_V2

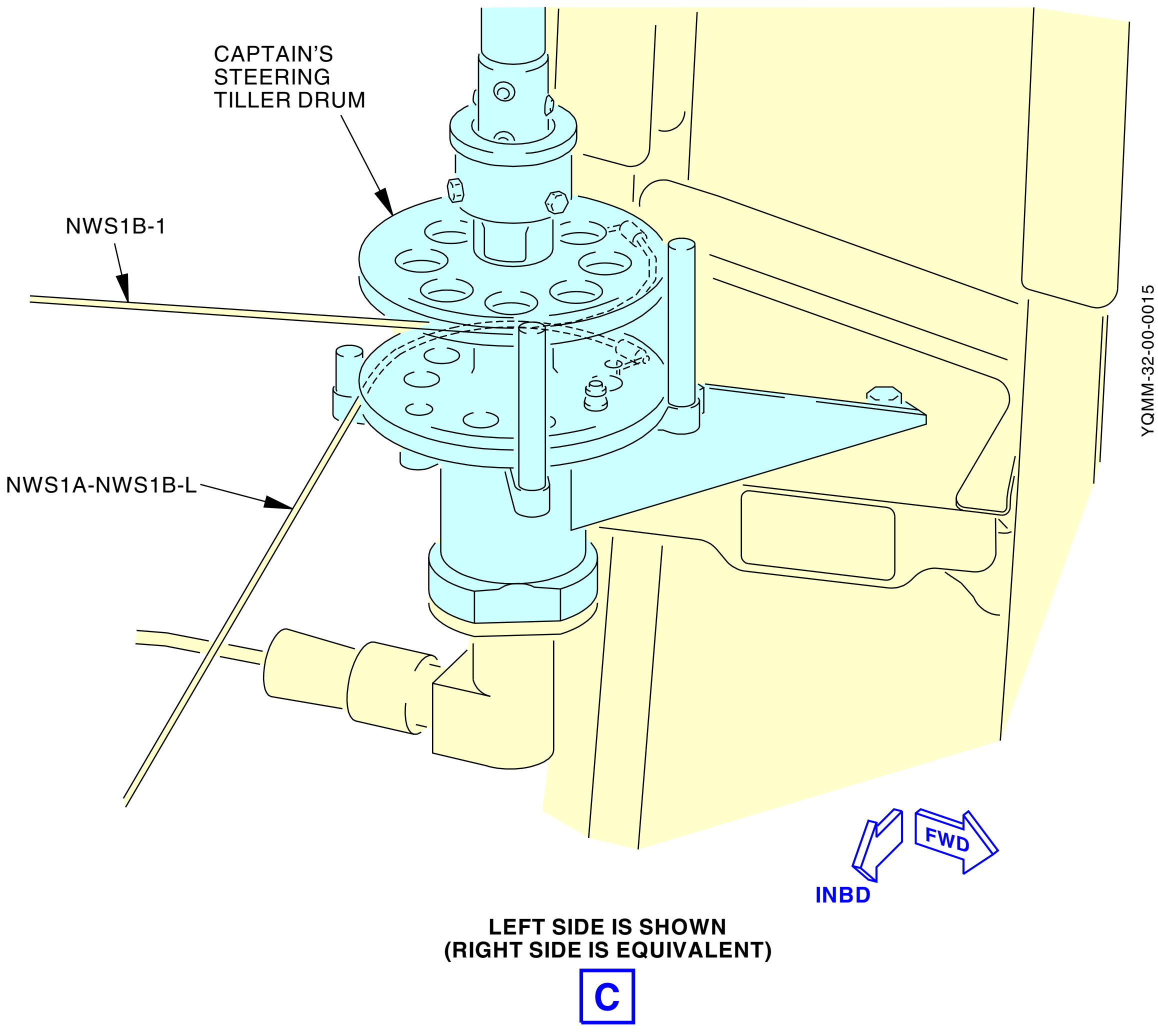
Brake Control System Control Cables
Figure 201/32-00-20-990-801 (Sheet 6 of 6)



Nose Landing Gear Steering System Control Cables Upper Cable Loop
Figure 202/32-00-20-990-802 (Sheet 1 of 6)

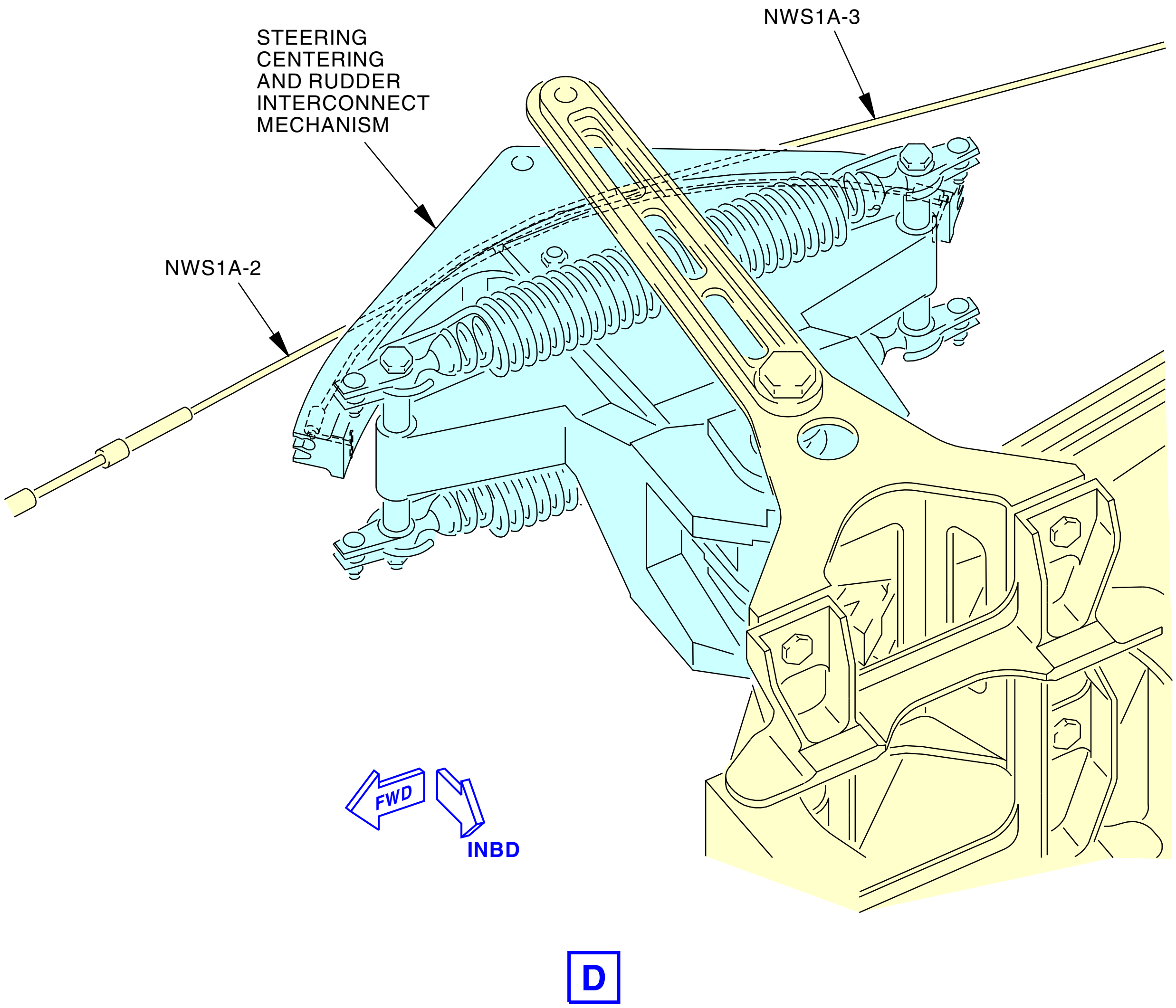


Nose Landing Gear Steering System Control Cables Upper Cable Loop
Figure 202/32-00-20-990-802 (Sheet 2 of 6)



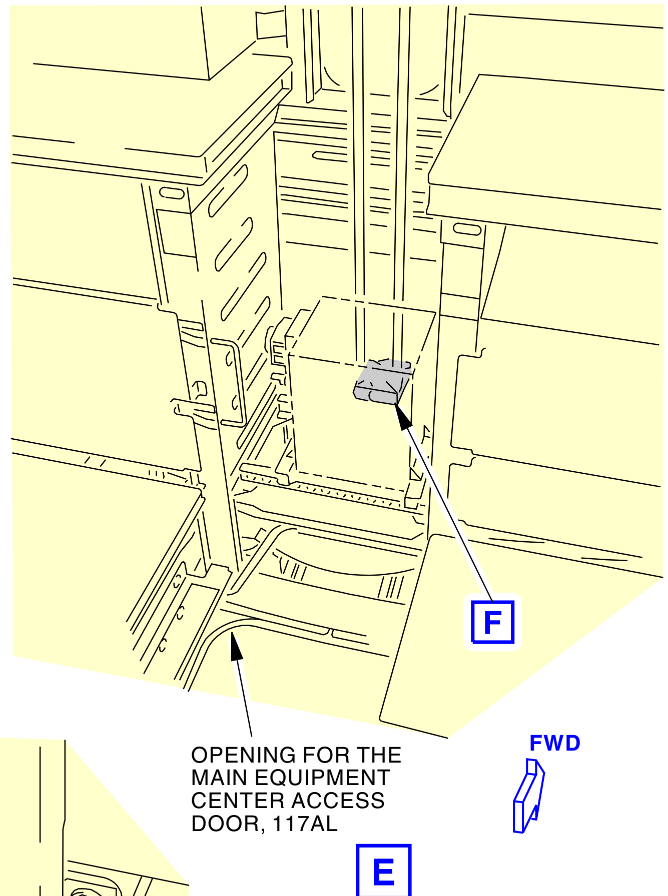
E20407 S0006417695_V2

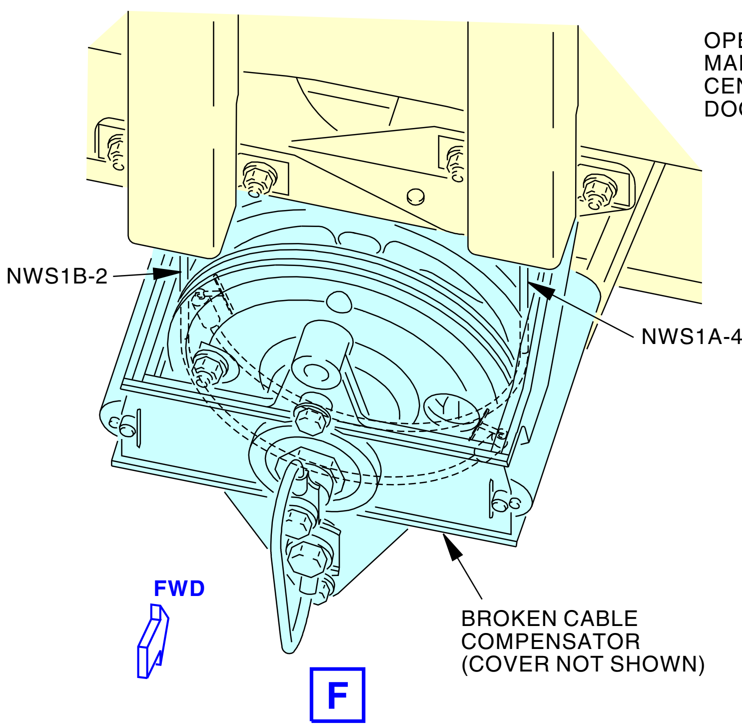
Nose Landing Gear Steering System Control Cables Upper Cable Loop
Figure 202/32-00-20-990-802 (Sheet 3 of 6)



E20703 S0006417696_V2

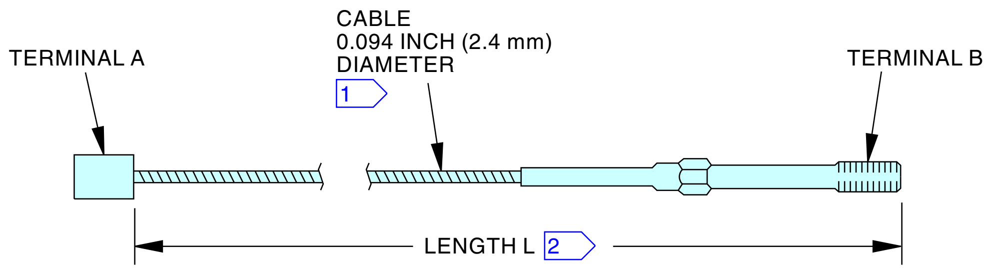
Nose Landing Gear Steering System Control Cables Upper Cable Loop
Figure 202/32-00-20-990-802 (Sheet 4 of 6)





E20571 S0006417697_V2

Nose Landing Gear Steering System Control Cables Upper Cable Loop
Figure 202/32-00-20-990-802 (Sheet 5 of 6)



CABLE NAME	LENGTH L 2 ±0.12 INCH (±3.0 mm)	TERMINAL A	TERMINAL B
NWS1A-1	13.5 INCH (343 mm)	BACT14A3	MS21260L3RH
NWS1A-2	15.9 INCH (404 mm)	BACT14A3	MS21260L3LH
NWS1A-3	29.4 INCH (747 mm)	BACT14A3	MS21260L3RH
NWS1A-4	198.8 INCH (5050 mm)	BACT14A3	MS21260L3LH
NWS1B-1	49.4 INCH (1255 mm)	BACT14A3	MS21260L3RH
NWS1B-2	198.8 INCH (5050 mm)	BACT14A3	MS21260L3LH
NWS1A-NWS1B-L	49.4 INCH (1255 mm)	BACT14A3	MS21260L3RH
NWS1A-NWS1B-R	49.4 INCH (1255 mm)	BACT14A3	MS21260L3LH

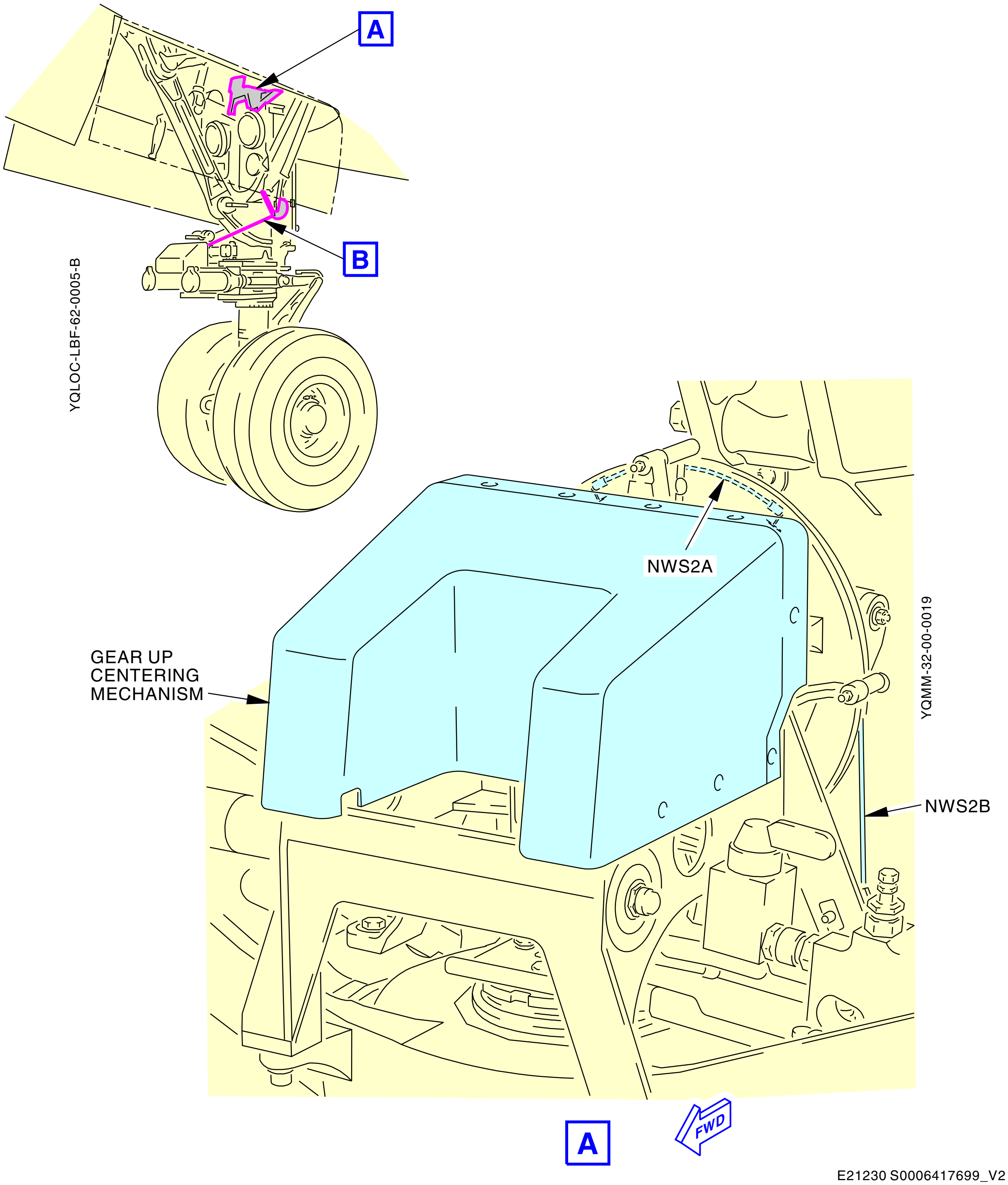
NOTE:

1 CABLE CONSTRUCTION IS CARBON STEEL - PER BMS 7-265, TYPE 1, COMPOSITION A (TIN OVER ZINC), 7 X 7.

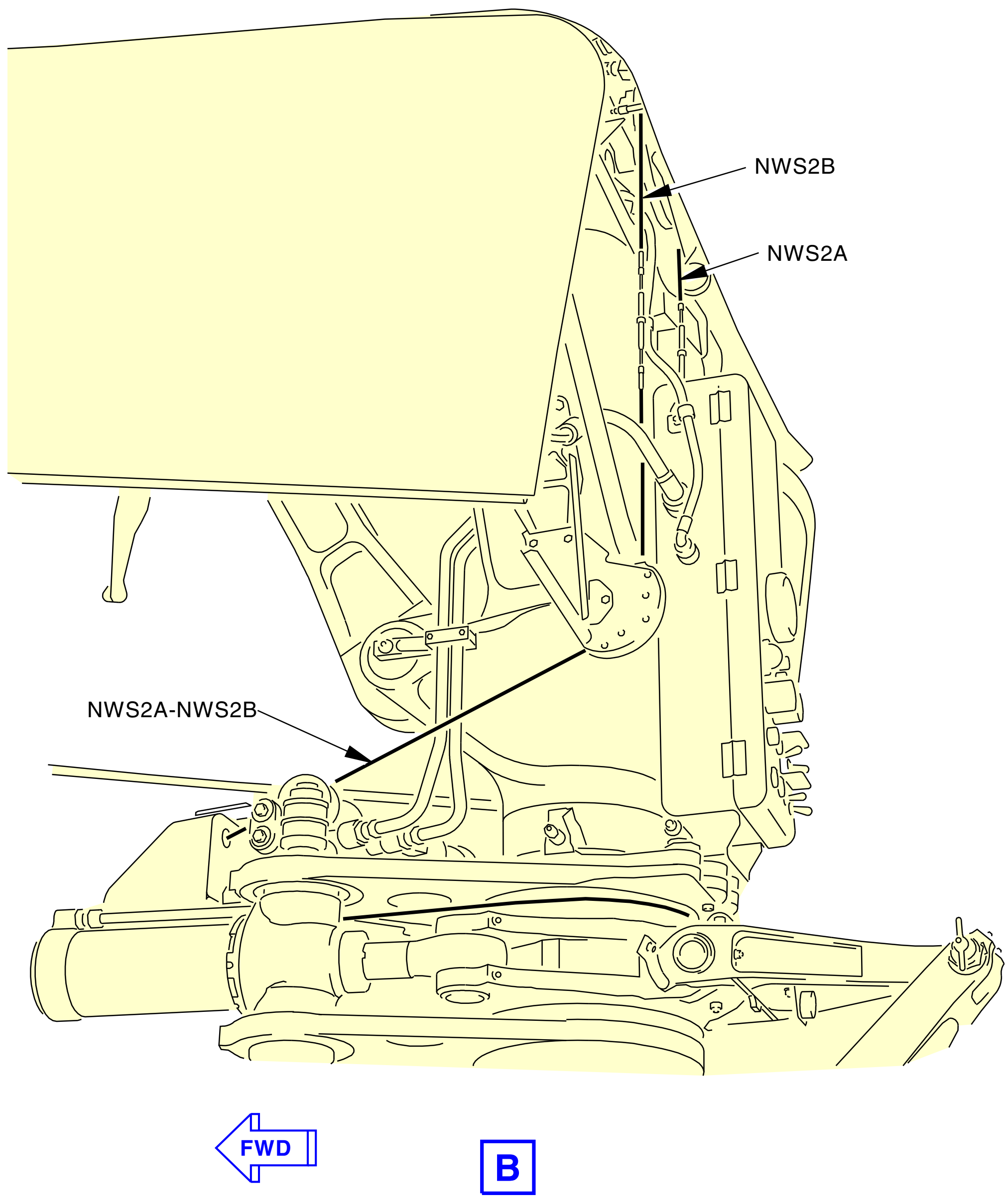
2 MEASURE CABLE WITH A LOAD OF 20 ±3 POUNDS (9.1 ±1.4 KG).

E21209 S0006417698_V2

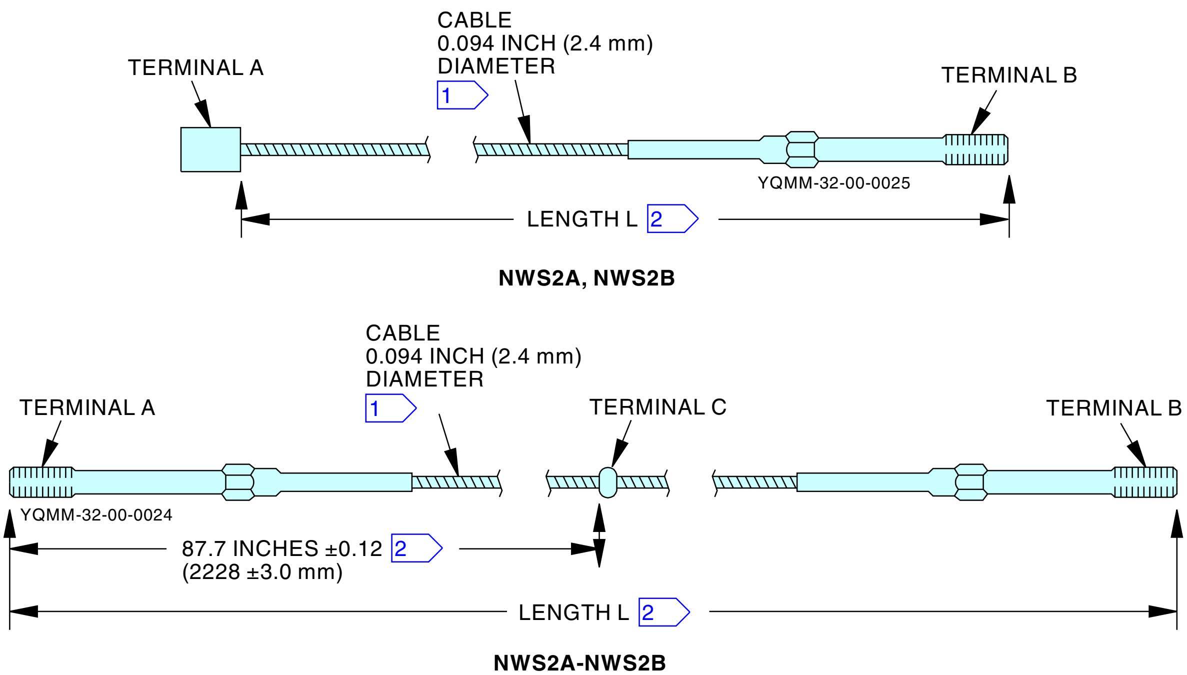
Nose Landing Gear Steering System Control Cables Upper Cable Loop
Figure 202/32-00-20-990-802 (Sheet 6 of 6)



Nose Landing Gear Steering System Control Cables Lower Cable Loop
Figure 203/32-00-20-990-803 (Sheet 1 of 3)



Nose Landing Gear Steering System Control Cables Lower Cable Loop
Figure 203/32-00-20-990-803 (Sheet 2 of 3)



CABLE NAME	LENGTH L 2 ±0.12 INCH (±3.0 mm)	TERMINAL A	TERMINAL B	TERMINAL C
NWS2A NWS2B	25.0 INCH (±635.0 mm) 25.0 INCH (±635.0 mm)	BACT14A3 BACT14A3	MS21260L3RH MS21260L3RH	
NWS2A-NWS2B	175.6 (±4460.0 mm)	MS21260L3LH	MS21260L3LH	BACT14B3

NOTE:

1 CABLE CONSTRUCTION IS CORROSION RESISTANT STEEL - PER MIL-W-83420, TYPE 1, COMPOSITION B, 7 X 7

2 MEASURE CABLE WITH A LOAD OF 20 ±3 POUNDS (9.1 ±1.4 KG)

E22326 S0006417701_V2

Nose Landing Gear Steering System Control Cables Lower Cable Loop
Figure 203/32-00-20-990-803 (Sheet 3 of 3)

LANDING GEAR DOWNLOCK PINS - MAINTENANCE PRACTICES

1. **General**

   A. This procedure has two tasks:

      (1) An installation of the downlock pins for the landing gear

      (2) A removal of the downlock pins for the landing gear.

   B. The downlock pins are items of safety equipment. You install the downlock pins to make sure the landing gear does not retract when you do maintenance to the airplane.

   C. You also install the downlock pins (with the safety hardware) when the airplane must fly with the landing gear locked in the extended position.

TASK 32-00-30-480-801

2. **Landing Gear Downlock Pins Installation**

   A. References

Reference	Title
32-11-03-000-819-002	Side Brace Lock Link Removal (P/B 401)
32-11-10-000-803	Drag Brace Lock Link Assembly Removal (P/B 401)
32-11-10-400-803	Drag Brace Lock Link Assembly Installation (P/B 401)
32-21-03-000-802	Nose Landing Gear Lock Link Removal (P/B 401)
32-21-03-400-802	Nose Landing Gear Lock Link Installation (P/B 401)

   B. Tools/Equipment

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1827	Installer - Lockpin, MLG and NLG lockpin Part #: A32015-9 Supplier: 81205
SPL-1839	Downlock Eqpt - NLG & MLG (***MLG Pin DISPATCH***) Part #: J32011-3 Supplier: 81205
SPL-1840	Downlock Eqpt - NLG & MLG (***NLG Pin DISPATCH***) Part #: J32011-7 Supplier: 81205 Opt Part #: J32011-4 Supplier: 81205
SPL-1884	Pin - Lockout, Retractable Tail Skid Fwd and Aft Lock Link Part #: J32071-10 Supplier: 81205
SPL-1976	Barrier - Service Access Door, Section 48 Part #: J51001-1 Supplier: 81205
SPL-2011	Ladder Equipment - Vertical Fin and Empennage Access Part #: J53001-1 Supplier: 81205
SPL-4412	Adjustment Equipment, MLG Side and Drag Struts Downlock Stop Part #: J32018-19 Supplier: 81205
STD-1048	Stepladder - 6 foot (1.83m)
STD-1151	Hardware - NLG, Downlock Pin Safety (1 - Bolt, NAS6603-12; 1 - Washer, NASM15795-818; 1 - Nut, NASM21044C3)
STD-1152	Hardware - MLG, Downlock Pin Safety (4 - Bolt, NAS6603-12; 4 - Washer, NASM15795-820; 4 - Nut, NASM21044C3)

C. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Access Panels

Number	Name/Location
311BL	Service Access Door

E. Prepare for the Installation

SUBTASK 32-00-30-860-001

(1) Make sure the nose and main landing gear are down and locked.

SUBTASK 32-00-30-860-002

(2) If the electrical system is energized and the center hydraulic system is pressurized, do the steps below:

(a) Make sure the control lever for the landing gear is in the DOWN position.

WARNING MAKE SURE OTHER PERSONS DO NOT MOVE THE CONTROL LEVER FOR THE LANDING GEAR TO THE UP POSITION. IF THEY MOVE THE CONTROL LEVER TO THE UP POSITION, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(b) Make sure other persons do not move the control lever for the landing gear to the UP position when you install the downlock pins.

F. Landing Gear Downlock Pins Installation

SUBTASK 32-00-30-480-001

(1) Do the steps below to install the downlock pin for the nose landing gear:

(a) Use the 6 foot (1.83m) stepladder, STD-1048 to get access to the lock links for the nose landing gear (Figure 201).

(b) Use the MLG and NLG lockpin installer, SPL-1827 to install the nose landing gear downlock pin, SPL-1840, in the lock links for the nose landing gear.

NOTE: If the nose landing gear downlock pin, SPL-1840, will not go into the lock links, it is possible an adjustment of the lock links is necessary.

(c) If needed, do the steps that follow to adjust the over-center position of the lock links:

1) Do this task: Nose Landing Gear Lock Link Removal, TASK 32-21-03-000-802.

2) Adjust the lock links.

3) Do this task: Nose Landing Gear Lock Link Installation, TASK 32-21-03-400-802.

(d) If the airplane must fly with the landing gear locked in the extended position, do the steps below (Figure 203):

NOTE: The bolt [1], the washer [2], and the nut [3] are part of the NLG downlock pin safety hardware, STD-1151.

1) Install the washer [2] on the end of the nose landing gear downlock pin, SPL-1840.

2) Put the bolt [1] through the end of the nose landing gear downlock pin, SPL-1840.

3) Install the nut [3] on the bolt [1].

4) Remove the split rings and the REMOVE BEFORE FLIGHT streamer from the nose landing gear downlock pin, SPL-1840.

(e) If you installed the downlock pin for maintenance, make sure the REMOVE BEFORE FLIGHT streamer is extended and can be easily seen.

SUBTASK 32-00-30-480-002

(2) Do the steps below to install the downlock pins for the main landing gear:

(a) Do the steps below for the drag strut on each main landing gear:

1) Use the 6 foot (1.83m) stepladder, STD-1048 to get access to the drag strut lock links (Figure 202).

2) Use the MLG and NLG lockpin installer, SPL-1827 to install a main landing gear downlock pin, SPL-1839, in the drag strut lock links.

NOTE: If the main landing gear downlock pin, SPL-1839, will not go into the lock links, it is possible an adjustment of the lock links is necessary.

3) If needed, do the steps that follow to adjust the lock links:

a) Do this task: Drag Brace Lock Link Assembly Removal, TASK 32-11-10-000-803.

b) Use Adjustment equipment, SPL-4412, to adjust the lock links.

c) Do this task: Drag Brace Lock Link Assembly Installation, TASK 32-11-10-400-803.

4) If the airplane must fly with the landing gear locked in the extended position, do the steps below (Figure 203):

NOTE: The bolts [1], the washers [2], and the nuts [3] are part of the MLG downlock pin safety hardware, STD-1152.

a) Install a washer [2] on the end of the main landing gear downlock pin, SPL-1839.

b) Put a bolt [1] through the end of the main landing gear downlock pin, SPL-1839.

c) Install a nut [3] on the bolt [1].

d) Remove the split rings and the REMOVE BEFORE FLIGHT streamer from each main landing gear downlock pin, SPL-1839.

(b) Do the steps below for the side strut on each main landing gear:

1) Use the 6 foot (1.83m) stepladder, STD-1048 to get access to the side strut lock links (Figure 202).

2) Use the MLG and NLG lockpin installer, SPL-1827 to install a main landing gear downlock pin, SPL-1839, in the side strut lock links.

NOTE: If the main landing gear downlock pin, SPL-1839, will not go into the lock links, it is possible an adjustment of the lock links is necessary.

3) If needed, do the steps that follow to adjust the lock links:

a) Do this task: Side Brace Lock Link Removal, TASK 32-11-03-000-819-002.

b) Use Adjustment equipment, SPL-4412, to adjust the lock links.

c) Do this task: Side Brace Lock Link Removal, TASK 32-11-03-000-819-002.

4) If the airplane must fly with the landing gear locked in the extended position, do the steps below (Figure 203):

NOTE: The bolts [1], the washers [2], and the nuts [3] are part of the MLG downlock pin safety hardware, STD-1152.

a) Put a bolt [1] through the end of the main landing gear downlock pin, SPL-1839.

b) Install a washer [2] and a nut [3] on the bolt [1].

c) Remove the split rings and the REMOVE BEFORE FLIGHT streamer from each main landing gear downlock pin, SPL-1839.

5) If you installed the downlock pins for maintenance, make sure the REMOVE BEFORE FLIGHT streamers are extended and can be easily seen.

ARO 001-004

SUBTASK 32-00-30-480-003

(3) For airplanes with a tail skid, do the steps below to install the downlock pin (Figure 204):

NOTE: It is only necessary to install the tail skid downlock pin if there is to be maintenance done on or near the tail skid.

(a) If the airplane must fly with the tail skid locked in the extended position, do the step below:

1) Remove the split rings and the REMOVE BEFORE FLIGHT streamer from the tail skid lockout pin, SPL-1884.

(b) Use a ladder equipment, SPL-2011 or equivalent to get access to the lock links for the tail skid.

(c) Open this access panel to gain access to the tail skid assembly:

Number	Name/Location
311BL	Service Access Door

(d) Install the service access door barrier, SPL-1976, in the opening of the access door if you will do more work in the area.

(e) Install the tail skid lockout pin, SPL-1884, in the lock links for the tail skid.

NOTE: If the tail skid lockout pin, SPL-1884, will not go into the lock links, it is possible an adjustment of the lock links is necessary.

(f) If the airplane must fly with the tail skid locked in the extended position, do the steps below:

1) Install the lockpin, part of tail skid lockout pin, SPL-1884, through the end of the tail skid lockout pin, SPL-1884.

2) Make sure the lockpin is closed.

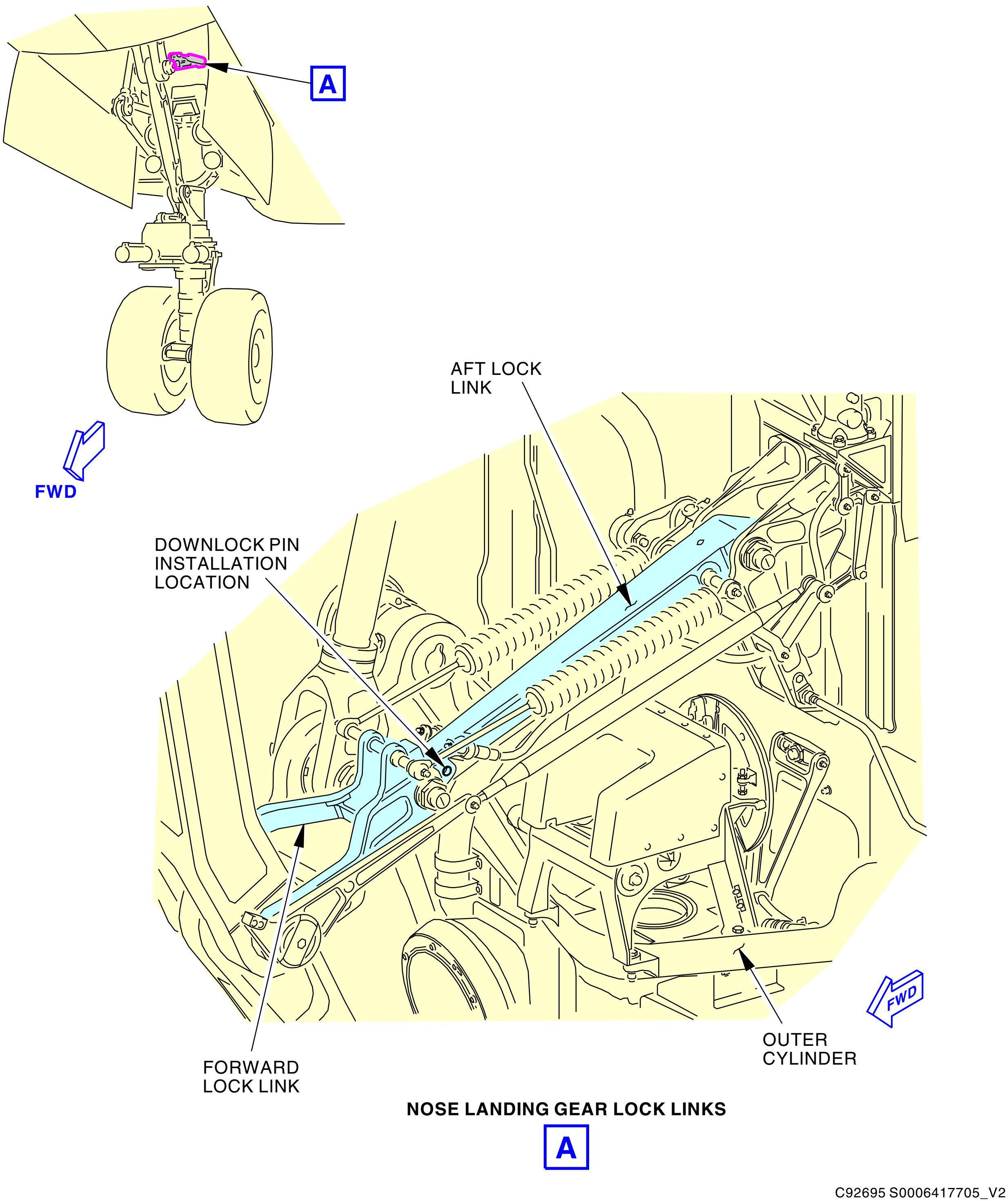
(g) If you installed the downlock pin for maintenance, make sure the REMOVE BEFORE FLIGHT streamer is extended and can be easily seen.

(h) Close this access panel:

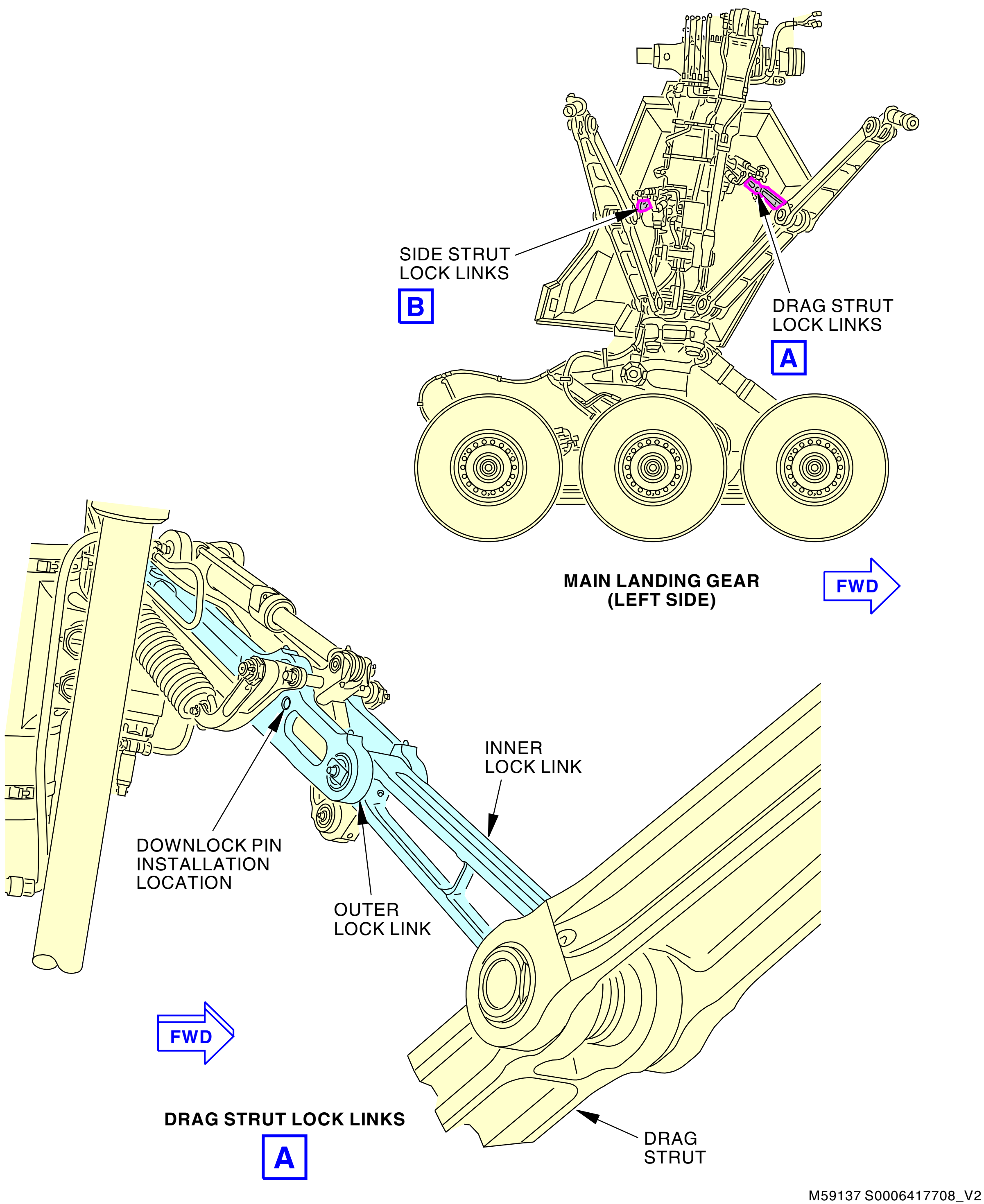
Number	Name/Location
311BL	Service Access Door

ARO ALL

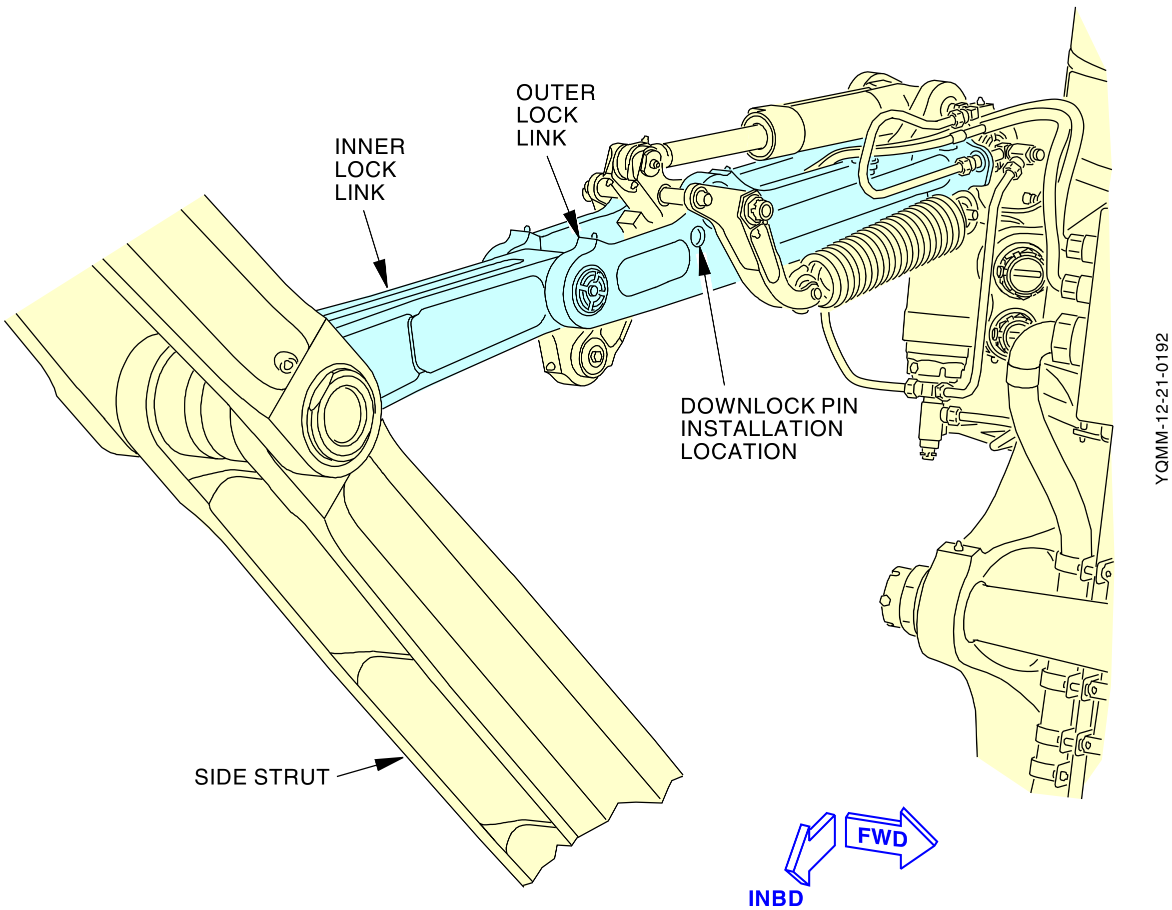
END OF TASK



Nose Landing Gear Downlock Pin Installation
Figure 201/32-00-30-990-801



Main Landing Gear Downlock Pins Installation
Figure 202/32-00-30-990-808 (Sheet 1 of 2)



SIDE STRUT LOCK LINKS

B

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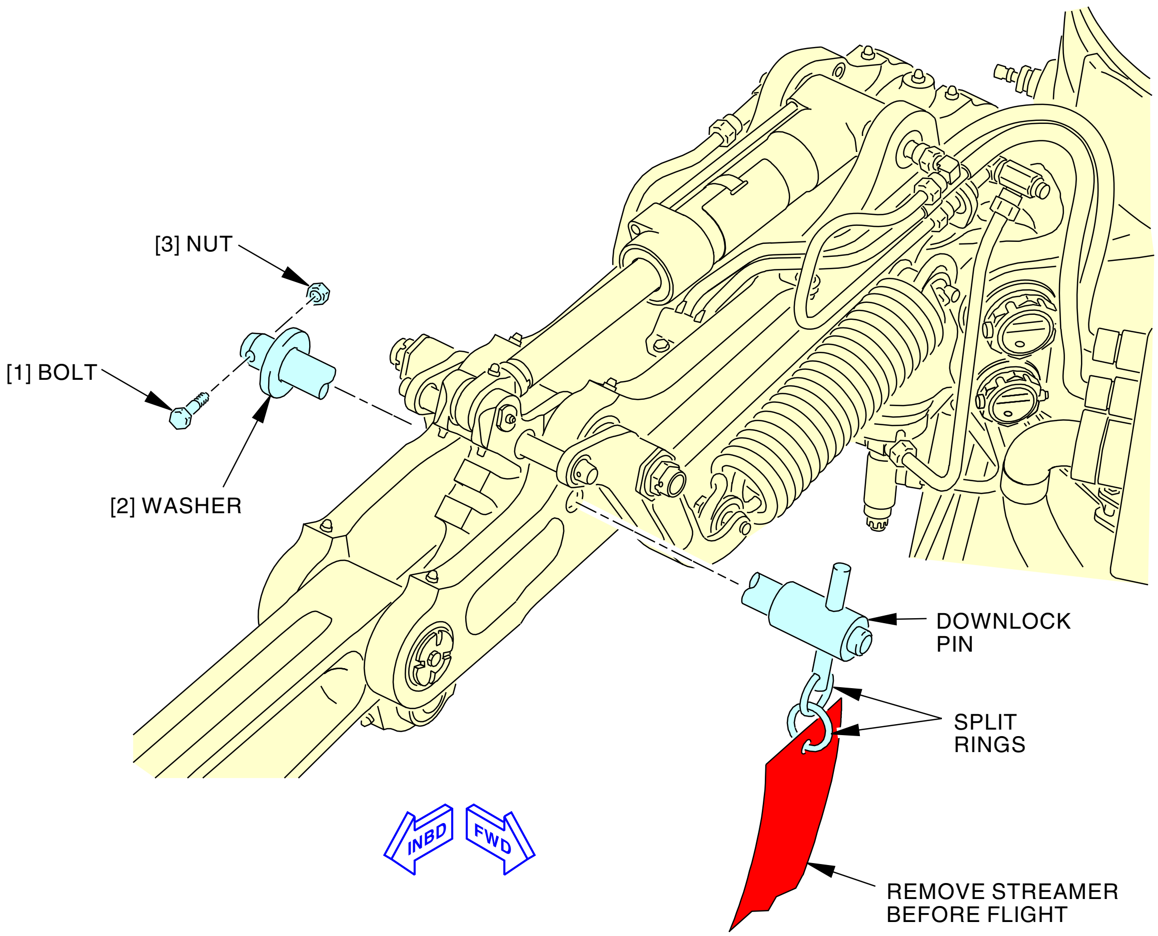
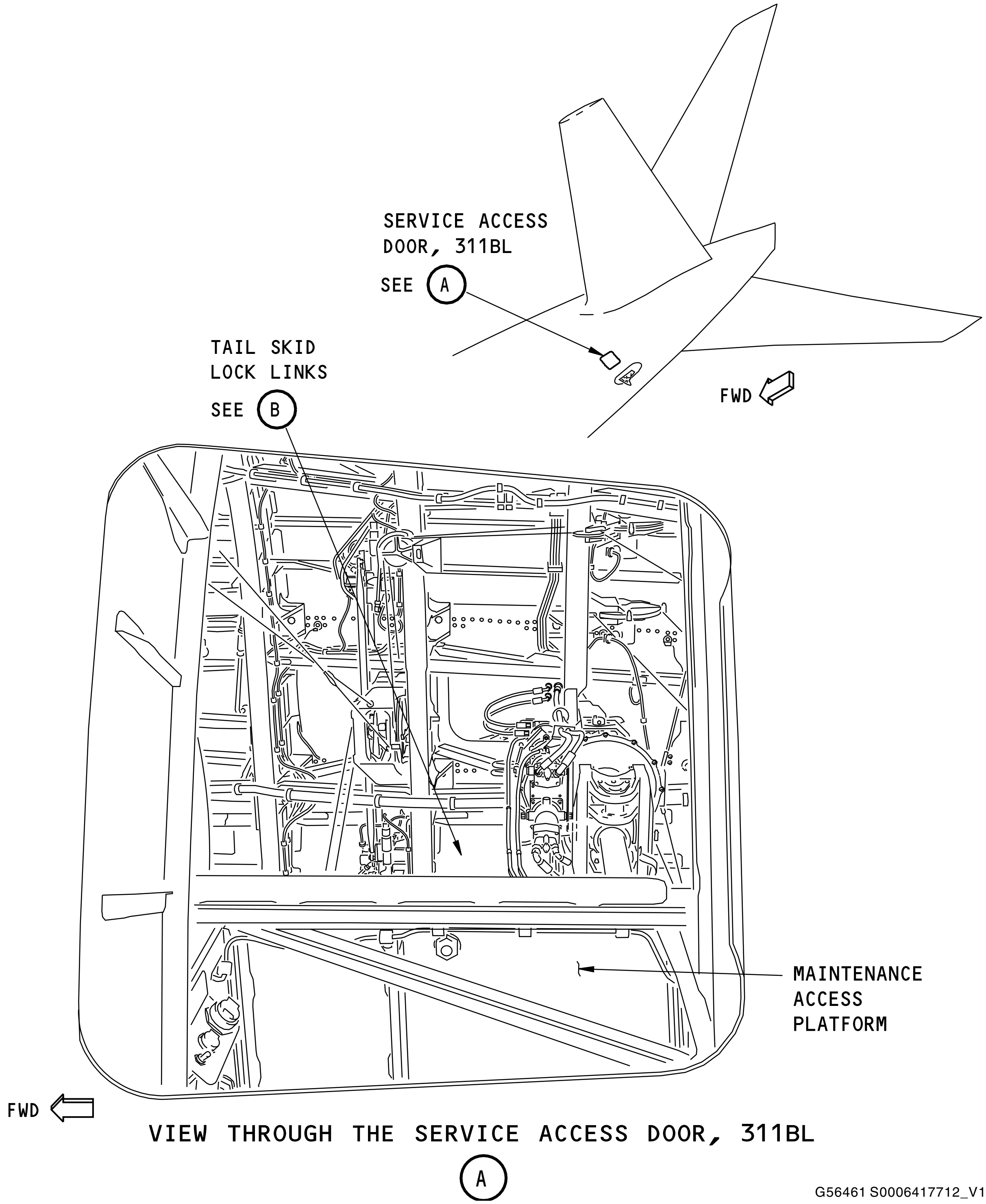
Main Landing Gear Downlock Pins Installation
Figure 202/32-00-30-990-808 (Sheet 2 of 2)



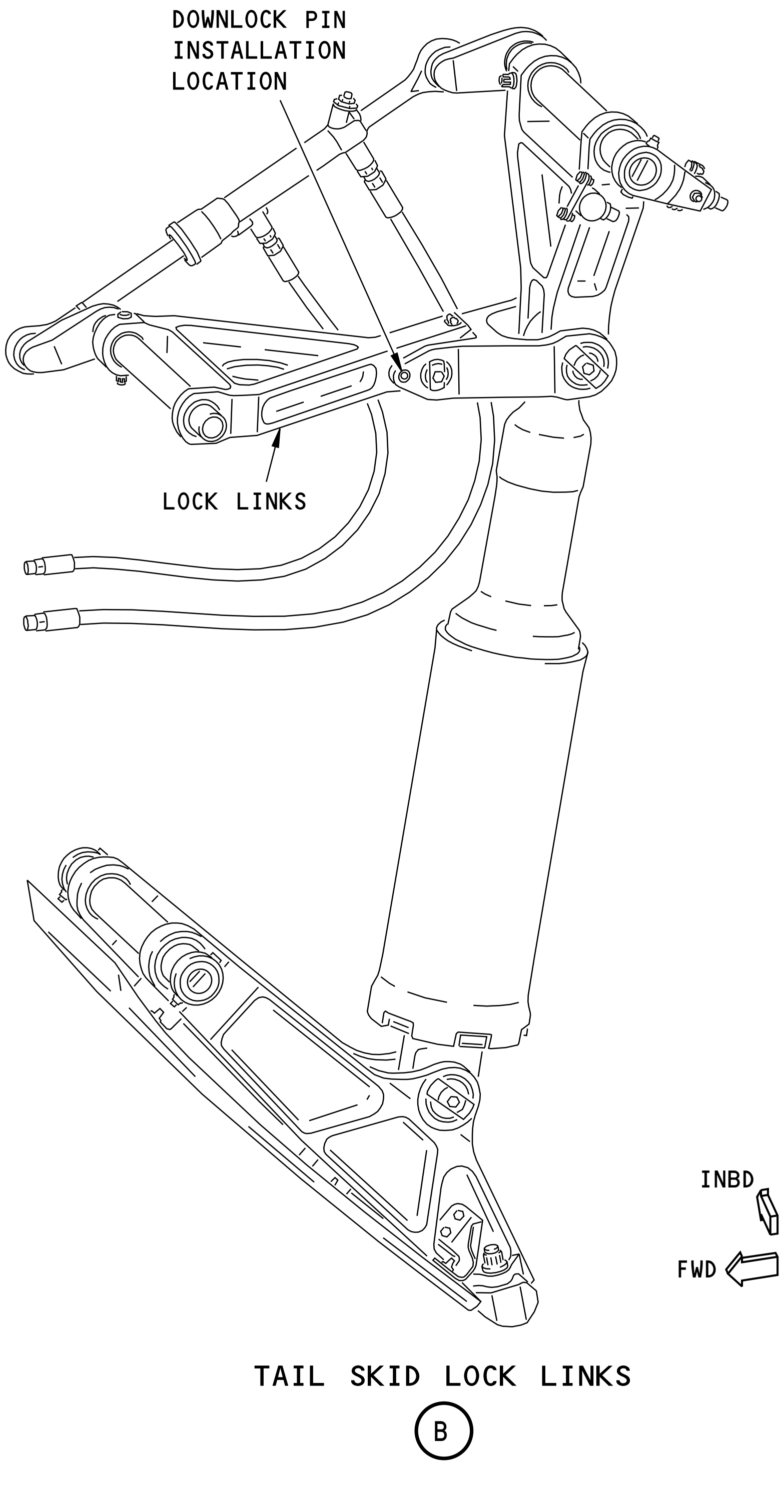
(EXAMPLE)

M58778 S0006417711_V2

Downlock Pin Safety Hardware Installation
Figure 203/32-00-30-990-809



Tail Skid Downlock Pin Installation
Figure 204/32-00-30-990-804 (Sheet 1 of 2)



G56469 S0006417713_V1

Tail Skid Downlock Pin Installation
Figure 204/32-00-30-990-804 (Sheet 2 of 2)

TASK 32-00-30-080-801

3. Landing Gear Downlock Pins Removal

A. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1839	Downlock Eqpt - NLG & MLG (***MLG Pin DISPATCH***) Part #: J32011-3 Supplier: 81205
SPL-1840	Downlock Eqpt - NLG & MLG (***NLG Pin DISPATCH***) Part #: J32011-7 Supplier: 81205 Opt Part #: J32011-4 Supplier: 81205
SPL-1884	Pin - Lockout, Retractable Tail Skid Fwd and Aft Lock Link Part #: J32071-10 Supplier: 81205
SPL-1976	Barrier - Service Access Door, Section 48 Part #: J51001-1 Supplier: 81205
SPL-2011	Ladder Equipment - Vertical Fin and Empennage Access Part #: J53001-1 Supplier: 81205
STD-1048	Stepladder - 6 foot (1.83m)

B. Location Zones

Zone	Area
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Access Panels

Number	Name/Location
311BL	Service Access Door

D. Prepare for the Removal

SUBTASK 32-00-30-860-003

(1) If the electrical system is energized and the center hydraulic system is pressurized, do the steps below:

(a) Make sure the control lever for the landing gear is in the DOWN position.

WARNING: MAKE SURE OTHER PERSONS DO NOT MOVE THE CONTROL LEVER FOR THE LANDING GEAR TO THE UP POSITION. IF THEY MOVE THE CONTROL LEVER TO THE UP POSITION, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(b) Make sure other persons do not move the control lever for the landing gear to the UP position when you remove the downlock pins.

E. Landing Gear Downlock Pins Removal

SUBTASK 32-00-30-080-001

(1) Do the steps below to remove the downlock pins for the main landing gear (Figure 202):

(a) Do the steps below for each main landing gear:

1) Use the 6 foot (1.83m) stepladder, STD-1048 to get access to the side strut lock links.
2) Remove the nut [3], the washer [2], and the bolt [1] from the main landing gear downlock pin, SPL-1839, if they are installed.
3) Remove the main landing gear downlock pin, SPL-1839, from the side strut lock links.
4) Use the 6 foot (1.83m) stepladder, STD-1048 to get access to the drag strut lock links.
5) Remove the nut [3], the washer [2], and the bolt [1] from the main landing gear downlock pin, SPL-1839, if they are installed.
6) Remove the main landing gear downlock pin, SPL-1839, from the drag strut lock links.
7) If it is necessary, attach the split rings and the REMOVE BEFORE FLIGHT streamer to the downlock pins.

SUBTASK 32-00-30-080-002

(2) Do the steps below to remove the downlock pin for the nose landing gear (Figure 201):

(a) Use the 6 foot (1.83m) stepladder, STD-1048 to get access to the lock links for the nose landing gear.
(b) Remove the nut [3], the washer [2], and the bolt [1] from the nose landing gear downlock pin, SPL-1840, if they are installed.
(c) Remove the nose landing gear downlock pin, SPL-1840, from the lock links for the nose landing gear.
(d) If it is necessary, attach the split rings and the REMOVE BEFORE FLIGHT streamer to the downlock pin.

ARO 001-004

SUBTASK 32-00-30-080-003

(3) Do the steps below to remove the downlock pin for the tail skid (Figure 204):

(a) Use a ladder equipment, SPL-2011 or equivalent to get access to the lock links for the tail skid.
(b) Open this access panel to gain access to the tail skid assembly:

Number	Name/Location
311BL	Service Access Door

(c) Install the service access door barrier, SPL-1976, in the opening of the access door if you will do more work in the area.
(d) Remove the lockpin, part of tail skid lockout pin, SPL-1884, if it is installed.
(e) Remove the tail skid lockout pin, SPL-1884, from the lock links for the tail skid.
(f) If it is necessary, attach the split rings and the REMOVE BEFORE FLIGHT streamer to the downlock pin.
(g) Close this access panel:

Number	Name/Location
311BL	Service Access Door

END OF TASK

LANDING GEAR GROUND DOOR RELEASE SYSTEM - MAINTENANCE PRACTICES

1. General

A. This procedure contains scheduled maintenance task data.

B. This procedure supplies instructions for the operation of the ground door release system for the landing gear. This procedure has two tasks:

(1) The first task supplies instructions to open the landing gear doors.

(2) The second task supplies instructions to close the landing gear doors.

C. You use the ground door release system to open and close the landing gear doors for maintenance functions. Do not use the control lever for the landing gear to open and close the landing gear doors for maintenance functions. You are permitted to open and close the landing gear doors with the control lever only when test procedures tell you to.

D. The ground door release system is a control system only. It uses the alternate extension system for the landing gear to open and close the landing gear doors.

TASK 32-00-40-860-802

2. Landing Gear Ground Door Release System Operation (Open the Doors)

A. General

(1) This task supplies instructions to open the landing gear doors.

(2) It is not possible to open only the doors for the nose landing gear or only the doors for the main landing gear. When you use the ground door release system, all of the landing gear doors open at the same time.

B. References

Reference	Title
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
154	Area Below Aft Cargo Compartment, Right

D. Access Panels

Number	Name/Location
198LR	Aft Wing To Body Fairing Panel

E. Prepare for the Procedure

SUBTASK 32-00-40-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-00-40-210-001

WARNING	MAKE SURE THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. THE DOORS OPEN QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Make sure the area around the doors for the nose and main landing gear is clear of persons and equipment.

F. Procedure

SUBTASK 32-00-40-010-001

(1) Open this access panel:

Number	Name/Location
198LR	Aft Wing To Body Fairing Panel

NOTE: Do this to get access to the main wheel well electrical service panel, P56.

SUBTASK 32-00-40-860-001

(2) On the main wheel well electrical service panel, P56, move the ARM DOORS switch to the ARM DOORS position and hold it there (Figure 201).

SUBTASK 32-00-40-210-002

WARNING	MAKE SURE THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. THE DOORS OPEN QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Make sure the area around the doors for the nose and main landing gear is clear of persons and equipment.

SUBTASK 32-00-40-860-002

(4) On the main wheel well electrical service panel, P56, momentarily move the ALL DOORS OPEN/MLG DOORS CLOSE switch to the ALL DOORS OPEN position (Figure 201).

NOTE: This will open the doors for the nose and main landing gear.

This will also cause the GEAR DOOR message to show on the Engine Indicating and Crew Alerting System (EICAS). You do not have to do maintenance actions to make the GEAR DOOR message go away. The GEAR DOOR message will go away automatically when you close all of the landing gear doors.

SUBTASK 32-00-40-860-003

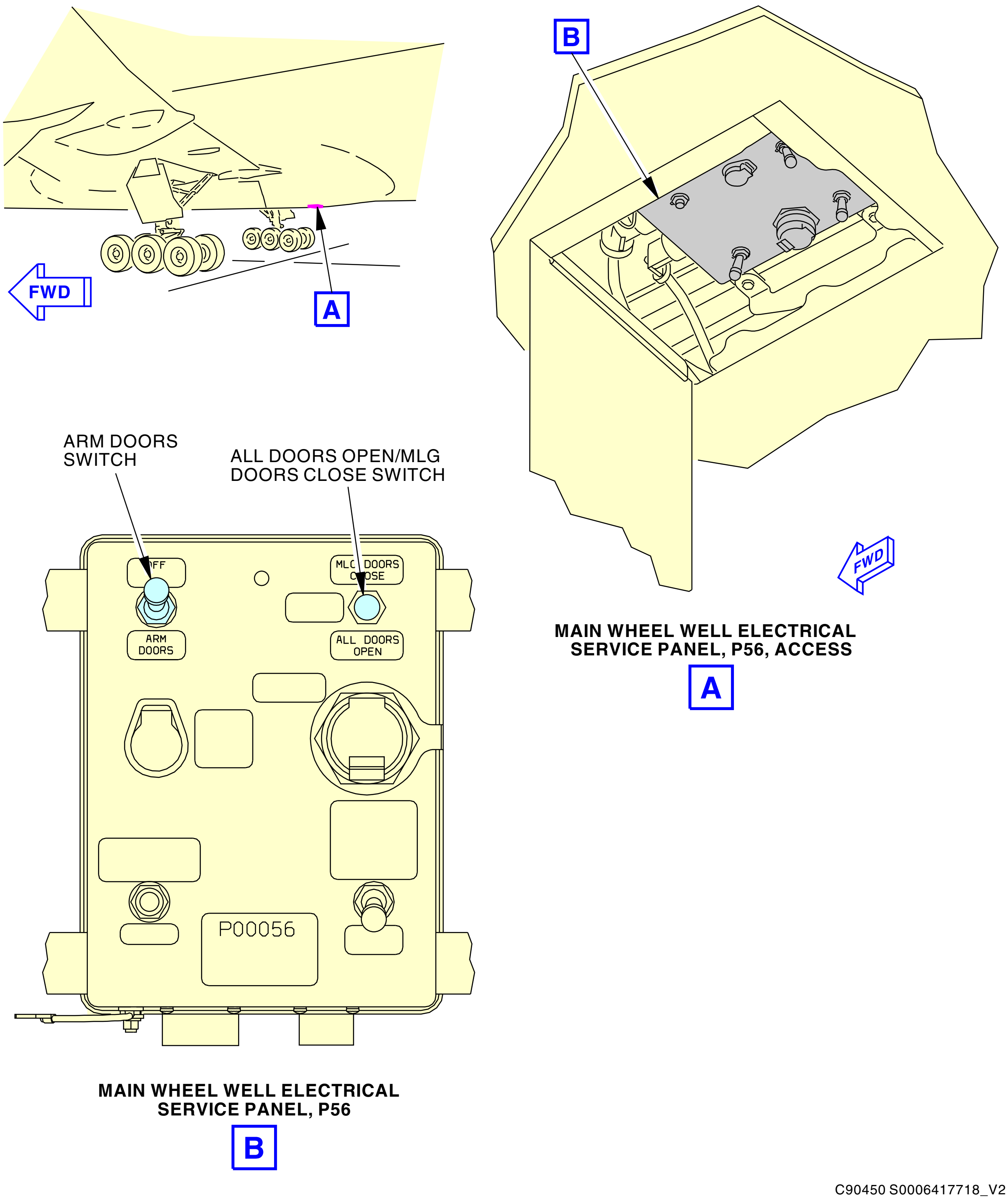
(5) Release the ARM DOORS switch.

SUBTASK 32-00-40-010-002

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

END OF TASK



Main Wheel Well Electrical Service Panel
Figure 201/32-00-40-990-801

TASK 32-00-40-860-801

3. Landing Gear Ground Door Release System Operation (Close the Doors)

A. General

(1) This task supplies instructions to close the landing gear doors. This task has two topics:

(a) The first topic supplies instructions to close the doors for the main landing gear.

(b) The second topic supplies instructions to close the doors for the nose landing gear.

(2) The doors for the main landing gear close in 10 seconds.

(3) The doors for the nose landing gear close in 5 seconds.

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

C. Location Zones

Zone	Area
154	Area Below Aft Cargo Compartment, Right
212	Flight Compartment, Right
711	Nose Landing Gear

D. Access Panels

Number	Name/Location
198LR	Aft Wing To Body Fairing Panel

E. Prepare for the Procedure

SUBTASK 32-00-40-860-004

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-00-40-410-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-00-40-210-003

WARNING MAKE SURE THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. THE DOORS CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Make sure the area around the doors for the nose and main landing gear is clear of persons and equipment.

SUBTASK 32-00-40-860-005

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-00-40-860-006

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

F. Procedure

SUBTASK 32-00-40-860-007

(1) Do the steps below to close the doors for the main landing gear:

(a) On the main wheel well electrical service panel, P56, move the ARM DOORS switch to the ARM DOORS position and hold it there (Figure 201).

WARNING	MAKE SURE THE AREA AROUND THE DOORS FOR THE MAIN LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. THE DOORS CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(b) Make sure the area around the doors for the main landing gear is clear of persons and equipment.

(c) On the main wheel well electrical service panel, P56, momentarily move the ALL DOORS OPEN/MLG DOORS CLOSE switch to the MLG DOORS CLOSE position (Figure 201).

NOTE: This will close the doors for the main landing gear.

(d) Release the ARM DOORS switch.

(e) Close this access panel:

Number	Name/Location
198LR	Aft Wing To Body Fairing Panel

SUBTASK 32-00-40-860-008

(2) Do the steps below to close the doors for the nose landing gear:

(a) On the service and APU shutdown panel, P40, move the NLG DOORS ARM switch to the ARM position and hold it there (Figure 202).

WARNING	MAKE SURE THE AREA AROUND THE DOORS FOR THE NOSE LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. THE DOORS CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(b) Make sure the area around the doors for the nose landing gear is clear of persons and equipment.

(c) On the service and APU shutdown panel, P40, momentarily move the NLG DOORS CLOSE switch to the CLOSE position (Figure 202).

NOTE: This will close the doors for the nose landing gear.

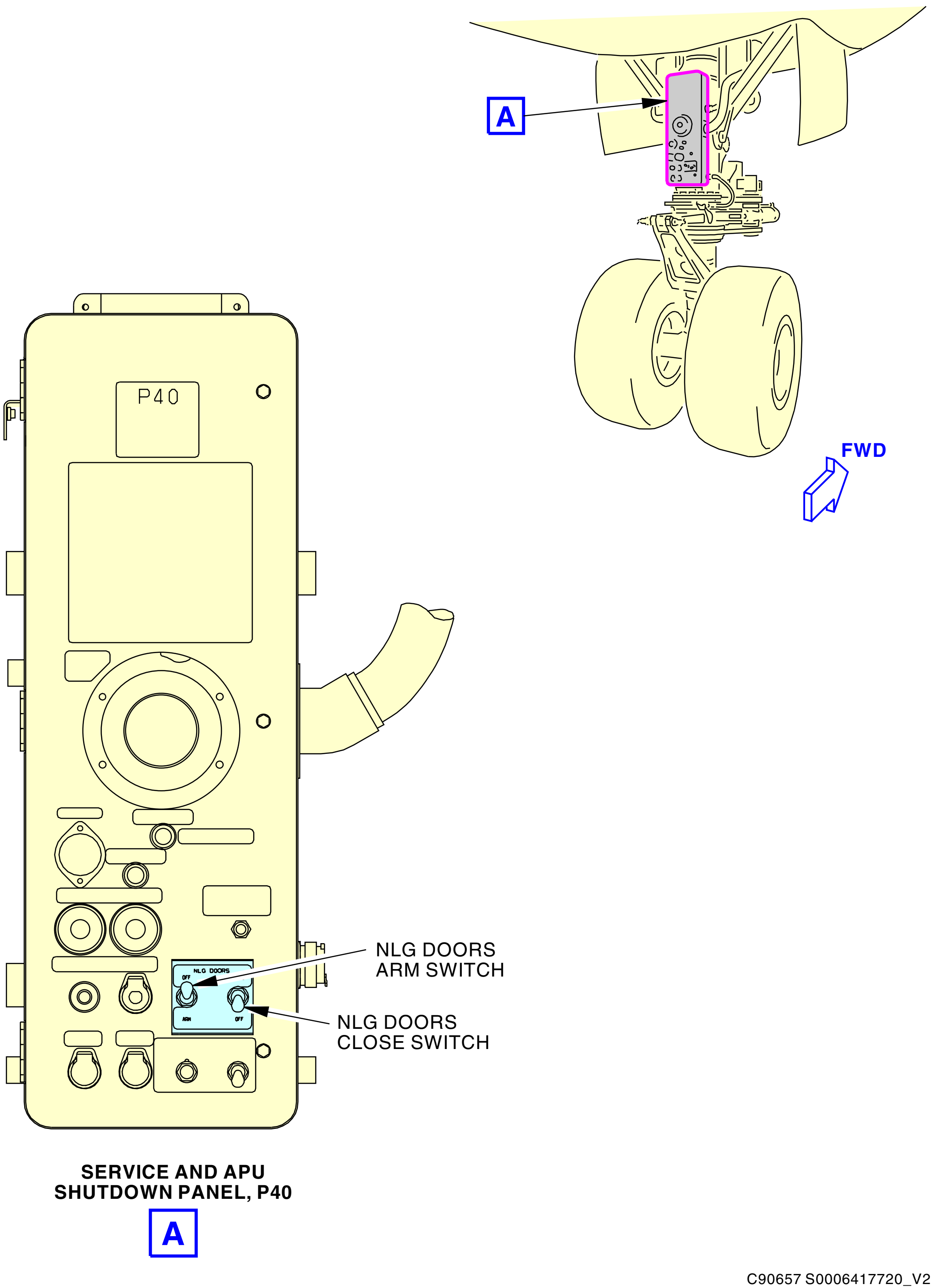
(d) Release the NLG DOORS ARM switch.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-00-40-860-009

(1) Do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

———— END OF TASK ————



Service and APU Shutdown Panel
Figure 202/32-00-40-990-802

MAIN LANDING GEAR STEERING SYSTEM - MAINTENANCE PRACTICES

1. General

A. This procedure supplies instructions for the deactivation and activation of the main landing gear steering system.

B. You must do the deactivation before you do work near the tires, wheels, or brakes of the main landing gear. If you must do work on only one main landing gear, it is not necessary to do the deactivation for the other main landing gear.

C. You can also do the deactivation to prepare the airplane for flight when the main landing gear steering system is inoperative. If you do the deactivation for this function, you must do the deactivation for each of the two main landing gear.

TASK 32-00-50-040-801

2. Main Landing Gear Steering System Deactivation

(Figure 201,)

A. References

Reference	Title
09-11-00-580-801	Maintenance Towing (P/B 201)

B. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Procedure

SUBTASK 32-00-50-860-001

(1) Do the steps below to deactivate the steering/locking power control actuator of the applicable main landing gear:

(a) If you must prepare the airplane for flight with the main landing gear steering system inoperative, do the step below:

1) Look through the lock indication window and make sure you cannot see a metal pin.

NOTE: This shows that the steering/locking power control actuator is locked in the centered position.

NOTE: Both steering/locking power control actuators should be locked-out to isolate the main landing gear steering system in order to prepare for flight under non standard configurations.

2) If you can see the metal pin through the lock indication window on the PCA, do the following task:

3) Connect a tow vehicle to the nose landing gear or the forward tow fitting on the affected main landing gear (TASK 09-11-00-580-801).

4) Move the towing lever, on the forward side of the nose landing gear, to the TOW position.

NOTE: This isolates the steering system for the nose landing gear from hydraulic power.

5) Release the parking brake.

6) Pull the ball-lock pin, on the manual shutoff valve handle, aft.

NOTE: The ball-lock pin holds the manual shutoff valve handle in its position.

7) Move the manual shutoff valve handle to the OFF position to isolate the steering/locking power control actuator from hydraulic power.

NOTE: This will cause the MAIN GEAR STEERING status message to show on the Engine Indicating and Crew Alerting System (EICAS) status page and the applicable DISABLED indication to show on the LANDING GEAR BRKS/STRNG maintenance page.

8) Release the ball-lock pin to hold the manual shutoff valve handle in the OFF position.

9) Remove all chocks from around the nose landing gear tires and the main landing gear tires.

10) Put a chock behind the aft axle tire that is nearest the unlocked PCA (wheel #10 on the left gear, wheel #12 on the right gear).

NOTE: Do not put a chock behind the other aft axle tire (wheel #9 on the left gear, wheel #11 on the right gear).

11) Make sure the area around the tires of the aft axle is clear of persons and equipment.

12) Use the tow vehicle to slowly push the airplane rearwards onto the chock(TASK 09-11-00-580-801)

13) Stop the airplane movement if the airplane tire moves onto the chock, the PCA locks, or the chock moves.

14) Make sure the metal pin is not visible in the lock indication window on the PCA.

NOTE: This shows that the PCA is locked in the center position.

NOTE: You will not be able to see any portion of the pin if the PCA is locked in the center position.

15) If a PCA remains unlocked, place a chock behind the aft axle tire that is farthest from the unlocked PCA, but on the same truck (wheel #9 on the left gear, wheel #11 on the right gear).

NOTE: Do not place a chock behind the other aft axle tire (wheel #10 on the left gear, wheel #12 on the right gear).

16) Use the tow vehicle to slowly push the airplane rearwards onto the chock.

17) Stop airplane movement if the airplane tire moves onto the chock, the PCA locks, or the chock moves.

18) Look through the lock indication window on the PCA and if you can not see the metal pin on the PCA, the PCA is locked.

D. Deactivation of the Main Landing Gear Steering System

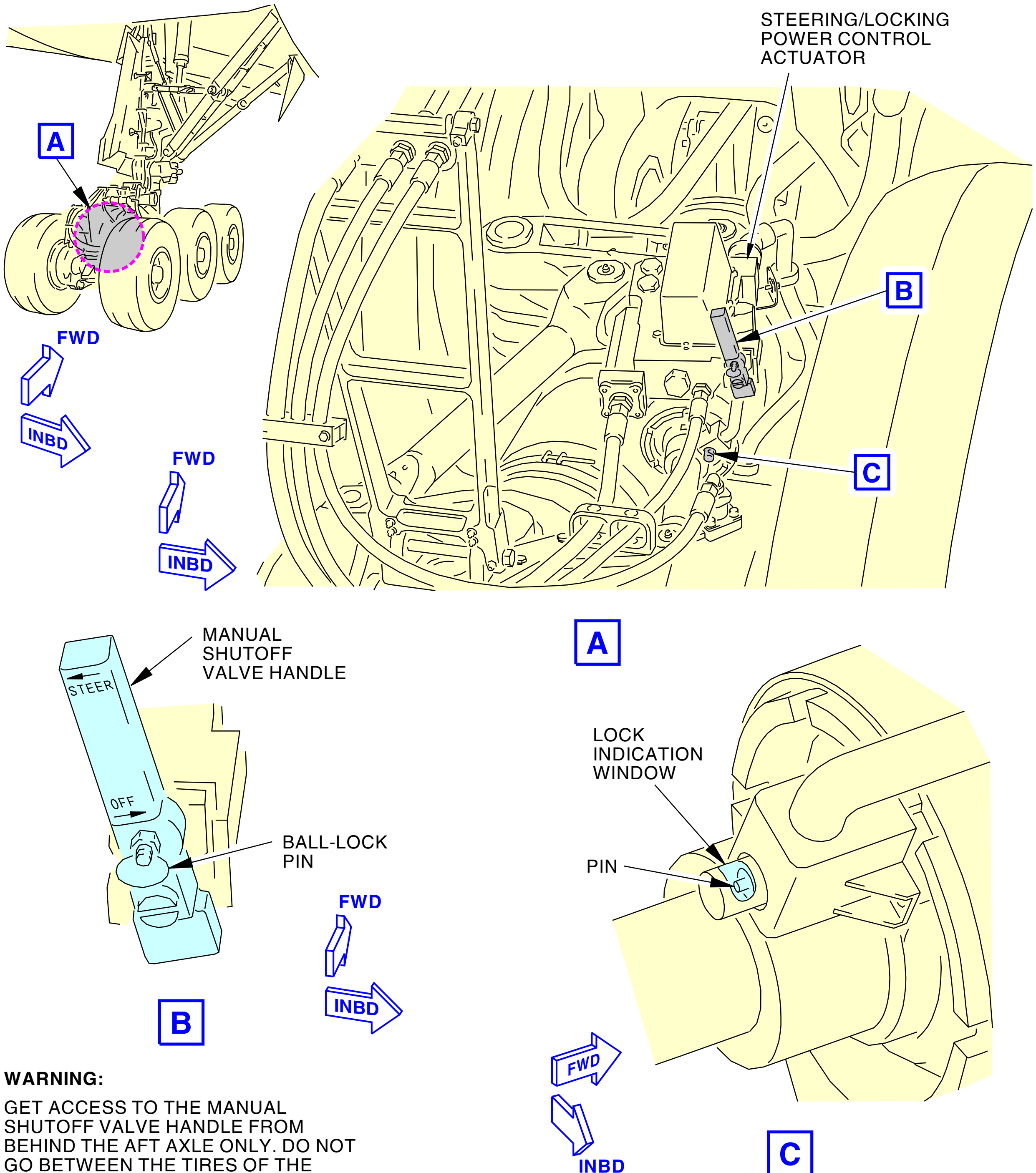
SUBTASK 32-00-50-040-001

(1) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

END OF TASK



WARNING:

GET ACCESS TO THE MANUAL SHUTOFF VALVE HANDLE FROM BEHIND THE AFT AXLE ONLY. DO NOT GO BETWEEN THE TIRES OF THE CENTER AND AFT AXLES TO GET ACCESS.

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Main Landing Gear Steering System Deactivation/Activation
Figure 201/32-00-50-990-802

TASK 32-00-50-440-801

3. Main Landing Gear Steering System Activation

(Figure 201,)

A. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-21-11-000-803	Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage (P/B 201)
32-21-11-400-803	Nose Landing Gear Torsion Link Connection (P/B 201)

B. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Procedure

SUBTASK 32-00-50-440-001

(1) Remove the safety tag and close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

SUBTASK 32-00-50-860-002

(2) Do the steps below to activate the steering/locking power control actuator of the applicable main landing gear:

WARNING MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLE IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER, THE AFT AXLE CAN AUTOMATICALLY TURN WHEN YOU MOVE THE MANUAL SHUTOFF VALVE HANDLE. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) Make sure the area around the tires of the aft axle is clear of persons and equipment.

WARNING GET ACCESS TO THE MANUAL SHUTOFF VALVE HANDLE FROM BEHIND THE AFT AXLE ONLY. DO NOT GO BETWEEN THE TIRES OF THE CENTER AND AFT AXLES TO GET ACCESS. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER, THE AFT AXLE CAN AUTOMATICALLY TURN WHEN YOU MOVE THE MANUAL SHUTOFF VALVE HANDLE. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(b) Pull the ball-lock pin, on the manual shutoff valve handle, aft.

(c) Move the manual shutoff valve handle to the STEER position to connect the steering/locking power control actuator to hydraulic power.

NOTE: This will cause the applicable DISABLED indication on the LANDING GEAR BRKS/STRNG maintenance page to go out of view.

(d) Release the ball-lock pin to hold the manual shutoff valve handle in the STEER position.

SUBTASK 32-00-50-440-002

(3) Perform a complete tiller swing to unlatch the MG Steering maintenance messages.

NOTE: You can use the landing gear BRKS/STRNG MAINTENANCE page to view the steered angles.

(a) Do this task: Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage, TASK 32-21-11-000-803.

NOTE: This is done to prevent scrubbing of the tires on the nose landing gear and to prevent any side motion of the airplane.

(b) Make sure the towing lever, on the forward side of the nose landing gear, is in the NORMAL position.

(c) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(d) Turn the steering tiller fully counterclockwise.

(e) Wait approximately 5 seconds.

(f) Release the steering tiller.

NOTE: The steering tiller will go back to the neutral position.

(g) Turn the steering tiller fully clockwise.

(h) Wait approximately 5 seconds.

(i) Release the steering tiller.

NOTE: The steering tiller will go back to the neutral position.

D. Put the Airplane Back to Its Usual Condition

SUBTASK 32-00-50-840-001

(1) Do this task:Main Hydraulic System Power Removal, TASK 29-11-00-860-808

SUBTASK 32-00-50-840-002

(2) Do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-11-400-803.

——— **END OF TASK** ———

LANDING GEAR - STRUCTURAL INSPECTIONS - MAINTENANCE PRACTICES

1. **General**
   - A. This procedure contains scheduled maintenance task data.
   - B. This procedure contains these tasks:
     - (1) General visual inspection of the Left Main Landing Gear
     - (2) General visual inspection of the Right Main Landing Gear
     - (3) General visual inspection of the Nose Landing Gear Pressure Indicator
   - C. The tasks contain MSG-3 task card data.

TASK 32-05-03-210-802

2. **General Visual Inspection of the Left Main Landing Gear Mechanism**

(Figure 201)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) The purpose of this inspection is to detect corrosion, stress corrosion, minor accidental damage, and fatigue damage to the main landing gear assembly.

B. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
51-05-01-210-802	777 Basic Task Description (P/B 201)

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
731	Left Main Landing Gear

D. Procedure

SUBTASK 32-05-03-490-001

WARNING: MAKE SURE THE LANDING GEAR DOWNLOCK PINS ARE INSTALLED. THIS WILL PREVENT ACCIDENTAL RETRACTION OF THE LANDING GEAR, INJURY TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-05-03-490-002

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-05-03-210-002

(3) Do a general visual inspection of these left main landing gear components for damage:

(a) Main landing gear uplock mechanism

(b) Uplock release actuator

(c) Alternate extend power pack

(d) Retract actuator mechanism

(e) Side brace downlock mechanism

(f) Landing gear downlock springs.

SUBTASK 32-05-03-090-001

WARNING: OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

E. General Visual Inspection of the Main Landing Gear Assembly

SUBTASK 32-05-03-210-004

(1) Do a general visual Inspection of the main landing gear assembly. 777 Basic Task Description, TASK 51-05-01-210-802

NOTE: While completing the inspection verify the level of each corrosion finding and complete the inspection summary form for the structure inspection.

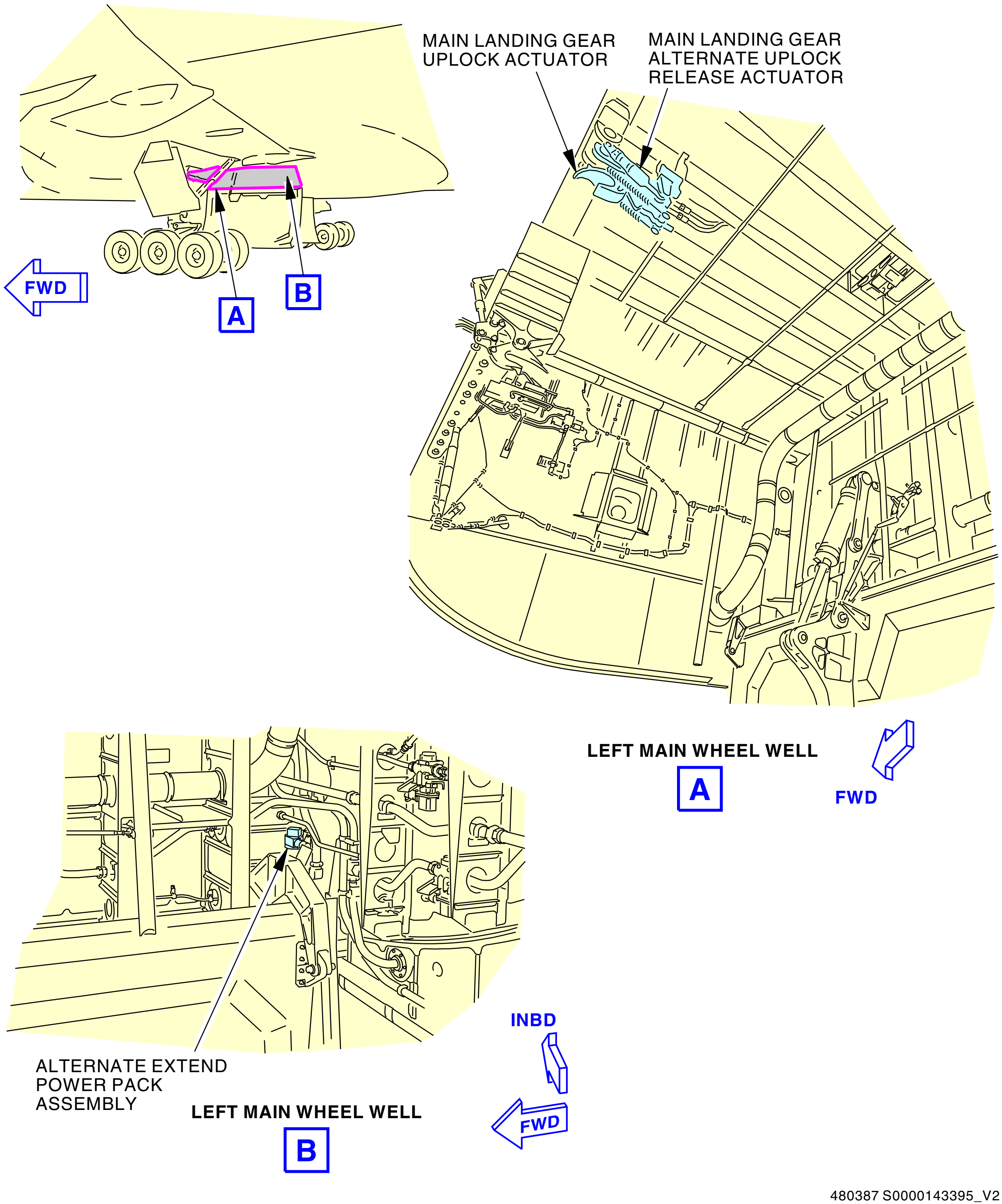
F. Corrosion Findings and Corrective Action

SUBTASK 32-05-03-410-001

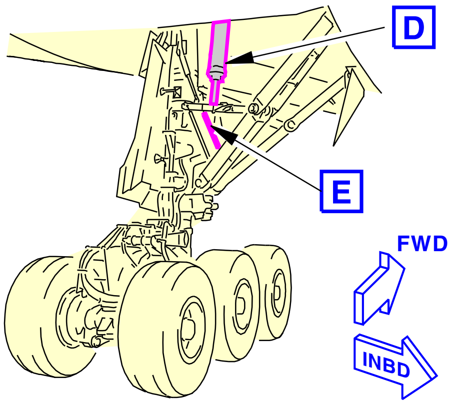
(1) Apply CPC Basic Task items 4, 5 and 6 to any corrosion findings discovered during the inspection per 777 Basic Task Description, TASK 51-05-01-210-802

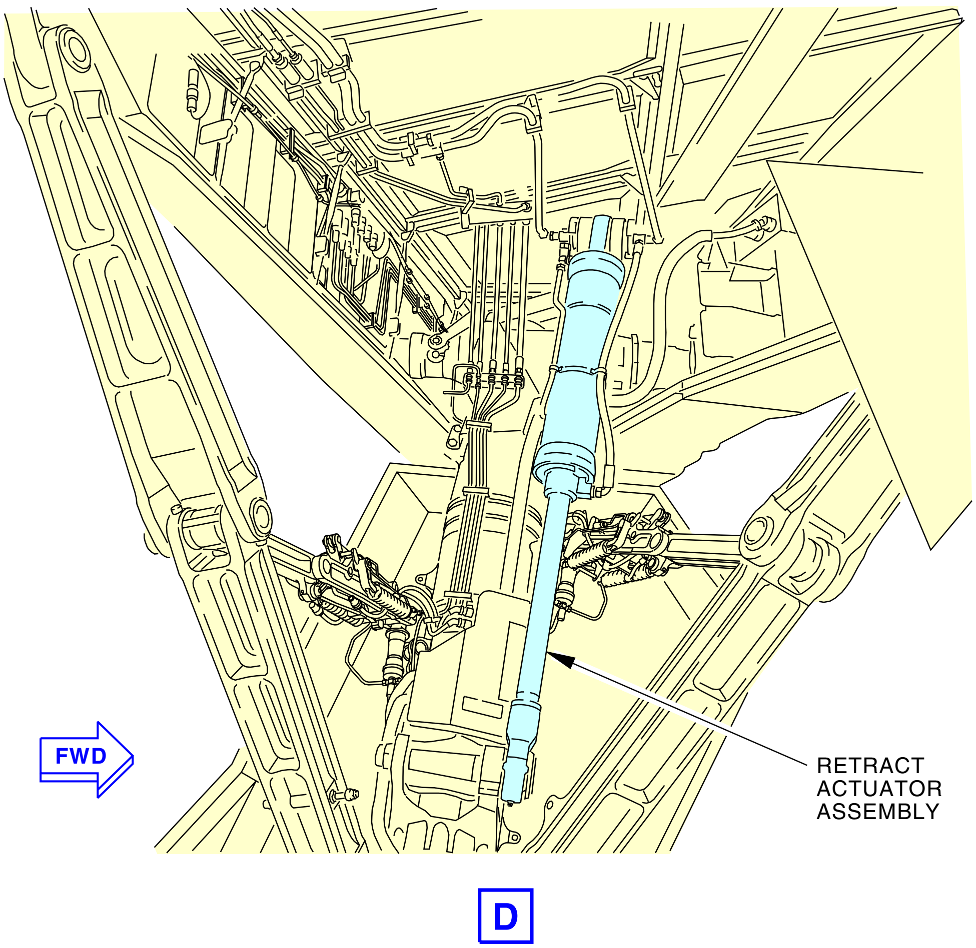
(2) Record any findings on the Boeing Aging Airplane Corrosion Prevention and Control inspection summary.

END OF TASK



Left Main Landing Gear General Visual (External)
Figure 201/32-05-03-990-802 (Sheet 1 of 3)





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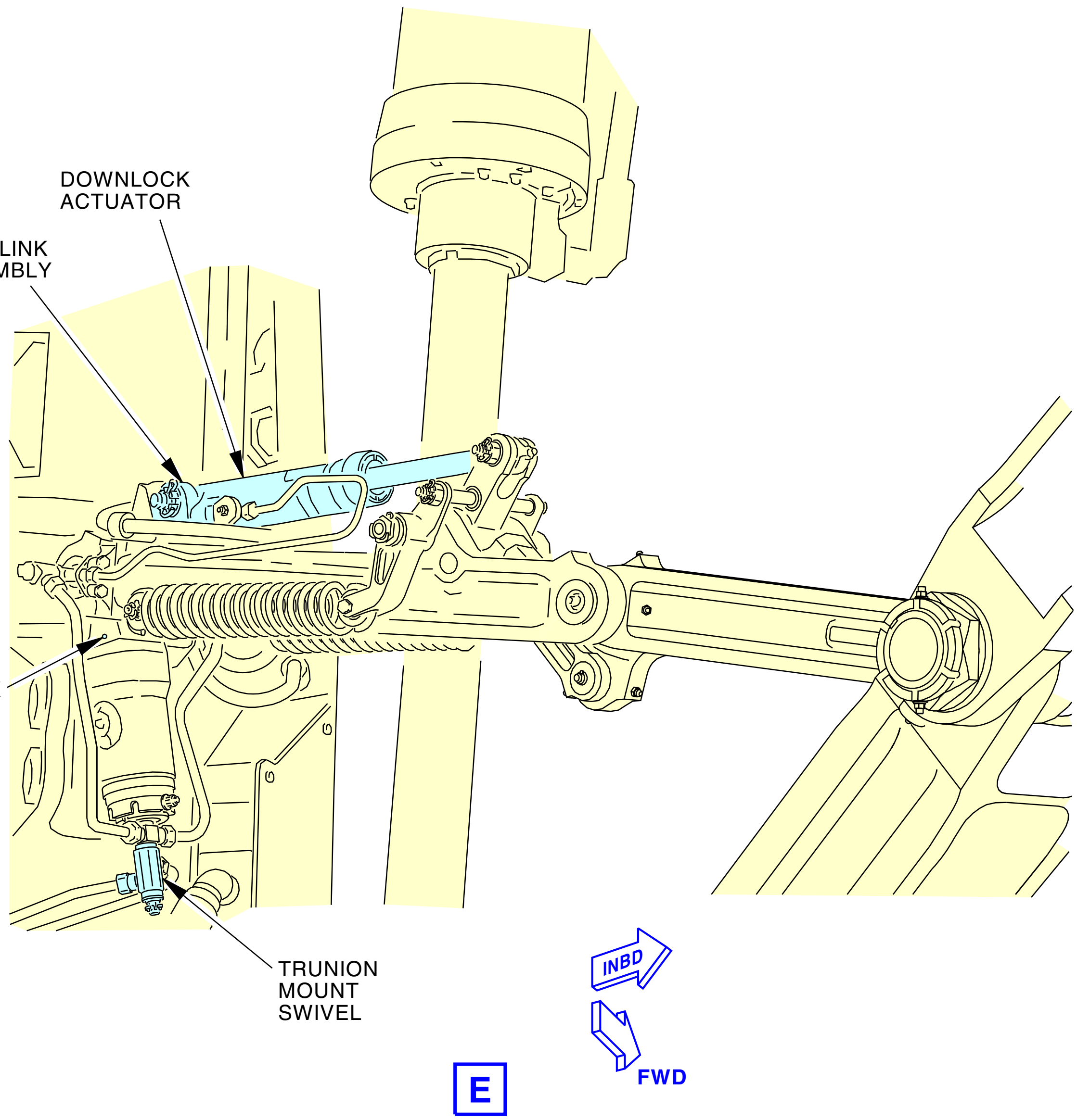
Left Main Landing Gear General Visual (External)
Figure 201/32-05-03-990-802 (Sheet 2 of 3)



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Left Main Landing Gear General Visual (External)
Figure 201/32-05-03-990-802 (Sheet 3 of 3)

TASK 32-05-03-210-803

3. General Visual Inspection of the Right Main Landing Gear Mechanism

(Figure 202)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) The purpose of this inspection is to detect corrosion, stress corrosion, minor accidental damage, and fatigue damage to the main landing gear assembly.

B. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
51-05-01-210-802	777 Basic Task Description (P/B 201)

C. Location Zones

Zone	Area
144	Main Landing Gear Wheel Well, Right
741	Right Main Landing Gear

D. Procedure

SUBTASK 32-05-03-490-005

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-05-03-490-006

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-05-03-210-003

(3) Do a general visual inspection of these right main landing gear components for damage:
   (a) Main landing gear uplock mechanism
   (b) Uplock release actuator
   (c) Retract actuator mechanism
   (d) Side brace downlock mechanism
   (e) Landing gear downlock springs.

SUBTASK 32-05-03-090-003

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

E. General Visual Inspection of the Main Landing Gear Assembly

SUBTASK 32-05-03-210-005

(1) Do a general visual Inspection of the main landing gear assembly. 777 Basic Task Description, TASK 51-05-01-210-802

NOTE: While completing the inspection verify the level of each corrosion finding and complete the inspection summary form for the structure inspection.

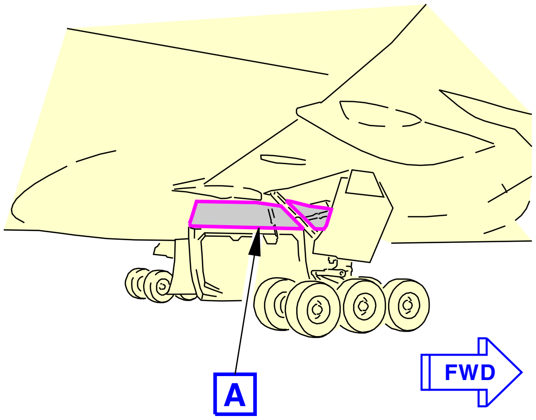
F. Corrosion Findings and Corrective Action

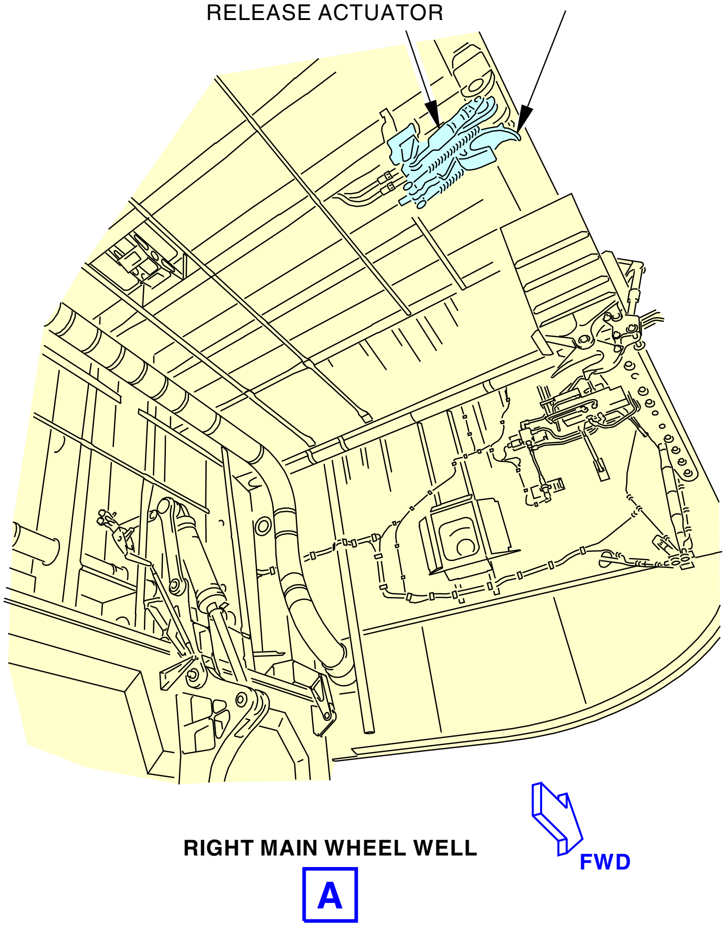
SUBTASK 32-05-03-410-002

(1) Apply CPC Basic Task items 4, 5 and 6 to any corrosion findings discovered during the inspection per 777 Basic Task Description, TASK 51-05-01-210-802

(2) Record any findings on the Boeing Aging Airplane Corrosion Prevention and Control inspection summary.

END OF TASK





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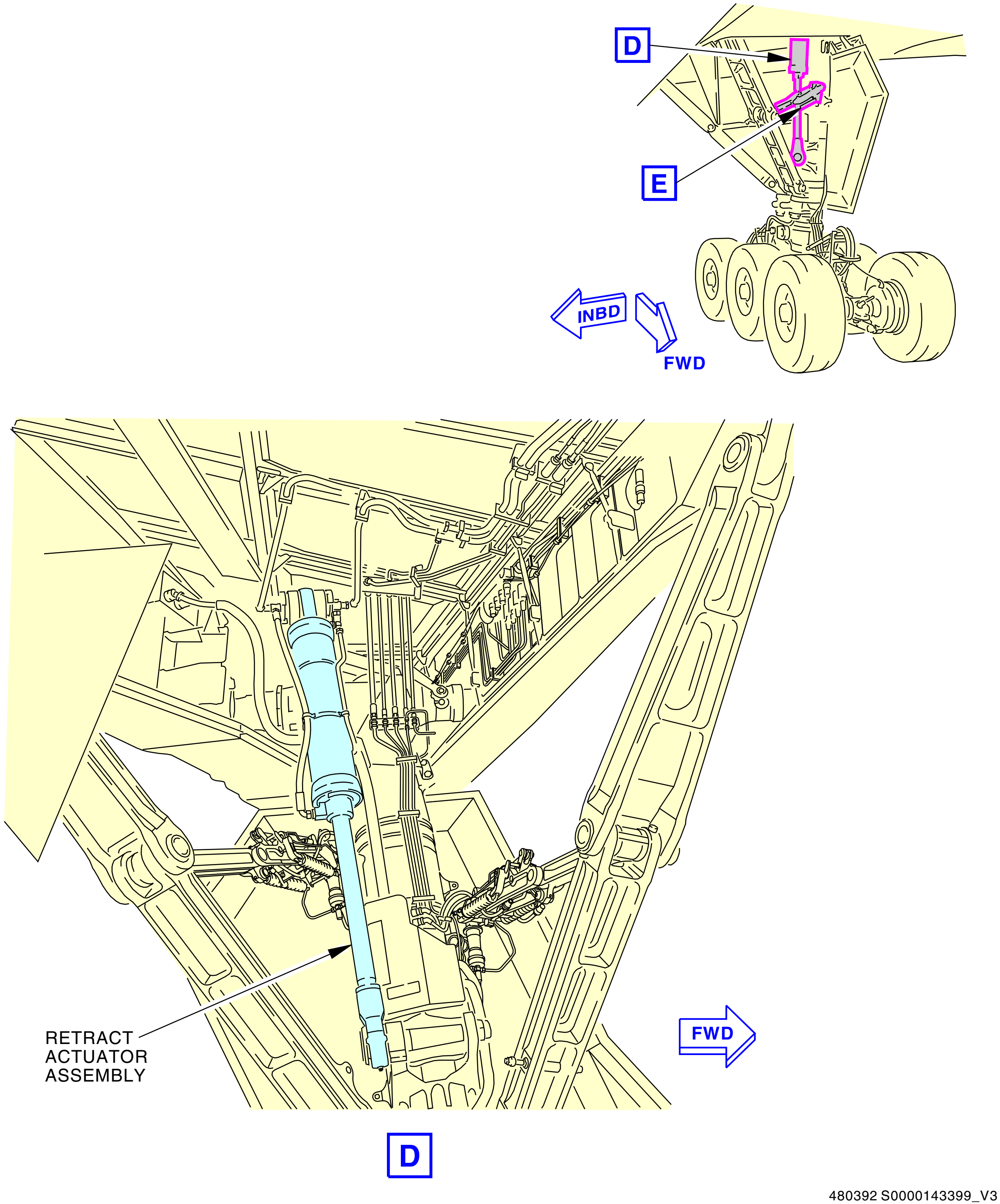
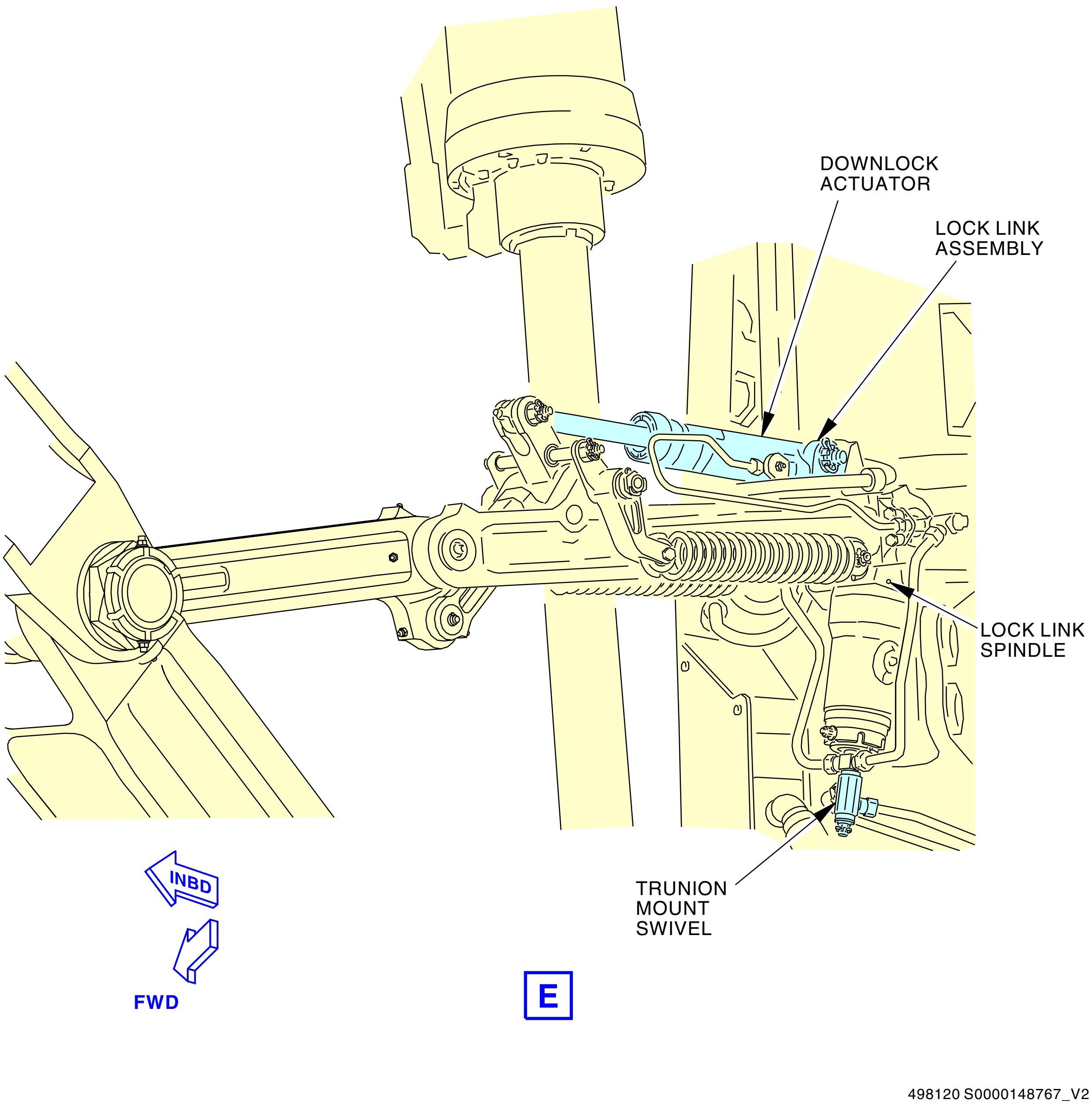
Right Main Landing Gear General Visual (External)
Figure 202/32-05-03-990-803 (Sheet 1 of 3)



Right Main Landing Gear General Visual (External)
Figure 202/32-05-03-990-803 (Sheet 2 of 3)



Right Main Landing Gear General Visual (External)
Figure 202/32-05-03-990-803 (Sheet 3 of 3)

TASK 32-05-03-210-801

4. General Visual Inspection of the Nose Landing Gear Pressure Indicator

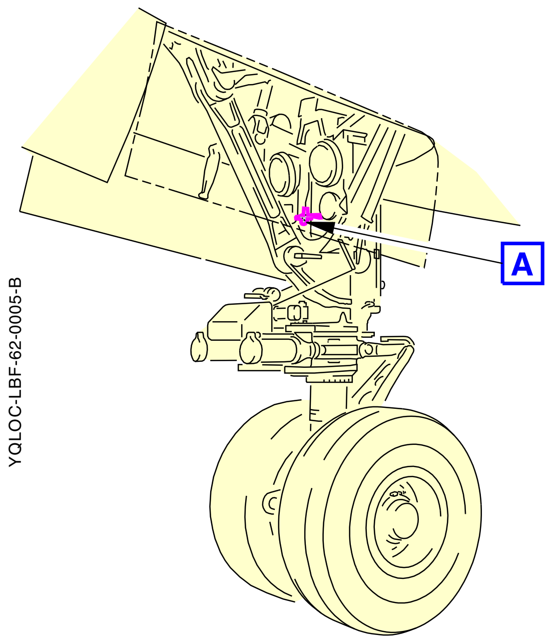
A. Inspection

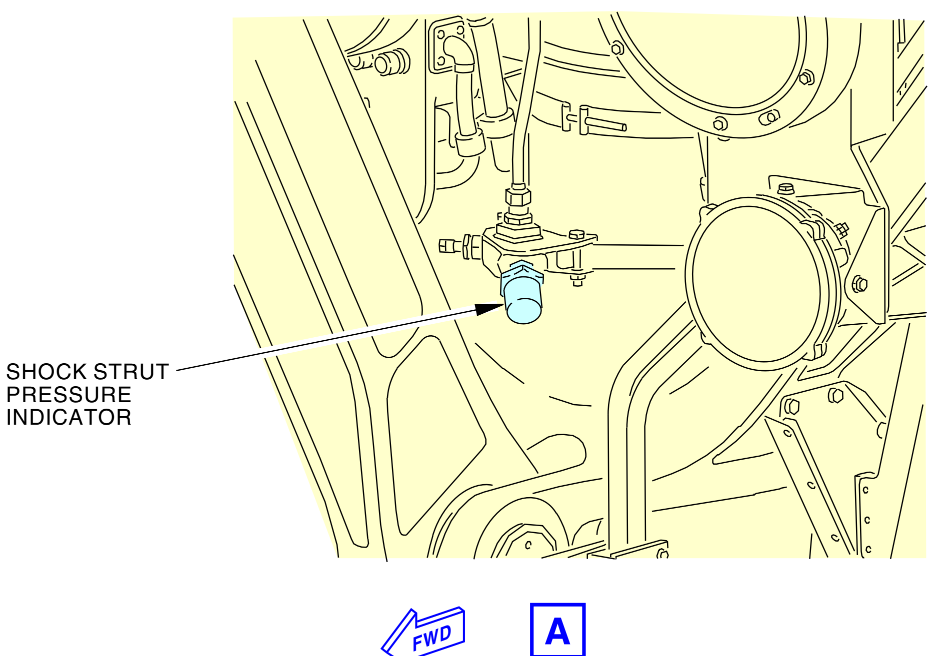
SUBTASK 32-05-03-210-001

(1) Examine the NLG pressure indicator (Figure 203 (Sheet 1)) to make sure that the pressure indicated is within the green band on the indicator.

(2) If the indicator is not in the green band then refer to the FIM to find the fault isolation task for the observed fault.

——— END OF TASK ———





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Nose Landing Gear Pressure Indicator
Figure 203/32-05-03-990-801

PROXIMITY SENSOR ELECTRONICS UNIT - ADJUSTMENT/TEST

1. **General**

   A. This procedure has this task:

      (1) A system test of the PSEU.

      NOTE: It is necessary to use the maintenance access terminal (MAT) for this test.

TASK 32-08-00-730-801

2. **Proximity Sensor Electronics Unit - System Test**

   A. General

      (1) This system test does a check of the electronics in the PSEU.

      (2) A maintenance access terminal is necessary for this procedure. For instructions on how to use a maintenance access terminal, do this task: How to Use the Central Maintenance Computing System, TASK 45-10-00-740-808.

   B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
45-10-00-740-808	How to Use the Central Maintenance Computing System (P/B 201)

   C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
212	Flight Compartment, Right

   D. Prepare for the Test

   SUBTASK 32-08-00-860-001

      (1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

   SUBTASK 32-08-00-860-002

      (2) Make sure that these circuit breakers are closed:

Ground Service/Handling Power Panel, P320

Row	Col	Number	Name
C	11	C52604	CGO DR CTRL

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR

(Continued)

Standby Power Management Panel, P310

Row	Col	Number	Name
D	2	C32624	PSEU 2 ALTN PWR

SUBTASK 32-08-00-860-003

(3) Push the Ground Test Enable switch, on the P61 panel, to the ENABLE position.

SUBTASK 32-08-00-740-001

(4) Use a maintenance access terminal (MAT) to do the system test of the PSEU:

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE

2) LINE MAINTENANCE

3) GROUND TESTS

4) 32 Proximity Sensor System (PSS)

5) SYSTEM TEST

6) Select the PSEU to be tested.

7) CONTINUE

(b) Do the instructions that show on the MAT and then make these selections:

1) CONTINUE

2) START TEST

SUBTASK 32-08-00-740-002

(5) When the test is completed, make sure that PASSED shows adjacent to TEST CONDITION on the MAT.

SUBTASK 32-08-00-740-003

(6) If FAILED shows, refer to the applicable Maintenance Message Index in the FIM or select the maintenance message and select MAINTENANCE MESSAGE DATA.

SUBTASK 32-08-00-740-004

(7) To start a test of the other PSEU, make these selections:

(a) NEW TEST

(b) 32 Proximity Sensor System (PSS)

(c) SYSTEM TEST

(d) Select the PSEU to be tested.

(e) CONTINUE

SUBTASK 32-08-00-200-001

(8) When the test is completed, make sure that PASSED shows adjacent to TEST CONDITION on the MAT.

SUBTASK 32-08-00-810-001

(9) If FAILED shows, refer to the applicable Maintenance Message Index in the FIM or select the maintenance message and select MAINTENANCE MESSAGE DATA.

SUBTASK 32-08-00-860-004

(10) To put the MAT back to its initial condition, make these selections:

(a) LINE MAINTENANCE

(b) EXIT MAINTENANCE

E. Put the Airplane Back to Its Usual Condition

SUBTASK 32-08-00-860-005

(1) Set the Ground Test Enable switch, on the P61 panel, to the NORM position.

END OF TASK

PROXIMITY SENSOR ELECTRONICS UNIT - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the proximity sensor electronics unit (PSEU).

(2) An installation of the PSEU.

TASK 32-08-01-000-801

2. Proximity Sensor Electronics Unit Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) The two PSEUs, M32021 and M32025 are installed on the E1-5 and E4-1 shelf in the main equipment center.

B. References

Reference	Title
20-10-01-000-801	E/E Box Removal (P/B 401)
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)

C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. Prepare for the Removal

SUBTASK 32-08-01-010-001

(1) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

to get access to the main equipment center.

SUBTASK 32-08-01-860-001

(2) Open these circuit breakers and install safety tags:

Ground Service/Handling Power Panel, P320

Row	Col	Number	Name
C	11	C52604	CGO DR CTRL

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

F. Proximity Sensor Electronics Unit Removal

SUBTASK 32-08-01-860-002

CAUTION

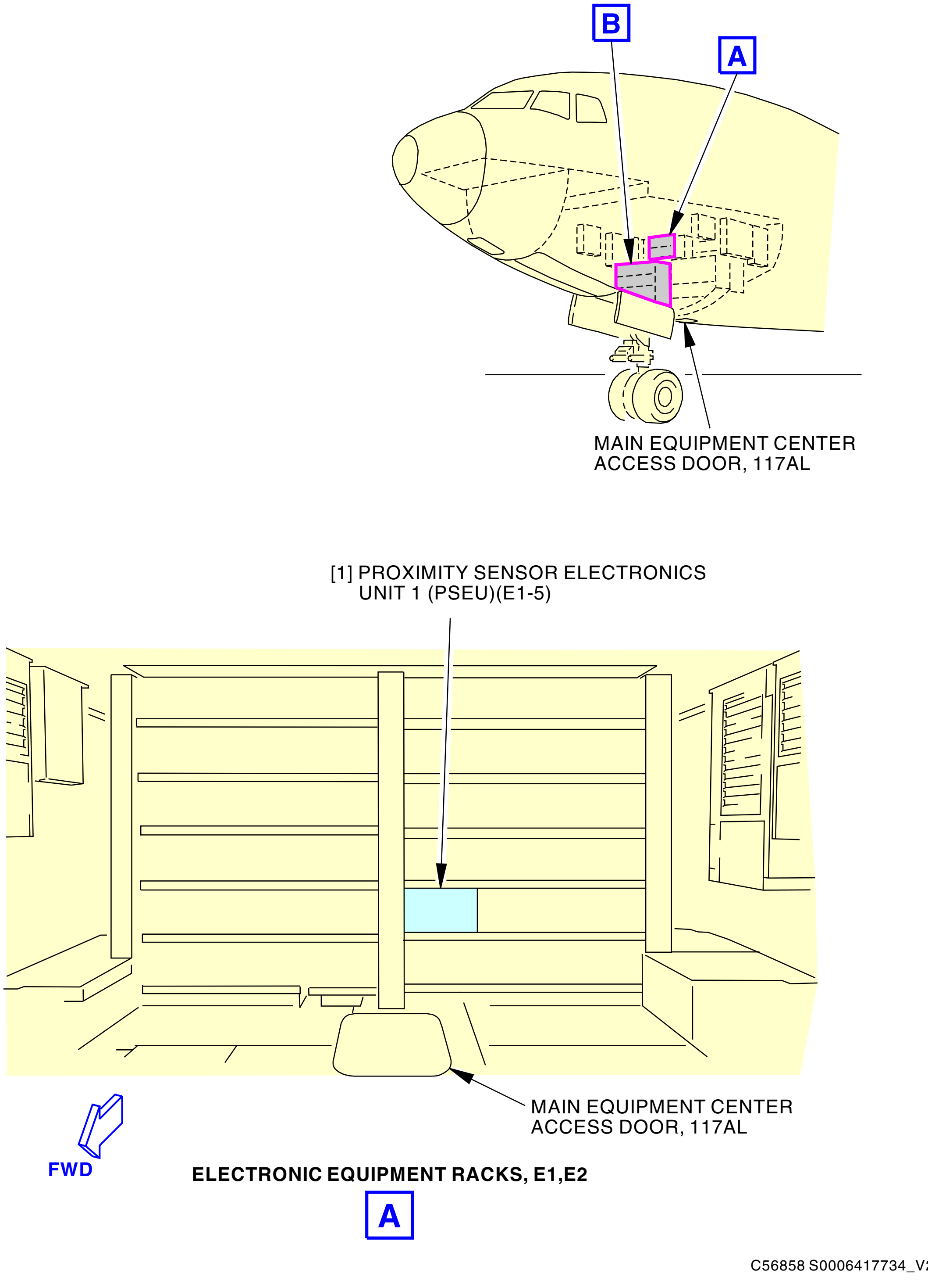
DO NOT TOUCH THE PSEU BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE PSEU.

(1) Before you touch the PSEU, do the procedure for devices that are sensitive to electrostatic discharge, do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-41-01-000-803.

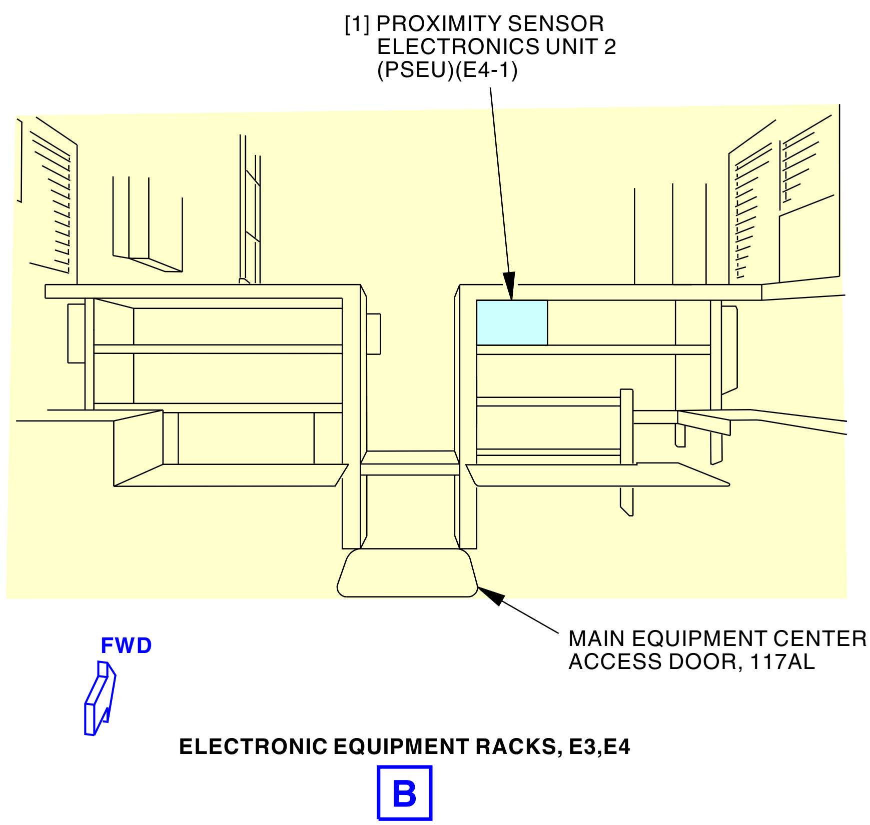
SUBTASK 32-08-01-020-001

(2) Remove the PSEU [1] from the shelf. To remove it, do this task: E/E Box Removal, TASK 20-10-01-000-801.

——— END OF TASK ———



Proximity Sensor Electronics Unit (PSEU) Installation
Figure 401/32-08-01-990-801 (Sheet 1 of 2)



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Proximity Sensor Electronics Unit (PSEU) Installation
Figure 401/32-08-01-990-801 (Sheet 2 of 2)

TASK 32-08-01-400-801

3. Proximity Sensor Electronics Unit Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) The two PSEUs, M32021 and M32025 are installed on the E1-5 and E4-1 shelf in the main equipment center.

(2) PSEUs must be installed in matched pairs. Refer to IPC references for PSEU part numbers that may be installed on the aircraft.

B. References

Reference	Title
20-10-01-400-801	E/E Box Installation (P/B 401)
20-41-01-400-803	ESDS Handling for Metal Encased Unit Installation (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
32-08-00-730-801	Proximity Sensor Electronics Unit - System Test (P/B 501)

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	PSEU	32-08-01-10-009	ARO ALL

D. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right

E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

F. Proximity Sensor Electronics Unit Installation

SUBTASK 32-08-01-860-003

CAUTION: DO NOT TOUCH THE PSEU BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE PSEU.

(1) Before you touch the PSEU, do the procedure for the devices that are sensitive to electrostatic discharge, do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-41-01-400-803.

SUBTASK 32-08-01-420-001

(2) Install the PSEU [1] on the shelf. To install it, do this task: E/E Box Installation, TASK 20-10-01-400-801.

(a) Tighten the clamps at the bottom of the PSEU.

SUBTASK 32-08-01-860-004

(3) Remove the safety tags and close these circuit breakers:

Ground Service/Handling Power Panel, P320

Row	Col	Number	Name
C	11	C52604	CGO DR CTRL

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

SUBTASK 32-08-01-740-001

(4) Do this task: Proximity Sensor Electronics Unit - System Test, TASK 32-08-00-730-801.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-08-01-860-005

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-08-01-410-001

(2) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

for the main equipment center.

END OF TASK

PROXIMITY SENSOR ELECTRONICS UNIT CIRCUIT CARD - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the Circuit Card in the Proximity Sensor Electronics Unit (PSEU).

(2) An installation of the Circuit Card in the PSEU.

TASK 32-08-02-000-801

2. PSEU Circuit Card Removal

(Figure 401)

A. General

(1) This task is for the removal of the PSEU circuit cards. They are installed in the two PSEU units, M32021 and M32025. It is not necessary to remove the PSEU from the shelf to remove the circuit cards.

B. References

Reference	Title
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)

C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
212	Flight Compartment, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. Prepare for the Removal

SUBTASK 32-08-02-860-001

(1) Open this access panel to get access to the main equipment center:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-08-02-860-002

(2) Open these circuit breakers and install safety tags:

Ground Service/Handling Power Panel, P320

Row	Col	Number	Name
C	11	C52604	CGO DR CTRL

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

F. PSEU Circuit Card Removal

SUBTASK 32-08-02-910-001

CAUTION

DO NOT TOUCH THE CIRCUIT CARDS BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO STATIC ELECTRICITY. STATIC ELECTRICITY CAN CAUSE DAMAGE TO THE CIRCUIT CARDS.

(1) Do the procedure for devices that are sensitive to electrostatic discharge (TASK 20-41-01-000-803).

SUBTASK 32-08-02-010-001

(2) Remove the applicable card.

(a) PSEU 1 (With 8 circuit cards):

1) SLOT A01: POWER SUPPLY, card [1]
2) SLOT B02: COMM PROCESSOR, card [2]
3) SLOT B03: AUX DRIVER, card [3]
4) SLOT B04: PROX DRIVER, card [4]
5) SLOT B05: SPARE
6) SLOT B06: SPARE
7) SLOT B07: PROX DRIVER, card [4]
8) SLOT B08: PROX DRIVER, card [4]
9) SLOT B09: COMM PROCESSOR, card [2]
10) SLOT A18: POWER SUPPLY, card [1]

(b) PSEU 2 (8 cards):

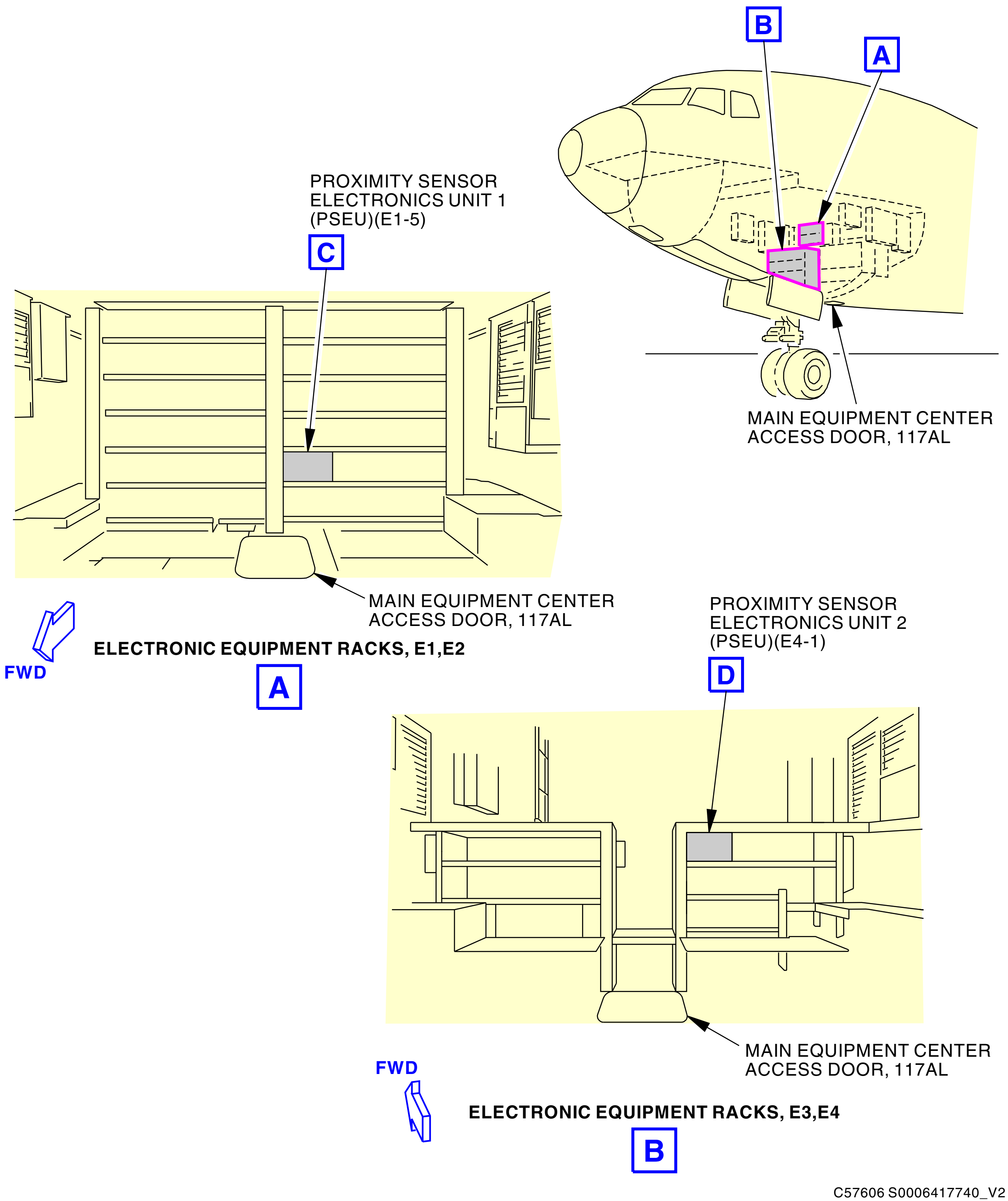
1) SLOT A01: POWER SUPPLY, card [1]
2) SLOT B02: COMM PROCESSOR, card [2]
3) SLOT B03: PROX DRIVER, card [4]
4) SLOT B04: PROX DRIVER, card [4]
5) SLOT B05: SPARE
6) SLOT B06: SPARE
7) SLOT B07: PROX DRIVER, card [4]
8) SLOT B08: PROX DRIVER, card [4]
9) SLOT B09: COMM PROCESSOR, card [2]
10) SLOT A18: POWER SUPPLY, card [1].

(c) Do these steps to remove the card:

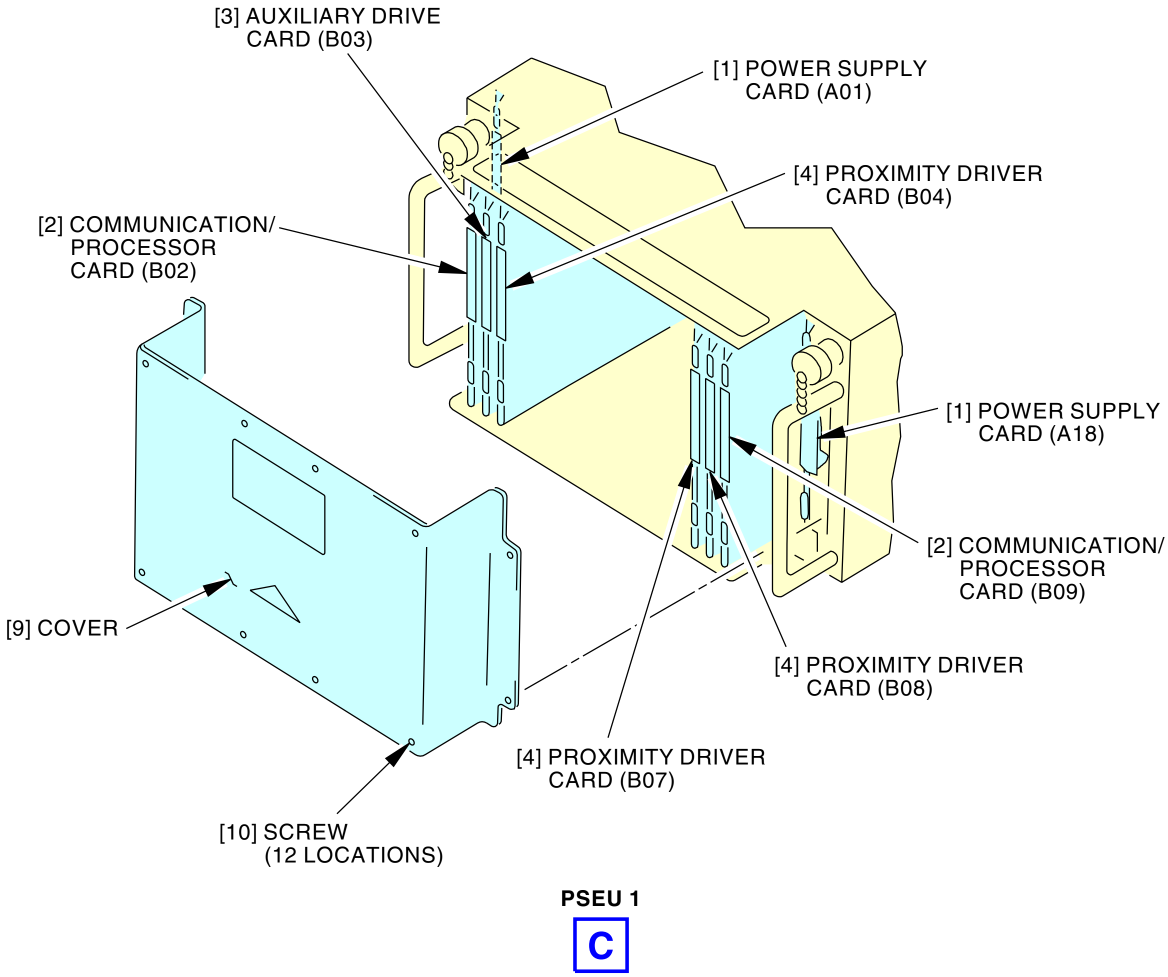
1) Loosen the screws [10] to remove the cover [9] from the PSEU.
2) Loosen the allen head, card-lock fasteners.

3) Remove the card with the card extractor.

——— END OF TASK ———



Proximity Sensor Electronics Unit (PSEU) Circuit Card Installation
Figure 401/32-08-02-990-801 (Sheet 1 of 3)



NOTE:

INSTALLATION OF THE ELECTRONIC CIRCUIT CARD DOES NOT REQUIRE THE REMOVAL OF THE PSEU FROM THE ELECTRONIC EQUIPMENT RACK.

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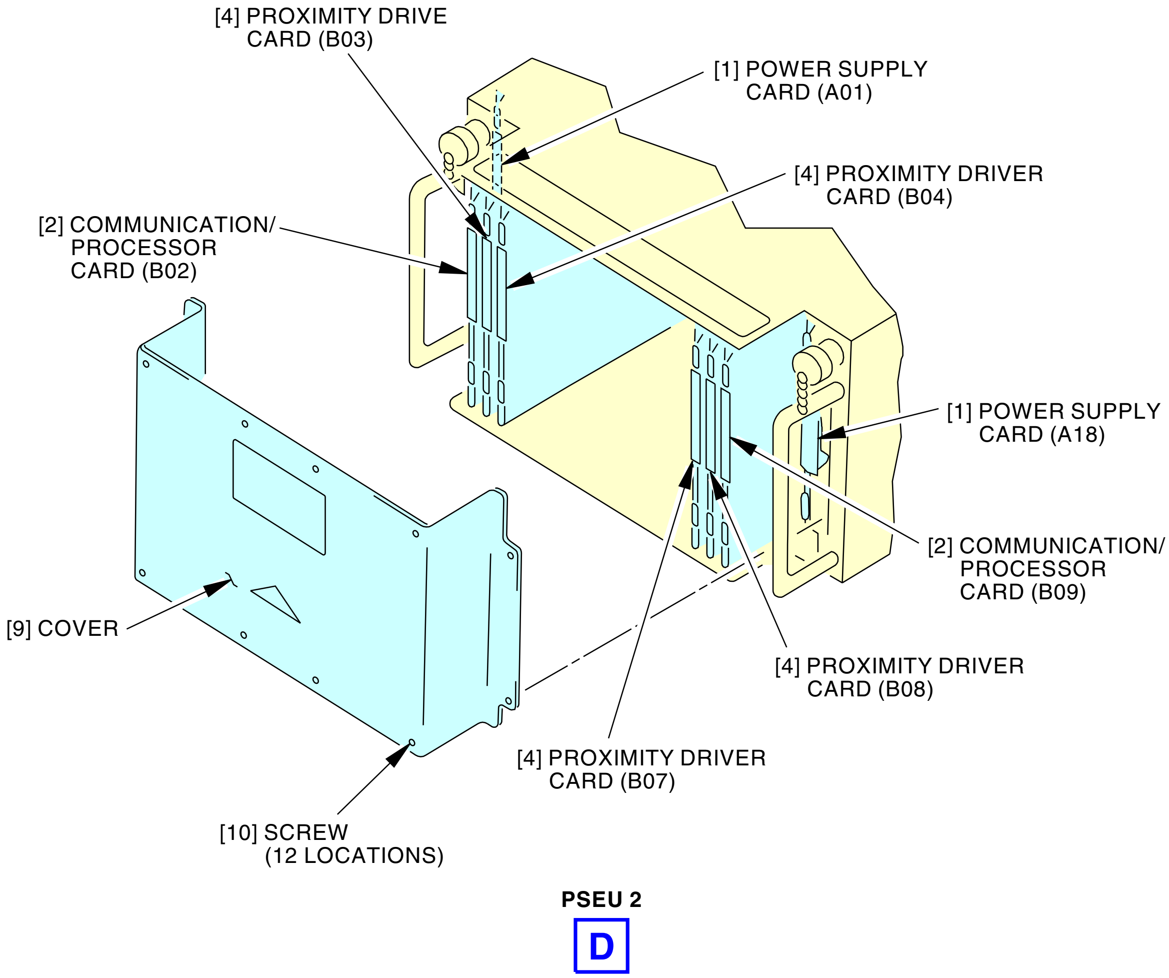
Proximity Sensor Electronics Unit (PSEU) Circuit Card Installation
Figure 401/32-08-02-990-801 (Sheet 2 of 3)



NOTE:
INSTALLATION OF THE ELECTRONIC CIRCUIT CARD DOES NOT REQUIRE THE REMOVAL OF THE PSEU FROM THE ELECTRONIC EQUIPMENT RACK.

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Proximity Sensor Electronics Unit (PSEU) Circuit Card Installation
Figure 401/32-08-02-990-801 (Sheet 3 of 3)

TASK 32-08-02-400-801

3. PSEU Circuit Card Installation

(Figure 401)

A. General

(1) This task is for the installation of the PSEU circuit cards. They are installed in the two PSEU units, M32201 and M32025.

B. References

Reference	Title
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)
32-08-00-730-801	Proximity Sensor Electronics Unit - System Test (P/B 501)

C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. PSEU Circuit Card Installation

SUBTASK 32-08-02-910-002

> **CAUTION**
> DO NOT TOUCH THE CIRCUIT CARDS BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO STATIC ELECTRICITY. STATIC ELECTRICITY CAN CAUSE DAMAGE TO THE CIRCUIT CARDS.

(1) Do the procedure for devices that are sensitive to electrostatic discharge (TASK 20-41-01-000-803).

SUBTASK 32-08-02-420-001

(2) Install the card in the PSEU.

(a) Push the applicable card in the slot two inches.

1) PSEU 1 (With 8 circuit cards):

a) SLOT A01: POWER SUPPLY, card [1]

b) SLOT B02: COMM PROCESSOR, card [2]

c) SLOT B03: AUX DRIVER, card [3]

d) SLOT B04: PROX DRIVER, card [4]

e) SLOT B05: SPARE

f) SLOT B06: SPARE

g) SLOT B07: PROX DRIVER, card [4]

h) SLOT B08: PROX DRIVER, card [4]

i) SLOT B09: COMM PROCESSOR, card [2]

j) SLOT A18: POWER SUPPLY, card [1]

2) PSEU 2 (8 cards):

a) SLOT A01: POWER SUPPLY, card [1]

b) SLOT B02: COMM PROCESSOR, card [2]

c) SLOT B03: PROX DRIVER, card [4]

d) SLOT B04: PROX DRIVER, card [4]

e) SLOT B05: SPARE

f) SLOT B06: SPARE

g) SLOT B07: PROX DRIVER, card [4]

h) SLOT B08: PROX DRIVER, card [4]

i) SLOT B09: COMM PROCESSOR, card [2]

j) SLOT A18: POWER SUPPLY, card [1].

(b) Align the guide pins for the connector.

(c) Push the card into its slot fully.

(d) Tighten the allen head, card-lock fasteners.

1) Torque the card-lock fasteners to 4 in-lb (0.5 N·m) - 6 in-lb (0.7 N·m).

(e) Install the cover [9] for the PSEU and tighten the screws [10] to 4 in-lb (0.5 N·m) - 6 in-lb (0.7 N·m).

SUBTASK 32-08-02-860-003

(3) Remove the safety tags and close these circuit breakers:

Ground Service/Handling Power Panel, P320

Row	Col	Number	Name
C	11	C52604	CGO DR CTRL

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

SUBTASK 32-08-02-740-002

(4) Do this task: Proximity Sensor Electronics Unit - System Test, TASK 32-08-00-730-801.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-08-02-860-004

(1) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

——— END OF TASK ———

AIR/GROUND SYSTEM (AGS) - MAINTENANCE PRACTICES

1. **General**
   A. This procedure has these tasks:
      (1) Preparation for Air Mode Simulation.
      (2) Air/Ground Mode Simulation.
      (3) Restoration After Air Mode Simulation.

TASK 32-09-00-040-801

2. **Air Mode Simulation - Preparation**

   A. General
      (1) This task gives the instructions necessary to deactivate the safety-sensitive systems that use the air mode signal from the air/ground system.
      (2) Use these instructions if the Maintenance Access Terminal (MAT) is not used for air mode simulation. For example, prior to putting the airplane on jacks.
      (3) These steps are duplicated by the MAT when you put the airplane in the air mode. Follow the MAT instructions to prepare the airplane for air mode simulation.

   B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)

   C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

   D. Procedure

SUBTASK 32-09-00-860-012

      (1) Attach a DO NOT OPERATE tag, STD-858 on the Landing Gear Control lever.
      (2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-09-00-040-001

WARNING: MAKE SURE YOU DO THE STEPS TO PREPARE THE SYSTEMS FOR AIR MODE CORRECTLY. IF YOU DO NOT FOLLOW THESE INSTRUCTIONS, INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR.

      (3) Do the steps that follow to prepare the safety-sensitive systems:
         (a) Put the GND TEST switch on the P61 panel to the ENABLE position.
         (b) Prevent the release of the ram air turbine (RAT);
            Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
D	13	C29619	RAT AUTO CONTROL

Standby Power Management Panel, P310

Row	Col	Number	Name
K	6	C24619	ELMS RAT DEPLOY
K	7	C29618	RAT AUTO/MAN CTRL

(c) Prevent the activation of standby power;

Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

Row	Col	Number	Name
K	13	C24643	MN BAT RLY CTRL

(d) Prevent the release of the passenger oxygen box;

Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

Row	Col	Number	Name
A	3	C35403	L PAX OXY
A	4	C35405	C PAX OXY
A	5	C35404	R PAX OXY

(e) Prevent uncommanded oxygen mask deployment;

Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

Row	Col	Number	Name
H	3	C35606	CHAN A OXY DEPLOY
H	4	C35607	CHAN B OXY DEPLOY

(f) Prevent damage to the wing landing lights heater;

Open this circuit breaker and install safety tag:

Ground Service/Handling Power Panel, P320

Row	Col	Number	Name
J	10	C33519	WG LDG LTS HEATING

(g) Prevent the injury to persons and damage to the drain mast;

Open these circuit breakers and install safety tags:

Ground Service/Handling Power Panel, P320

Row	Col	Number	Name
ARO 001			
L	3	C30422	DRAIN MAST HTRS FLS
ARO ALL			
L	3	C30426	DRAIN MAST HTRS FLS

(h) Prevent the injury to persons and damage to the probe heater;

Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
D	25	C30411	TAT PROBE HTR
D	26	C30409	AOA PROBE HTR L

(Continued)

Left Power Management Panel, P110

Row	Col	Number	Name
H	6	C30424	PH C PITOT PROBE HTR L

Right Power Management Panel, P210

Row	Col	Number	Name
D	1	C30408	AOA PROBE HTR R
E	4	C30423	PH C PITOT PROBE HTR R
G	26	C30425	PH C PITOT PROBE HTR C

(i) Deactivate the flight data recorder;

Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
F	6	C23425	VOX RCDR

Right Power Management Panel, P210

Row	Col	Number	Name
E	23	C31400	FLT RCDR AC
L	12	C31605	FLT RCDR DC

(j) Do these steps to prevent the closure of outflow valves:

1) On the PRESSURIZATION PANEL (on the Forward Overhead Panel P5):

a) Push the FORWARD and AFT OUTFLOW VALVE (OFV) switches.

b) Make sure the "manual" light comes on.

c) Hold the MANUAL switches in the OPEN position for 20 seconds to make sure the outflow valve is fully open.

(k) Do these steps to prevent the fuel jettison:

1) On the FUEL JETTISON PANEL (on the Forward Overhead Panel P5):

a) Make sure the FUEL JETTISON ARM switch is in the off position.

b) Make sure the light in the L and R Nozzle switches are off.

ARO 005-999; ARO 001-004 POST SB 777-28-0078

2) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
L	22	C28645	L FUEL JETT PUMP CTRL

Right Power Management Panel, P210

Row	Col	Number	Name
K	14	C28646	R FUEL JETT PUMP CTRL

ARO ALL

(l) Prevent the autostart of the auxiliary power unit (APU);

NOTE: If airplane electrical power is supplied by the Auxiliary Power Unit (APU), it is not necessary to open the APU circuit breakers.

Open these circuit breakers and install safety tags:

APU Auxiliary Panel, P49

Row	Col	Number	Name
A	3	C49602	APUC 2

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	17	C28003	APU FUEL S/O VALVE

Standby Power Management Panel, P310

Row	Col	Number	Name
B	1	C28614	DC FUEL PUMP
B	6	C49601	APUC 1
B	7	C49600	APU INLET DR ACTR

WARNING

AIR CONDITIONING PACK RAM AIR INLET DOORS CAN MOVE UPON SELECTION OF, OR REMOVAL FROM, AIR MODE. THE DOOR MOVEMENT COULD CAUSE INJURY TO PERSONNEL. ADDITIONALLY, THE FOLLOWING CIRCUIT BREAKERS SHOULD NOT BE OPENED IF, 1) THE AIRCONDITIONING PACKS ARE RUNNING, OR 2) IF THERE IS PNEUMATIC PRESSURE PRESENT IN THE SYSTEM FROM ANY SOURCE. DAMAGE TO EQUIPMENT CAN RESULT.

(m) If necessary, do these steps to prevent the operation and movement of the L and R Air Conditioning Pack Ram Air Inlet Doors when selecting the AIR or GRD Mode:

1) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
H	2	C21431	L CTC CHAN 1 (AC)
H	3	C21433	L CTC CHAN 2 (AC)
H	24	C21647	L CTC CHAN 2 (DC)
H	25	C21641	L CTC CHAN 1 (DC)

2) Open these circuit breakers and install safety tags:

Right Power Management Panel, P210

Row	Col	Number	Name
G	27	C21434	R CTC CHAN 2 (AC)
G	28	C21432	R CTC CHAN 1 (AC)
H	2	C21642	R CTC CHAN 1 (DC)
H	3	C21648	R CTC CHAN 2 (DC)

(n) To prevent the injury to persons and damage to galley heater;

1) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
A	2	C21303	FWD GLY HTR
B	2	C21304	AFT GLY HTR 1
C	2	C21305	AFT GLY HTR 2

(Continued)

Left Power Management Panel, P110

Row	Col	Number	Name
H	21	C21650	AFT GLY HTR 1 & 2 CTRL
H	22	C21649	FWD GLY HTR CTRL

These circuit breakers are inoperative and should remain open:

Left Power Management Panel, P110

Row	Col	Number	Name
D	5	C21328	MID GLY HTR (ZONE E) (INOP)
J	19	C21696	MID GLY HTR (ZONE E) CTRL (INOP)

——— END OF TASK ———

TASK 32-09-00-860-801

3. Air/Ground Mode Simulation

A. General

(1) This procedure gives the data necessary to simulate the air mode, ground mode, or to stop the simulation.

(a) Before you simulate the air mode, you must prepare the airplane for air mode simulation. This will prevent injury to persons or damage to equipment.

NOTE: The fuel quantity can shift when the airplane goes into Air Mode if the Air data inertial reference unit (ADIRU) is off. Fuel quantity calculations will use in-air data tables and be inaccurate if the airplane is on the ground. If ADIRU is ON when the airplane is put into Air Mode, then the FQPU (Fuel Quantity Processor Unit) will use ground data tables and no fuel quantity shift will occur.

(b) If you use the MAT for air mode simulation, then follow the instructions in the MAT to prepare the airplane for air mode simulations.

(c) If you use any method other than the MAT to put the airplane in the air mode, then you must do this task: Air Mode Simulation - Preparation, TASK 32-09-00-040-801.

(d) You can simulate the air mode, or ground mode as follows:

NOTE: You can put the air/ground system in the ground mode when the airplane is on jacks with this procedure.

1) Use the maintenance access terminal (MAT) to put the air/ground system in the air mode, or ground mode. For instructions on how to use a maintenance access terminal, (TASK 45-10-00-910-810).

B. References

Reference	Title
45-10-00-910-810	How to Operate the MAT in the Flight Compartment (P/B 201)

C. Location Zones

Zone	Area
212	Flight Compartment, Right

D. Air/Ground Mode Simulation

SUBTASK 32-09-00-040-002

WARNING PREPARE THE SAFETY SYSTEMS FOR THE AIR MODE BEFORE YOU SIMULATE THE AIR MODE. IN THE AIR MODE, AIRPLANE SYSTEMS CAN OPERATE AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure you do all the steps listed by the MAT to prepare the airplane for air mode simulation.

NOTE: The steps in the MAT are similar to the steps in this task: (TASK 32-09-00-040-801).

SUBTASK 32-09-00-740-001

(2) Use the MAT to do the air simulation, ground simulation or stop simulation:

(a) Make these selections on the MAT for the left system:

NOTE: You must make selections for both the left and right systems before you can simulate the air or ground modes.

1) ONBOARD MAINTENANCE

2) OTHER FUNCTIONS

3) SPECIAL FUNCTIONS

4) 32 Air/Ground System

5) Select the applicable mode:

a) Left air simulation

b) Left ground simulation

c) Left stop simulation

6) CONTINUE

7) Do the instructions that show on the MAT and then make these selections:

8) CONTINUE

9) START FUNCTION

NOTE: The simulation is in progress.

10) CONTINUE

11) When the function is completed, make sure that COMPLETED shows adjacent to FUNCTION CONDITION on the MAT.

(b) Make these selections on the MAT for the right system:

1) NEW FUNCTION

2) 32 Air/Ground System

3) Select the applicable mode:

a) Right air simulation

b) Right ground simulation

c) Right stop simulation

4) CONTINUE

5) Do the instructions that show on the MAT and then make these selections:

6) CONTINUE

7) START FUNCTION

NOTE: The simulation is in progress.

8) When the function is completed, make sure that COMPLETE shows adjacent to FUNCTION CONDITION on the MAT.

(c) When the Air Simulation or Ground Simulation is not necessary, do the previous steps and select Stop Simulation.

NOTE: If Stop Simulation is selected. The simulation is terminated and the procedure must be repeated to start the simulation again.

——— END OF TASK ———

TASK 32-09-00-440-801

4. Air Mode Simulation - Restoration

A. Procedure

SUBTASK 32-09-00-860-013

(1) Remove the safety tags and close these circuit breakers:

APU Auxiliary Panel, P49

Row	Col	Number	Name
A	3	C49602	APUC 2

Left Power Management Panel, P110

Row	Col	Number	Name
D	25	C30411	TAT PROBE HTR
D	26	C30409	AOA PROBE HTR L
F	6	C23425	VOX RCDR
H	6	C30424	PH C PITOT PROBE HTR L

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	17	C28003	APU FUEL S/O VALVE
D	13	C29619	RAT AUTO CONTROL

Right Power Management Panel, P210

Row	Col	Number	Name
D	1	C30408	AOA PROBE HTR R
E	4	C30423	PH C PITOT PROBE HTR R
E	23	C31400	FLT RCDR AC
G	26	C30425	PH C PITOT PROBE HTR C
L	12	C31605	FLT RCDR DC

Standby Power Management Panel, P310

Row	Col	Number	Name
A	3	C35403	L PAX OXY
A	4	C35405	C PAX OXY
A	5	C35404	R PAX OXY
B	1	C28614	DC FUEL PUMP
B	6	C49601	APUC 1

(Continued)

Standby Power Management Panel, P310

Row	Col	Number	Name
B	7	C49600	APU INLET DR ACTR
H	3	C35606	CHAN A OXY DEPLOY
H	4	C35607	CHAN B OXY DEPLOY
K	6	C24619	ELMS RAT DEPLOY
K	7	C29618	RAT AUTO/MAN CTRL
K	13	C24643	MN BAT RLY CTRL

Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
A	2	C21303	FWD GLY HTR
B	2	C21304	AFT GLY HTR 1
C	2	C21305	AFT GLY HTR 2
H	21	C21650	AFT GLY HTR 1 & 2 CTRL
H	22	C21649	FWD GLY HTR CTRL

These circuit breakers are inoperative and should remain open:

Left Power Management Panel, P110

Row	Col	Number	Name
D	5	C21328	MID GLY HTR (ZONE E) (INOP)
J	19	C21696	MID GLY HTR (ZONE E) CTRL (INOP)

Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
H	2	C21431	L CTC CHAN 1 (AC)
H	3	C21433	L CTC CHAN 2 (AC)
H	24	C21647	L CTC CHAN 2 (DC)
H	25	C21641	L CTC CHAN 1 (DC)

Remove the safety tags and close these circuit breakers:

ARO 005-999; ARO 001-004 POST SB 777-28-0078

Left Power Management Panel, P110

Row	Col	Number	Name
L	22	C28645	L FUEL JETT PUMP CTRL

Right Power Management Panel, P210

Row	Col	Number	Name
K	14	C28646	R FUEL JETT PUMP CTRL

ARO ALL

SUBTASK 32-09-00-860-014

(2) Remove the safety tags and close these circuit breakers:

Ground Service/Handling Power Panel, P320

Row	Col	Number	Name
J	10	C33519	WG LDG LTS HEATING
ARO 001			
L	3	C30422	DRAIN MAST HTRS FLS
ARO ALL			
L	3	C30426	DRAIN MAST HTRS FLS

Remove the safety tags and close these circuit breakers:

Right Power Management Panel, P210

Row	Col	Number	Name
G	27	C21434	R CTC CHAN 2 (AC)
G	28	C21432	R CTC CHAN 1 (AC)
H	2	C21642	R CTC CHAN 1 (DC)
H	3	C21648	R CTC CHAN 2 (DC)

SUBTASK 32-09-00-860-010

(3) Do these steps on the PRESSURIZATION PANEL (on the Forward Overhead Panel P5) to put the pressurization system back to its usual condition:

(a) Push the FORWARD and AFT OUTFLOW VALVE (OFV) switches.

(b) Make sure the "manual" light goes off.

SUBTASK 32-09-00-860-015

(4) Put the GND TEST switch on the P61 panel in the NORM position.

(5) Remove the DO NOT OPERATE tag, STD-858 on the Landing Gear Control lever.

——— END OF TASK ———

AIR/GROUND SYSTEM (AGS) - ADJUSTMENT/TEST

1. **General**
   A. This procedure has these tasks:
      (1) A system test of the air/ground system (AGS).

TASK 32-09-00-730-801

2. **Air/Ground System (AGS) - System Test**

   A. General

   (1) This task is for the system test of the air/ground system (AGS). The test will be run to clear the faults or messages that are shown on EICAS. The test is completed in 12 seconds. The maintenance access terminal (MAT) will be used for this test.

   B. References

Reference	Title
45-10-00-910-810	How to Operate the MAT in the Flight Compartment (P/B 201)

   C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

   D. Procedure

SUBTASK 32-09-00-860-007

(1) Make sure that this circuit breaker is closed:

Standby Power Management Panel, P310

Row	Col	Number	Name
K	5	C24633	P310 PSU A ALTN

SUBTASK 32-09-00-860-008

(2) For the Left System Cardfile:

(a) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	13	C32628	AIR/GROUND 1

Standby Power Management Panel, P310

Row	Col	Number	Name
C	6	C31637	LSCF PS 2
J	1	C31634	LSCF PS 1

SUBTASK 32-09-00-860-003

(3) For the Right System Cardfile:

(a) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	26	C32626	AIR/GROUND 3
G	26	C32627	AIR/GROUND 2

Right Power Management Panel, P210

Row	Col	Number	Name
L	14	C31641	RSCF PS 2

Standby Power Management Panel, P310

Row	Col	Number	Name
J	2	C31638	RSCF PS 1

SUBTASK 32-09-00-860-004

(4) Make sure these switches on the front panel of the Systems Card File are in the ON position:

(a) For the Left System Cardfile:

Table 501/32-09-00-993-801

Card	Card File	Slot	Switch ID
L WOW CARD	LSCF	A16	A18S6
L ASG CARD	LSCF	A12	A18S2
R ASG CARD	LSCF	A15	A18S5

(b) For the Right System Cardfile:

Table 502/32-09-00-993-802

Card	Card File	Slot	Switch ID
R WOW CARD	RSCF	A16	A18S6
L ASG CARD	RSCF	A12	A18S2
R ASG CARD	RSCF	A15	A18S5

SUBTASK 32-09-00-730-001

(5) Do the system test for AGS with the MAT (TASK 45-10-00-910-810).

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE
2) LINE MAINTENANCE
3) GROUND TESTS
4) 32 Air/Ground System
5) SYSTEM TEST
6) Left Air/Ground system or Right Air/Ground System
7) CONTINUE
8) Do the instructions that show on the MAT and then make these selections:
   a) CONTINUE
   b) START TEST
9) When the test is completed, make sure that PASSED shows adjacent to TEST CONDITION on the MAT.
10) If FAILED shows, refer to the applicable Maintenance Message Index in the FIM to find the fault isolation task for each maintenance message that shows on the MAT.
11) To put the MAT back to its initial condition, make these selections:

a) LINE MAINTENANCE

b) EXIT MAINTENANCE

E. Put the Airplane Back to Its Usual Conditions

SUBTASK 32-09-00-860-005

(1) Set the Ground Test Enable switch, on the P61 panel, to the NORM position.

END OF TASK

WEIGHT-ON-WHEELS CARD - MAINTENANCE PRACTICES

1. **General**
   A. This procedure has these tasks:
      (1) Removal of the Weight-On-Wheels (WOW) card.
      (2) Installation of the WOW card.
      (3) Software Installation of the WOW card.

TASK 32-09-02-000-801

2. **Weight-on-Wheels (WOW) Card Removal**
   (Figure 201)

   NOTE: This procedure is a scheduled maintenance task.

   A. General
      (1) There are two Weight-on-Wheels (WOW) cards. The Left WOW card is installed in the Left Systems Cardfile, P85. The Right WOW card is installed in the Right Systems Cardfile, P84. The systems cardfiles are in the Main Equipment Center.

   B. References

Reference	Title
20-10-01-000-802	Printed Circuit Card Removal (P/B 401)
20-41-01-000-801	ESDS Handling for Printed Circuit Board Removal (P/B 201)

   C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right

   D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

   E. Prepare for the Removal

   SUBTASK 32-09-02-860-001

      (1) For the Left Systems:
         (a) Open this circuit breaker and install safety tag:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	13	C32628	AIR/GROUND 1

   SUBTASK 32-09-02-860-005

      (2) For the Right Systems
         (a) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	26	C32626	AIR/GROUND 3
G	26	C32627	AIR/GROUND 2

SUBTASK 32-09-02-010-001

(3) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

to get access to the systems cardfiles.

SUBTASK 32-09-02-860-002

CAUTION: REMOVE ELECTRICAL POWER FROM THE WOW CARD TO PREVENT DAMAGE TO THE AIRPLANE.

(4) Set the power switch for the applicable WOW card to the OFF position:

(a) Left WOW Card (A16) in the Left Systems Cardfile (P85)

Table 201/32-09-02-993-803

Card	Cardfile	Slot	Switch ID
L WOW Card	LSCF	A16	A18S6

(b) Right WOW Card (A16) in the Right Systems Cardfile (P84)

Table 202/32-09-02-993-804

Card	Cardfile	Slot	Switch ID
R WOW Card	RSCF	A16	A18S6

F. WOW Card Removal

NOTE: If both left and right WOW cards are replaced before the power is reapplied to the WOW cards, the load sensors will have to be calibrated.

SUBTASK 32-09-02-020-001

CAUTION: DO NOT TOUCH THE WOW CARDS BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE WOW CARDS.

(1) Before you touch the WOW card, do this task: ESDS Handling for Printed Circuit Board Removal, TASK 20-41-01-000-801.

SUBTASK 32-09-02-020-002

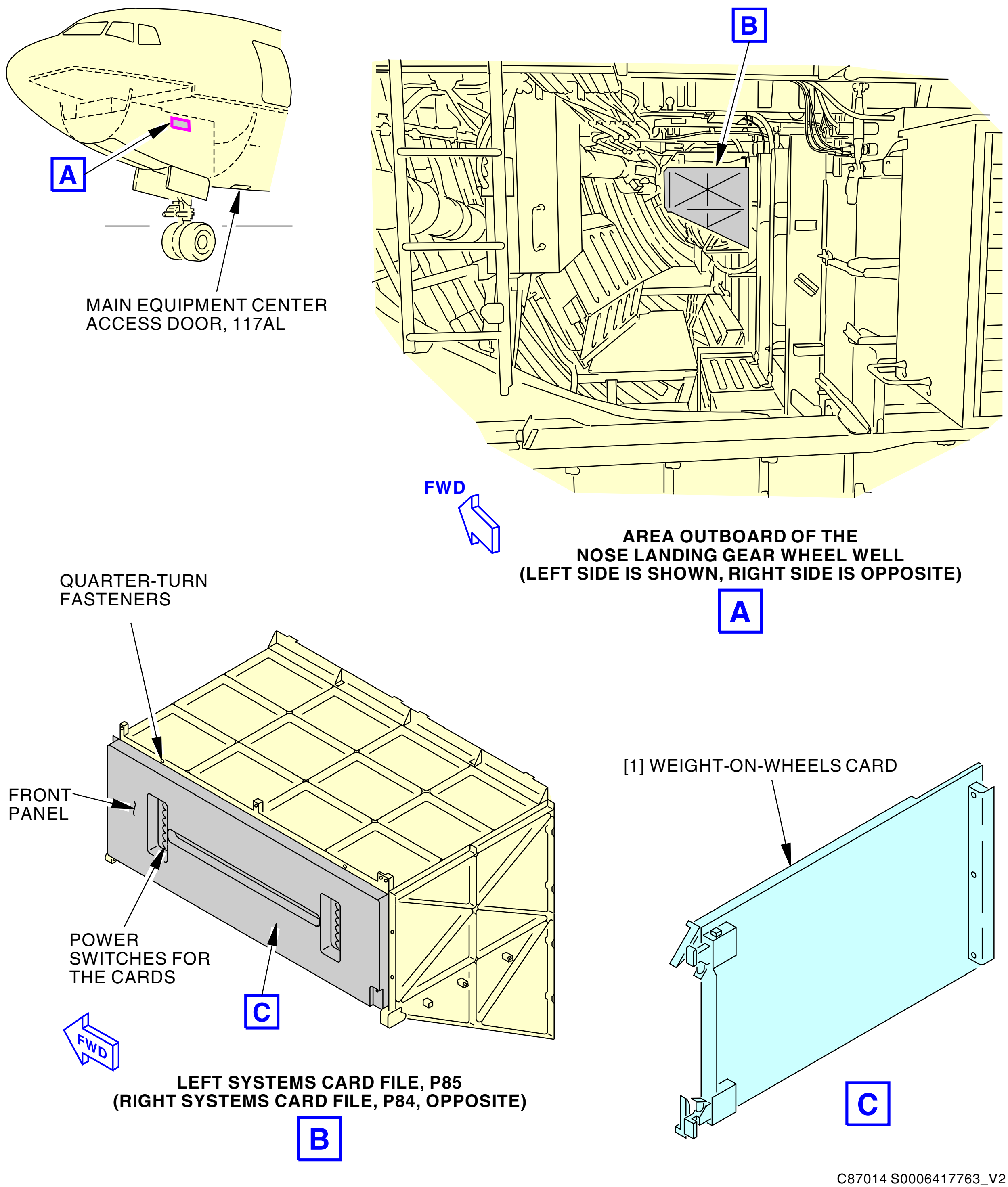
(2) Do these steps to remove the WOW card:

(a) Loosen the captive screws to open the front panel for the applicable systems cardfile.

(b) Remove the WOW card. To remove it, do this task: Printed Circuit Card Removal, TASK 20-10-01-000-802.

(c) Close the front panel for the applicable systems cardfile, and tighten the captive screws.

END OF TASK



Weight-On-Wheels (WOW) Card Installation
Figure 201/32-09-02-990-801

TASK 32-09-02-400-801

3. Weight-on-Wheels (WOW) Card Installation

(Figure 201)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) The configuration check makes sure that the WOW card has correct software.

(2) The configuration check will show a failure if the operational program software (OPS) is not installed.

(3) A maintenance access terminal is necessary for this procedure. For instructions on how to use a maintenance access terminal, do this task: How to Use the Central Maintenance Computing System, TASK 45-10-00-740-808.

(4) The card has a locking mechanism on the end opposite the electrical connectors to prevent an incorrect installation.

B. References

Reference	Title
20-10-01-400-802	Printed Circuit Card Installation (P/B 401)
20-41-01-400-801	ESDS Handling for Printed Circuit Board Installation (P/B 201)
32-09-00-730-801	Air/Ground System (AGS) - System Test (P/B 501)
32-09-03-820-801	WOW Load Sensor Calibration (P/B 201)
45-10-00-740-808	How to Use the Central Maintenance Computing System (P/B 201)

C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
212	Flight Compartment, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. WOW Card Installation

SUBTASK 32-09-02-420-001

CAUTION DO NOT TOUCH THE WOW CARDS BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE WOW CARDS.

(1) Before you touch the WOW card, do this task: ESDS Handling for Printed Circuit Board Installation, TASK 20-41-01-400-801.

SUBTASK 32-09-02-420-002

(2) Do these steps to install the WOW card:

(a) Loosen the captive screws to open the front panel for the applicable systems cardfile.

(b) Install the WOW card. To install it, do this task: Printed Circuit Card Installation, TASK 20-10-01-400-802.

(c) Close the front panel for the applicable systems cardfile, and tighten the captive screws.

SUBTASK 32-09-02-010-002

(3) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

to get access to the systems cardfiles.

SUBTASK 32-09-02-860-003

(4) Set the power switch for the applicable WOW card to the ON position:

(a) Left WOW Card (A16) in the Left Systems Cardfile (P85)

Table 203/32-09-02-993-801

Card	Cardfile	Slot	Switch ID
L WOW Card	LSCF	A16	A18S6

(b) Right WOW Card (A16) in the Right Systems Cardfile (P84)

Table 204/32-09-02-993-802

Card	Cardfile	Slot	Switch ID
R WOW Card	RSCF	A16	A18S6

SUBTASK 32-09-02-860-004

(5) For the Left Systems

(a) Remove the safety tag and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	13	C32628	AIR/GROUND 1

SUBTASK 32-09-02-860-006

(6) For the Right Systems

(a) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	26	C32626	AIR/GROUND 3
G	26	C32627	AIR/GROUND 2

F. WOW Card Installation Test

SUBTASK 32-09-02-750-001

(1) Use a maintenance access terminal (MAT) to do a software configuration check of the WOW card:

NOTE: Make sure you know the correct software part number for the WOW card when you look at the software part number on the display. For the WOW card to be an approved installation, the correct software part number must be installed.

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE

2) LINE MAINTENANCE

3) SYSTEM CONFIGURATION

4) 32 Air/Ground System

5) CONTINUE

(b) Find Weight-on-Wheels Card - (left) or (right) on the display and make sure that the software part number is correct.

NOTE: The configuration check will show a failure if the operational program software (OPS) is not installed.

(c) Select GO BACK to remove the configuration display.

SUBTASK 32-09-02-400-001

(2) If the part number is incorrect, do this task: WOW Software Installation, TASK 32-09-02-400-802.

SUBTASK 32-09-02-820-001

(3) If both of the WOW cards were changed at the same time, do this task: WOW Load Sensor Calibration, TASK 32-09-03-820-801.

SUBTASK 32-09-02-710-001

(4) Do this task: Air/Ground System (AGS) - System Test, TASK 32-09-00-730-801.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-09-02-860-007

(1) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

——— END OF TASK ———

TASK 32-09-02-400-802

4. WOW Software Installation

A. General

(1) This procedure tells you how to install software in the Weight-On-Wheels (WOW). The WOW card must contain this piece of software:

(a) Operational Program Software (OPS).

(2) A Maintenance Access Terminal (MAT) is necessary for this procedure. For instructions on how to use a MAT, do this task: How to Use the Central Maintenance Computing System, TASK 45-10-00-740-808.

(3) If you do not know if the WOW card needs new software, you can first do the software configuration check. It will save time if you only install software when the software is missing or the part number is incorrect. You can find the software configuration check in this task: Weight-on-Wheels (WOW) Card Installation, TASK 32-09-02-400-801.

(4) You can use the GSE-Laptop, maintenance device, SPL-5704, as an alternative to the Portable Maintenance Access Terminal (PMAT) in this task.

NOTE: The GSE-Laptop and the PMAT are equivalent for all of the PMAT functions that you will use in this task.

(5) You can install the software from disks, the MAT hard drive or the PMAT hard drive (if available) or GSE-Laptop (if available). It is recommended that you install software from the MAT or PMAT hard drive or GSE-Laptop. To install new software on the MAT or PMAT hard drive or GSE-Laptop , do this task: How to Add Software to the Hard Drive, TASK 45-10-00-860-812.

NOTE: When new software is installed in the WOW card, the load process first erases the old software and then installs the new software. If you install software directly to the WOW card from a faulty disk, the load process may erase the old software and then fail, so that no software is installed. If you install a faulty disk to the MAT or PMAT hard drive, the load may fail, but you will not erase the software from the WOW card.

(a) It is recommended that you remove old software part numbers from the MAT or PMAT hard drive or GSE-Laptop after new software is installed. To remove software from the hard drive, do this task: How to Remove Software from the Hard Drive, TASK 45-10-00-860-813.

ARO 014-999

(6) You can also install the software from the Onboard Network System (ONS) Mass Storage Device (MSD). To install new software on the ONS MSD, do this task: Mass Storage Device Software Part Installation, TASK 46-13-00-470-802.

(a) It is recommended that you remove old software part numbers from the ONS MSD after new software is installed. To remove software from the ONS MSD, do this task: Mass Storage Device Software Removal, TASK 46-13-00-070-801.

ARO ALL

(7) The airplane must be on the ground with the engines off before you can install software.

(8) To read about the conditions and times necessary for software installation, do this task: On-Airplane Software Installation, TASK 20-15-11-400-801.

B. References

Reference	Title
20-15-11-400-801	On-Airplane Software Installation (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
32-09-00-730-801	Air/Ground System (AGS) - System Test (P/B 501)
45-10-00-740-808	How to Use the Central Maintenance Computing System (P/B 201)
45-10-00-860-812	How to Add Software to the Hard Drive (P/B 201)
45-10-00-860-813	How to Remove Software from the Hard Drive (P/B 201)
46-13-00-070-801	Mass Storage Device Software Removal (P/B 201)
46-13-00-470-802	Mass Storage Device Software Part Installation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-5704	Device - Maintenance Part #: G45004-1 Supplier: 81205 Part #: G45004-3 Supplier: 81205 Opt Part #: G45002-20 Supplier: 81205 Opt Part #: G45002-25 Supplier: 81205 Opt Part #: G45002-29 Supplier: 81205 Opt Part #: J45001-1 Supplier: 81205 Opt Part #: J45003-1 Supplier: 81205

D. Location Zones

Zone	Area
212	Flight Compartment, Right

E. Procedure

SUBTASK 32-09-02-860-008

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-09-02-420-003

(2) Use a MAT to install software in the WOW card:

NOTE: Make sure you know the correct software part number for the WOW before you select the software part number on the display. For the WOW card to be an approved installation, the correct software must be installed.

(a) If the software is on a disk, put the correct disk in the disk drive.

(b) Make these selections on the MAT:

1) ONBOARD MAINTENANCE

2) EXTENDED MAINTENANCE

3) DATA LOAD

(c) Make these selections to select the component that will receive the software:

1) SELECT DESTINATION

2) 32 Air/Ground System

3) Weight-on-Wheels Card (left or right)

4) CONTINUE

(d) Make these selections to select the source of the software:

1) SELECT SOURCE

2) Select the source of the software (if Disk Drive is the only selection, it is automatically selected).

3) Select the correct software part number from the display.

4) CONTINUE

(e) Select START to start the software installation.

NOTE: The software installation is completed in approximately 30 minutes.

(f) When the software installation is completed, make sure the correct software part number shows on the display.

NOTE: When you install WOW software, the MAT may erroneously report the following: "The destination cannot make sure the new load part number is loaded correctly."

1) If this occurs, do the WOW Card Installation Test (software configuration check) SUBTASK 32-09-02-750-001 to make sure that the software part number is installed.

2) The dataload is considered successful if the configuration check indicates the new part number is installed.

(g) Select CONTINUE to remove the configuration display.

SUBTASK 32-09-02-710-002

(3) Do this task: Air/Ground System (AGS) - System Test, TASK 32-09-00-730-801.

——— END OF TASK ———

WEIGHT-ON-WHEELS LOAD SENSOR - MAINTENANCE PRACTICES

1. General
   A. This procedure has these tasks:
      (1) A removal of the Weight-on-Wheels (WOW) load sensors.
      (2) An installation of the WOW load sensors.
      (3) A calibration of the WOW load sensors.
      (4) Adjustment of the WOW load sensors.
         (a) Adjustment of the sensor installation is usually not necessary for replacement of the sensor. Adjustment can be necessary if sensor mounting bracket has been moved or damaged.

TASK 32-09-03-000-801

2. WOW Load Sensor Removal
(Figure 201)

A. General

(1) There are four WOW load sensors. Two WOW load sensors are installed on each of the two main landing gear beams.

B. References

Reference	Title
06-44-00-800-802	Finding an Access Door or Panel on the Wings (P/B 201)
27-51-00-040-801	Trailing Edge Flap Deactivation (P/B 201)
27-51-00-860-804	Extend the Trailing Edge Flaps (P/B 201)

C. Location Zones

Zone	Area
552	Landing Gear Support Beam & Rear Spar to Wing Trailing Edge - Left Wing
652	Landing Gear Support Beam & Rear Spar to Wing Trailing Edge - Right Wing

D. Access Panels

Number	Name/Location
552AB	Inboard Fixed Trailing Edge Panel
652AB	Inboard Fixed Trailing Edge Panel

E. Prepare for the Removal

SUBTASK 32-09-03-860-001

CAUTION
REMOVE ELECTRICAL POWER FROM THE WOW CARD TO PREVENT DAMAGE TO THE AIRPLANE.

(1) Set the power switch for the applicable systems card file to the OFF position:

NOTE: - LEFT AIR/GROUND SYSTEM is related with load sensors M32101 and M32102.
- RIGHT AIR/GROUND SYSTEM is related with load sensors M32201 and M32202.

(a) Left WOW card (A16) in the Left Systems Cardfile (P85)

Table 201/32-09-03-993-803

Card	Card File	Slot	Switch ID
L WOW Card	LSCF	A16	A18S6

(b) Right WOW card (A16) in the Right Systems Cardfile (P84)

Table 202/32-09-03-993-804

Card	Card File	Slot	Switch ID
R WOW Card	RSCF	A16	A18S6

SUBTASK 32-09-03-860-005

(2) Do this task: Extend the Trailing Edge Flaps, TASK 27-51-00-860-804.

SUBTASK 32-09-03-040-001

(3) Do this task: Trailing Edge Flap Deactivation, TASK 27-51-00-040-801.

SUBTASK 32-09-03-020-002

(4) To get access to the WOW Load Sensor, do this task: Finding an Access Door or Panel on the Wings, TASK 06-44-00-800-802.

Remove the applicable access panel:

Number	Name/Location
552AB	Inboard Fixed Trailing Edge Panel

or open this access panel:

Number	Name/Location
652AB	Inboard Fixed Trailing Edge Panel

F. WOW Load Sensor Removal

SUBTASK 32-09-03-010-001

(1) Remove the four bolt [1] to remove the applicable cover (LMLG) [2] or cover (RMLG) [10].

SUBTASK 32-09-03-020-001

(2) Do these steps to remove the load sensor [3]:

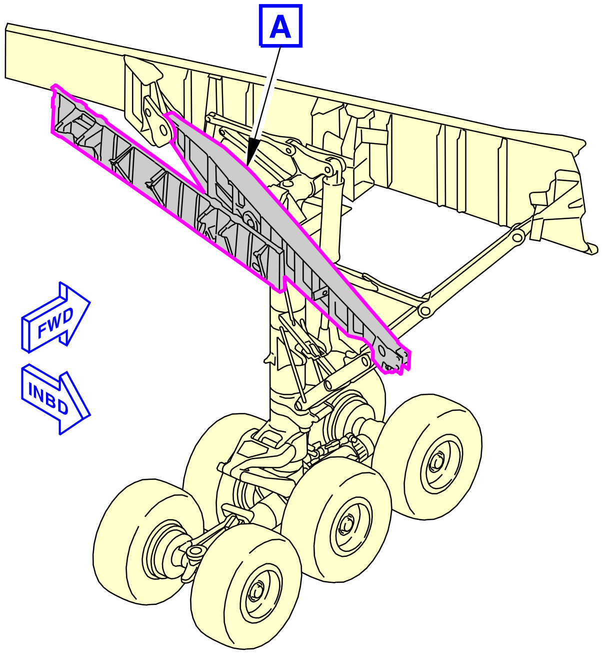
(a) Disconnect the electrical connector [6] from the load sensor.

(b) Remove the nut [4], washer [5], washer [8], bolt [9] and clip [7].

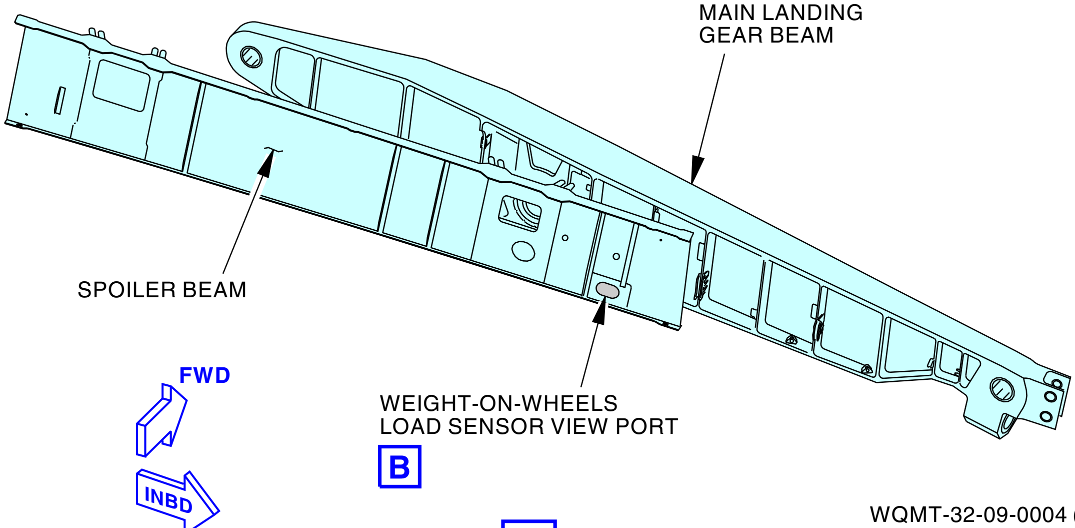
(c) Remove the load sensor [3].

NOTE: Do not remove or change any shims on the brackets.

——— END OF TASK ———



LEFT MAIN LANDING GEAR
(EXAMPLE)



A

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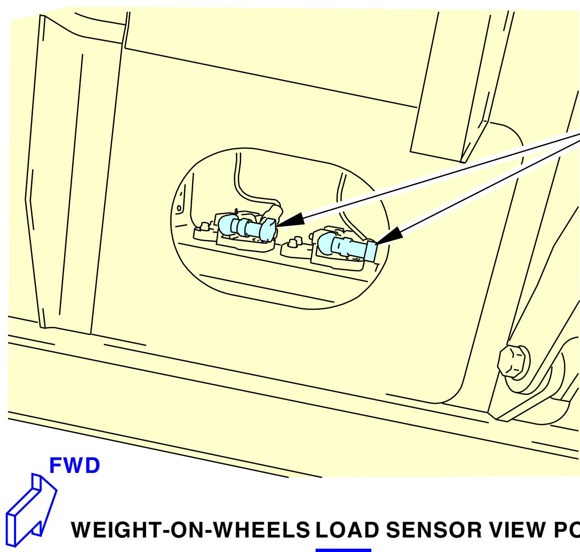
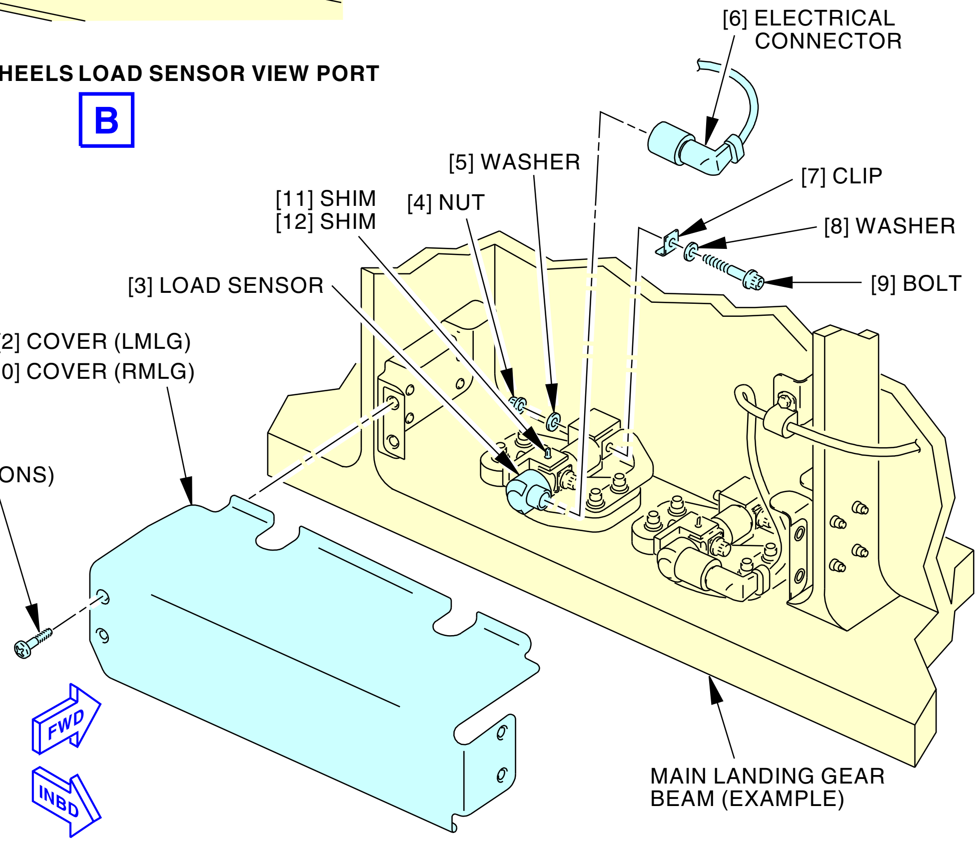
Weight-on-Wheels (WOW) Load Sensor
Figure 201/32-09-03-990-801 (Sheet 1 of 2)



WEIGHT-ON-WHEELS LOAD SENSOR VIEW PORT

B



WEIGHT-ON-WHEELS LOAD SENSORS
(LEFT SIDE IS SHOWN, RIGHT SIDE IS EQUIVALENT)

C

NOTE:

WEIGHT-ON-WHEELS LOAD SENSORS COVER REMOVED.

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Weight-on-Wheels (WOW) Load Sensor
Figure 201/32-09-03-990-801 (Sheet 2 of 2)

TASK 32-09-03-400-801

3. WOW Load Sensor Installation

(Figure 201)

A. References

Reference	Title
06-44-00-800-802	Finding an Access Door or Panel on the Wings (P/B 201)
27-51-00-440-801	Trailing Edge Flap Reactivation (P/B 201)
27-51-00-860-805	Retract the Trailing Edge Flaps (P/B 201)
SWPM 20-20-00	Standard Wiring Practices Manual

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meters - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: T477W Supplier: 01014 Opt Part #: M1B Supplier: 3AD17

C. Consumable Materials

Reference	Description	Specification
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Load sensor	32-09-03-01-370	ARO ALL

E. Location Zones

Zone	Area
552	Landing Gear Support Beam & Rear Spar to Wing Trailing Edge - Left Wing
652	Landing Gear Support Beam & Rear Spar to Wing Trailing Edge - Right Wing

F. Access Panels

Number	Name/Location
552AB	Inboard Fixed Trailing Edge Panel
652AB	Inboard Fixed Trailing Edge Panel

G. Procedure

SUBTASK 32-09-03-390-001

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(1) Apply Cor-Ban 27L Compound, G50237 to the threads and shank of the bolt [9].

SUBTASK 32-09-03-420-001

(2) Install the load sensor [3], clip [7], washer [5], washer [8], nut [4] and bolt [9].

(a) Make sure the clip [7] holds the load sensor [3] tightly against the upper lip of the bracket.

(b) Tighten the nut [4] to 50 in-lb (6 N·m)-75 in-lb (8 N·m).

SUBTASK 32-09-03-760-001

(3) Measure the resistance between the load sensor [3] and the main landing gear beam with a intrinsically safe approved bonding meter, COM-1550 (SWPM 20-20-00).

(a) Make sure the resistance is less than or equal to 0.008 ohms (8 milliohms).

SUBTASK 32-09-03-420-002

(4) Connect the electrical connector [6] to the load sensor [3].

SUBTASK 32-09-03-860-002

(5) Set the power switch on the applicable systems card file to the ON position:

(a) Left WOW card (A16) in the Left Systems Cardfile (P85)

Table 203/32-09-03-993-801

Card	Card File	Slot	Switch ID
L WOW Card	LSCF	A16	A18S6

(b) Right WOW card (A16) in the Right Systems Cardfile (P84)

Table 204/32-09-03-993-802

Card	Card File	Slot	Switch ID
R WOW Card	RSCF	A16	A18S6

SUBTASK 32-09-03-480-001

(6) Do this task: WOW Load Sensor Calibration, TASK 32-09-03-820-801.

SUBTASK 32-09-03-420-004

(7) Install the applicable cover (LMLG) [2] or cover (RMLG) [10] and the four bolts [1].

SUBTASK 32-09-03-410-001

(8) Do this task: Finding an Access Door or Panel on the Wings, TASK 06-44-00-800-802.

Install the applicable access panel:

Number	Name/Location
552AB	Inboard Fixed Trailing Edge Panel

or close this access panel:

Number	Name/Location
652AB	Inboard Fixed Trailing Edge Panel

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-09-03-860-006

(1) Do this task: Trailing Edge Flap Reactivation, TASK 27-51-00-440-801.

SUBTASK 32-09-03-860-007

(2) Do this task: Retract the Trailing Edge Flaps, TASK 27-51-00-860-805.

——— END OF TASK ———

TASK 32-09-03-820-801

4. WOW Load Sensor Calibration

A. General

(1) The sensor calibration sets the air and ground limits that give the "on-ground" or the "in-air" signals.

(2) A maintenance access terminal is necessary for this procedure. For instructions on how to use a maintenance access terminal, do this task: How to Use the Central Maintenance Computing System, TASK 45-10-00-740-808.

(3) You must do a calibration test if you have any of the conditions that follow:

(a) You install a new load sensor.

(b) The load sensor mounting bracket was moved or damaged.

(c) Both of the Weight-on-Wheels (WOW) cards were changed at the same time.

(d) A landing gear change or reinstallation.

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
32-09-00-730-801	Air/Ground System (AGS) - System Test (P/B 501)
45-10-00-740-808	How to Use the Central Maintenance Computing System (P/B 201)
45-10-00-910-810	How to Operate the MAT in the Flight Compartment (P/B 201)

C. Location Zones

Zone	Area
212	Flight Compartment, Right

D. Prepare to Do the Calibration

SUBTASK 32-09-03-860-004

(1) Do all of these steps to prepare for calibration:

(a) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

(b) Make sure the AIR/GND IND section in the bottom right corner of the LANDING GEAR ACTN/INDN maintenance page in the multi-function display (MFD) is not in the simulation mode.

NOTE: The word "SIM" next to the sensor state indicates the sensor is in simulation mode.

(c) Make sure the BATTERY switch, on the P5, is in the ON position.

(d) Make sure the STANDBY PWR switch, on the P61, is in the AUTO position.

(e) Set the Maintenance/Test Enable switch, on the P61 panel, to the ENABLE position.

(f) Make sure the left AIMS is in control.

NOTE: The upper right corner of the existing faults page on the MAT lists which AIMS is in control.

(g) Make sure the tail ID is correct.

NOTE: The tail ID will show on the upper right corner of the existing faults page.

SUBTASK 32-09-03-740-001

(2) Use the MAT to do the calibration (How to Operate the MAT in the Flight Compartment, TASK 45-10-00-910-810):

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE

2) OTHER FUNCTIONS

3) PSEU AND AIR GROUND RIGGING

4) 32 Air/Ground System

5) CONTINUE

6) Select the applicable replaced load sensor that follows:

a) M32101 Left MLG beam - (left sys) calibration. (This is the outboard sensor for the left gear)

b) M32201 Left MLG beam - (right sys) calibration. (This is the inboard sensor for the left gear)

c) M32102 Right MLG beam - (left sys) calibration. (This is the outboard sensor for the right gear)

d) M32202 Right MLG beam - (right sys) calibration. (This is the inboard sensor for the right gear)

7) CONTINUE

NOTE: The Air/Ground Rigging/Calibration screen will show on the MAT.

8) Make sure the sensor count is within the applicable air or ground limits as shown on the MAT display.

a) If sensor count is not within the limits, adjust the sensor installation in the task that follows.

NOTE: If any of the sensors are not within the range, the software will not allow to calibrate that sensor.

The error message, "sensor out of range" will appear on the sensor status menu.

E. Do the Calibration

SUBTASK 32-09-03-820-001

(1) Do the instructions that show on the MAT and then make these selections:

NOTE: All load sensors must be calibrated individually. To calibrate all four sensors the task must be done four times.

(a) CALIBRATE

(b) Set AIR CALIBRATION or GROUND CALIBRATION on the MAT.

NOTE: - Use AIR CALIBRATION if the airplane is fully on the jacks.

- Use GROUND CALIBRATION (Preferred) if the airplane is on the wheels.

(c) CONTINUE

(d) Make sure the AIR CALIBRATION or GROUND CALIBRATION of the replaced load sensor is completed.

NOTE: A successful calibration should show, "GROUND or AIR" sensor status and the delta in set-point should be 110-120 counts.

SUBTASK 32-09-03-730-001

(2) Do this task: Air/Ground System (AGS) - System Test, TASK 32-09-00-730-801.

SUBTASK 32-09-03-860-008

(3) Set the Maintenance/Test Enable switch, on the P61 panel, to the NORM position.

END OF TASK

TASK 32-09-03-820-802

5. Adjustment of the WOW Load Sensor Installation

(Figure 202)

A. General

(1) This task provides steps to adjust the WOW load sensor installation with the addition or subtraction of shims between the sensor and its mounting bracket.

(2) A maintenance access terminal (MAT) is necessary for this task. For instructions on how to use a MAT, do this task: How to Use the Central Maintenance Computing System, TASK 45-10-00-740-808.

B. References

Reference	Title
45-10-00-740-808	How to Use the Central Maintenance Computing System (P/B 201)

C. Consumable Materials

Reference	Description	Specification
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
11	Shim	32-09-03-01-415	ARO ALL
12	Shim	32-09-03-01-420	ARO ALL

E. Location Zones

Zone	Area
212	Flight Compartment, Right

F. Do the Adjustment

SUBTASK 32-09-03-820-002

WARNING: USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(1) Adjust the WOW load sensor to get the correct sensor counts:

(a) If the load sensor is installed, do this task: WOW Load Sensor Removal, TASK 32-09-03-000-801.

(b) Add shims or remove shim laminations to get the correct adjustment.

NOTE: To increase the sensor count (as shown on the MAT display), decrease the shim [11] or shim [12] thickness.

To decrease the sensor count (as shown on the MAT display), increase the shim [11] or shim [12] thickness.

(c) Install the WOW load sensor but do not apply Cor-Ban 27L Compound, G50237 to the threads and shank of the bolt. To install it, do this task: WOW Load Sensor Installation, TASK 32-09-03-400-801.

NOTE: Make sure the nuts are tightened to the correct torque.

NOTE: The Cor-Ban 27L Compound, G50237 will be applied after you do the calibration.

(d) Do this task: WOW Load Sensor Calibration, TASK 32-09-03-820-801.

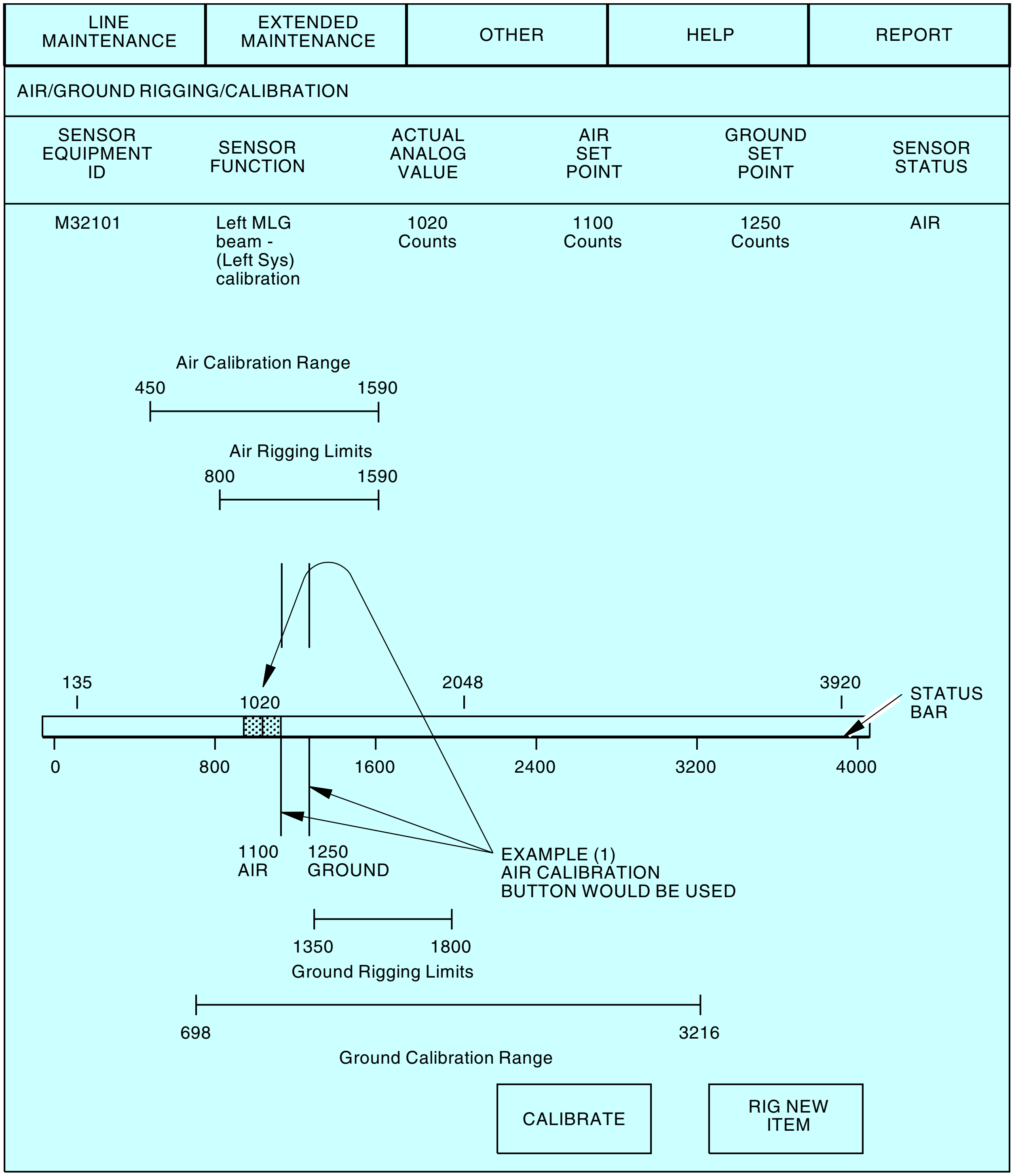
1) Look on the MAT display and make sure the sensor count is within the rigging limits.

(e) After adjustment, if the sensor count continues to be out of the rigging limits, then the bracket must be replaced.

1) Do this task: WOW Load Sensor Calibration, TASK 32-09-03-820-801.

(f) Apply Cor-Ban 27L Compound, G50237 to the threads and shank of the bolt [9] (TASK 32-09-03-400-801).

END OF TASK



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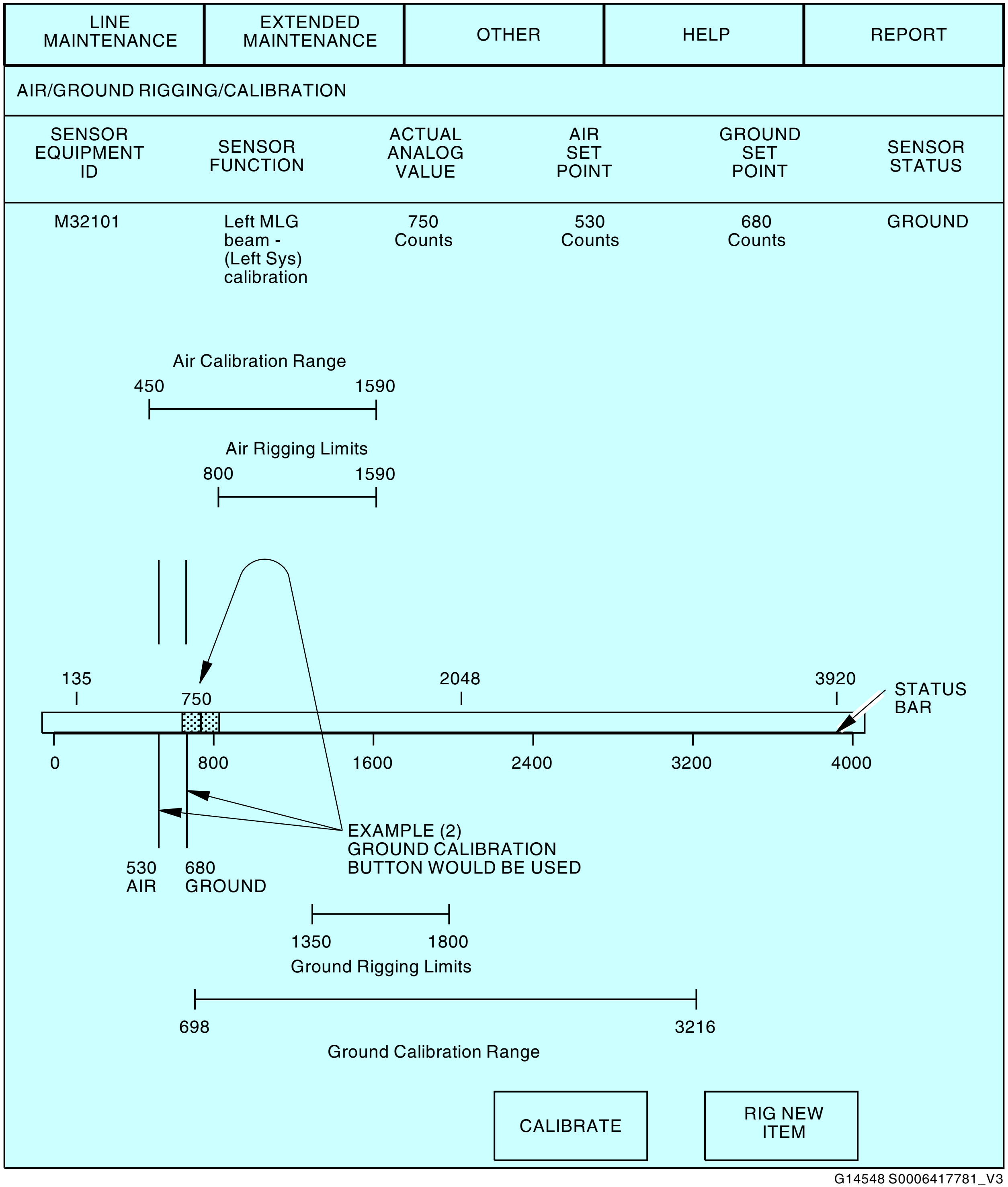
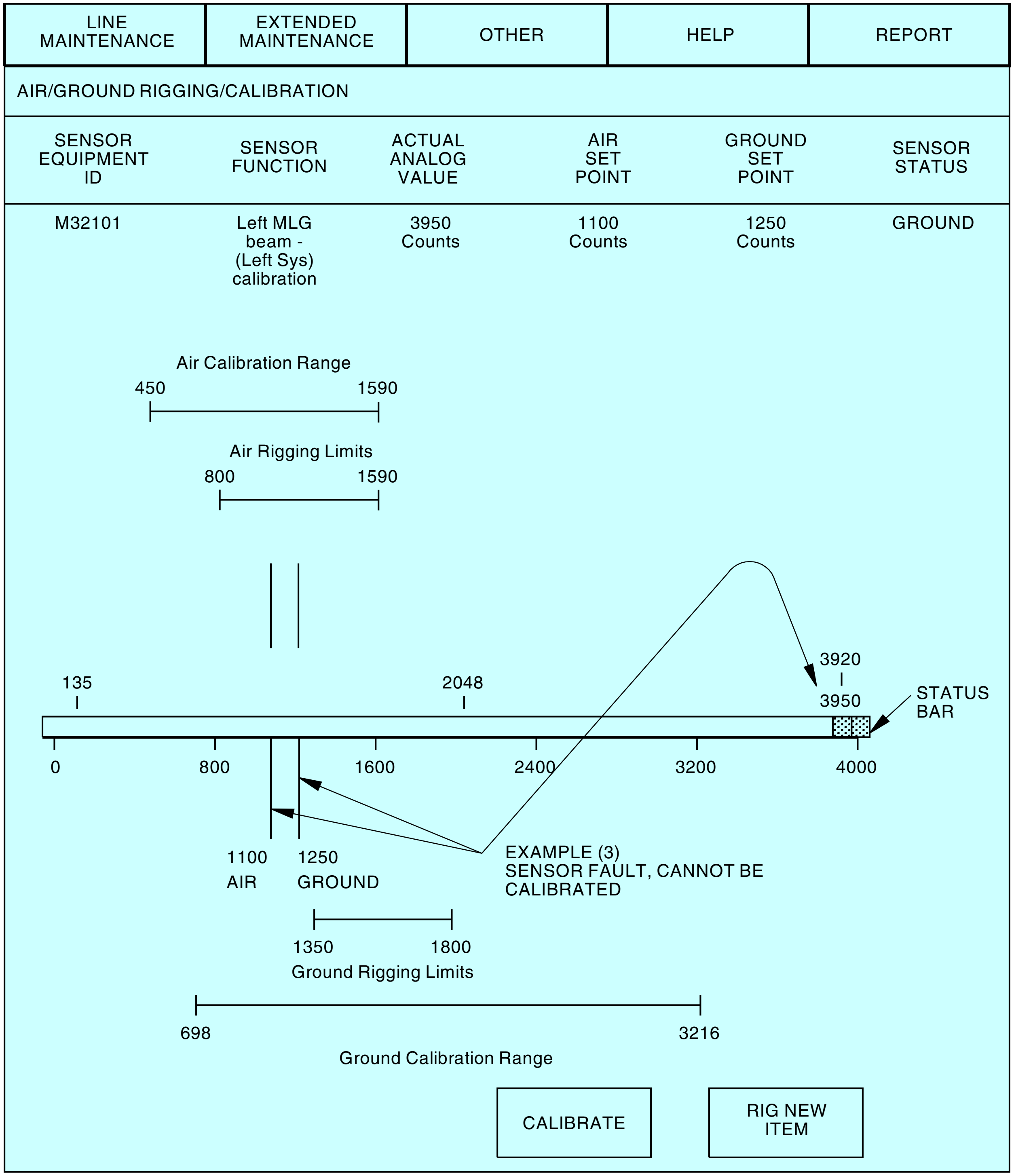
Air/Ground Rigging/Calibration - MAT Displays
Figure 202/32-09-03-990-802 (Sheet 1 of 3)



Air/Ground Rigging/Calibration - MAT Displays
Figure 202/32-09-03-990-802 (Sheet 2 of 3)



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Air/Ground Rigging/Calibration - MAT Displays
Figure 202/32-09-03-990-802 (Sheet 3 of 3)

UPLOCK ROLLER - MAINTENANCE PRACTICES

1. General

A. This procedure contains this task:

TASK 32-11-00-800-801

2. Main Landing Gear Uplock Roller - Inspection/Check

A. Consumable Materials

Reference	Description	Specification
A00226	Compound - Tamper-Proof Putty	BMS8-45
D00633	Grease - Aircraft General Purpose	BMS3-33
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38

B. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

C. General

SUBTASK 32-11-00-220-001

(1) The uplock roller is symmetrical and can be rotated end for end to provide a fresh contact surface prior to the need for roller replacement.

SUBTASK 32-11-00-000-001

(2) Remove the uplock roller:

(a) Remove the lockbolt and lockbolt nut.

(b) Remove the nut from the uplock roller pin.

(c) Remove the pin and the uplock roller.

SUBTASK 32-11-00-400-001

(3) Install the uplock roller:

(a) Lubricate the chrome plated surfaces of the uplock roller pin with grease, D00633.

(b) Install the uplock roller and pin.

(c) Apply a thin coating of corrosion inhibiting material, G50136 to the threads and thread relief of the pin, the washer faces and to the lockbolt and nut.

(d) Tighten the nut to 180 ft-lb (244.0 N·m) to 200 ft-lb (271.2 N·m). Loosen the nut to the nearest crossbolt hole.

(e) Install the lockbolt and nut.

(f) Remove any excess corrosion preventive compound.

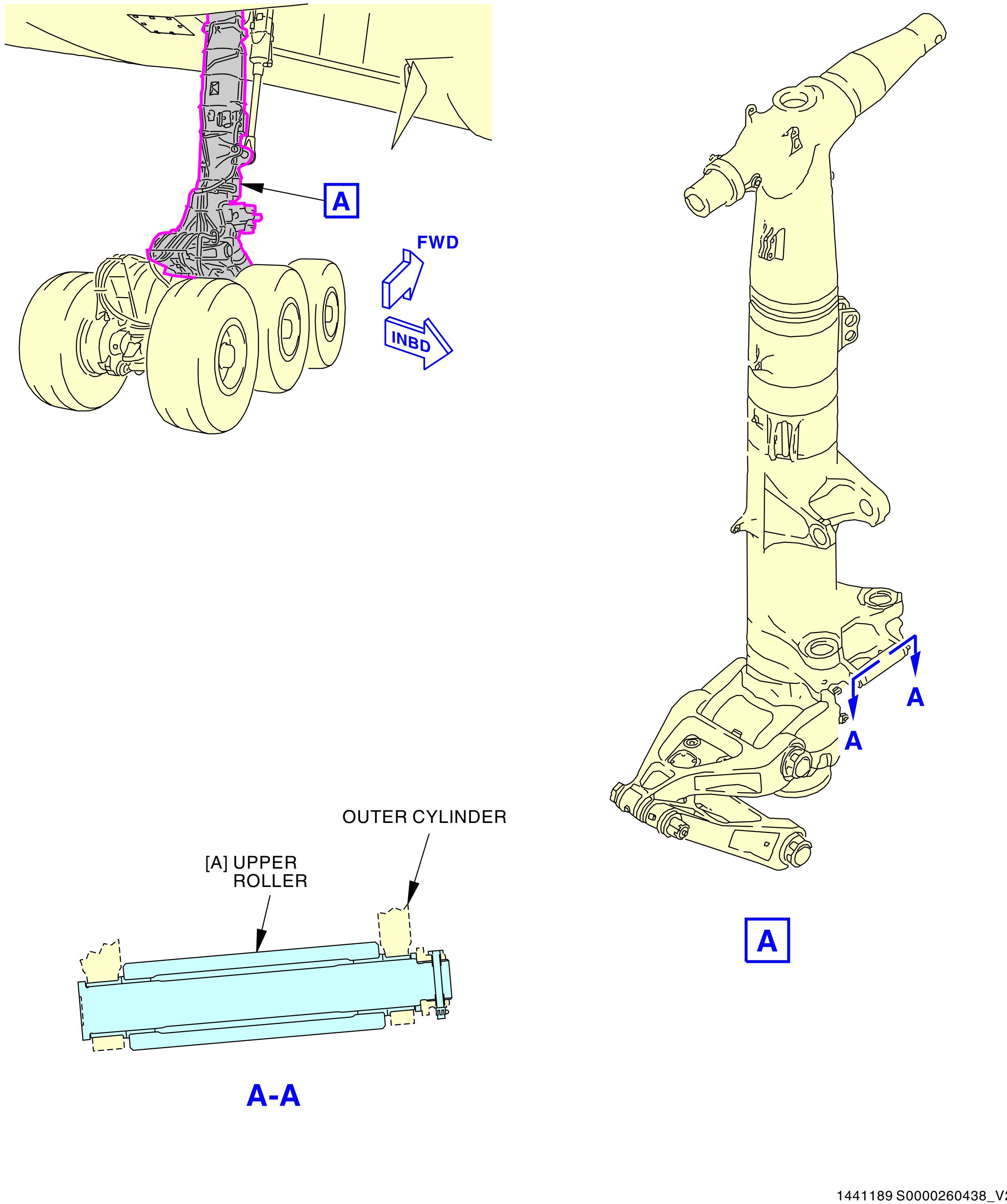
(g) Apply compound, A00226 to the nut of the lockbolt

SUBTASK 32-11-00-220-002

(4) Use the table to find the permitted wear limit.

INDEX NUMBER	NAME OF THE PAfRT	DIM.	DIAMETER DESIGN LIMIT MINIMUM inches/mm	DIAMETER DESIGN LIMIT MAXIMUM inches/mm	WEAR LIMIT
[A]	Uplock Roller	O.D.	2.980 in. (75.692 mm)	2.990 in. (75.946 mm)	2.960 in. (75.184 mm)

END OF TASK



Main Landing Gear Uplock Roller - Inspection/Check
Figure 201/32-11-00-990-805

MAIN LANDING GEAR - REMOVAL/INSTALLATION

1. **General**
   A. This procedure contains scheduled maintenance task data.
   B. This procedure has these tasks:
      (1) A removal of the main landing gear using an overhead crane.
      (2) An installation of the main landing gear using an overhead crane.
      (3) An alternate procedure for removal of the main landing gear using three tower tool.
      (4) An alternate procedure for installation of the main landing gear using three tower tool.
   C. The procedures to remove and install the main landing gear using the overheard crane is easier to perform than the procedure using the three tower tool. If you do not have access to an overhead crane for landing gear removal, you can use the three tower tool to remove and install the main landing gear.
   D. If you use the overhead crane, it should be capable of lifting approximately 15,000 pounds (6800 kg).

TASK 32-11-01-020-803

2. **Main Landing Gear Removal, Using an Overhead Crane**
   (Figure 401, Figure 402, Figure 403, Figure 404,Figure 408, Figure 405)

   A. **General**
      (1) This task supplies instructions to remove the main landing gear from the airplane using an overhead crane and nylon webbing straps.
      (2) Make sure that you have a load indication for the overhead crane; do not lift more than 12,000 pounds (5400 kg) with the overhead crane.

   B. **References**

Reference	Title
06-44-00-800-802	Finding an Access Door or Panel on the Wings (P/B 201)
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
27-51-00-040-801	Trailing Edge Flap Deactivation (P/B 201)
27-51-00-440-801	Trailing Edge Flap Reactivation (P/B 201)
27-51-00-860-804	Extend the Trailing Edge Flaps (P/B 201)
27-51-00-860-805	Retract the Trailing Edge Flaps (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-11-03-000-816-002	Side Brace Assembly Removal (P/B 401)
32-11-10-000-807	Drag Brace Assembly Removal (P/B 401)
32-12-06-020-801	Main Landing Gear Shock Strut Door Removal (P/B 401)
32-12-08-020-802	Main Landing Gear Drag Strut Door Removal (P/B 401)
32-12-11-020-801	Main Landing Gear Trunnion Door Removal (P/B 401)
32-32-25-020-801	Main Landing Gear (SLG) Hydraulic Strut Removal (P/B 401)
57-54-01-910-801	MLG Forward and Aft Trunnion Bearing Wear Limits (P/B 601)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1826	Pump - Retraction/Extension, Landing Gear Actuator Part #: A32027-177 Supplier: 81205 Part #: A32027-178 Supplier: 81205
SPL-1843	Puller - Fuse Pin, MLG FWD Trunnion Support Part #: J32038-52 Supplier: 81205 Part #: J32038-53 Supplier: 81205
SPL-1846	Turnbuckle - MLG Truck Position Actuator Part #: J32034-1 Supplier: 81205
SPL-1853	Retainer Equipment, MLG/NLG Torsion Link Part #: J32054-91 Supplier: 81205 Part #: J32054-92 Supplier: 81205
SPL-1859	Equipment - Removal/Installation, MLG Aft Trunnion Pin Part #: J32036-56 Supplier: 81205 Part #: J32036-75 Supplier: 81205 Opt Part #: J32036-55 Supplier: 81205 Opt Part #: J32036-57 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205
SPL-4266	Sling - MLG Removal / Installation Part #: A5270-10L Supplier: 4Y309
SPL-4685	Turnbuckle Eqpt, MLG Shock Strut Part #: J32087-1 Supplier: 81205

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Access Panels

Number	Name/Location
551BB	Inboard Fixed Trailing Edge Panel
551DB	Inboard Fixed Trailing Edge Panel
551DT	Left Main Landing Gear Upper Wing Panel
551EB	Inboard Fixed Trailing Edge Panel
551FB	Inboard Fixed Trailing Edge Panel
552BB	Inboard Fixed Trailing Edge Panel
651BB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel
651DT	Right Main Landing Gear Upper Wing Panel
651EB	Inboard Fixed Trailing Edge Panel
651FB	Inboard Fixed Trailing Edge Panel

(Continued)

Number	Name/Location
652BB	Inboard Fixed Trailing Edge Panel

F. Prepare for the Removal

SUBTASK 32-11-01-490-001

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-01-490-002

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-01-860-043

(3) To extend the trailing edge flaps to 20 units, do this task: Extend the Trailing Edge Flaps, TASK 27-51-00-860-804

(Figure 402).

NOTE: This will provide access to the aft trunnion pin.

SUBTASK 32-11-01-860-025

(4) Do this task: Trailing Edge Flap Deactivation, TASK 27-51-00-040-801.

SUBTASK 32-11-01-860-026

(5) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR
M	19	C32617	LG TIRE PRESSURE INDICATOR
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1
N	27	C32619	LG MAIN GEAR STEERING
N	28	C32618	LG BRAKE TEMP MONITOR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

(Continued)

Standby Power Management Panel, P310

Row	Col	Number	Name
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

SUBTASK 32-11-01-040-001

(6) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Right Power Management Panel, P210

Row	Col	Number	Name
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

SUBTASK 32-11-01-860-027

(7) For the ALL of the hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-11-01-860-028

(8) Push the brake pedals a minimum of twelve times to remove the pressure from the brake lines.

SUBTASK 32-11-01-480-015

(9) Lift the airplane a small amount to set the jacks properly and to keep the airplane level when the shock strut is deflated, (TASK 07-11-01-580-804).

SUBTASK 32-11-01-020-126

WARNING DO NOT REMOVE THE VALVE BODY UNTIL THE SHOCK STRUT IS FULLY DEFLATED. IF YOU REMOVE THE VALVE BODY WHEN THERE IS PRESSURE, THE PRESSURE CAN BLOW THE VALVE BODY OUT AND CAUSE INJURY TO PERSONS.

(10) Deflate the shock strut [4] for the main landing gear [152] (Figure 401):

(a) Remove the cap [1] for the gas valve [2].

(b) Loosen the gas valve swivel nut [3] a maximum of two turns.

NOTE: Fluid in the shock strut [4] will have bubbles when you release the pressure. Deflate the shock strut slowly to prevent the leakage of the fluid through the gas valve.

(c) Loosen the gas valve swivel nut [3] fully when all of the pressure in the shock strut [4] is released.

SUBTASK 32-11-01-480-016

(11) Install the retainer equipment, SPL-1853 [13] on the main landing gear to hold the shock strut [4] in its compressed position.

(a) If you set the airplane jacks before you deflated the landing gear, you will need to use floor jacks to compress the shock strut before you install the torsion link retainer [13].

NOTE: This will make sure the landing gear center of gravity is in the correct location.

SUBTASK 32-11-01-020-127

(12) Remove the access panels that follow for the left or right gear (Left gear, Right gear) (TASK 06-44-00-800-802) (Figure 402):

(a) Remove this access panel for the left or right gear (Left gear, Right gear)

Number	Name/Location
551BB	Inboard Fixed Trailing Edge Panel
651BB	Inboard Fixed Trailing Edge Panel

(b) Remove this access panel for the left or right gear (Left gear, Right gear):

Number	Name/Location
552BB	Inboard Fixed Trailing Edge Panel
652BB	Inboard Fixed Trailing Edge Panel

NOTE: It is only necessary to remove this panel if you want extra access to the aft trunnion pin [43].

(c) Remove this access panel for the left or right gear (Left gear, Right gear):

Number	Name/Location
551FB	Inboard Fixed Trailing Edge Panel
651FB	Inboard Fixed Trailing Edge Panel

(d) Remove this access panel for the left or right gear (Left gear, Right gear):

Number	Name/Location
551EB	Inboard Fixed Trailing Edge Panel
651EB	Inboard Fixed Trailing Edge Panel

NOTE: It is necessary to remove this panel so you can remove the trunnion door.

(e) Remove this access panel for the left or right gear (Left gear, Right gear):

Number	Name/Location
551DT	Left Main Landing Gear Upper Wing Panel
651DT	Right Main Landing Gear Upper Wing Panel

NOTE: This panel is directly above the landing gear trunnion, it is not illustrated.

SUBTASK 32-11-01-020-204

(13) To get access to the trunnion door actuator rod and the reaction links for the main landing gear actuator, do this step: (TASK 06-44-00-800-802) (Figure 402).

Open this access panel on the left or right wing (Left wing, Right wing):

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

SUBTASK 32-11-01-020-129

(14) Do this task: Main Landing Gear Trunnion Door Removal, TASK 32-12-11-020-801.

SUBTASK 32-11-01-020-130

(15) Do this task: Main Landing Gear Shock Strut Door Removal, TASK 32-12-06-020-801.

SUBTASK 32-11-01-020-131

(16) Remove the bolt [17] to disconnect the actuator rod [16] for the drag brace door [22] from the drag brace [7] (Figure 401).

SUBTASK 32-11-01-020-132

(17) Do this task: Main Landing Gear Drag Strut Door Removal, TASK 32-12-08-020-802.

SUBTASK 32-11-01-020-133

(18) Disconnect the outboard end of the aft panel support beam [44] and the three links (Figure 402):

(a) Remove the two bolt [47], the three bolts [45], and the four bolts [49] from the outboard end of the aft panel support beam [44].

(b) Remove the three bolts [52] to disconnect the three links from the panel support beam [44].

(c) Use a rope to support the panel support beam [44] a small amount aft of the main landing gear beam [51].

SUBTASK 32-11-01-020-134

(19) Disconnect the forward panel support beam [58]:

(a) Remove the bolt [59] to disconnect the outboard end of the forward panel support beam [58] from the link.

(b) Remove the two bolts [70], the three bolts [64], the bolt [66], and bolt [68] from the inboard end of the forward panel support beam [58].

G. Procedure to Remove the Main Landing Gear

SUBTASK 32-11-01-020-138

(1) Disconnect the electrical connectors [109], [110]:

(a) Disconnect the electrical connectors [109], [110] from the connector bracket [111] on the rear spar.

(b) Remove the screws [107] and the washers [108] to disconnect the electrical conduit fitting [106] from the conduit bracket [111] on the rear spar.

(c) Seal the electrical connectors [109], [110] with a cap.

SUBTASK 32-11-01-020-139

(2) Disconnect the electrical wiring tray [193] and clamps [191] that are above forward trunnion housing [170] (Figure 404,):

(a) Remove the clamps [191] and screws [192] and electrical wiring tray [193].

(b) Hold the electrical wiring up and out of the work area with rope or similar tie strap.

SUBTASK 32-11-01-000-001

(3) Do this task: Main Landing Gear (SLG) Hydraulic Strut Removal, TASK 32-32-25-020-801.

SUBTASK 32-11-01-480-022

(4) Install the turnbuckle equipment, SPL-4685 [12] or the MLG truck position actuator turnbuckle, SPL-1846 [12] in the hydraulic strut location.

(a) For turnbuckle equipment, SPL-4685 [12], install the tool pins to connect the turnbuckle to the truck and the outer cylinder.

SUBTASK 32-11-01-020-142

(5) Lift the airplane with jacks (TASK 07-11-01-580-804).

(a) If you will not use a landing gear pit with an elevator, lift the airplane until the landing gear wheels are 36 inches (0.92 meters) above the ground.

NOTE: You must lift airplane 36 inches (0.92 meters) to have enough room to remove and install the gear easily.

(b) If you will use a landing gear pit with an elevator, lift the airplane until the landing gear wheels are 3-4 inches (76-102 mm) above the ground.

SUBTASK 32-11-01-020-144

(6) To disconnect the side brace [15] and the lock links [5] from the shock strut [4], do this task: Side Brace Assembly Removal, TASK 32-11-03-000-816-002.

SUBTASK 32-11-01-020-145

(7) To disconnect the drag brace [7] and the lock links [6] from the shock strut [4], do this task: Drag Brace Assembly Removal, TASK 32-11-10-000-807.

SUBTASK 32-11-01-020-194

(8) Disconnect these parts for the retract actuator [92] (Figure 403):

(a) Disconnect the upper and lower reaction links [93], [94]:

1) Use the wrench kit, SPL-4133 to remove the pin [100] and the nut [102] to disconnect the lower reaction link [94] from the retract fitting [95] (Figure 405).

NOTE: The thread protector from wrench kit, SPL-4133 can be installed on the pin [100] before it is removed.

2) Use the wrench kit, SPL-4133 to remove the pin [200] and the nut [102] to disconnect the lower reaction link [94] from the upper reaction link [93] (Figure 405).

NOTE: The thread protector from wrench kit, SPL-4133 can be installed on the pin [200] before it is removed.

3) Remove the reaction link [94] from the airplane.

4) Disconnect the upper reaction link [93] from the retract fitting [95] and the link [121].

a) Use the wrench kit, SPL-4133 to remove the pin [96] and the nut [98] (Figure 405).

b) Remove the pin [120] and the nut [122].

NOTE: The thread protector from wrench kit, SPL-4133 can be installed on the pin [120] before it is removed.

5) Remove the reaction link [93] from the airplane.

(b) Disconnect the link [121] from the retract fitting [190].

1) Remove the pin [185] and the nut [187].

(c) Disconnect the aft hydraulic line from the retract actuator:

1) Disconnect the aft hydraulic line [104] from the elbow fitting [105].

2) Install caps on the hydraulic lines [104] and the elbow fittings [105].

(d) Disconnect the forward swivel fitting from the retract actuator.

NOTE: This will prevent damage to the swivel fitting when you turn the landing gear for removal.

SUBTASK 32-11-01-020-195

(9) If you will retract the main landing gear actuator to reduce the overall height of the landing gear, do the steps that follow:

NOTE: This will reduce the overall height of the landing gear for rolling the landing gear from beneath the airplane wing, it is not necessary to do these steps if the airplane is lifted high enough.

(a) Retract the retract actuator [92]:

1) Install the landing gear actuator pump, SPL-1826 on the retract actuator [92].

2) Use the landing gear actuator pump, SPL-1826 to turn the retract fitting [95] so the actuator [92] is in its retracted position.

3) Remove the landing gear actuator pump, SPL-1826 from the retract actuator [92].

(b) Put a cap on the hydraulic ports of the retract actuator [92].

SUBTASK 32-11-01-020-196

(10) Remove the hydraulic lines that follow:

(a) Put tags on the hydraulic line [112], hydraulic line [200], hydraulic line [201], hydraulic line [202], hydraulic line [203], six hydraulic lines [118] to make installation easier.

(b) Disconnect and remove the five hydraulic lines [112], [200], [201], [202], [203] on the inboard side, and six hydraulic lines [118] on the outboard side, of the upper shock strut [4].

(c) Put a cap on the hydraulic ports.

(d) Put plugs in the hydraulic line [112], hydraulic line [200], hydraulic line [201], hydraulic line [202], hydraulic line [203] and hydraulic lines [118].

SUBTASK 32-11-01-020-146

(11) Remove the bolt [155], bolt [161], washer [156, washer [157], and nut [158] to remove the two side load strap [162] from the supports for the forward trunnion housing (Figure 404).

SUBTASK 32-11-01-020-147

(12) Remove the upper housing assembly [166]:

NOTE: The upper housing assembly [166] and the forward trunnion housing assembly [170] are a matched set and must be kept together. Do not replace one part with out replacing the other.

(a) Remove the retaining bolts [163] for the two fuse pins [159] for the upper housing assembly [166].

(b) Use the MLG FWD trunnion support fuse pin puller, SPL-1843 to remove the two fuse pins [159] from the upper housing assembly [166].

(c) Remove the upper housing assembly [166] from the airplane.

SUBTASK 32-11-01-020-193

(13) Remove fitting for the trunnion door actuator rod [174].

SUBTASK 32-11-01-020-148

(14) Place a sheet of stainless steel and a two inch rubber pad on the flange of the main landing gear beam below the aft trunnion.

NOTE: The sheet of stainless steel and rubber pad will provide some protection for the aft trunnion and the main landing gear beam if they come in contact with each other.

SUBTASK 32-11-01-020-149

(15) Install a nylon webbing strap or MLG Sling, SPL-4266 around the forward and aft trunnion, (Figure 407).

NOTE: Each strap or MLG Sling, SPL-4266 must be able to hold a load of up to 14,000 lbs (6350 kilograms).

(a) Install a load cell and come-along setup between each nylon webbing strap or MLG Sling, SPL-4266 and the overhead crane.

(b) Connect each nylon webbing strap or MLG Sling, SPL-4266, come-along, and load cell to the overhead crane through the panel opening in the top of the wing.

SUBTASK 32-11-01-020-207

(16) Remove these parts that hold the aft trunnion pin [43] (Figure 404).

(a) cotter pin [115A]

(b) nut [115]

(c) washer [114]

(d) bolt [113]

SUBTASK 32-11-01-020-152

(17) Lift the shock strut [4] with the overhead crane, until the load is approximately 5,000 pounds (2,268 kilograms) per strap.

SUBTASK 32-11-01-020-153

(18) Push the aft trunnion pin [43] into the aft trunnion, with the MLG aft trunnion pin equipment, SPL-1859, such that the aft trunnion is disconnected from the main landing gear beam [51] (Figure 404).

NOTE: You can get access to the aft trunnion pin [43] through the opening created when you lowered the trailing edge flaps (Figure 402).

NOTE: The sound made by the pin removal tool changes when the load is removed from the aft trunnion pin.

(a) Start by lifting approximately 5,000 pounds (2,268 kilograms) per strap of the landing gear weight with the overhead crane.

NOTE: The lift loads must be adjusted to remove the aft trunnion pin.

(b) Attempt to push the aft trunnion pin [43] into the aft trunnion.

(c) If the pin does not move, increase the load that is lifted by the overhead crane by 200 pounds (91 kilograms).

NOTE: The lift load of each strap must be adjusted as needed to remove the aft trunnion pin.

NOTE: As the lift loads are adjusted the aft strap will end up supporting more of the landing gear weight than the forward strap.

(d) Push the pin [43] into the aft trunnion, or repeat these steps until the pin is free to move.

SUBTASK 32-11-01-020-157

(19) Disconnect the forward trunnion housing assembly [170]:

(a) Remove safety wire from the four retaining bolts [167].

(b) Remove the retaining bolts [167] for the four fuse pins [160] for the housing assembly [170].

(c) Use the MLG FWD trunnion support fuse pin puller, SPL-1843 to remove the four fuse pins [160] from the forward trunnion housing assembly [170]:

NOTE: Start with the top two fuse pins, then remove the bottom two fuse pins.

1) Attempt to remove one of the pins [160] from the forward trunnion housing.

2) If the pin [160] does not move, increase the load that is lifted by the overhead crane by 200 pounds (91 kilograms).

NOTE: The lift load of each strap must be adjusted as needed to remove the forward trunnion pins.

3) Remove the pin [160] from the forward trunnion housing [170], or repeat these steps until the pin is free to move.

SUBTASK 32-11-01-580-001

(20) If you are using a landing gear pit with an elevator lower the elevator until there is 36 inches (.92 meters) between the landing gear tires and the elevator.

SUBTASK 32-11-01-860-029

> **CAUTION**: MAKE SURE THE AFT TRUNNION DOES NOT CONTACT THE MAIN LANDING GEAR BEAM. CONTACT BETWEEN THE AFT TRUNNION AND THE MAIN LANDING GEAR BEAM CAN CAUSE DAMAGE TO THE BEAM OR THE AFT TRUNNION.

(21) Lift the main landing gear [152] with the overhead crane to move the gear to the correct position for removal:

(a) Lift the main landing gear [152] with the overhead crane.

NOTE: The main landing gear truck will move forward as the crane supports more load. This will cause the forward trunnion to raise and the aft trunnion to lower.

(b) Stop lifting the gear when the weight of the landing gear is fully supported by the overhead crane.

SUBTASK 32-11-01-020-158

(22) Move the landing gear to turn the aft trunnion inboard such that it clears the main landing gear beam [51] and you can lower the aft end of the main landing gear [152].

SUBTASK 32-11-01-020-159

(23) Using the strap or MLG Sling, SPL-4266 connected to the aft trunnion lower the main landing gear [152] until the aft trunnion is below the main landing gear beam [51] and the landing gear can be turned back to its normal position.

SUBTASK 32-11-01-020-160

(24) Move the landing gear to turn the aft trunnion outboard, back to its normal position, but below the main landing gear beam.

SUBTASK 32-11-01-020-161

(25) Use the overhead crane to move the main landing gear [152] down and aft until it is clear of the wing.

NOTE: The housing assembly [170] will move aft and out of the rear spar supports when the main landing gear [152] is lowered.

NOTE: Keep the bearing plates [173] and [174] for the housing assembly [170] to make the main landing gear [152] installation easier.

SUBTASK 32-11-01-020-162

(26) Lower the main landing gear [152] to the ground and remove the nylon webbing straps or MLG Sling, SPL-4266 from the trunnion.

SUBTASK 32-11-01-020-163

(27) Remove the main landing gear [152]:

(a) Adjust the length of the turnbuckle [12] to turn the shock strut perpendicular to the landing gear truck beam.

> **WARNING**: DO NOT DO THE TEST OF THE FLAP PRIMARY CONTROL VALVE WHEN YOU REACTIVATE THE TRAILING EDGE FLAPS. THIS TEST REQUIRES HYDRAULIC POWER TO THE CENTER HYDRAULIC SYSTEM, WHICH YOU DISCONNECTED FOR THE MAIN LANDING GEAR REMOVAL. IF YOU SUPPLY CENTER HYDRAULIC POWER YOU WILL LEAK HYDRAULIC FLUID WHICH COULD CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(b) Do this task: Trailing Edge Flap Reactivation, TASK 27-51-00-440-801.

(c) To retract the trailing edge flaps, do this task: Retract the Trailing Edge Flaps, TASK 27-51-00-860-805.

NOTE: You can use either secondary control or alternate control to retract the flaps with electric power or you can retract the flaps manually.

(d) Push the main landing gear [152] aft to remove it.

SUBTASK 32-11-01-020-200

(28) If it is necessary to examine the aft trunnion bearing assembly for worn areas, do these steps:

(a) Remove the lockwire [180], screw [178] and the washer [179].

(b) Remove the lock tab [181] from the lock plate.

(c) Use wrench kit, SPL-4133 to remove the retainer nut [175] from the outer race [177] (Figure 405).

CAUTION DO NOT CHANGE ONE HALF OF THE SPLIT BALL WITH A DIFFERENT HALF. EACH HALF IS PART OF A SPECIFIED PART. THE INSTALLATION OF AN INCORRECT HALF CAN CAUSE DETERIORATION OF THE AFT TRUNNION BEARING WHEN THE LANDING GEAR OPERATES.

(d) Remove the split ball [176] and the outer race [177], in the forward direction, from the main landing gear beam [51].

(e) Identify each half of the split ball [176] to show that each half is a part of a set.

(f) To check for the wear limits of the aft trunnion bearing assembly, do this task: MLG Forward and Aft Trunnion Bearing Wear Limits, TASK 57-54-01-910-801.

NOTE: New aft trunnion parts do not require wear limit inspection.

SUBTASK 32-11-01-020-202

(29) Do the steps that follow to remove the forward housing assembly [170] from the forward trunnion:

(a) Use wrench kit, SPL-4133 to remove the retainer nut [182] from the housing assembly [170] (Figure 405).

(b) Hold the retainer nut [182] away from the housing assembly [170] on the protected area of the forward trunnion.

CAUTION MAKE SURE YOU HOLD THE OUTER RACE IN POSITION AS A UNIT. THE OUTER RACE IS A TWO PIECE ASSEMBLY. WHEN YOU REMOVE THE HOUSING ASSEMBLY, THE OUTER RACE MAY SEPARATE AND FALL. THIS CAN CAUSE DAMAGE TO EQUIPMENT OR INJURY TO PERSONS.

(c) Remove the housing assembly [170], and the outer race [183].

CAUTION DO NOT CHANGE ONE HALF OF THE OUTER RACE WITH A DIFFERENT HALF. EACH HALF IS PART OF A SPECIFIED PART. THE INSTALLATION OF AN INCORRECT HALF CAN CAUSE DETERIORATION OF THE FORWARD TRUNNION BEARING WHEN THE LANDING GEAR OPERATES.

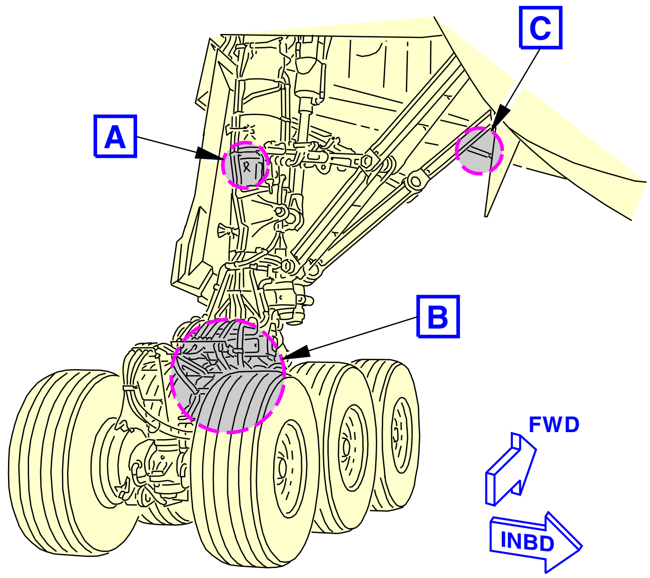
(d) Identify each half of the outer race [183] to show that each half is a part of a set.

SUBTASK 32-11-01-220-001

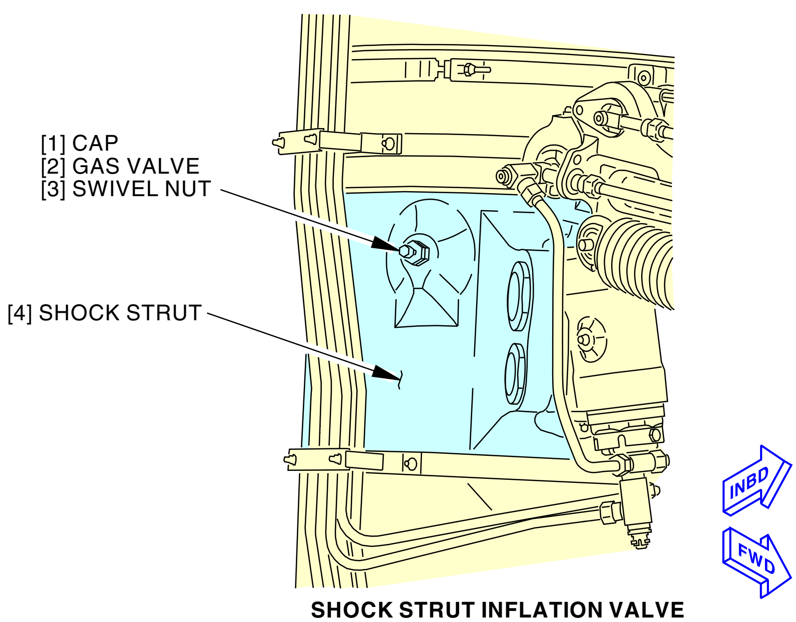
(30) To check for the wear limits of the forward trunnion bearing assembly, do this task: MLG Forward and Aft Trunnion Bearing Wear Limits, TASK 57-54-01-910-801.

NOTE: New forward trunnion parts do not require wear limit inspection.

END OF TASK



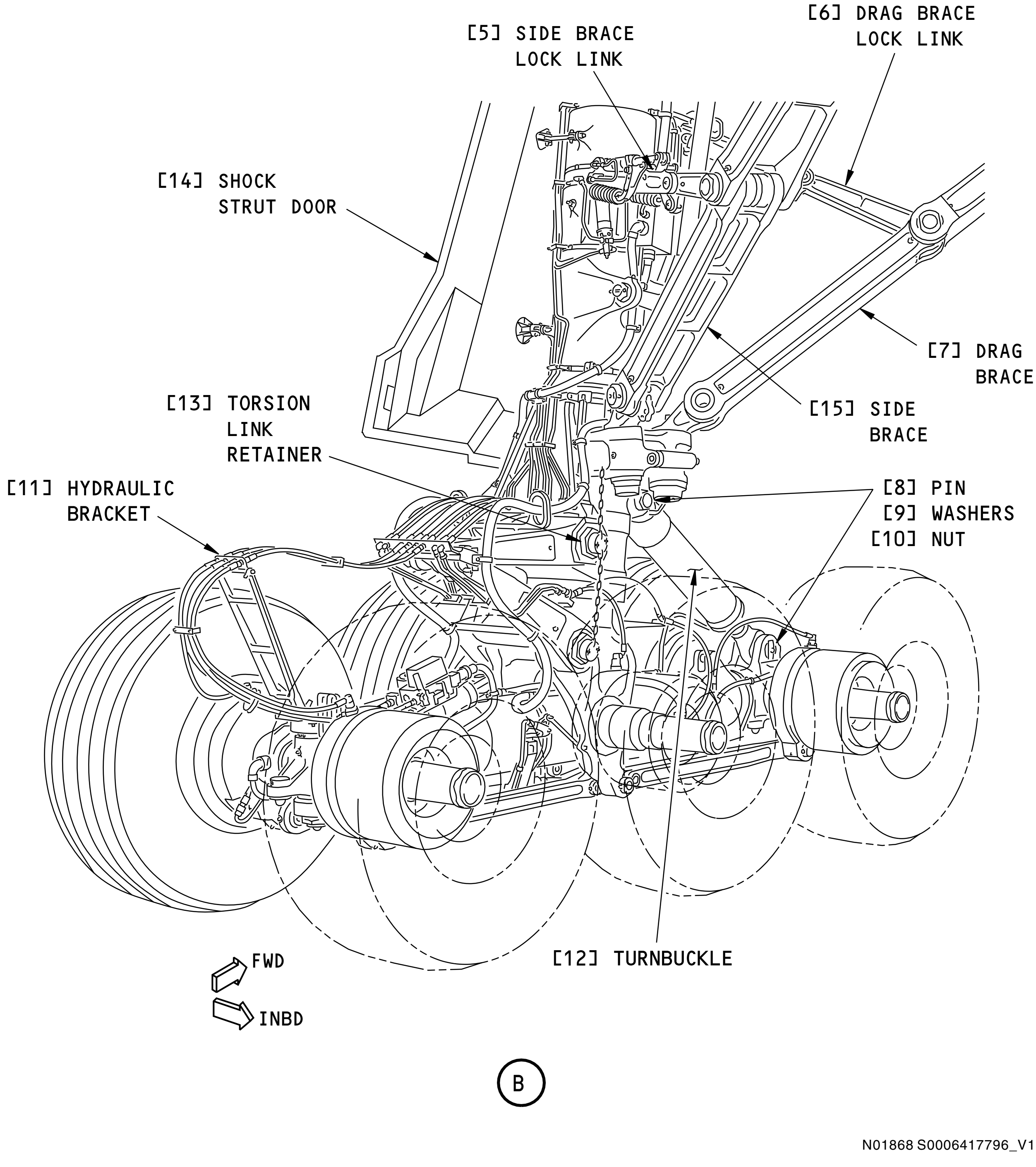
LEFT MAIN LANDING GEAR
(RIGHT MAIN LANDING GEAR IS EQUIVALENT)



SHOCK STRUT INFLATION VALVE
A

N01847 S0006417795_V2

Main Landing Gear Installation
Figure 401/32-11-01-990-810 (Sheet 1 of 3)



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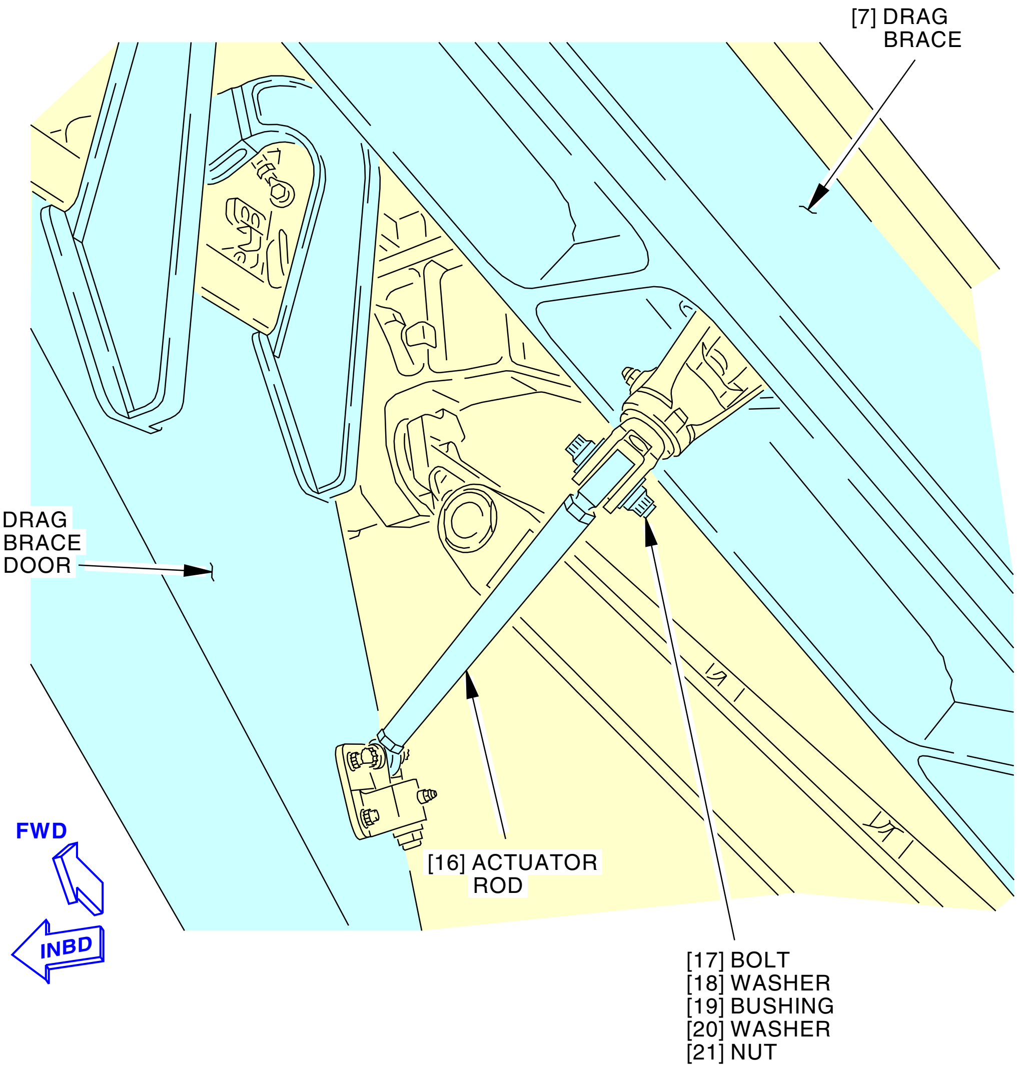
Main Landing Gear Installation
Figure 401/32-11-01-990-810 (Sheet 2 of 3)

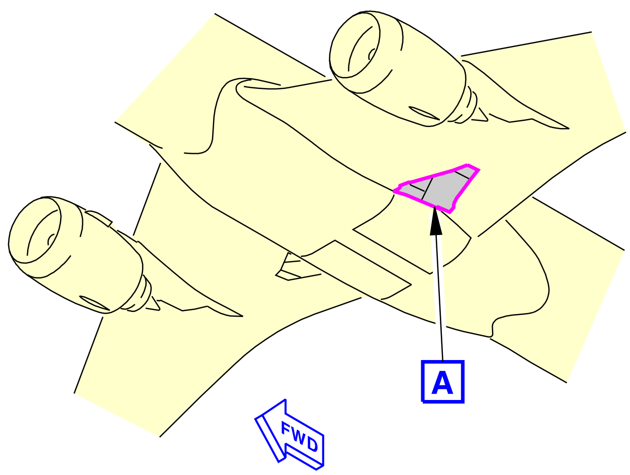


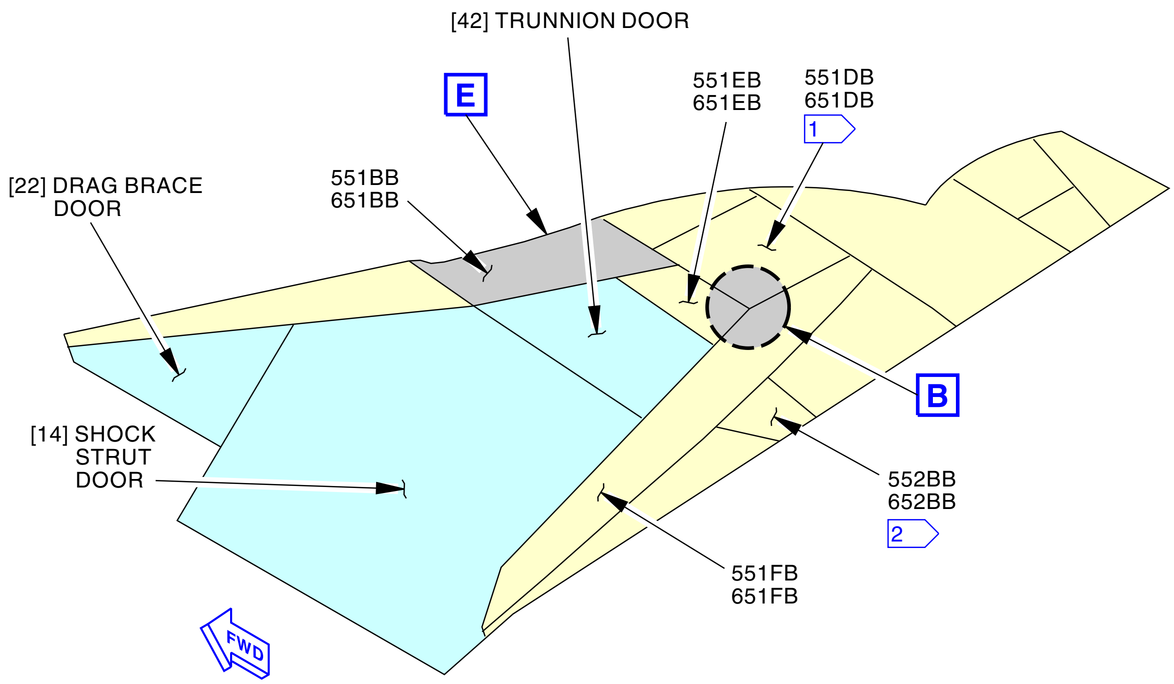
DRAG BRACE DOOR ACTUATOR ROD

C

N01899 S0006417797_V2

Main Landing Gear Installation
Figure 401/32-11-01-990-810 (Sheet 3 of 3)





BOTTOM VIEW
A

NOTE:

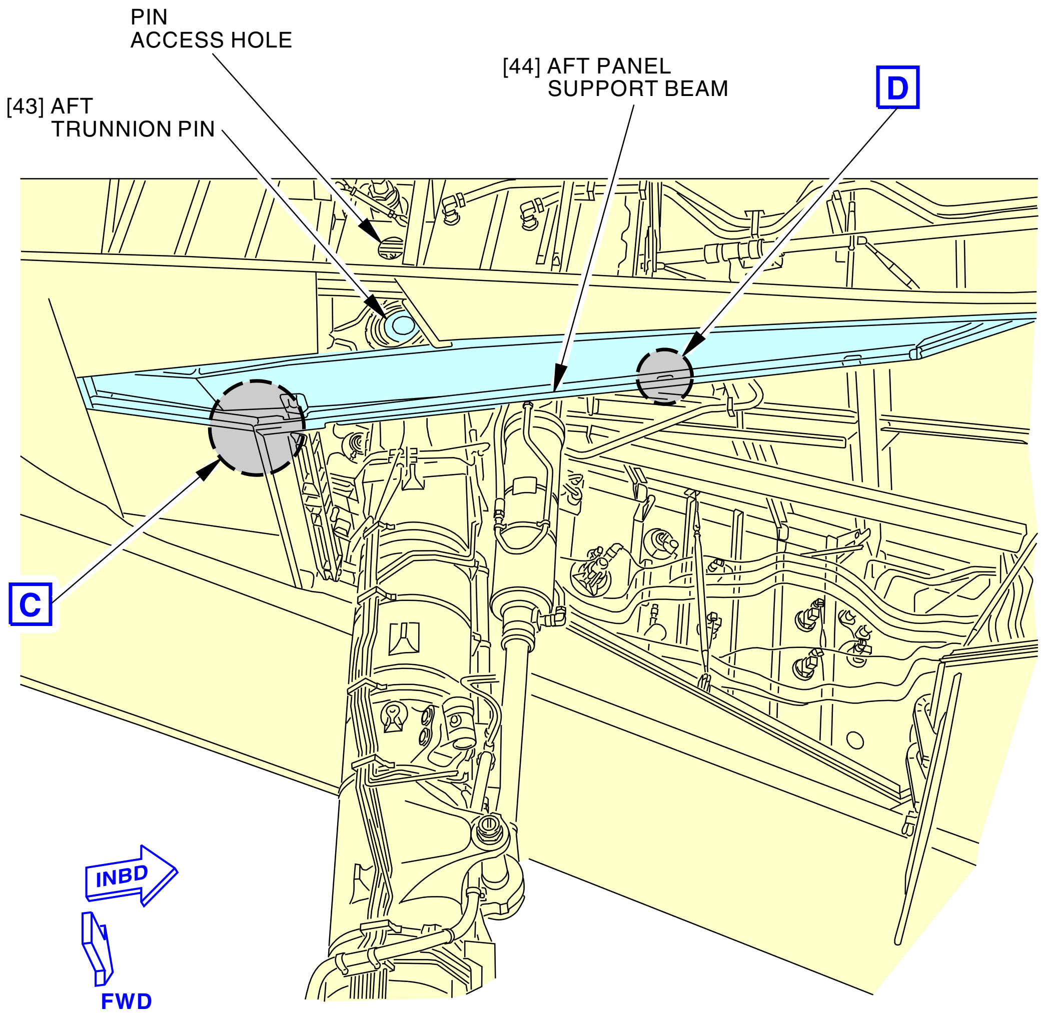
MAJOR ZONE 500 - LEFT WING.
MAJOR ZONE 600 - RIGHT WING.
LEFT WING IS SHOWN, RIGHT WING IS OPPOSITE.

1 HINGED AND LATCHED PANEL

2 REMOVE ONLY FOR MORE ACCESS TO THE AFT TRUNNION PIN

N01901 S0006417803_V2

Main Landing Gear Access Panels
Figure 402/32-11-01-990-807 (Sheet 1 of 5)

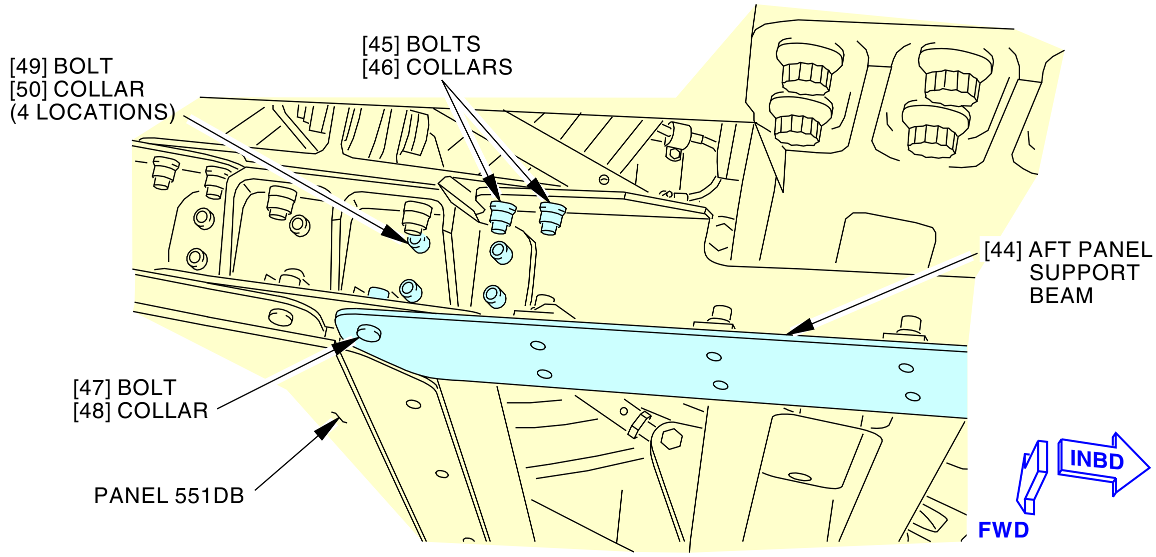


(PANELS, DOORS, LOCKLINKS, SIDE BRACE AND DRAG BRACE NOT SHOWN)

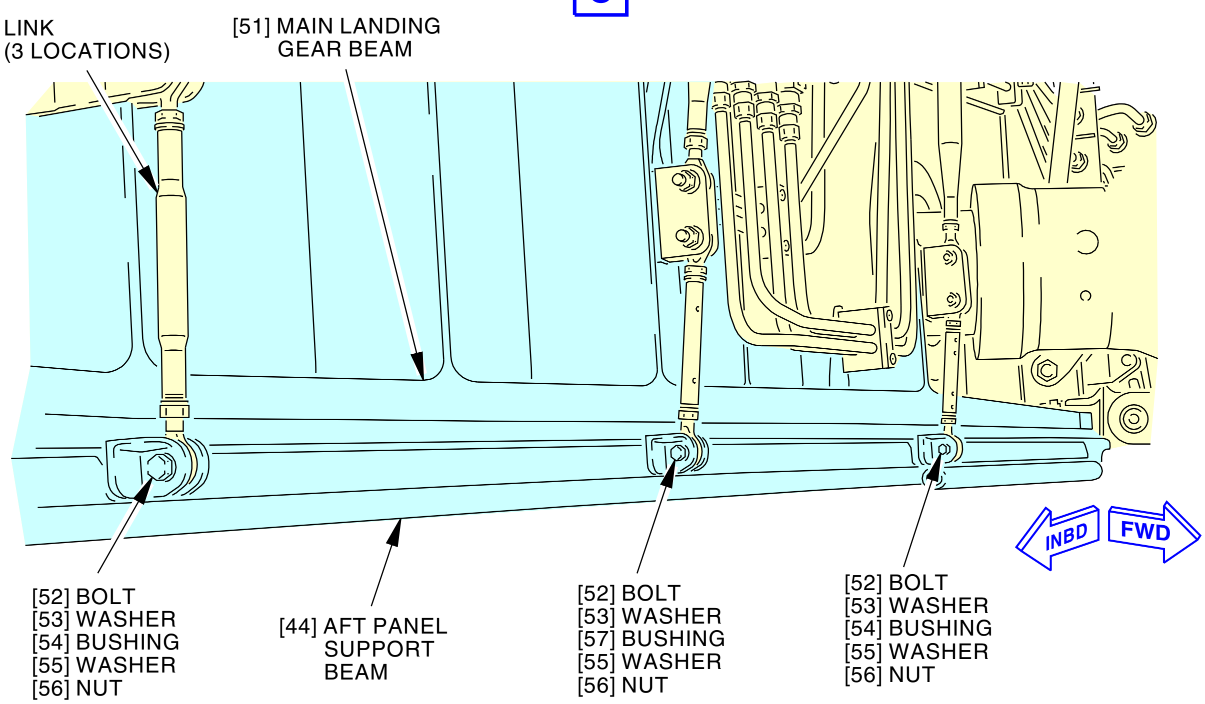
B

N01902 S0006417804_V2

Main Landing Gear Access Panels
Figure 402/32-11-01-990-807 (Sheet 2 of 5)



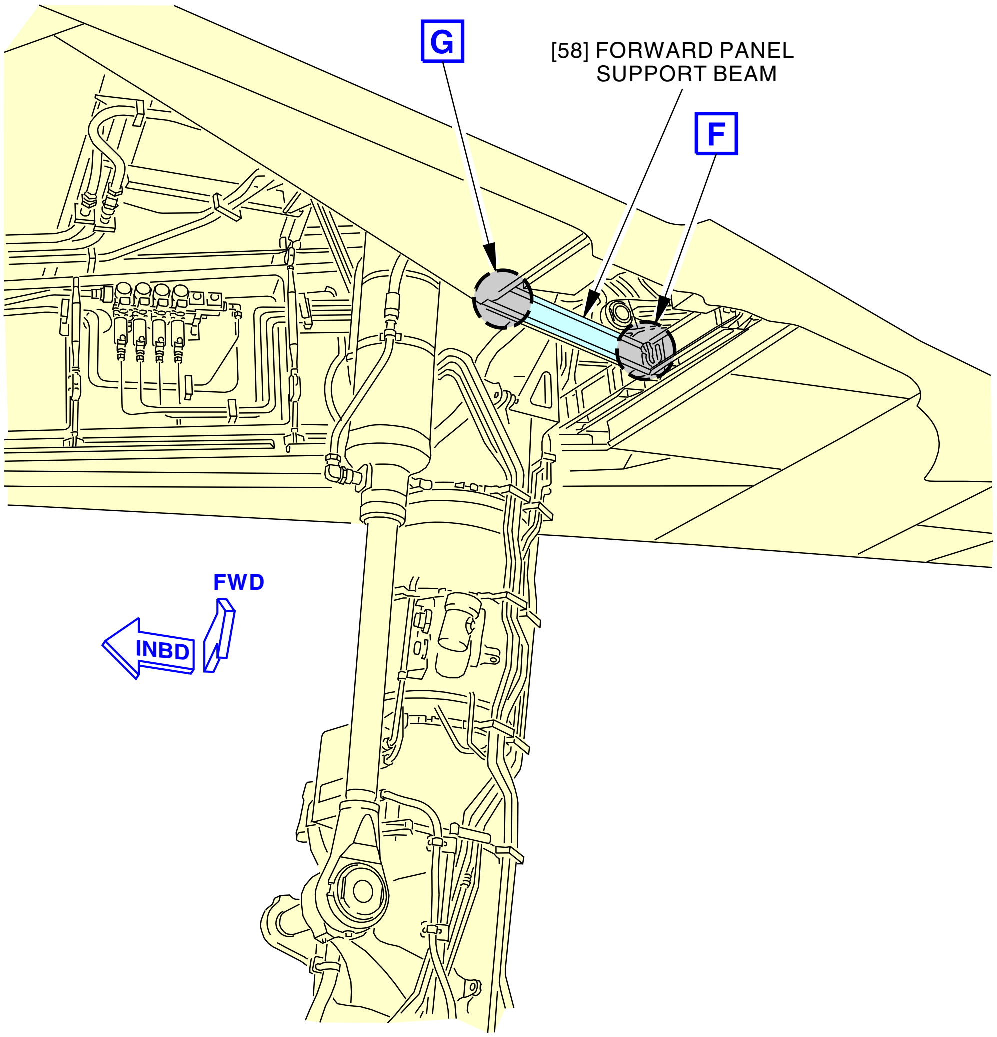
MAIN LANDING GEAR BEAM PANEL SUPPORT
C



MAIN LANDING GEAR BEAM PANEL SUPPORT
D

N01904 S0006417805_V2

Main Landing Gear Access Panels
Figure 402/32-11-01-990-807 (Sheet 3 of 5)

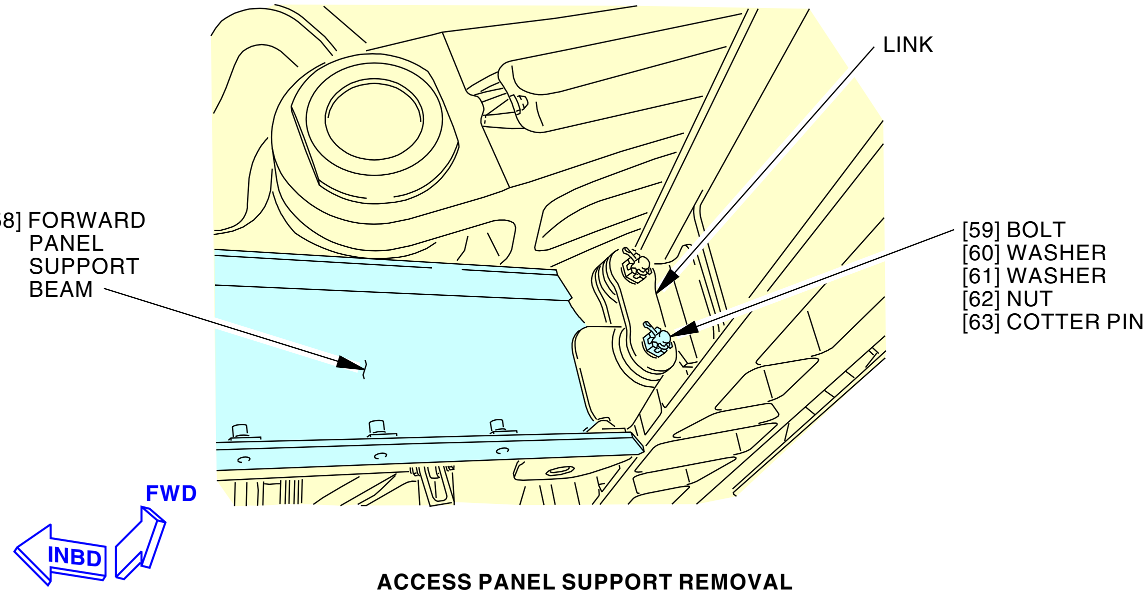


(PANELS, DOORS, LOCKLINKS, SIDE BRACE AND DRAG BRACE NOT SHOWN)

E

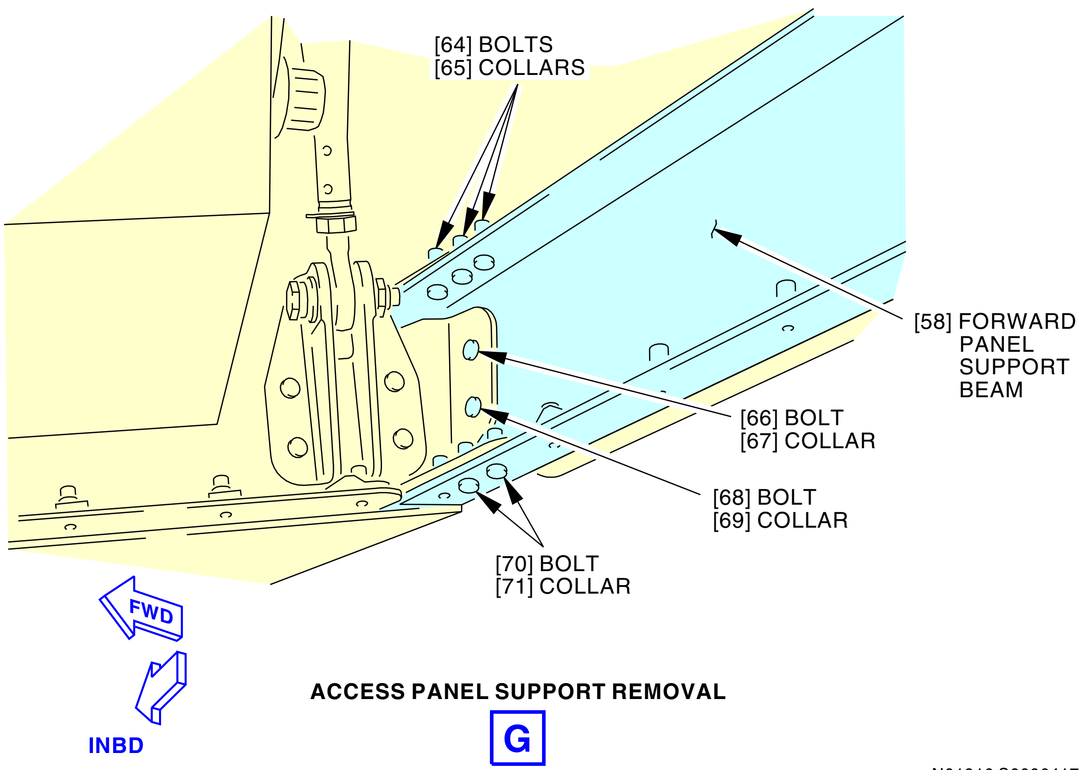
N01905 S0006417806_V2

Main Landing Gear Access Panels
Figure 402/32-11-01-990-807 (Sheet 4 of 5)



ACCESS PANEL SUPPORT REMOVAL

F

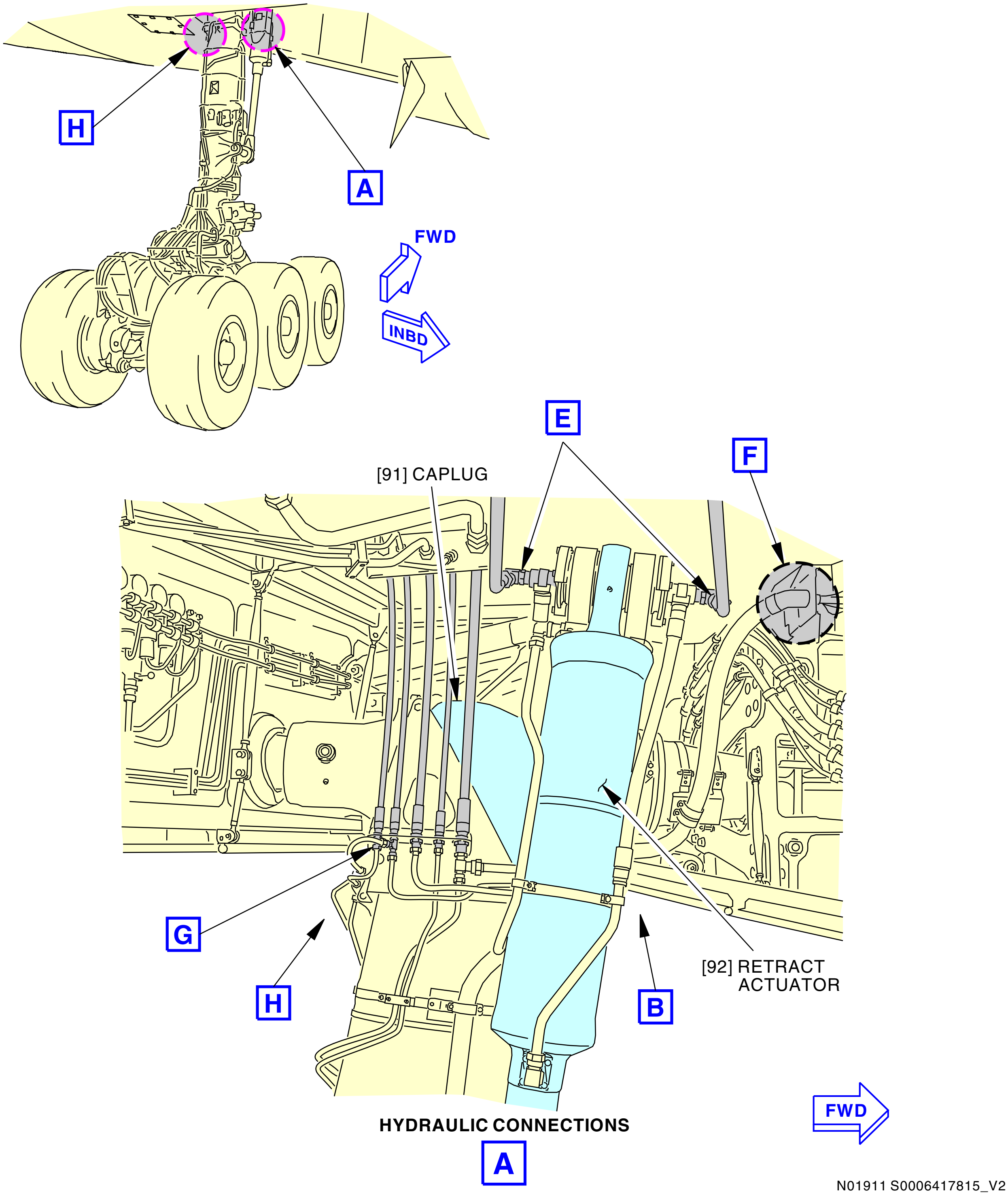


ACCESS PANEL SUPPORT REMOVAL

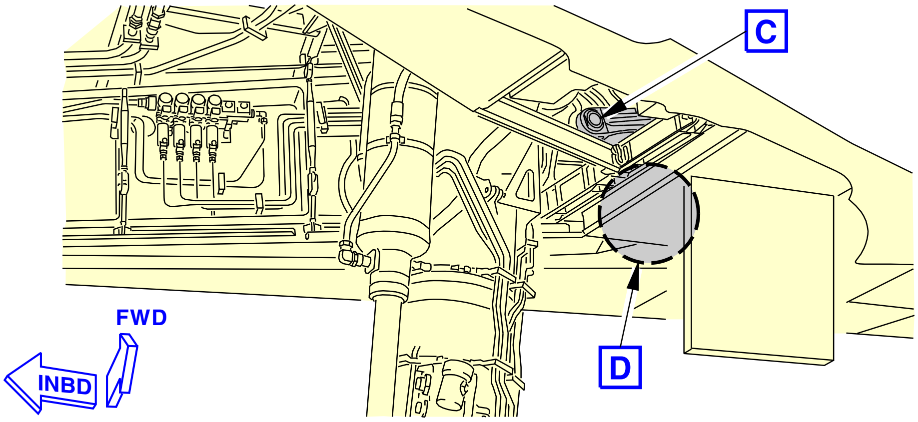
G

N01910 S0006417807_V2

Main Landing Gear Access Panels
Figure 402/32-11-01-990-807 (Sheet 5 of 5)

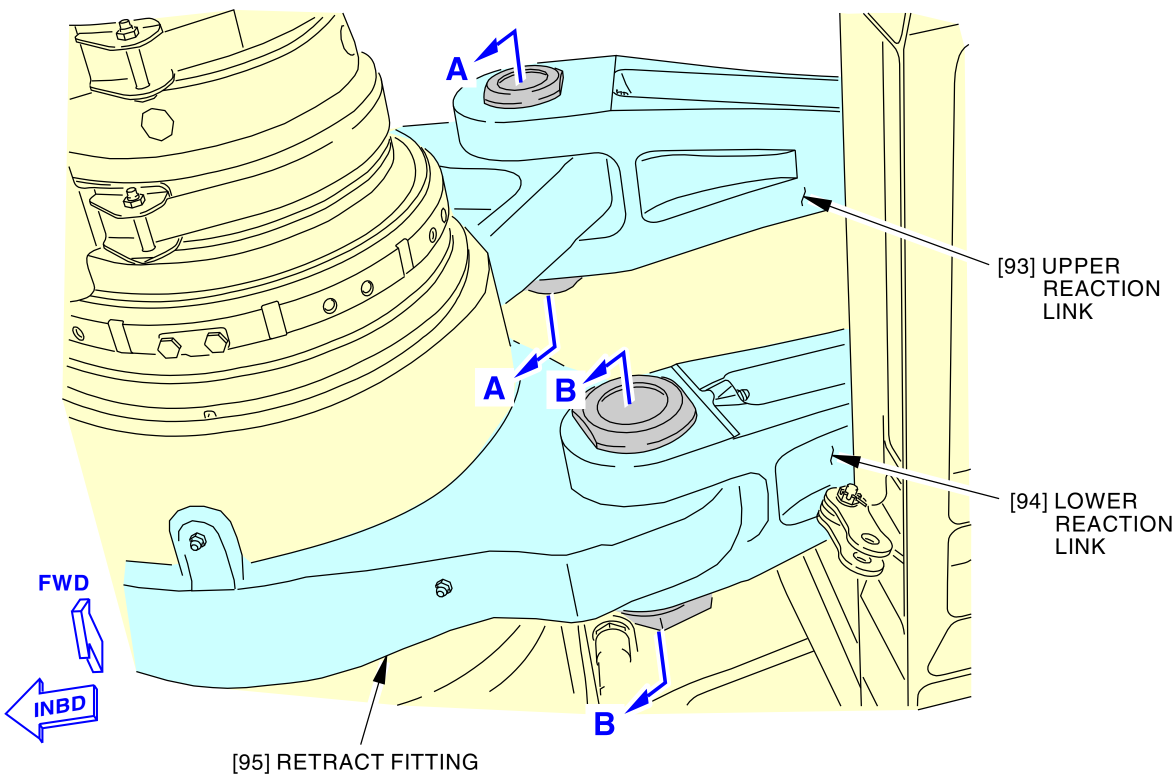


Main Landing Gear Power Connections
Figure 403/32-11-01-990-808 (Sheet 1 of 7)



(PANELS, DOORS, LOCKLINKS, SIDE BRACE AND DRAG BRACE NOT SHOWN)

B

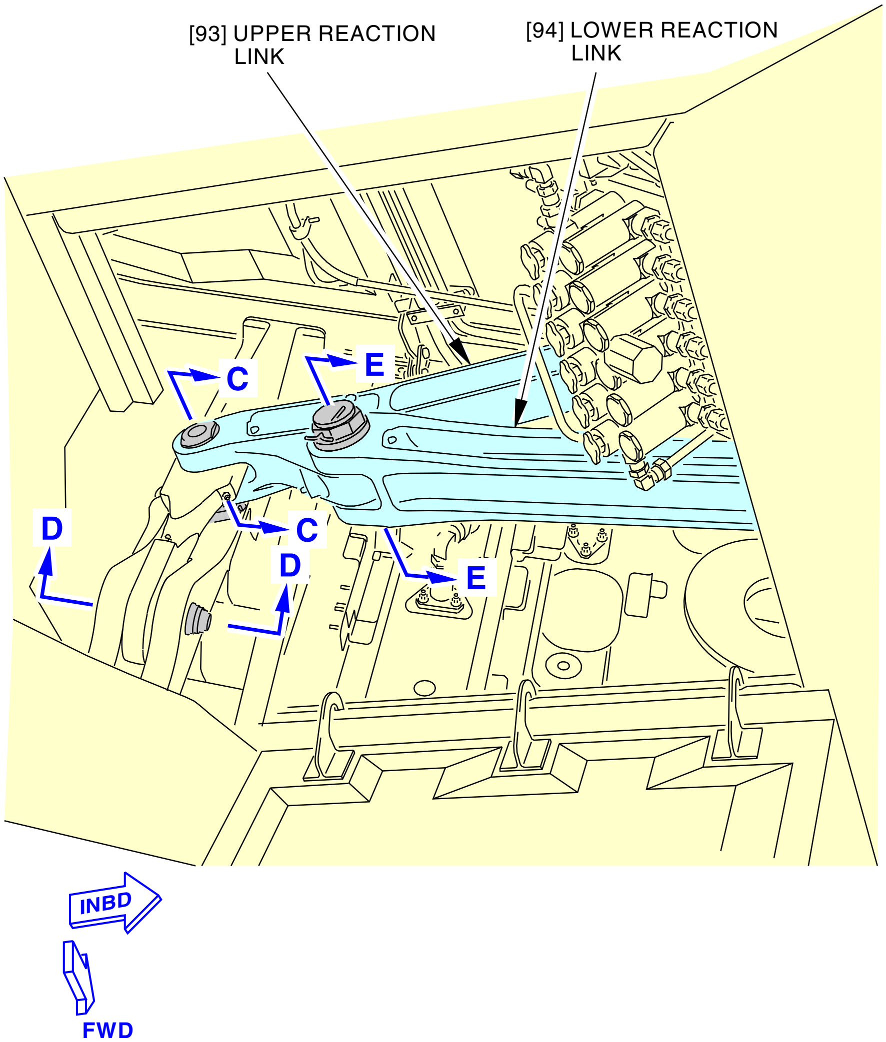


INBOARD ENDS OF THE UPPER AND LOWER REACTION LINKS

C

N01912 S0006417816_V2

Main Landing Gear Power Connections
Figure 403/32-11-01-990-808 (Sheet 2 of 7)

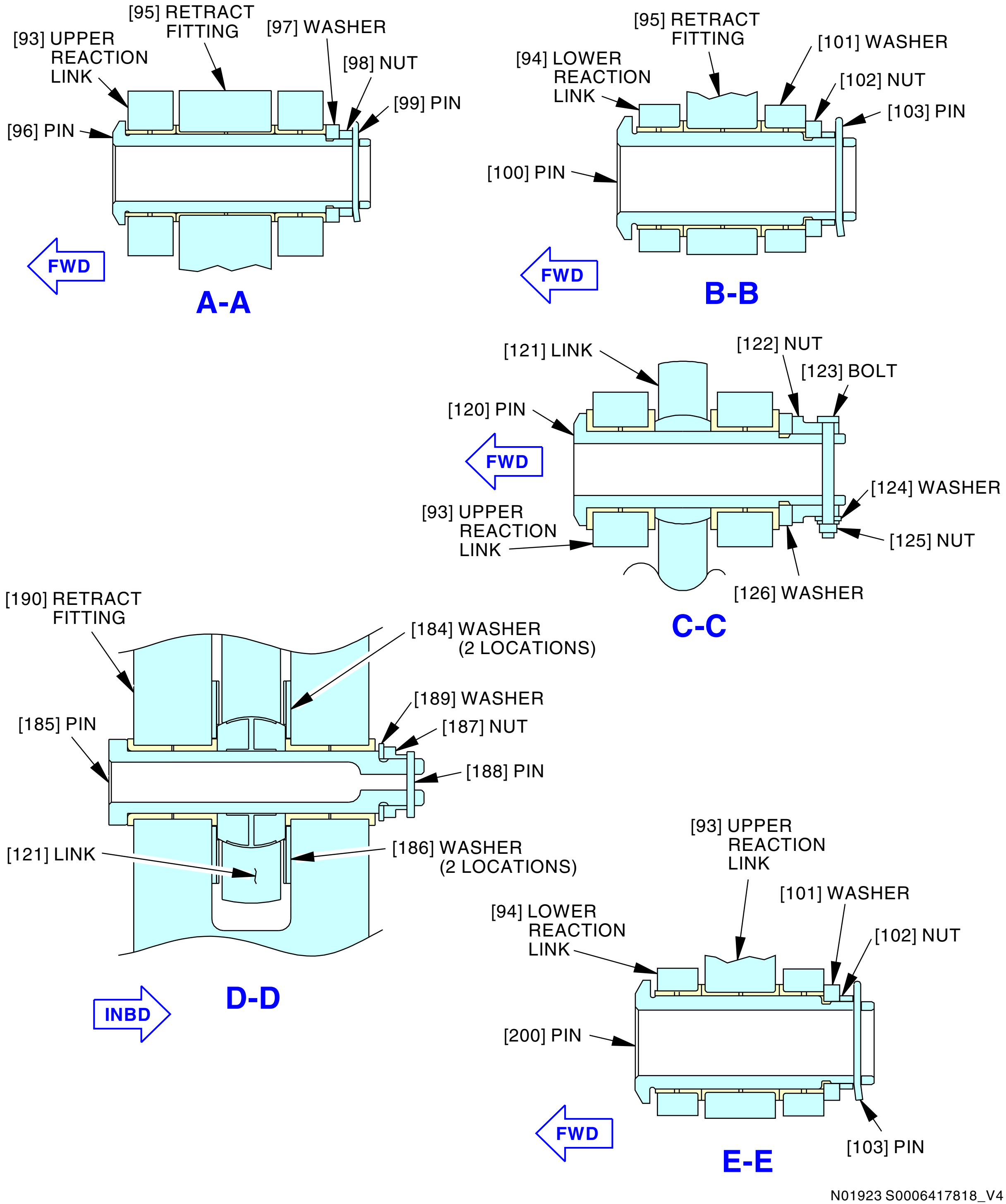


OUTBOARD ENDS OF THE UPPER AND LOWER REACTION LINKS

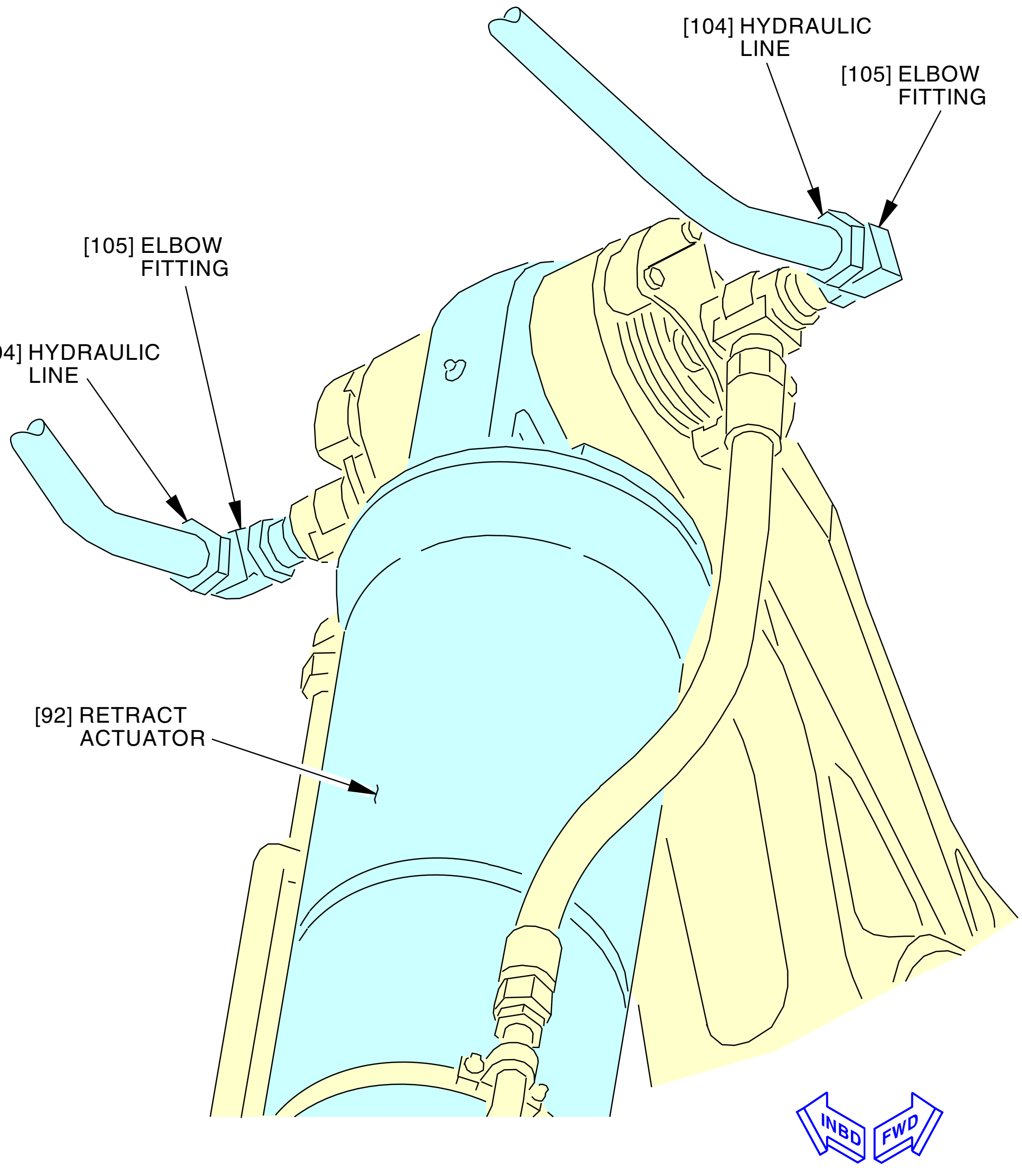
D

N01921 S0006417817_V4

Main Landing Gear Power Connections
Figure 403/32-11-01-990-808 (Sheet 3 of 7)



Main Landing Gear Power Connections
Figure 403/32-11-01-990-808 (Sheet 4 of 7)

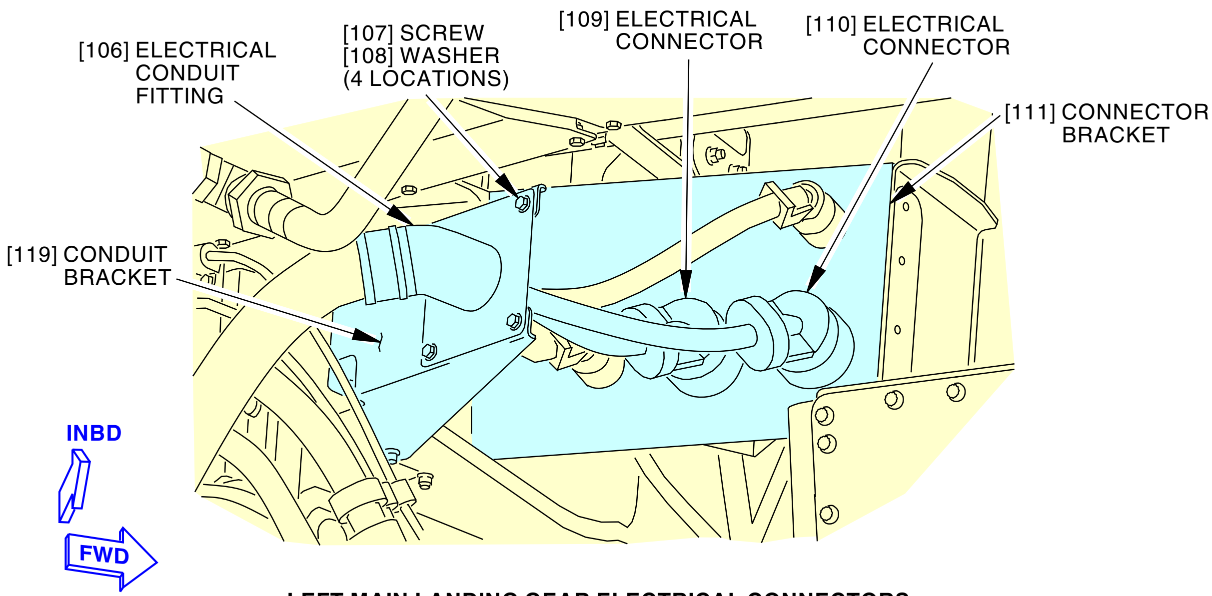


RETRACT ACTUATOR HYDRAULIC FITTINGS

E

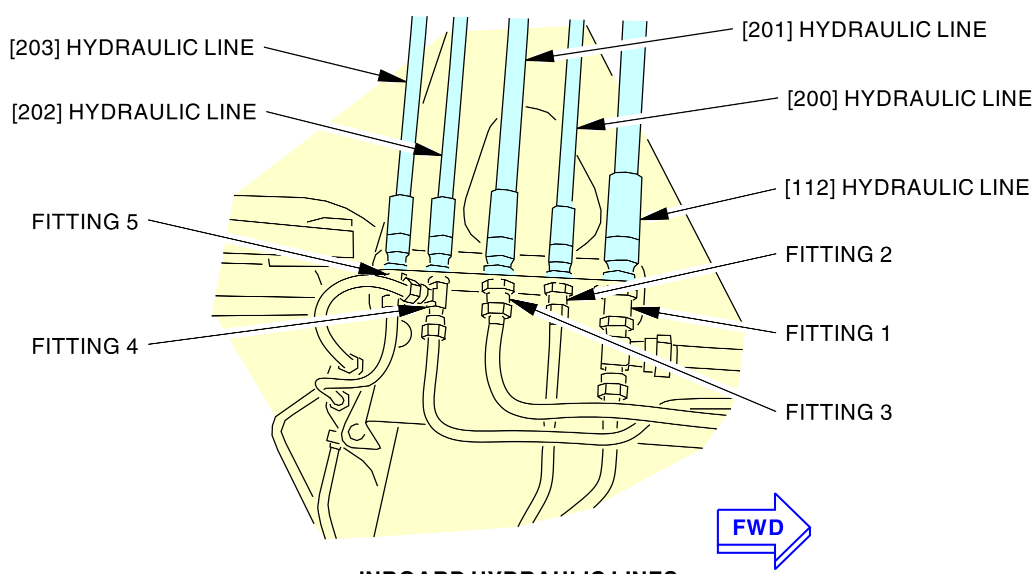
N01924 S0006417819_V2

Main Landing Gear Power Connections
Figure 403/32-11-01-990-808 (Sheet 5 of 7)



LEFT MAIN LANDING GEAR ELECTRICAL CONNECTORS
(RIGHT MAIN LANDING GEAR IS EQUIVALENT)

F

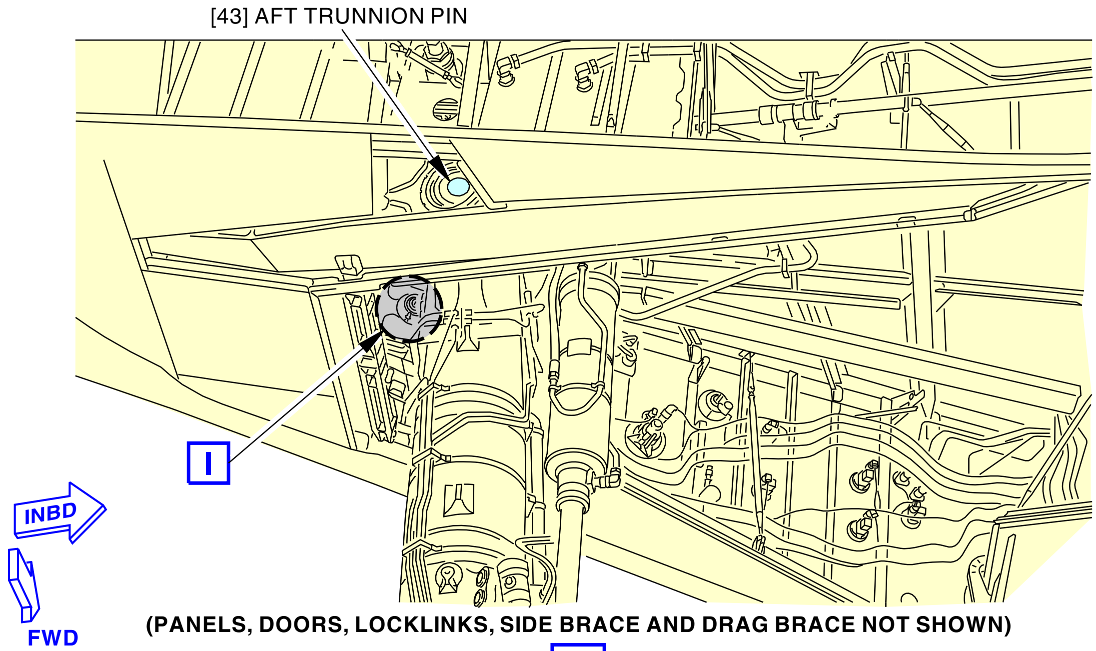


INBOARD HYDRAULIC LINES

G

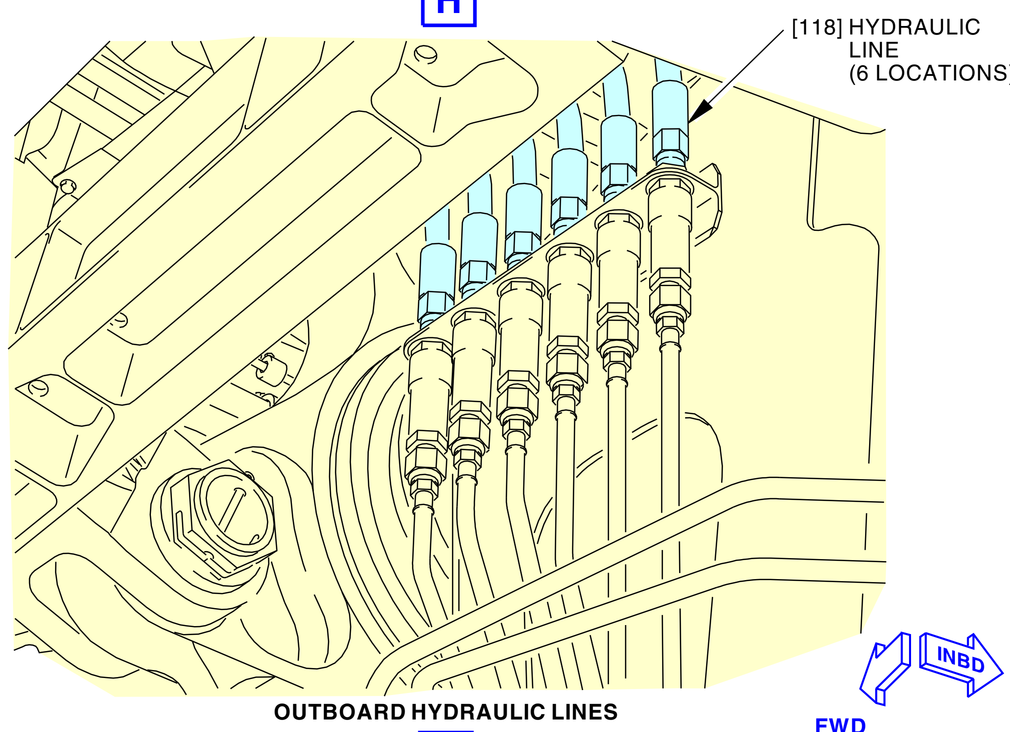
N01926 S0006417820_V3

Main Landing Gear Power Connections
Figure 403/32-11-01-990-808 (Sheet 6 of 7)



(PANELS, DOORS, LOCKLINKS, SIDE BRACE AND DRAG BRACE NOT SHOWN)

H

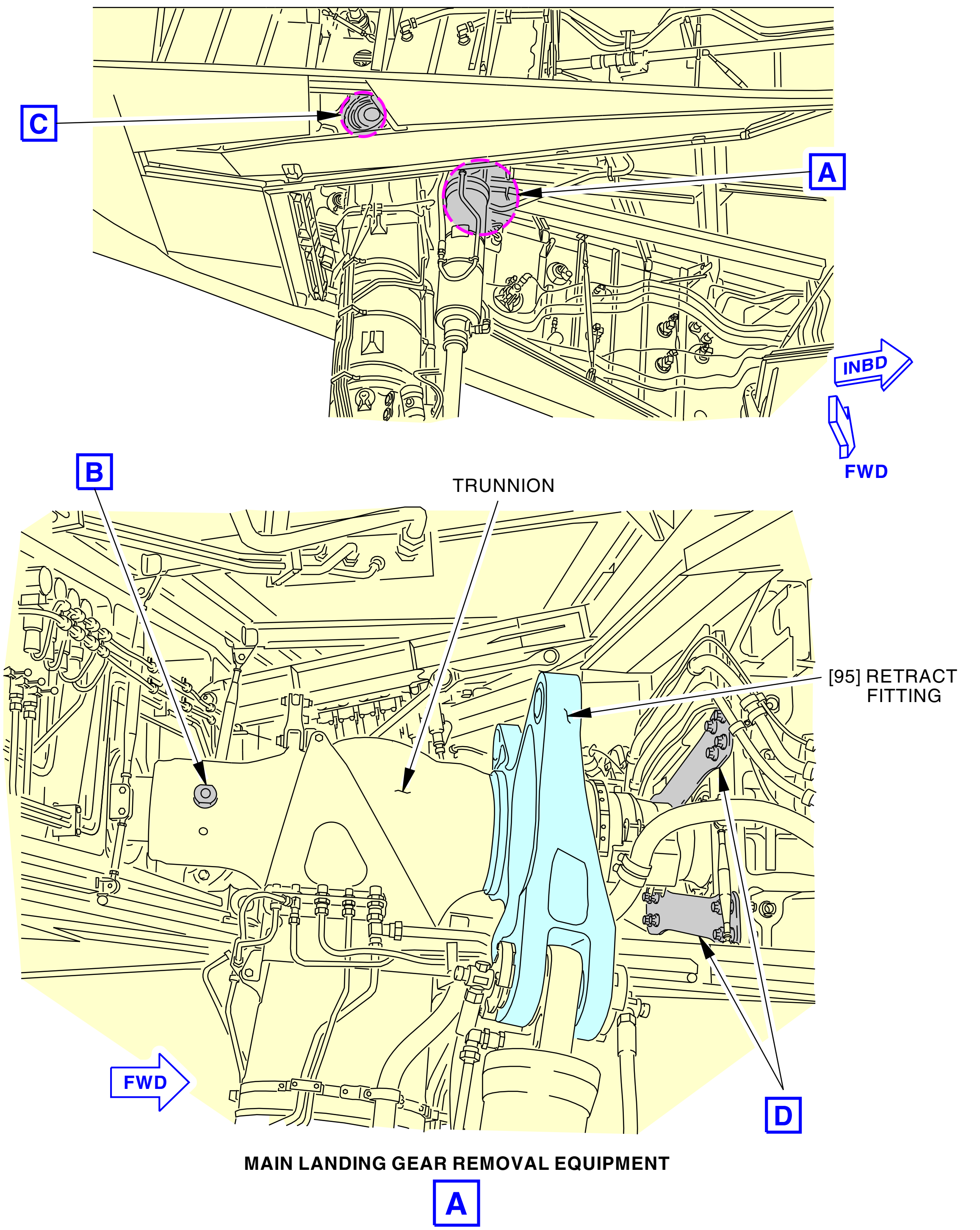


OUTBOARD HYDRAULIC LINES

I

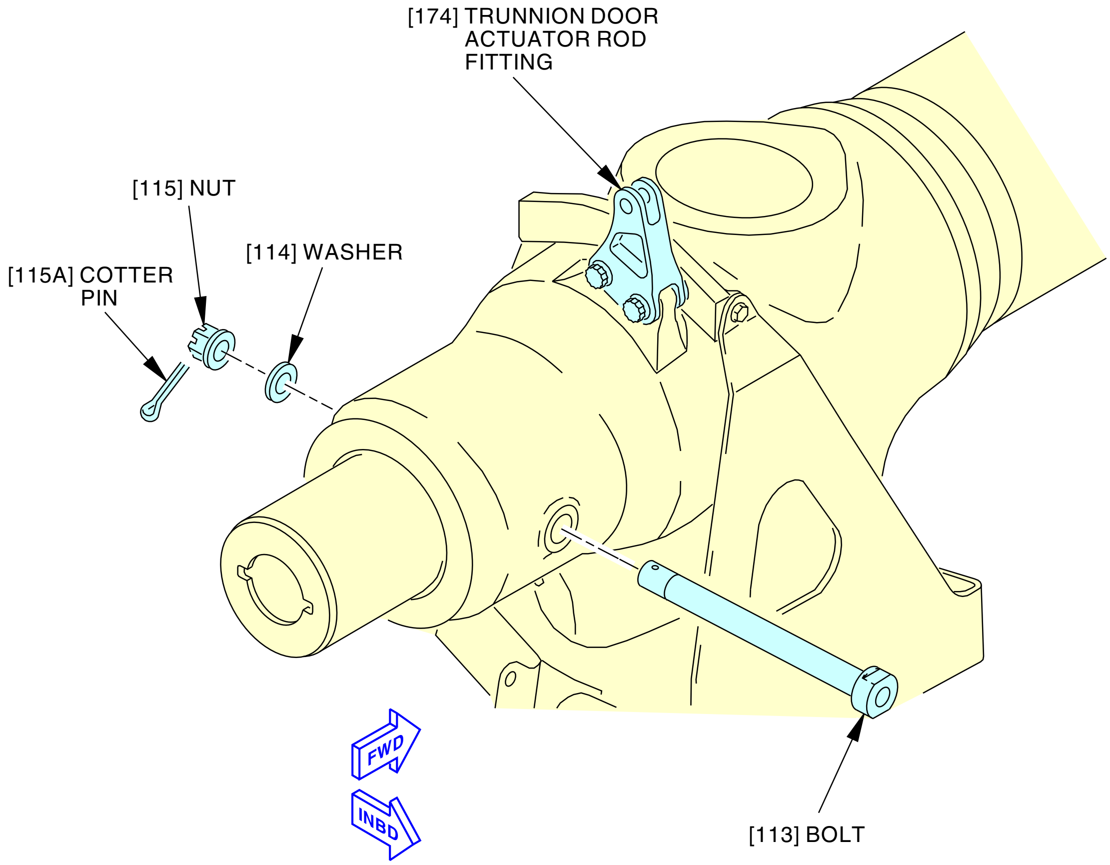
N01927 S0006417821_V2

Main Landing Gear Power Connections
Figure 403/32-11-01-990-808 (Sheet 7 of 7)



N01929 S0006417834_V2

Main Landing Gear Trunnion Supports
Figure 404/32-11-01-990-809 (Sheet 1 of 11)

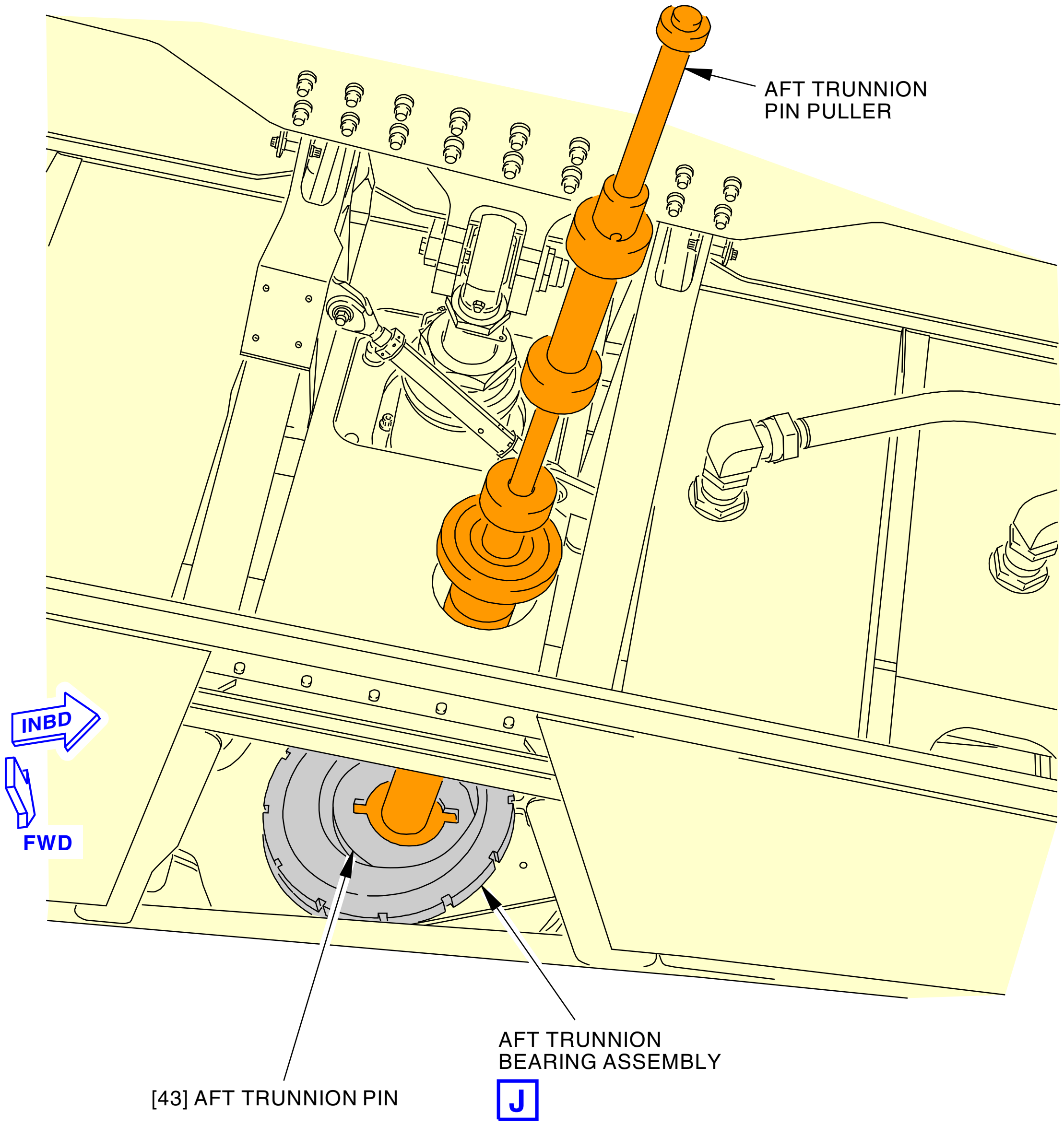


AFT TRUNNION PIN CROSS BOLT

B

N01930 S0006417835_V2

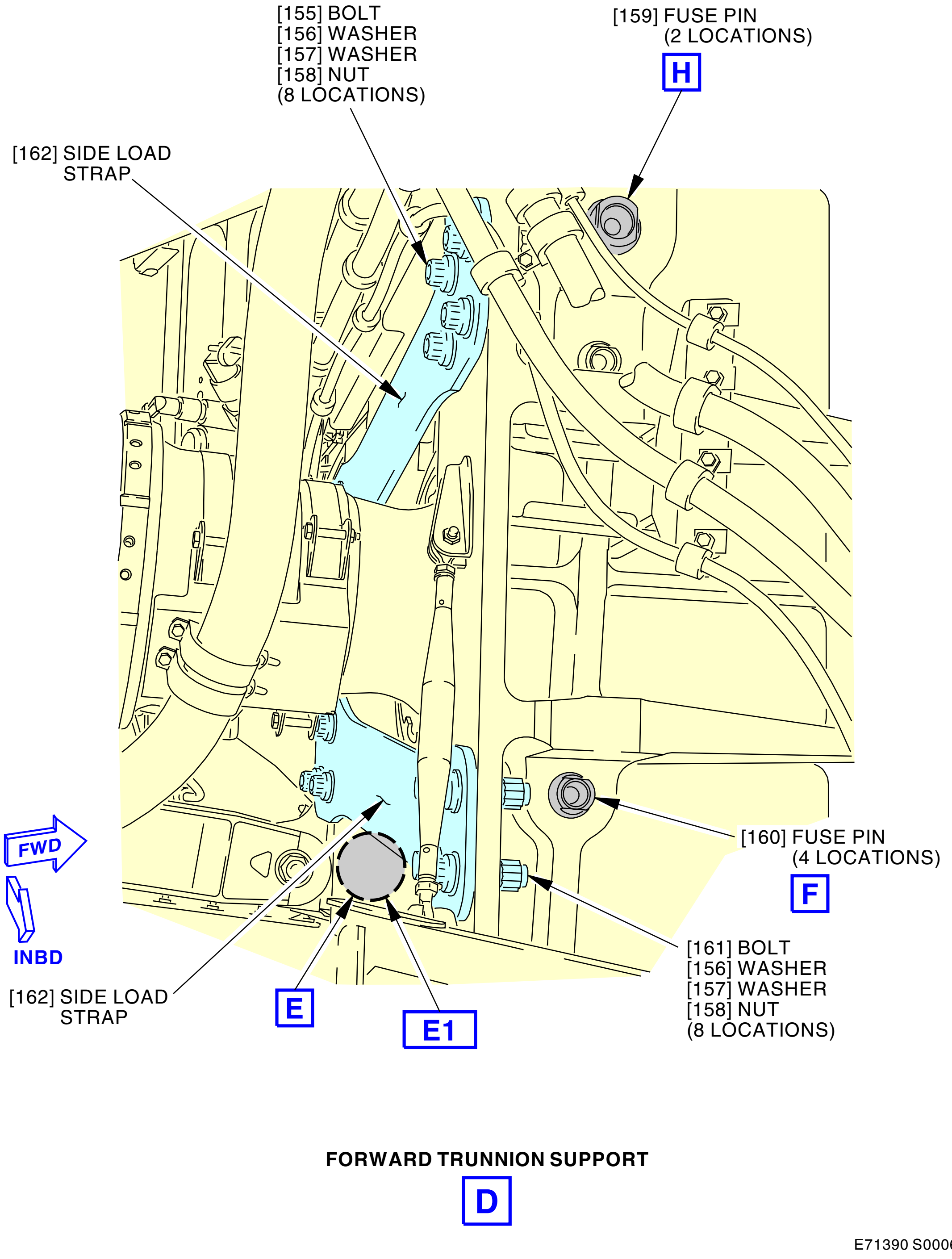
Main Landing Gear Trunnion Supports
Figure 404/32-11-01-990-809 (Sheet 2 of 11)



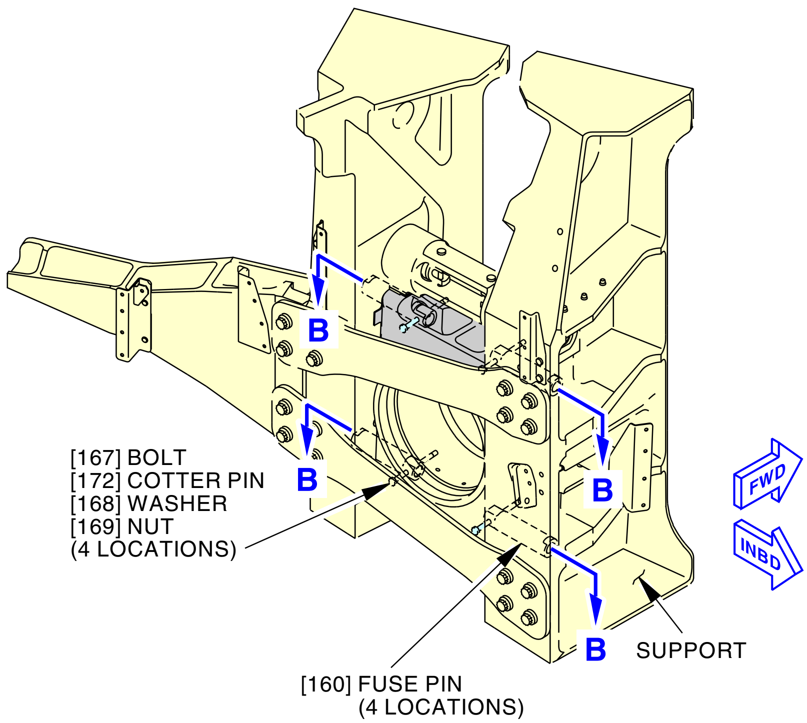
AFT TRUNNION PIN REMOVAL
C

N01933 S0006417836_V2

Main Landing Gear Trunnion Supports
Figure 404/32-11-01-990-809 (Sheet 3 of 11)

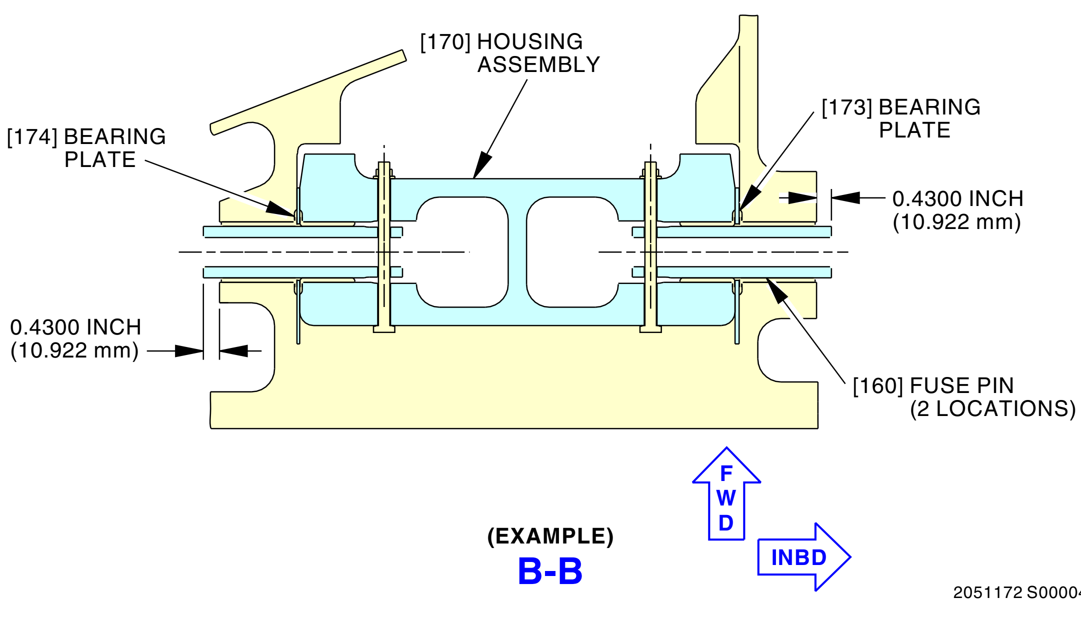


Main Landing Gear Trunnion Supports
Figure 404/32-11-01-990-809 (Sheet 4 of 11)



FORWARD TRUNNION SUPPORT

E1

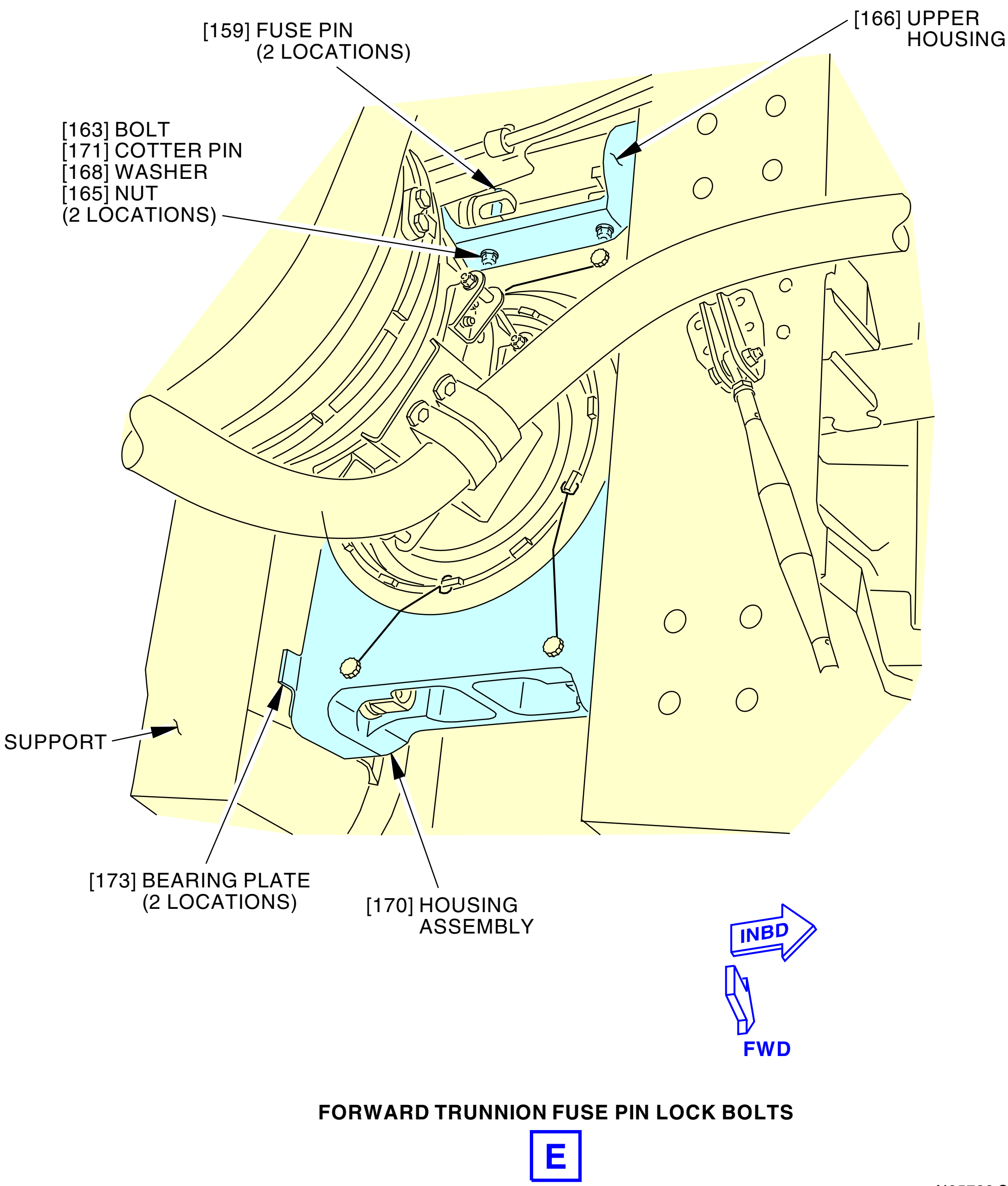


(EXAMPLE)

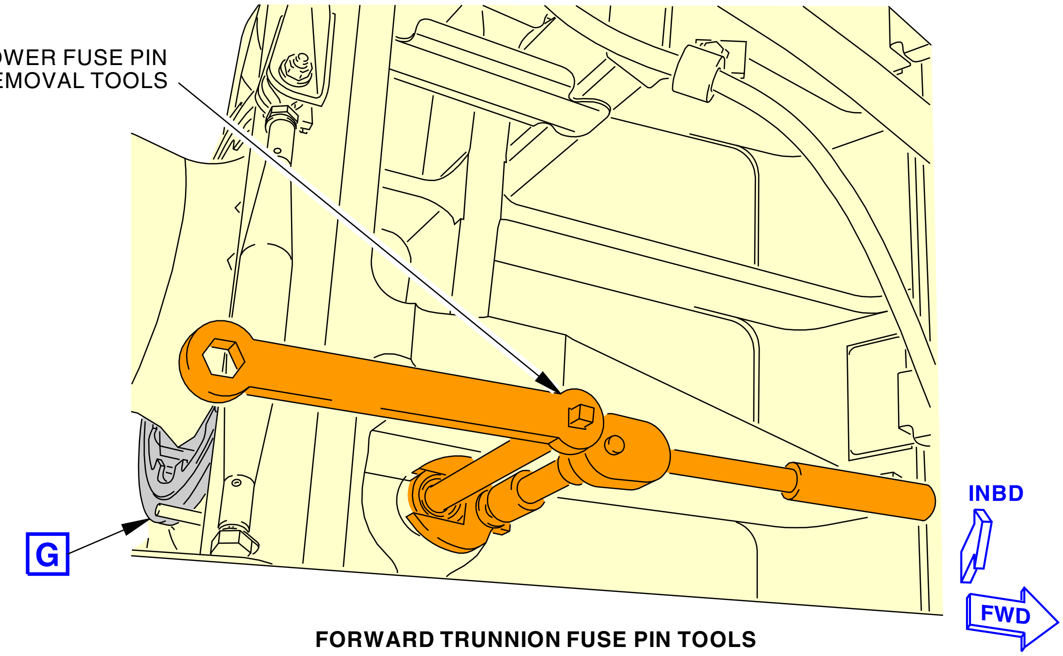
B-B

2051172 S0000418540_V5

Main Landing Gear Trunnion Supports
Figure 404/32-11-01-990-809 (Sheet 5 of 11)

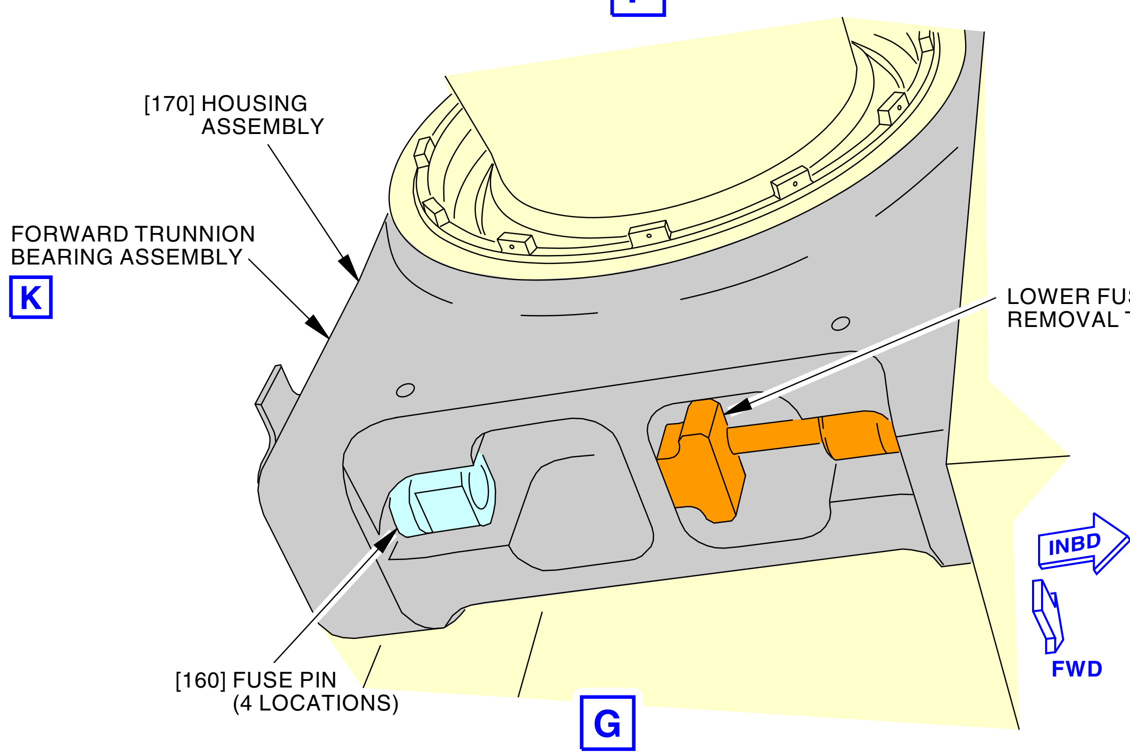


Main Landing Gear Trunnion Supports
Figure 404/32-11-01-990-809 (Sheet 6 of 11)



FORWARD TRUNNION FUSE PIN TOOLS

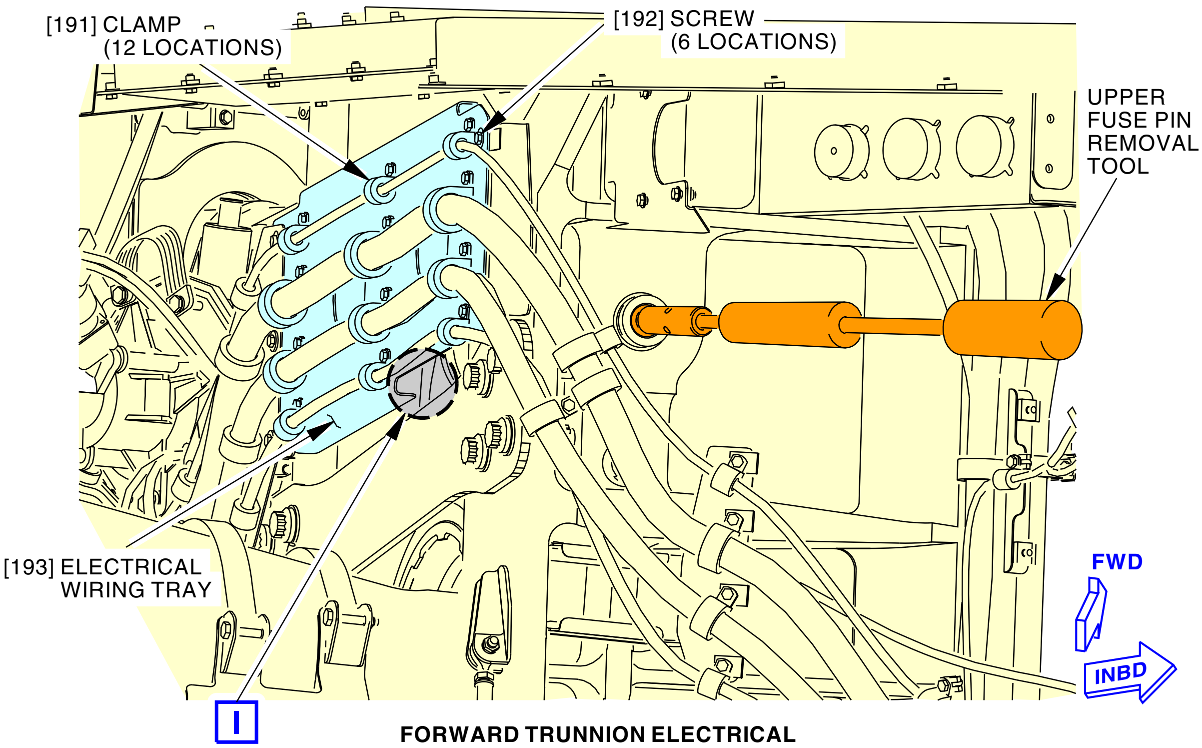
F



G

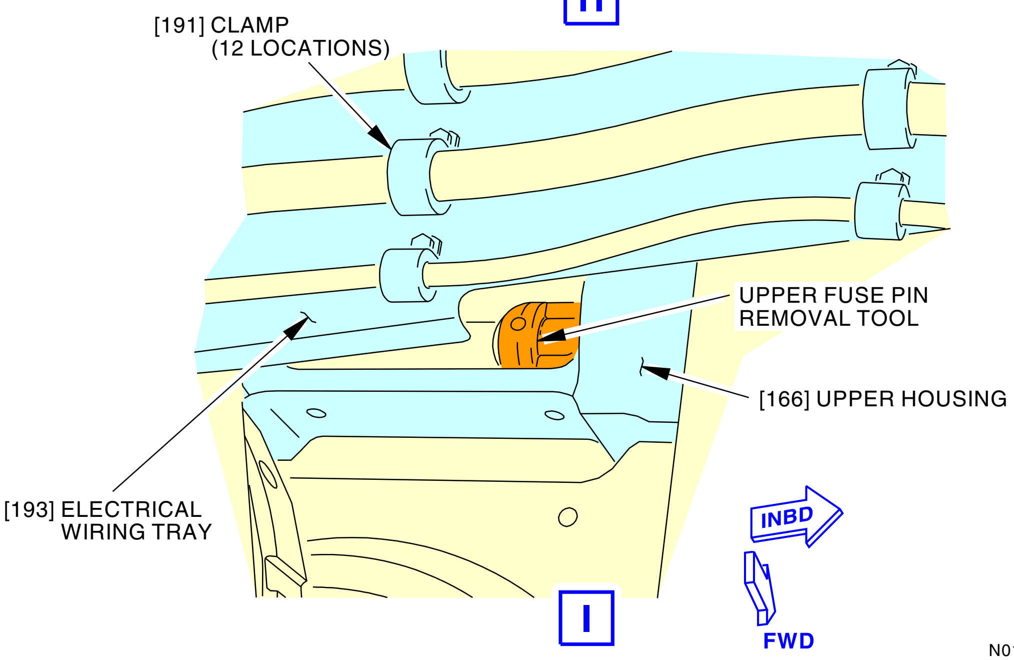
N01940 S0006417839_V2

Main Landing Gear Trunnion Supports
Figure 404/32-11-01-990-809 (Sheet 7 of 11)



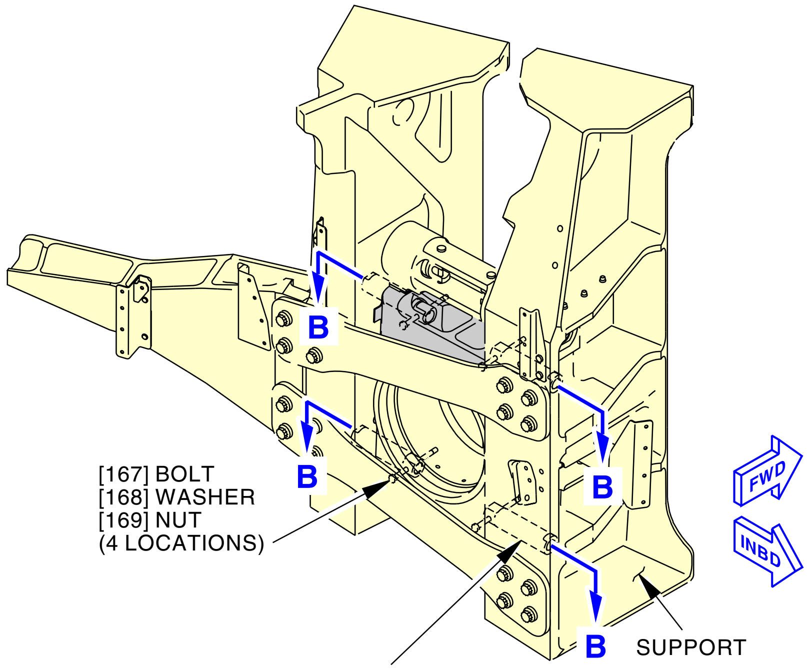
FORWARD TRUNNION ELECTRICAL
WIRING TRAY AND FUSE PIN PULLER

H



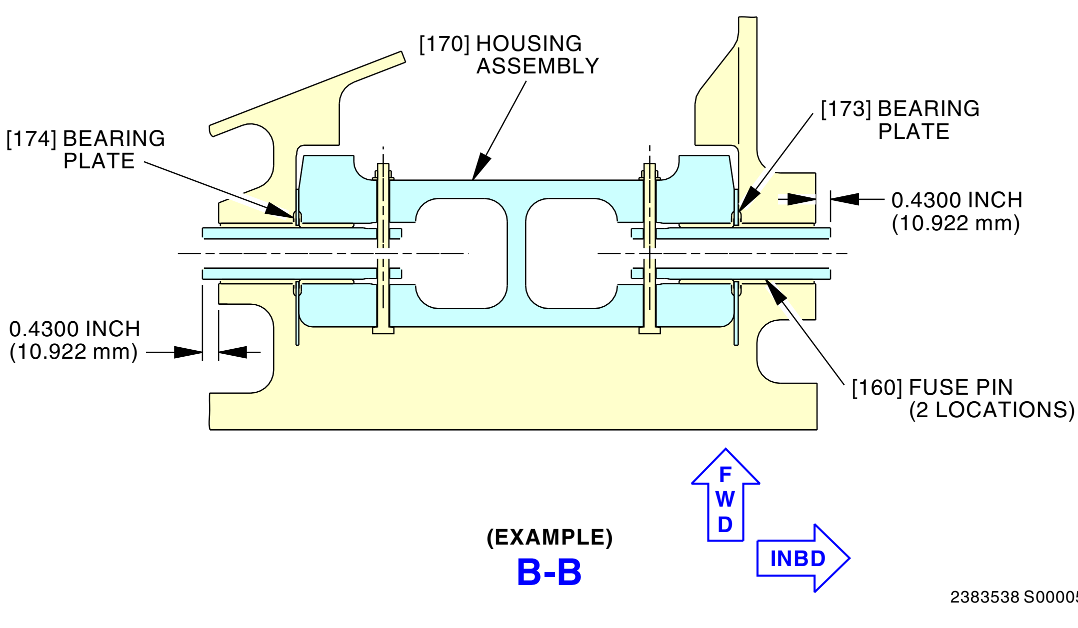
N01941 S0006417840_V3

Main Landing Gear Trunnion Supports
Figure 404/32-11-01-990-809 (Sheet 8 of 11)



FORWARD TRUNNION SUPPORT

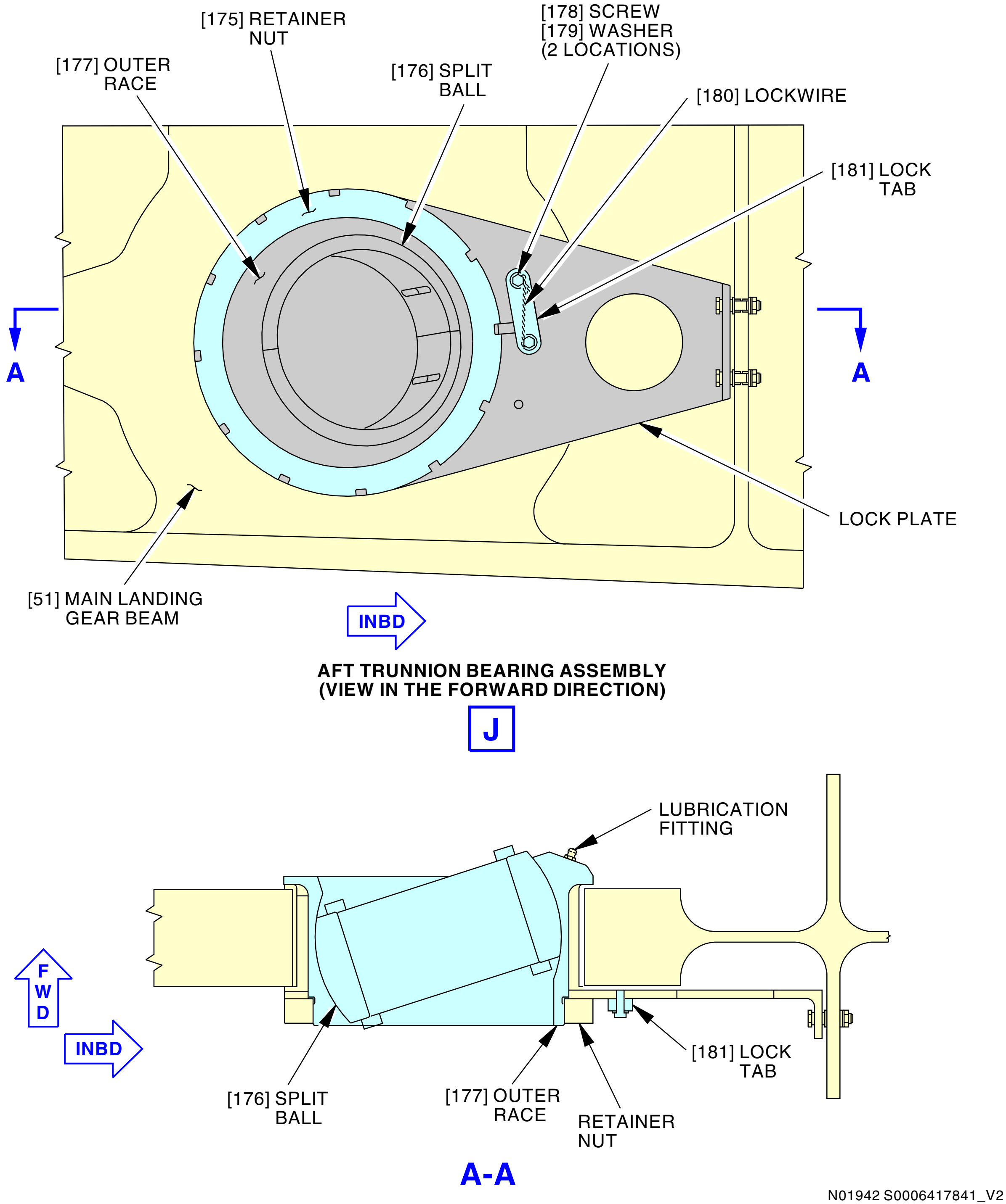
E1



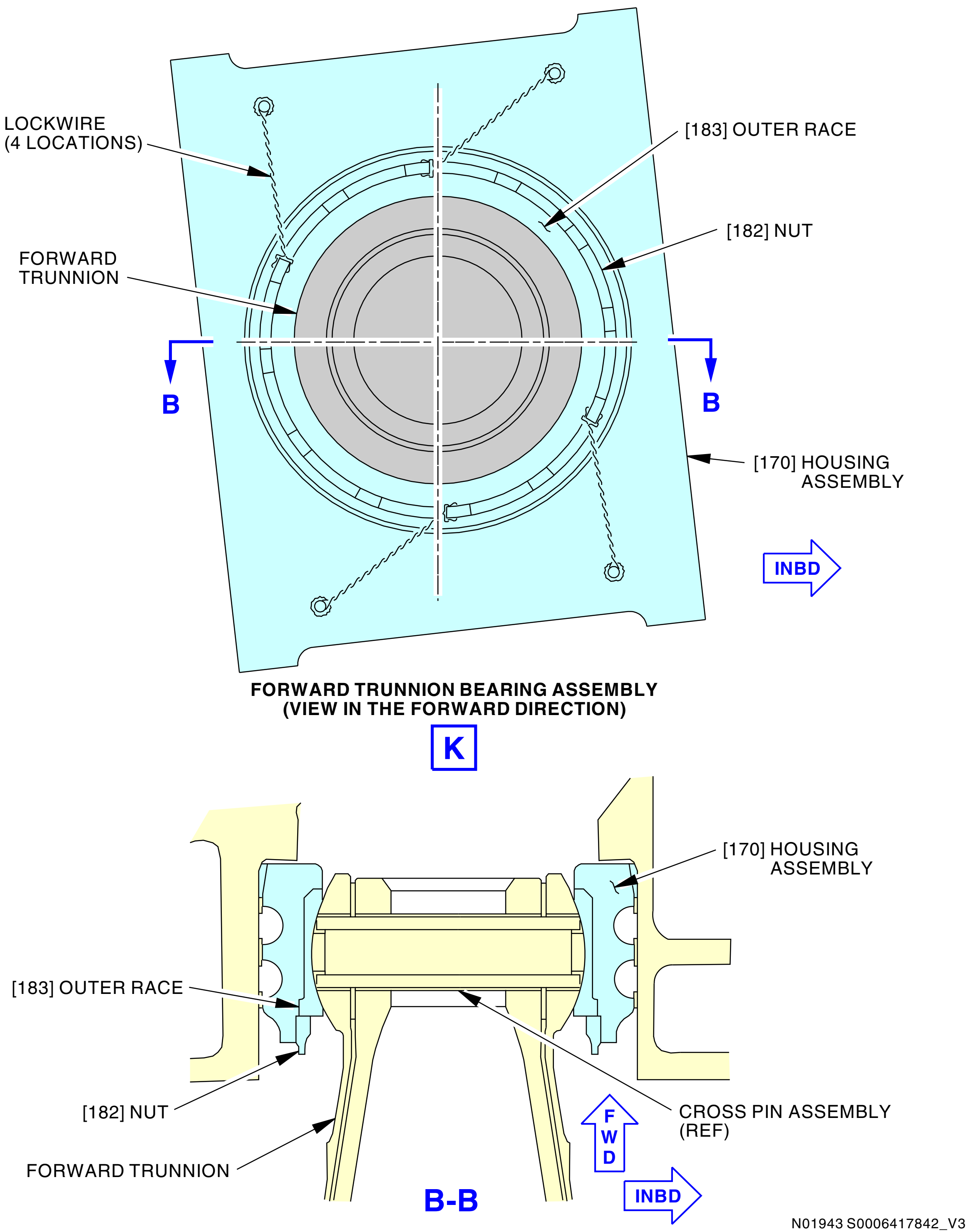
(EXAMPLE)
B-B

2383538 S0000547005_V2

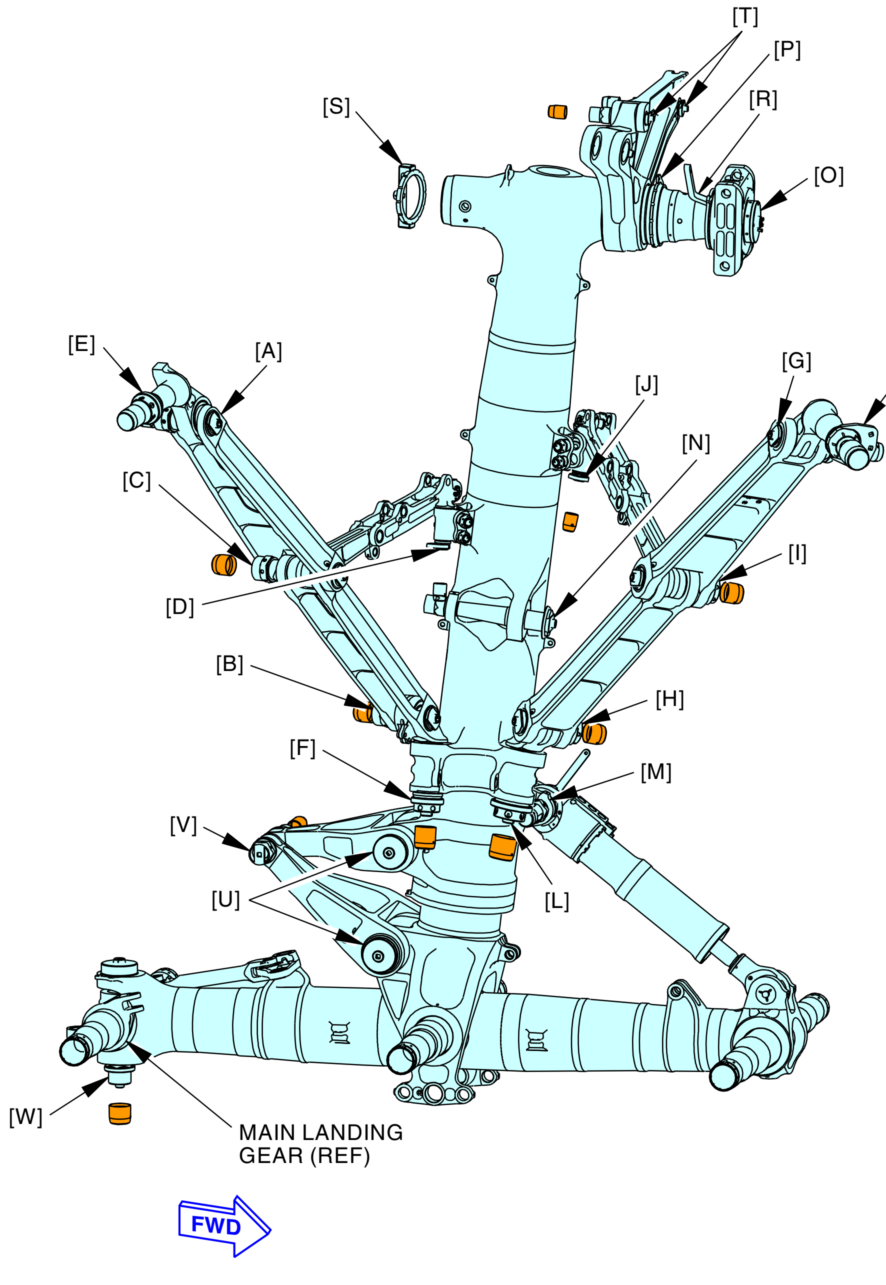
Main Landing Gear Trunnion Supports
Figure 404/32-11-01-990-809 (Sheet 9 of 11)



Main Landing Gear Trunnion Supports
Figure 404/32-11-01-990-809 (Sheet 10 of 11)



Main Landing Gear Trunnion Supports
Figure 404/32-11-01-990-809 (Sheet 11 of 11)



Special Tools for Main Landing Gear Installation
Figure 405/32-11-01-990-811 (Sheet 1 of 4)

MAIN LANDING GEAR, SIDE STRUT					
COMPONENT	WRENCH OR SOCKET (FOR NUT)	THREAD PROTECTOR	WRENCH (FOR PIN RETENTION)	USED ON AIRCRAFT PART	USAGE LOCATION
SIDE STRUT, UPPER STRUT LINK ATTACH	J32085-36	J32085-17	J32085-12	161W3217 (NUT) 161W0260 (PIN)	[A]
SIDE STRUT, LOWER STRUT LINK ATTACH	J32085-36	J32085-17	J32085-12	161W3217 (NUT) 161W0260 (PIN)	[B]
SIDE STRUT, APEX	J32085-36	J32085-17	J32085-12	161W3217 (NUT) 161W3216 (PIN)	[C]
SIDE STRUT, LOCK LINK SPINDLE	J32085-7	J32085-15	NOT REQUIRED	161W1811 (NUT) 161W3211 (SPINDLE ASSEMBLY)	[D]
SIDE STRUT, UPPER ATTACH SPINDLE	J32085-26	J32085-18	NOT REQUIRED	161W0103 (NUT) 161W0200 (SPINDLE ASSEMBLY)	[E]
SIDE STRUT, LOWER ATTACH SPINDLE	J32085-27	J32085-19	NOT REQUIRED	161W2315 (NUT) 161W2310 (SPINDLE ASSEMBLY)	[F]

J91002 S0000185041_V2

Special Tools for Main Landing Gear Installation
Figure 405/32-11-01-990-811 (Sheet 2 of 4)

MAIN LANDING GEAR, DRAG STRUT					
COMPONENT	WRENCH OR SOCKET (FOR NUT)	THREAD PROTECTOR	WRENCH (FOR PIN RETENTION)	USED ON AIRCRAFT PART	USAGE LOCATION
DRAG STRUT, UPPER STRUT LINK ATTACH	J32085-24	J32085-16	J32085-10	161W0266 (NUT) 161W0265 (PIN)	[G]
DRAG STRUT, LOWER STRUT LINK ATTACH	J32085-25	J32085-68	J32085-13	161W4217 (NUT) 161W0264 (PIN)	[H]
DRAG STRUT, APEX	J32085-25	J32085-68	J32085-11	161W4217 (NUT) 161W4215 (PIN)	[I]
DRAG STRUT, LOCK LINK SPINDLE	J32085-7	J32085-15	NOT REQUIRED	161W1811 (NUT) 161W3211 (SPINDLE ASSEMBLY)	[J]
DRAG STRUT, UPPER ATTACH SPINDLE	J32085-8	J32085-14	NOT REQUIRED	161W0209 (NUT) 161W0206 (SPINDLE ASSEMBLY)	[K]
DRAG STRUT, LOWER ATTACH SPINDLE	J32085-28	J32085-20	NOT REQUIRED	161W2317 (NUT) 161W2312 (SPINDLE ASSEMBLY)	[L]
HYDRAULIC STRUT ATTACH, UPPER	J32085-34	J32085-23	J32085-30	161W0251 (NUT) 161W0250 (PIN)	[M]
RETRACT ACTUATOR, LOWER ATTACH	1923	J32085-69	J32085-64	161W1022 (NUT) 161W2020 (PIN)	[N]

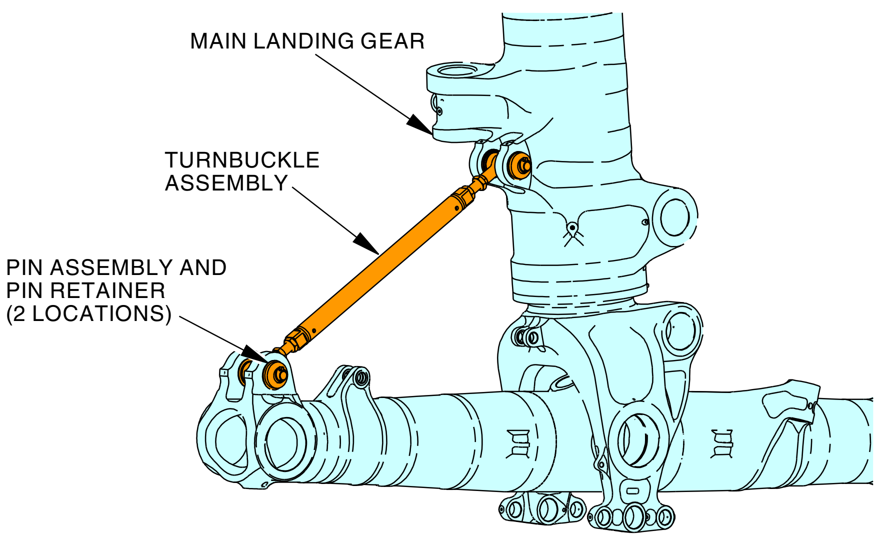
J91016 S0000185955_V2

Special Tools for Main Landing Gear Installation
Figure 405/32-11-01-990-811 (Sheet 3 of 4)

MAIN LANDING GEAR, UPPER TRUNNION					
COMPONENT	WRENCH OR SOCKET (FOR NUT)	THREAD PROTECTOR	WRENCH (FOR PIN RETENTION)	USED ON AIRCRAFT PART	USAGE LOCATION
UPPER TRUNNION, NUT-RETAINING, FORWARD TRUNNION BEARING	J32085-6	NOT REQUIRED	NOT REQUIRED	161W1323 (NUT)	[O]
UPPER TRUNNION, NUT-RETAINING, RETRACT ARM	J32085-3	NOT REQUIRED	NOT REQUIRED	161W2306 (NUT)	[P]
UPPER TRUNNION, NUT-RETAINING, FORWARD TRUNNION BEARING	J32085-5	NOT REQUIRED	NOT REQUIRED	161W0216 (NUT)	[R]
UPPER TRUNNION, NUT-RETAINING, AFT TRUNNION BEARING ASSEMBLY	J32085-2	NOT REQUIRED	NOT REQUIRED	161W1504 (NUT)	[S]
UPPER TRUNNION, NUT-RETAINING, RETRACT ARM	1920	J32085-21	J32085-9	NASM21025 (NUT) 161W0081 (PIN)	[T]
TORSION LINK UPPER ATTACH	J32085-33	J32085-39	J32085-29	161W2147 (NUT) 161W2145 (PIN)	[U]
TORSION LINK LOWER ATTACH	J32085-33	J32085-39	J32085-29	161W2147 (NUT) 161W2146 (PIN)	[U]
TORSION LINK, APEX	J32085-35	J32085-37	J32085-34	161W2149 (NUT) 161W2144 (PIN)	[V]
AFT AXLE, PIVOT-TRUCK BEAM	J32085-32	J32085-38	J32085-31	161W1217 (NUT) 161W2209 (PIN)	[W]

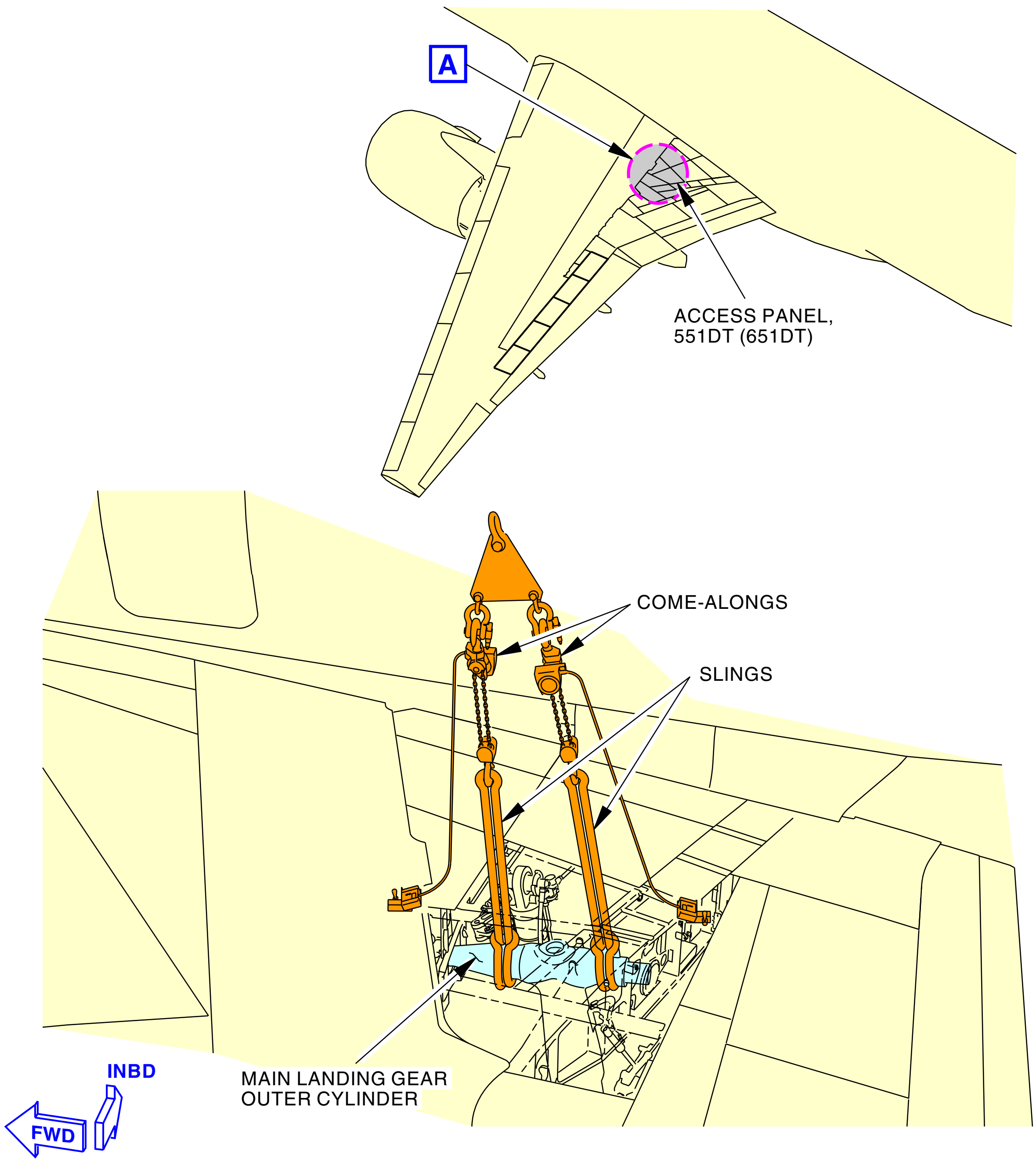
J91021 S0000185956_V2

Special Tools for Main Landing Gear Installation
Figure 405/32-11-01-990-811 (Sheet 4 of 4)



U53655 S0000206801_V2

**Main Landing Gear Shock Strut Turnbuckle Equipment
Figure 406/32-11-01-990-812**



(LEFT WING IS SHOWN RIGHT WING IS OPPOSITE)

A

1549234 S0000282635_V2

Main Landing Gear Removal/Installation Equipment
Figure 407/32-11-01-990-815

TASK 32-11-01-420-803

3. Main Landing Gear Installation, Using an Overhead Crane

(Figure 401, Figure 402, Figure 403, Figure 404, Figure 407, Figure 405)

A. General

(1) This task supplies instructions to install the main landing gear on the airplane using an overhead crane and nylon webbing straps.

B. References

Reference	Title
06-44-00-800-802	Finding an Access Door or Panel on the Wings (P/B 201)
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-15-01-610-810	Main Landing Gear Shock Strut Servicing (P/B 301)
12-21-11-640-802-002	Main Landing Gear Support Beam Lubrication (P/B 301)
12-21-14-640-805-002	Upper Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
12-21-14-640-806-002	Lower Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
12-21-15-640-802-002	Main Landing Gear Doors and Actuating Mechanisms Lubrication (P/B 301)
20-11-00-910-801	Standard Torque Values (P/B 201)
27-51-00-040-801	Trailing Edge Flap Deactivation (P/B 201)
27-51-00-440-801	Trailing Edge Flap Reactivation (P/B 201)
27-51-00-860-804	Extend the Trailing Edge Flaps (P/B 201)
27-51-00-860-805	Retract the Trailing Edge Flaps (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-09-03-820-801	WOW Load Sensor Calibration (P/B 201)
32-11-03-400-816-002	Side Brace Assembly Installation (P/B 401)
32-11-10-400-807	Drag Brace Assembly Installation (P/B 401)
32-12-00-910-804	Main Landing Gear Shock Strut Door Adjustment (P/B 501)
32-12-06-420-801	Main Landing Gear Shock Strut Door Installation (P/B 401)
32-12-08-420-802	Main Landing Gear Drag Strut Door Installation (P/B 401)
32-12-11-420-801	Main Landing Gear Trunnion Door Installation (P/B 401)
32-30-01-720-801	Main Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks) (P/B 501)
32-30-01-720-802	Nose and Main Landing Gear Extension and Retraction Systems - Functional Test (Airplane on the Jacks) (P/B 501)
32-32-25-420-801	Main Landing Gear (SLG) Hydraulic Strut Installation (P/B 401)
32-35-00-720-801	Landing Gear Alternate Extension System - Operational Test (Airplane on the Jacks) (P/B 501)
32-41-00-870-801	Alternate Hydraulic Brake System - Bleeding (P/B 201)
32-41-00-870-802	Normal Hydraulic Brake System - Bleeding (P/B 201)
32-46-00-710-801	Brake Temperature Monitoring System (BTMS) - Operational Test (P/B 501)
32-53-00-720-801	Main Landing Gear Steering System - Functional Test (P/B 501)

(Continued)

Reference	Title
32-61-00-700-801	Landing Gear Position Indicating and Warning System - System Test (P/B 501)
57-54-01-910-801	MLG Forward and Aft Trunnion Bearing Wear Limits (P/B 601)
SWPM 20-20-00	Standard Wiring Practices Manual

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meters - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: T477W Supplier: 01014 Opt Part #: M1B Supplier: 3AD17
SPL-1826	Pump - Retraction/Extension, Landing Gear Actuator Part #: A32027-177 Supplier: 81205 Part #: A32027-178 Supplier: 81205
SPL-1846	Turnbuckle - MLG Truck Position Actuator Part #: J32034-1 Supplier: 81205
SPL-1853	Retainer Equipment, MLG/NLG Torsion Link Part #: J32054-91 Supplier: 81205 Part #: J32054-92 Supplier: 81205
SPL-1859	Equipment - Removal/Installation, MLG Aft Trunnion Pin Part #: J32036-56 Supplier: 81205 Part #: J32036-75 Supplier: 81205 Opt Part #: J32036-55 Supplier: 81205 Opt Part #: J32036-57 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205
SPL-4266	Sling - MLG Removal / Installation Part #: A5270-10L Supplier: 4Y309
SPL-4685	Turnbuckle Eqpt, MLG Shock Strut Part #: J32087-1 Supplier: 81205
STD-1081	Flashlight - Explosion Proof

D. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
A50231	Sealant - Pressure And Environmental - Chromate Type	BMS5-95 Class B
A50326	Adhesive - Modified Epoxy For General Purpose Use	BMS5-92 Type I Class 4

(Continued)

Reference	Description	Specification
A50327	Adhesive - Modified Epoxy For General Purpose Use	BMS5-92 Type III Class 2
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
99	Cotter pin	Not Specified	
103	Cotter pin	Not Specified	
152	Main landing gear	Not Specified	
171	Cotter pin	Not Specified	
172	Cotter pin	Not Specified	

F. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

G. Access Panels

Number	Name/Location
551BB	Inboard Fixed Trailing Edge Panel
551DB	Inboard Fixed Trailing Edge Panel
551DT	Left Main Landing Gear Upper Wing Panel
551EB	Inboard Fixed Trailing Edge Panel
551FB	Inboard Fixed Trailing Edge Panel
552BB	Inboard Fixed Trailing Edge Panel
651BB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel
651DT	Right Main Landing Gear Upper Wing Panel
651EB	Inboard Fixed Trailing Edge Panel
651FB	Inboard Fixed Trailing Edge Panel
652BB	Inboard Fixed Trailing Edge Panel

H. Prepare for the Installation

SUBTASK 32-11-01-210-001

(1) To check for the wear limits of the aft trunnion bearing assembly, do this task: MLG Forward and Aft Trunnion Bearing Wear Limits, TASK 57-54-01-910-801.

NOTE: New aft trunnion parts do not require wear limit inspection.

SUBTASK 32-11-01-420-058

(2) If it is necessary to install the aft trunnion bearing assembly, do these steps:

> **CAUTION** DO NOT CHANGE ONE HALF OF THE SPLIT BALL WITH A DIFFERENT HALF. EACH HALF IS PART OF A SPECIFIED PART. THE INSTALLATION OF AN INCORRECT HALF CAN CAUSE DETERIORATION OF THE AFT TRUNNION BEARING WHEN THE LANDING GEAR OPERATES.

(a) Identify each half of the split ball [176] to show that each half is a part of a set.

(b) Install the split ball [176] and the outer race [177] on the main landing gear beam [51].

(c) Install the retainer nut [175] on the outer race [177].

(d) Use wrench kit, SPL-4133 to tighten the retainer nut to 10 ft-lb (14 N·m)-15 ft-lb (20 N·m) (Figure 405).

(e) Install the lock tab [181] to the lockplate.

1) If it is necessary, loosen the retainer nut [175] until the lock tab [181] can engage into the slot of the retainer nut.

NOTE: Do not loosen the retainer nut very much.

2) Or, the lock tab [181] can be moved to adjacent threaded hole in the lock plate.

3) Install the screw [178 and the washer [179] to the lock tab [181].

4) Tighten the screw to 25 in-lb (3 N·m)-30 in-lb (3 N·m).

5) Install the lockwire [180] to the screw [178].

SUBTASK 32-11-01-640-013

(3) Do this task: Main Landing Gear Support Beam Lubrication, TASK 12-21-11-640-802-002.

SUBTASK 32-11-01-420-060

(4) Do the steps that follow to install the forward housing assembly [170] on the forward trunnion:

(a) Make sure that the cross pin assembly (cross pin plus two end caps) is installed at the location shown on Figure 404, detail K, view B-B.

1) If necessary remove material that is in place to temporarily keep the pin assembly in the trunnion.

(b) Put the retainer nut [182] on the protected surface of the forward trunnion.

> **CAUTION** DO NOT CHANGE ONE HALF OF THE OUTER RACE WITH A DIFFERENT HALF. EACH HALF IS PART OF A SPECIFIED PART. THE INSTALLATION OF AN INCORRECT HALF CAN CAUSE DETERIORATION OF THE FORWARD TRUNNION BEARING WHEN THE LANDING GEAR OPERATES.

(c) Put the outer race [183], and the housing assembly [170] on their position on the forward trunnion.

(d) Use wrench kit, SPL-4133 to tighten the nut [182] to 95 ft-lb (129 N·m)-120 ft-lb (163 N·m) (Figure 405).

SUBTASK 32-11-01-640-015

(5) Do this task: Upper Main Landing Gear and Actuating Mechanisms Lubrication, TASK 12-21-14-640-805-002.

SUBTASK 32-11-01-020-197

(6) If you will retract the main landing gear actuator to reduce the overall height of the landing gear, do the steps that follow:

NOTE: This will reduce the overall height of the landing gear for rolling the landing gear from beneath the airplane wing, it is not necessary to do these steps if the airplane is lifted high enough.

(a) Retract the retract actuator [92]:

1) Install the landing gear actuator pump, SPL-1826 on the retract actuator [92].

2) Use the landing gear actuator pump, SPL-1826 to turn the retract fitting [95] so the actuator [92] is in its retracted position.

3) Remove the landing gear actuator pump, SPL-1826 from the retract actuator [92].

(b) Put a cap on the hydraulic ports of the retract actuator [92].

SUBTASK 32-11-01-420-038

(7) Move the main landing gear [152] into its position below the wing.

SUBTASK 32-11-01-640-009

(8) Make sure the aft trunnion pin [43] can move easily (Figure 404).

(a) If you cannot easily move the aft trunnion pin [43], remove it from the trunnion and lubricate it with grease, D00633 (preferred) or with grease, D00013 (optional).

(b) Install the aft trunnion pin [43] in the trunnion.

SUBTASK 32-11-01-860-030

(9) To extend the trailing edge flaps to 20 units, do this task: Extend the Trailing Edge Flaps, TASK 27-51-00-860-804.

NOTE: Move the flaps with either electrical or manual control.

NOTE: This will permit access to the aft trunnion pin [43].

SUBTASK 32-11-01-860-031

(10) Do this task: Trailing Edge Flap Deactivation, TASK 27-51-00-040-801.

SUBTASK 32-11-01-480-017

(11) Make sure the stainless steel sheet and two inch rubber pad is on the lower flange of the main landing gear beam below the aft trunnion bearing.

NOTE: The stainless steel sheet and rubber pad will provide protection for the aft trunnion and the main landing gear beam if they come in contact with each other.

SUBTASK 32-11-01-480-018

(12) If you are use a landing gear pit with an elevator, put the elevator in a position such that the trunnion is approximately 24 in. (610 mm) below the wing's lower surface.

SUBTASK 32-11-01-020-164

(13) Install a nylon webbing strap or MLG Sling, SPL-4266 around the forward trunnion, aft of the retract actuator fitting [95], (Figure 407).

NOTE: The strap or MLG Sling, SPL-4266 must be able to hold a load of up to 14,000 lb (6350 kg).

(a) Connect a come-along and load cell to the nylon webbing strap or MLG Sling, SPL-4266.

(b) Connect the nylon webbing strap or MLG Sling, SPL-4266, come-along, and load cell to the overhead crane.

SUBTASK 32-11-01-840-001

(14) Install a nylon webbing strap or MLG Sling, SPL-4266 around the aft trunnion just forward of the hole for the aft trunnion pin cross bolt (Figure 407).

NOTE: The strap or MLG Sling, SPL-4266 must be able to hold a load of up to 14,000 lb (6350 kg).

(a) Connect a come-along and load cell to the nylon webbing strap or MLG Sling, SPL-4266.

(b) Connect the nylon webbing strap or MLG Sling, SPL-4266, come-along, and load cell to the overhead crane.

SUBTASK 32-11-01-480-019

(15) Make sure the retainer equipment, SPL-1853 [13], is installed on the main landing gear to hold the shock strut [4] in its compressed position.

SUBTASK 32-11-01-020-165

(16) Support the weight of the landing gear with the overhead crane:

(a) If you will not use a landing gear pit, lift the landing gear with the overhead crane until the tires clear the floor by approximately 6 in. (152 mm).

(b) If you use a landing gear pit with an elevator, support the weight of the gear with the overhead crane, then lower the elevator until the tires clear the elevator by approximately 6 in. (152 mm).

SUBTASK 32-11-01-020-217

(17) Adjust the length of the MLG truck position actuator turnbuckle, SPL-1846 [12] or the turnbuckle equipment, SPL-4685 [12] as follows:

(a) Adjust the turnbuckle until the distance from center to center of the end fittings is 30 in. (762 mm).

NOTE: The length of the turnbuckle is necessary to get the landing gear center of gravity in the correct location.

I. Procedure to Install the Main Landing Gear

SUBTASK 32-11-01-420-039

(1) Use the overhead crane to move the main landing gear [152] up and forward into the wing such that the forward trunnion housing [170] moves into its position in the rear spar supports.

NOTE: The forward trunnion housing [170] will start at a position aft of the rear spar supports and move up and forward as it moves in to the rear spar supports.

SUBTASK 32-11-01-420-040

(2) Push on the main landing gear to turn the aft trunnion inboard such that it clears the lower flange of the main landing gear beam [51] and you can lift the main landing gear [152].

SUBTASK 32-11-01-420-041

(3) lift the main landing gear [152] with the overhead crane until the aft trunnion is above the lower flange of the main landing gear beam [51] and the aft trunnion can be turned back to its normal position.

NOTE: Make sure you keep the main landing gear turned such that the aft trunnion remains away from the main landing gear beam.

NOTE: Make sure you keep the forward trunnion housing [170] forward in the rear spar supports as you lift the landing gear.

(a) Lift the main landing gear [152] until the bottom edge of the aft trunnion is approximately 1 in. (25 mm) above the bottom flange of the main landing gear beam.

NOTE: The forward trunnion will be very close to the electrical wiring above the forward trunnion.

SUBTASK 32-11-01-020-167

(4) Push on the landing gear to turn the aft trunnion outboard back to its normal forward/aft position.

NOTE: Make sure the forward trunnion housing assembly matches the upper housing assembly correctly. There are different positions in both main landing gears.

SUBTASK 32-11-01-860-032

CAUTION MAKE SURE THE AFT TRUNNION DOES NOT CONTACT THE MAIN LANDING GEAR BEAM. CONTACT BETWEEN THE AFT TRUNNION AND THE MAIN LANDING GEAR BEAM CAN CAUSE DAMAGE TO THE BEAM OR THE AFT TRUNNION.

(5) Position the main landing gear [152], with the overhead crane to move the forward trunnion housing to its correct position for connection to the rear spar supports:

(a) Lower the main landing gear [152] with the overhead crane.

NOTE: Make sure the forward trunnion housing [170] is kept forward within the housing supports.

(b) Stop lowering the gear when the forward trunnion housing is in its correct position for connection to the rear spar supports.

SUBTASK 32-11-01-420-042

(6) Connect the forward trunnion housing assembly [170] (Figure 404):

(a) Align the fuse pin holes in the forward trunnion housing assembly [170] and the holes in the rear spar supports.

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(b) Apply sealant, A00247 or Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the bearing plates [173] and [174].

(c) Install the bearing plates [173] (inbd) and [174] (outbd) between the forward trunnion housing assembly [170] and the rear spar supports.

NOTE: The cad plated and primed sides should face the housing support fittings.

(d) Make sure there is a 0.005 in. (0.127 mm)-0.015 in. (0.381 mm) clearance between the forward trunnion housing assembly [170] and the bearing plate [173].

NOTE: Wear plate [174] may be used two places to meet the clearance requirements.

(e) Install the four fuse pins [160] such that the retaining bolt holes in the fuse pins line up with the holes in the forward trunnion housing assembly [170].

(f) Apply sealant, A00247 to the retaining bolts [167], and the nuts [169].

(g) Install these parts to connect the fuse pins [160] to the forward trunnion housing assembly [170]:

1) retaining bolt [167]

2) washer [168]

3) nut [169]

a) Tighten the nut [169] to 15 in-lb (2 N·m)-25 in-lb (3 N·m).

(h) Check for proper engagement between the fuse pins [160] and retaining bolts [167] by either visual confirmation or by measuring the pin protrusion as shown in Figure 404, section view B-B.

(i) Install safety wire in the four retaining bolts [167].

1) Install cotter pins [172].

SUBTASK 32-11-01-420-043

(7) Install the upper housing assembly [166]:

NOTE: The upper housing assembly [166] and the forward trunnion housing assembly [170] are a matched set and must be kept together. Do not replace one part with out replacing the other.

(a) Put the upper housing assembly [166] in its position on the forward trunnion housing assembly [170].

(b) Install the two fuse pins [159] such that the retaining bolt holes in the fuse pins line up with the holes in the upper housing assembly [166].

(c) Apply sealant, A00247 to these parts and install them to connect the fuse pin [159] to the upper housing assembly [166]:

1) retaining bolt [163]

2) washer [164]

3) nut [165]

a) Tighten the nut [165] to 15 in-lb (2 N·m)-25 in-lb (3 N·m).

4) cotter pin [171].

SUBTASK 32-11-01-020-172

(8) Move the landing gear side to side and use the come-alongs connected to the overhead crane and nylon webbing straps or MLG Sling, SPL-4266 to raise and lower the aft trunnion until the aft trunnion pin aligns with the aft trunnion bearing.

SUBTASK 32-11-01-420-044

(9) Install the aft trunnion pin [43]:

ARO 001-013 POST SB 777-32A0103

NOTE: If the serial number of the aft trunnion pin begins with “EGL” or “MAL”, then there must be a marking saying “BASE METAL INSPECTED”.

ARO ALL

(a) Install the MLG aft trunnion pin equipment, SPL-1859 through the pin access hole and on the aft trunnion pin [43].

(b) Put explosion proof flashlight, STD-1081 or other bright lights at the top of the main landing gear and shine them back past the aft trunnion.

(c) Look through the trunnion pin access hole so you can see the aft trunnion pin through the spherical bearing.

(d) Pull the aft trunnion pin until it is approximately ½ in. (13 mm) away from the spherical bearing.

(e) Move the spherical bearing until it is in line with the aft trunnion pin.

(f) Pull the landing gear side to side or raise and lower it until you can see equal amounts of light all the way around the aft trunnion pin through the spherical bearing.

NOTE: When you have the trunnion pin and the spherical bearing correctly aligned, the trunnion pin will install very easily.

NOTE: The sound made when installing the aft trunnion pin will change from a solid sound to a softer sound when the pin and bearing are correctly aligned.

(g) Pull the aft trunnion pin [43] out of the trunnion with the MLG aft trunnion pin equipment, SPL-1859, so the aft trunnion is connected to the main landing gear beam [51].

(h) Turn the aft trunnion pin [43] to align the bolt hole in the trunnion with the cross bolt hole in the aft trunnion pin.

SUBTASK 32-11-01-420-057

(10) Install the trunnion door actuator rod fitting [174].

SUBTASK 32-11-01-420-067

(11) Connect the aft trunnion pin [43] to the aft trunnion:

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(a) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the bolt [113], the washer [114], and the nut [115].

(b) Install these parts to connect the aft trunnion pin [43] to the aft trunnion:

1) bolt [113]
2) washer [114]
3) nut [115]
   a) Tighten the nut [115]. Refer to Standard Torque Values, TASK 20-11-00-910-801.
4) cotter pin [115A]

SUBTASK 32-11-01-020-175

(12) Remove the nylon webbing straps or MLG Sling, SPL-4266, come-along, and load cells from the main landing forward and aft trunnions.

SUBTASK 32-11-01-420-045

(13) Apply sealant, A00247 to the bolts [155], bolts [161], washers [156], washers [157], and nuts [158] for the side load straps [162].

SUBTASK 32-11-01-420-054

(14) Apply sealant, A00247 to the mating surfaces of the side load straps [162].

SUBTASK 32-11-01-420-046

(15) Install these parts to connect the two side load straps [162] to the rear spar supports.
- (a) bolt [155]
- (b) bolt [161]
- (c) washer [156]
- (d) washer [157]
- (e) nut [158]
  1) Tighten the nut [158] to 1350 in-lb (153 N·m)-1650 in-lb (186 N·m).

SUBTASK 32-11-01-020-176

(16) To connect the side brace [15] and the lock links [5] to the shock strut [4], do this task: Side Brace Assembly Installation, TASK 32-11-03-400-816-002.

SUBTASK 32-11-01-020-177

(17) To connect the drag brace [7] and the lock links [6] to the shock strut [4], do this task: Drag Brace Assembly Installation, TASK 32-11-10-400-807.

SUBTASK 32-11-01-480-020

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(18) If the downlock pins are not installed in the main landing gear [152], do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-01-020-178

(19) Lower the airplane and remove the jacks (TASK 07-11-01-580-805).

SUBTASK 32-11-01-480-024

(20) Remove the MLG truck position actuator turnbuckle, SPL-1846 [12] or the turnbuckle equipment, SPL-4685 [12] from the hydraulic strut location.

SUBTASK 32-11-01-020-198

(21) If you retracted the main landing gear retract actuator, do the steps that follow:

(a) Remove the cap on the hydraulic ports of the retract actuator [92].

(b) Extend the retract actuator [92]:

1) Install the landing gear actuator pump, SPL-1826 on the retract actuator [92].

2) Use the landing gear actuator pump, SPL-1826 to turn the retract fitting [95] so the actuator [92] is in its extended position.

3) Remove the landing gear actuator pump, SPL-1826 from the retract actuator [92].

SUBTASK 32-11-01-000-002

(22) Do this task: Main Landing Gear (SLG) Hydraulic Strut Installation, TASK 32-32-25-420-801.

SUBTASK 32-11-01-420-047

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(23) Install the upper reaction link [93]:

(a) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the pin [96] threads, the washer [97], the nut [98], and the pin [99] (Figure 403).

NOTE: The thread protector from the wrench kit, SPL-4133

can be reinstalled on pin [96] after Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 is applied.

(b) Install these parts connect the upper reaction link [93] to the retract fitting [95]:

1) pin [96]

2) washer [97]

3) nut [98]

a) Use the wrench kit, SPL-4133 to tighten the nut [98] to 80 ft-lb (108 N·m)-100 ft-lb (136 N·m), loosen the nut to the nearest castellation to install the cotter pin [99] (Figure 405).

4) cotter pin [99]

(c) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the pin [120] threads, washer [126], nut [122], bolt [123], washer [124], and the nut [125].

(d) Install these parts connect the upper reaction link [93] to the link [121].

1) pin [120]

2) washer [126]

3) nut [122]

a) Tighten the nut [122] to 50 ft-lb (68 N·m)-75 ft-lb (102 N·m), loosen the nut to the nearest castellation to install the bolt [123].

4) Install the bolt [123], washer [124], and the nut [125].

(e) Install the link [121] to the retract fitting [190].

1) Apply a light coating of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the washers [184] and [186].

2) Put the link [121] and the washers [184] and [186] in place, in the retract fitting [190].

NOTE: Washers [186] are installed inboard and adjacent to the link [121]. Washers [184] are installed outboard and adjacent to retract fitting [190].

3) Install the pin [185] through the retract fitting [190] and the link [121].

4) Apply a light coating of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the thread group of the pin [185] and the washer faces.

5) Use the wrench kit, SPL-4133 to tighten the nut [187] to 15 in-lb (2 N·m)-25 in-lb (3 N·m) plus run-on torque.

6) Loosen the nut [187] to the nearest castellation to install the pin [188].

7) Wipe off all excess Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913.

SUBTASK 32-11-01-420-048

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(24) Install the lower reaction link [94]:

(a) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the pin [100] threads, the washer [101], the nut [102], and the cotter pin [103].

NOTE: The thread protector from the wrench kit, SPL-4133

can be reinstalled on pin [100] after Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 is applied.

(b) Install these parts connect the lower reaction link [94] to the retract fitting [95]:

1) pin [100]

2) washer [101]

3) nut [102]

a) Use the wrench kit, SPL-4133 to tighten the nut [102] to 80 ft-lb (108 N·m)-100 ft-lb (136 N·m), loosen the nut to the nearest castellation to install the cotter pin [103] (Figure 405).

4) cotter pin [103]

(c) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the pin [200] threads, the washer [101], the nut [102], and the cotter pin [103].

NOTE: The thread protector from the wrench kit, SPL-4133

can be reinstalled on pin [200] after Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 is applied.

(d) Install these parts connect the lower reaction link [94] to the upper airplane:

1) pin [200]

2) washer [101]

3) nut [102]

a) Use the wrench kit, SPL-4133 to tighten the nut [102] to 80 ft-lb (108 N·m)-100 ft-lb (136 N·m), loosen the nut to the nearest castellation to install the cotter pin [103] (Figure 405).

4) cotter pin [103]

SUBTASK 32-11-01-400-001

(25) If removed, install the Caplug [91] at the top of the shock strut using sealant, A50231. If the optional marker [195] is used in place of the Caplug, use adhesive, A50326 or adhesive, A50327 to install it. Apply sufficient adhesive to assure a uniform squeeze out.Figure 403

SUBTASK 32-11-01-420-049

(26) Remove the caps from the hydraulic lines [104] and the elbow fittings [105].

SUBTASK 32-11-01-420-050

(27) Connect the hydraulic lines [104] to the elbow fittings [105].

(a) Tighten the B-nuts on the hydraulic lines [104] to 1200 ±60 in-lb (136 ±7 N·m).

SUBTASK 32-11-01-420-051

(28) Install and connect the five hydraulic lines on the inboard side of the upper shock strut [4].

(a) Connect the hydraulic line [112] to the fitting 1.

1) Tighten the B-nut on the hydraulic line [112] to 700 ±35 in-lb (79 ±4 N·m).

(b) Connect the hydraulic line [200] to the fitting 2.

1) Tighten the B-nut on the hydraulic line [200] to 270 ±14 in-lb (31 ±2 N·m).

(c) Connect the hydraulic line [201] to the fitting 3.

1) Tighten the B-nut on the hydraulic line [201] to 500 ±25 in-lb (56 ±3 N·m).

(d) Connect the hydraulic line [202] to the fitting 4.

1) Tighten the B-nut on the hydraulic line [202] to 270 ±14 in-lb (31 ±2 N·m).

(e) Connect the hydraulic line [203] to the fitting 5.

1) Tighten the B-nut on the hydraulic line [203] to 270 ±14 in-lb (31 ±2 N·m).

(29) Install and connect the six hydraulic lines [118] on the outboard side of the upper shock strut [4].

(a) Tighten the B-nuts on the hydraulic lines [118] to 270 ±14 in-lb (31 ±2 N·m).

SUBTASK 32-11-01-420-052

(30) Connect the electrical connectors [109], [110]:

(a) Remove the caps on the electrical connectors [109], [110].

(b) Apply sealant, A00247 to the screws [107], the mating surfaces of the electrical conduit fitting [106], and the conduit bracket [119] on the rear spar.

(c) Install the screws [107] and the washers [108] to connect the electrical conduit fitting [106] to the conduit bracket [119] on the rear spar.

(d) Do a check of the resistance between the conduit fitting [106] and conduit bracket [119] with a intrinsically safe approved bonding meter, COM-1550.

NOTE: (SWPM 20-20-00) has instructions for measuring the bonding resistance.

1) Make sure that the resistance is less than 0.005 ohms.

(e) Connect the electrical connectors [109], [110] to the electrical connector bracket [111].

(f) Tighten the electrical connectors [109], [110] to 85 in-lb (10 N·m)-100 in-lb (11 N·m).

SUBTASK 32-11-01-020-199

(31) Connect the electrical wiring tray and clamps above the forward trunnion housing [170] (Figure 404):

(a) Remove the rope or tie strap that holds the electrical wiring.

(b) Install the electrical wiring tray [193], clamps [191] and screws [192].

SUBTASK 32-11-01-020-181

(32) Do this task: Main Landing Gear Drag Strut Door Installation, TASK 32-12-08-420-802.

SUBTASK 32-11-01-640-010

(33) Install these parts to connect the actuator rod [16] for the drag brace door [22] to the actuator rod fitting on the drag brace [7] (Figure 401).

(a) bolt [17]

(b) washer [18]

(c) bushing [19]

1) Lubricate the outside diameter of the bushing [19] with grease, D00633 (preferred) or grease, D00013 (optional).

(d) washer [20]

(e) nut [21]

1) Tighten the nut [21] to 370 in-lb (42 N·m)-690 in-lb (78 N·m).

SUBTASK 32-11-01-020-182

(34) Do this task: Main Landing Gear Trunnion Door Installation, TASK 32-12-11-420-801.

SUBTASK 32-11-01-420-053

(35) Do this task: Main Landing Gear Shock Strut Door Installation, TASK 32-12-06-420-801.

SUBTASK 32-11-01-020-189

(36) Connect the outboard end of the aft panel support beam [44] and the three links:

(a) Install the bolts [52] to connect the three links to the panel support beam [44].

(b) Install the two bolts [47], the three bolts [45], and the four bolts [49] on the outboard end of the aft panel support beam [44].

SUBTASK 32-11-01-020-190

(37) Connect the forward panel support beam [58]:

(a) Install the bolt [59] to connect the outboard end of the forward panel support beam [58] to the link.

(b) Install the two bolts [70], the three bolts [64], the bolt [66], and the bolt [68] to the inboard end of the forward panel support beam [58].

J. Put the Airplane Back to Its Usual Condition

SUBTASK 32-11-01-860-033

(1) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR
M	19	C32617	LG TIRE PRESSURE INDICATOR
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1
N	27	C32619	LG MAIN GEAR STEERING
N	28	C32618	LG BRAKE TEMP MONITOR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

SUBTASK 32-11-01-440-001

(2) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Right Power Management Panel, P210

Row	Col	Number	Name
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

SUBTASK 32-11-01-080-004

(3) Remove the retainer equipment, SPL-1853 [13] from the main landing gear [152].

SUBTASK 32-11-01-860-034

(4) Do this task: Trailing Edge Flap Reactivation, TASK 27-51-00-440-801.

SUBTASK 32-11-01-860-035

(5) To retract the trailing edge flaps, do this task: Retract the Trailing Edge Flaps, TASK 27-51-00-860-805.

SUBTASK 32-11-01-820-003

(6) If you changed the length of any of the door rods you will need to adjust the shock strut door [14], the trunnion door [42], or the drag brace door [22] (TASK 32-12-00-910-804).

NOTE: No adjustment to the doors is necessary if the door rods were not changed.

SUBTASK 32-11-01-610-003

(7) Do this task: Main Landing Gear Shock Strut Servicing, TASK 12-15-01-610-810.

(a) Install the cap [1] after you finish servicing the landing gear.

SUBTASK 32-11-01-640-011

(8) Do this task: Lower Main Landing Gear and Actuating Mechanisms Lubrication, TASK 12-21-14-640-806-002.

SUBTASK 32-11-01-640-012

(9) Do this task: Main Landing Gear Doors and Actuating Mechanisms Lubrication, TASK 12-21-15-640-802-002.

SUBTASK 32-11-01-870-004

(10) Do this task: Normal Hydraulic Brake System - Bleeding, TASK 32-41-00-870-802.

SUBTASK 32-11-01-870-003

(11) To bleed the center hydraulic system, do this task: Alternate Hydraulic Brake System - Bleeding, TASK 32-41-00-870-801.

SUBTASK 32-11-01-720-007

(12) Do this task: Brake Temperature Monitoring System (BTMS) - Operational Test, TASK 32-46-00-710-801.

SUBTASK 32-11-01-720-011

(13) Do this task: Main Landing Gear Steering System - Functional Test, TASK 32-53-00-720-801.

SUBTASK 32-11-01-720-008

(14) Do the applicable position indication test in the "Landing Gear Position Indicating and Warning System - System Test" (TASK 32-61-00-700-801).

(a) Left main landing gear position indication test

(b) Right main landing gear position indication test

SUBTASK 32-11-01-700-001

(15) Do the Hydraulic Strut Fill and Bleed Test for the hydraulic strut installation (Main Landing Gear (SLG) Hydraulic Strut Installation, TASK 32-32-25-420-801).

SUBTASK 32-11-01-720-009

(16) Do one of these tasks: Main Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks), TASK 32-30-01-720-801 or Nose and Main Landing Gear Extension and Retraction Systems - Functional Test (Airplane on the Jacks), TASK 32-30-01-720-802.

SUBTASK 32-11-01-720-012

(17) Do this task: Landing Gear Alternate Extension System - Operational Test (Airplane on the Jacks), TASK 32-35-00-720-801.

SUBTASK 32-11-01-820-005

(18) Do this task: WOW Load Sensor Calibration, TASK 32-09-03-820-801.

SUBTASK 32-11-01-020-185

(19) Close the applicable access panels:

(TASK 06-44-00-800-802Figure 402)

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

SUBTASK 32-11-01-020-186

(20) Install the access panels that follow for the left or right gear (Left gear, Right gear) (TASK 06-44-00-800-802) (Figure 402):

(a) Install the applicable access panels:

Number	Name/Location
551BB	Inboard Fixed Trailing Edge Panel
651BB	Inboard Fixed Trailing Edge Panel

(b) Close the applicable access panels:

Number	Name/Location
552BB	Inboard Fixed Trailing Edge Panel
652BB	Inboard Fixed Trailing Edge Panel

(c) Close the applicable access panels:

Number	Name/Location
551FB	Inboard Fixed Trailing Edge Panel
651FB	Inboard Fixed Trailing Edge Panel

(d) Close the applicable access panels:

Number	Name/Location
551EB	Inboard Fixed Trailing Edge Panel
651EB	Inboard Fixed Trailing Edge Panel

(e) Close the applicable access panels:

Number	Name/Location
551DT	Left Main Landing Gear Upper Wing Panel
651DT	Right Main Landing Gear Upper Wing Panel

NOTE: This panel is directly above the landing gear trunnion, it is not illustrated.

SUBTASK 32-11-01-090-003

WARNING

OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(21) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

——— END OF TASK ———

TASK 32-11-01-020-801

4. Main Landing Gear Removal

(Figure 401, Figure 402, Figure 403, Figure 404, Figure 408, Figure 405)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This task supplies instructions to remove the main landing gear from the airplane.

B. References

Reference	Title
06-44-00-800-802	Finding an Access Door or Panel on the Wings (P/B 201)
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)

(Continued)

Reference	Title
27-51-00-040-801	Trailing Edge Flap Deactivation (P/B 201)
27-51-00-440-801	Trailing Edge Flap Reactivation (P/B 201)
27-51-00-860-804	Extend the Trailing Edge Flaps (P/B 201)
27-51-00-860-805	Retract the Trailing Edge Flaps (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-11-03-000-816-002	Side Brace Assembly Removal (P/B 401)
32-11-10-000-807	Drag Brace Assembly Removal (P/B 401)
32-12-06-020-801	Main Landing Gear Shock Strut Door Removal (P/B 401)
32-12-08-020-802	Main Landing Gear Drag Strut Door Removal (P/B 401)
32-12-11-020-801	Main Landing Gear Trunnion Door Removal (P/B 401)
32-32-25-020-801	Main Landing Gear (SLG) Hydraulic Strut Removal (P/B 401)
32-45-01-400-801	Main Landing Gear Wheel and Tire Assembly Installation (P/B 401)
32-45-07-000-801	Main Landing Gear Brake Removal (P/B 401)
57-54-01-910-801	MLG Forward and Aft Trunnion Bearing Wear Limits (P/B 601)

C. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1826	Pump - Retraction/Extension, Landing Gear Actuator Part #: A32027-177 Supplier: 81205 Part #: A32027-178 Supplier: 81205
SPL-1843	Puller - Fuse Pin, MLG FWD Trunnion Support Part #: J32038-52 Supplier: 81205 Part #: J32038-53 Supplier: 81205
SPL-1846	Turnbuckle - MLG Truck Position Actuator Part #: J32034-1 Supplier: 81205
SPL-1853	Retainer Equipment, MLG/NLG Torsion Link Part #: J32054-91 Supplier: 81205 Part #: J32054-92 Supplier: 81205
SPL-1859	Equipment - Removal/Installation, MLG Aft Trunnion Pin Part #: J32036-56 Supplier: 81205 Part #: J32036-75 Supplier: 81205 Opt Part #: J32036-55 Supplier: 81205 Opt Part #: J32036-57 Supplier: 81205
SPL-2557	Sling Eqpt, MLG Removal and Installation Part #: J32043-124 Supplier: 81205 Part #: J32043-125 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

(Continued)

Reference	Description
SPL-4685	Turnbuckle Eqpt, MLG Shock Strut Part #: J32087-1 Supplier: 81205
SPL-8264	Transportation Equipment - Tower Jack, Main Landing Gear Part #: J32062-1 Supplier: 81205

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Access Panels

Number	Name/Location
551BB	Inboard Fixed Trailing Edge Panel
551DB	Inboard Fixed Trailing Edge Panel
551DT	Left Main Landing Gear Upper Wing Panel
551EB	Inboard Fixed Trailing Edge Panel
551FB	Inboard Fixed Trailing Edge Panel
552BB	Inboard Fixed Trailing Edge Panel
651BB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel
651DT	Right Main Landing Gear Upper Wing Panel
651EB	Inboard Fixed Trailing Edge Panel
651FB	Inboard Fixed Trailing Edge Panel
652BB	Inboard Fixed Trailing Edge Panel

F. Prepare for the Removal

SUBTASK 32-11-01-490-004

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-01-490-005

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-01-860-001

(3) To extend the trailing edge flaps to 20 units, do this task: Extend the Trailing Edge Flaps, TASK 27-51-00-860-804

(Figure 402).

NOTE: This will provide access to the aft trunnion pin.

SUBTASK 32-11-01-860-002

(4) Do this task: Trailing Edge Flap Deactivation, TASK 27-51-00-040-801.

SUBTASK 32-11-01-860-003

(5) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR
M	19	C32617	LG TIRE PRESSURE INDICATOR
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1
N	27	C32619	LG MAIN GEAR STEERING
N	28	C32618	LG BRAKE TEMP MONITOR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

SUBTASK 32-11-01-040-002

(6) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Right Power Management Panel, P210

Row	Col	Number	Name
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

SUBTASK 32-11-01-860-004

(7) For the ALL of the hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-11-01-860-005

(8) Push the brake pedals a minimum of twelve times to remove the pressure from the brake lines.

SUBTASK 32-11-01-020-001

WARNING: DO NOT REMOVE THE VALVE BODY UNTIL YOU DEFLATE THE SHOCK STRUT FULLY. THE AIR PRESSURE CAN BLOW THE VALVE BODY OUT AND CAUSE INJURIES TO PERSONNEL.

(9) Deflate the shock strut [4] for the main landing gear [152] (Figure 401):

(a) Remove the cap [1] for the gas valve [2].

(b) Loosen the gas valve swivel nut [3] a maximum of two turns.

NOTE: Fluid in the shock strut [4] will have bubbles when you release the pressure. Deflate the shock strut slowly to prevent the leakage of the fluid through the gas valve.

(c) Loosen the gas valve swivel nut [3] fully when all of the pressure in the shock strut [4] is released.

SUBTASK 32-11-01-090-002

(10) Do this task: Main Landing Gear (SLG) Hydraulic Strut Removal, TASK 32-32-25-020-801.

SUBTASK 32-11-01-420-064

(11) Install the turnbuckle equipment, SPL-4685 [12] or the MLG truck position actuator turnbuckle, SPL-1846 [12] in the hydraulic strut location.

(a) For the turnbuckle equipment, SPL-4685 [12], install the tool pins to connect the turnbuckle to the truck and the outer cylinder.

SUBTASK 32-11-01-480-002

(12) Install the retainer equipment, SPL-1853 [13] to hold the shock strut [4] in its compressed position.

SUBTASK 32-11-01-020-066

(13) Remove the access panels that follow for the left or right gear (Left gear, Right gear) (TASK 06-44-00-800-802) (Figure 402):

(a) Remove the applicable access panels:

Number	Name/Location
551BB	Inboard Fixed Trailing Edge Panel
651BB	Inboard Fixed Trailing Edge Panel

(b) Remove the applicable access panels:

Number	Name/Location
552BB	Inboard Fixed Trailing Edge Panel
652BB	Inboard Fixed Trailing Edge Panel

NOTE: It is only necessary to remove this panel if you want extra access to the aft trunnion pin [43].

(c) Remove the applicable access panels:

Number	Name/Location
551FB	Inboard Fixed Trailing Edge Panel
651FB	Inboard Fixed Trailing Edge Panel

(d) Remove the applicable access panels:

Number	Name/Location
551EB	Inboard Fixed Trailing Edge Panel
651EB	Inboard Fixed Trailing Edge Panel

NOTE: It is necessary to remove this panel so you can remove the trunnion door.

(e) Remove the applicable access panels:

Number	Name/Location
551DT	Left Main Landing Gear Upper Wing Panel
651DT	Right Main Landing Gear Upper Wing Panel

NOTE: This panel is directly above the landing gear trunnion, it is not illustrated.

SUBTASK 32-11-01-020-060

(14) For access to the trunnion door actuator rod and the reaction links for the main landing gear actuator (TASK 06-44-00-800-802) (Figure 402):

Open the applicable access panels:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

SUBTASK 32-11-01-020-061

(15) Do this task: Main Landing Gear Trunnion Door Removal, TASK 32-12-11-020-801.

SUBTASK 32-11-01-020-002

(16) Do this task: Main Landing Gear Shock Strut Door Removal, TASK 32-12-06-020-801.

SUBTASK 32-11-01-020-005

(17) Remove the bolt [17] to disconnect the actuator rod [16] for the drag brace door [22] from the drag brace [7] (Figure 401).

SUBTASK 32-11-01-020-062

(18) Do this task: Main Landing Gear Drag Strut Door Removal, TASK 32-12-08-020-802.

SUBTASK 32-11-01-020-008

(19) Disconnect the outboard end of the aft panel support beam [44] and the three links:

(a) Remove the two bolts [47], the three bolts [45], and the four bolts [49] from the outboard end of the aft panel support beam [44].

(b) Remove the bolts [52] to disconnect the three links from the panel support beam [44].

(c) Use a rope to support the panel support beam [44] a small amount aft of the main landing gear beam [51].

SUBTASK 32-11-01-020-009

(20) Disconnect the forward panel support beam [58]:

(a) Remove the bolt [59] to disconnect the outboard end of the forward panel support beam [58] from the link.

(b) Remove the two bolts [70], the three bolts [64], bolt [66], and bolt [68] from the inboard end of the forward panel support beam [58].

G. Procedure to Remove the Main Landing Gear

SUBTASK 32-11-01-020-010

(1) Disconnect these parts for the retract actuator [92] (Figure 403):

(a) Disconnect the upper and lower reaction links [93], [94]:

1) Use the wrench kit, SPL-4133 to remove the pin [100] and the nut [102] to disconnect the lower reaction link [94] from the retract fitting [95] (Figure 405).

NOTE: The thread protector from wrench kit, SPL-4133 can be installed on the pin [100] before it is removed.

2) Use the wrench kit, SPL-4133 to remove the pin [200] and the nut [102] to disconnect the lower reaction link [94] from the upper reaction link [93] (Figure 405).

NOTE: The thread protector from wrench kit, SPL-4133 can be installed on the pin [200] before it is removed.

3) Remove the reaction link [94] from the airplane.

4) Disconnect the upper reaction link [93] from the retract fitting [95] and the link [121].

a) Use the wrench kit, SPL-4133 to remove the pin [96] and the nut [98] (Figure 405).

NOTE: The thread protector from wrench kit, SPL-4133 can be installed on the pin [96] before it is removed.

b) Remove the pin [120] and the nut [122].

5) Remove the pin [96] and the pin [120] to disconnect the upper reaction link [93] from the retract fitting [95] and the link [121].

6) Remove the reaction link [93] from the airplane.

(b) Disconnect the link [121] from the retract fitting [190].

1) Use the wrench kit, SPL-4133 to remove the pin [185] and the nut [187].

SUBTASK 32-11-01-020-063

(2) If you will retract the main landing gear actuator to reduce the overall height of the landing gear, do the steps that follow:

NOTE: This will reduce the overall height of the landing gear for rolling the landing gear from beneath the airplane wing, it is not necessary to do these steps if the airplane is lifted high enough.

(a) Disconnect the hydraulic line [104] for the retract actuator [92] at the elbow fitting [105].

(b) Put plugs in the hydraulic line [104].

(c) Retract the retract actuator [92]:

1) Install the landing gear actuator pump, SPL-1826 on the retract actuator [92].

2) Use the landing gear actuator pump, SPL-1826 to turn the retract fitting [95] so the actuator [92] is in its retracted position.

3) Remove the landing gear actuator pump, SPL-1826 from the retract actuator [92].

(d) Put a cap on the hydraulic ports of the retract actuator [92].

SUBTASK 32-11-01-020-011

(3) Disconnect and remove the hydraulic lines:

(a) Put tags on the hydraulic line [112], hydraulic line [200], hydraulic line [201], hydraulic line [202], hydraulic line [203] and six hydraulic lines [118] to make installation easier.

(b) Disconnect and remove the five hydraulic lines [112], [200], [201], [202], [203] on the inboard side, and the six hydraulic lines [118] on the outboard side, of the upper shock strut [4].

(c) Put a caps on the hydraulic ports.

(d) Put plugs in the hydraulic line [112], hydraulic line [200], hydraulic line [201], hydraulic line [202], hydraulic line [203] and six hydraulic lines [118].

SUBTASK 32-11-01-020-012

(4) Disconnect the electrical connectors [109], [110]:

(a) Disconnect the electrical connectors [109], [110] from the connector bracket [111] on the rear spar.

(b) Remove the screws [107] and the washers [108] to disconnect the electrical conduit fitting [106] from the conduit bracket [111] on the rear spar.

(c) Seal the electrical connectors [109], [110] with a cap.

SUBTASK 32-11-01-020-013

(5) Lift the airplane 50 inches (1.27 meters) (TASK 07-11-01-580-804).

NOTE: You must lift airplane 50 inches (1.27 meters) to have enough room to remove and install the gear easily.

SUBTASK 32-11-01-020-014

(6) To disconnect the side brace [15] and the lock links [5] from the shock strut [4], do this task: Side Brace Assembly Removal, TASK 32-11-03-000-816-002.

SUBTASK 32-11-01-020-015

(7) To disconnect the drag brace [7] and the lock links [6] from the shock strut [4], do this task: Drag Brace Assembly Removal, TASK 32-11-10-000-807.

SUBTASK 32-11-01-020-016

(8) Remove the bolts [155], bolts [161], washers [156], washers [157], and nuts [158] to remove the two side load straps [162] from the supports for the forward trunnion housing (Figure 404).

SUBTASK 32-11-01-020-187

(9) Remove the upper housing assembly [166]:

NOTE: The upper housing assembly [166] and the forward trunnion housing assembly [170] are a matched set and must be kept together. Do not replace one part with out replacing the other.

(a) Remove the retaining bolts [163] for the two fuse pins [159] for the upper housing assembly [166].

(b) Use the MLG FWD trunnion support fuse pin puller, SPL-1843 to remove the two fuse pins [159] from the upper housing assembly [166].

(c) Remove the upper housing assembly [166] from the airplane.

SUBTASK 32-11-01-020-018

(10) Use the transportation equipment, SPL-8264 to install the landing gear lifting tools, sling equipment, SPL-2557, [131] on the axles (Figure 408) (Figure 409):

(a) To remove the wheel and the tire assemblies for one side of the center axle and the other side of the forward and aft axles, do this task: Main Landing Gear Brake Removal, TASK 32-45-07-000-801.

NOTE: The brake assemblies can stay on the axles.

(b) Put a pad beneath each axle where the tool [131] will be placed:

1) Drop a plum line from the tow lug on the front of the main landing gear truck to locate point A.

2) Drop a plum line from the jack point on the aft of the main landing gear truck to locate point the center line of the truck beam.

3) Put the forward pad in its position with the forward mark at point A.

4) Put the center pad in its position with its forward pointer mark in-line with the forward pad's pointer mark.

5) Put the aft pad in its position such that its forward corner touches the center pad's aft corner.

(c) Install the sleeve for the tool on the axles.

(d) Move each tool [131] into its position on the main landing gear axles.

(e) Install the nuts to hold the tools [131] on the axles.

(f) Install the hoists on the sling equipment, SPL-2557.

NOTE: You can either use chain hoists or air powered hoists, the steps given are for air powered hoist but they can also be used for chain hoists.

(g) Connect each tool's power lines to the control box.

SUBTASK 32-11-01-020-208

(11) Remove these parts that hold the aft trunnion pin [43].

(a) nut [115]

(b) washer [114]

(c) bolt [113]

(d) cotter pin [115A]

SUBTASK 32-11-01-020-047

(12) Lift the shock strut [4] with the landing gear lifting tools, sling equipment, SPL-2557, [131] until the aft trunnion pin [43] is free to move.

NOTE: You can get access to the aft trunnion pin [43] through the opening created when you lowered the trailing edge flaps (Figure 402).

SUBTASK 32-11-01-020-020

(13) Push the aft trunnion pin [43] into the trunnion, with the MLG aft trunnion pin equipment, SPL-1859, so the aft trunnion is disconnected from the main landing gear beam [51] (Figure 404).

SUBTASK 32-11-01-020-048

(14) Use the landing gear lifting tools, sling equipment, SPL-2557, [131] to balance the weight of the main landing gear [152] so the fuse pins [160] are free to move.

SUBTASK 32-11-01-020-049

(15) Disconnect the forward trunnion housing assembly [170]:

(a) Remove the safety wire from the four retaining bolts [167].

(b) Remove the retaining bolts [167] for the four fuse pins [160] for the housing assembly [170].

(c) Use the MLG FWD trunnion support fuse pin puller, SPL-1843 to remove the four fuse pins [160] from the forward trunnion housing assembly [170].

SUBTASK 32-11-01-020-021

(16) Pull on the landing gear lifting tools, sling equipment, SPL-2557, [131], with the lever, to turn the aft trunnion inboard such that it clears the main landing gear beam [51] and you can lower the aft end of the main landing gear [152].

SUBTASK 32-11-01-020-022

(17) Lower the aft end of main landing gear [152] until the aft trunnion is below the main landing gear beam [51] and the landing gear can be turned back to its normal position.

SUBTASK 32-11-01-020-050

(18) Pull on the landing gear lifting tools, sling equipment, SPL-2557, [131], with the lever, to turn the aft trunnion outboard, back to its normal position.

SUBTASK 32-11-01-020-025

(19) Use the landing gear lifting tools, sling equipment, SPL-2557 [131] to lower the main landing gear [152].

NOTE: The housing assembly [170] will move aft and out of the rear spar supports when the main landing gear [152] is lowered.

NOTE: Keep the bearing plate [173] for the housing assembly [170] to make the main landing gear [152] installation easier.

SUBTASK 32-11-01-020-027

(20) Lower the main landing gear [152] to the ground and remove the landing gear lifting tools, sling equipment, SPL-2557, [131] from the axles with the transportation equipment, SPL-8264(Figure 408) (Figure 409):

(a) lower the main landing gear [152] until the lifting equipment [151], [131] no longer carries a load.

(b) Disconnect each tool's hydraulic lines from the control box.

(c) Remove the axle nuts that hold the tools [131] on the axles.

(d) Remove each tool [131] from its position on the main landing gear axles.

(e) Remove the sleeve for the tool from the axles.

(f) Remove the pad from beneath each axle.

(g) Install the wheels and the tires for the axles (TASK 32-45-01-400-801).

NOTE: The wheels are reinstalled to provide more stability for the landing gear when you remove it from the work area.

SUBTASK 32-11-01-860-006

WARNING DO NOT DO THE TEST OF THE FLAP PRIMARY CONTROL VALVE WHEN YOU REACTIVATE THE TRAILING EDGE FLAPS. THIS TEST REQUIRES HYDRAULIC POWER TO THE CENTER HYDRAULIC SYSTEM, WHICH YOU DISCONNECTED FOR THE MAIN LANDING GEAR REMOVAL. IF YOU SUPPLY CENTER HYDRAULIC POWER YOU WILL LEAK HYDRAULIC FLUID WHICH COULD CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(21) Do this task: Trailing Edge Flap Reactivation, TASK 27-51-00-440-801.

SUBTASK 32-11-01-860-007

(22) To retract the trailing edge flaps, do this task: Retract the Trailing Edge Flaps, TASK 27-51-00-860-805.

NOTE: You can use either secondary control or alternate control to retract the flaps with electric power or you can retract the flaps manually.

SUBTASK 32-11-01-020-030

(23) Push the main landing gear [152] aft to remove it.

SUBTASK 32-11-01-020-201

(24) If it is necessary to examine the aft trunnion bearing assembly for worn areas, do these steps:

(a) Remove the lockwire [180], screw [178] and the washer [179].

(b) Remove the lock tab [181] from the lock plate.

(c) Use wrench kit, SPL-4133 to remove the retainer nut [175] from the outer race [177] (Figure 405).

CAUTION DO NOT CHANGE ONE HALF OF THE SPLIT BALL WITH A DIFFERENT HALF. EACH HALF IS PART OF A SPECIFIED PART. THE INSTALLATION OF AN INCORRECT HALF CAN CAUSE DETERIORATION OF THE AFT TRUNNION BEARING WHEN THE LANDING GEAR OPERATES.

(d) Remove the split ball [176] and the outer race [177], in the forward direction, from the main landing gear beam [51].

(e) Identify each half of the split ball [176] to show that each half is a part of a set.

SUBTASK 32-11-01-020-203

(25) Do the steps that follow to remove the forward housing assembly [170] from the forward trunnion:

(a) Use wrench kit, SPL-4133 to remove the retainer nut [182] from the housing assembly [170] (Figure 405).

(b) Hold the retainer nut [182] away from the housing assembly [170] on the protected area of the forward trunnion.

CAUTION MAKE SURE YOU HOLD THE OUTER RACE IN POSITION AS A UNIT. THE OUTER RACE IS A TWO PIECE ASSEMBLY. WHEN YOU REMOVE THE HOUSING ASSEMBLY, THE OUTER RACE MAY SEPARATE AND FALL. THIS CAN CAUSE DAMAGE TO EQUIPMENT OR INJURY TO PERSONS.

(c) Remove the housing assembly [170], and the outer race [183].

CAUTION DO NOT CHANGE ONE HALF OF THE OUTER RACE WITH A DIFFERENT HALF. EACH HALF IS PART OF A SPECIFIED PART. THE INSTALLATION OF AN INCORRECT HALF CAN CAUSE DETERIORATION OF THE FORWARD TRUNNION BEARING WHEN THE LANDING GEAR OPERATES.

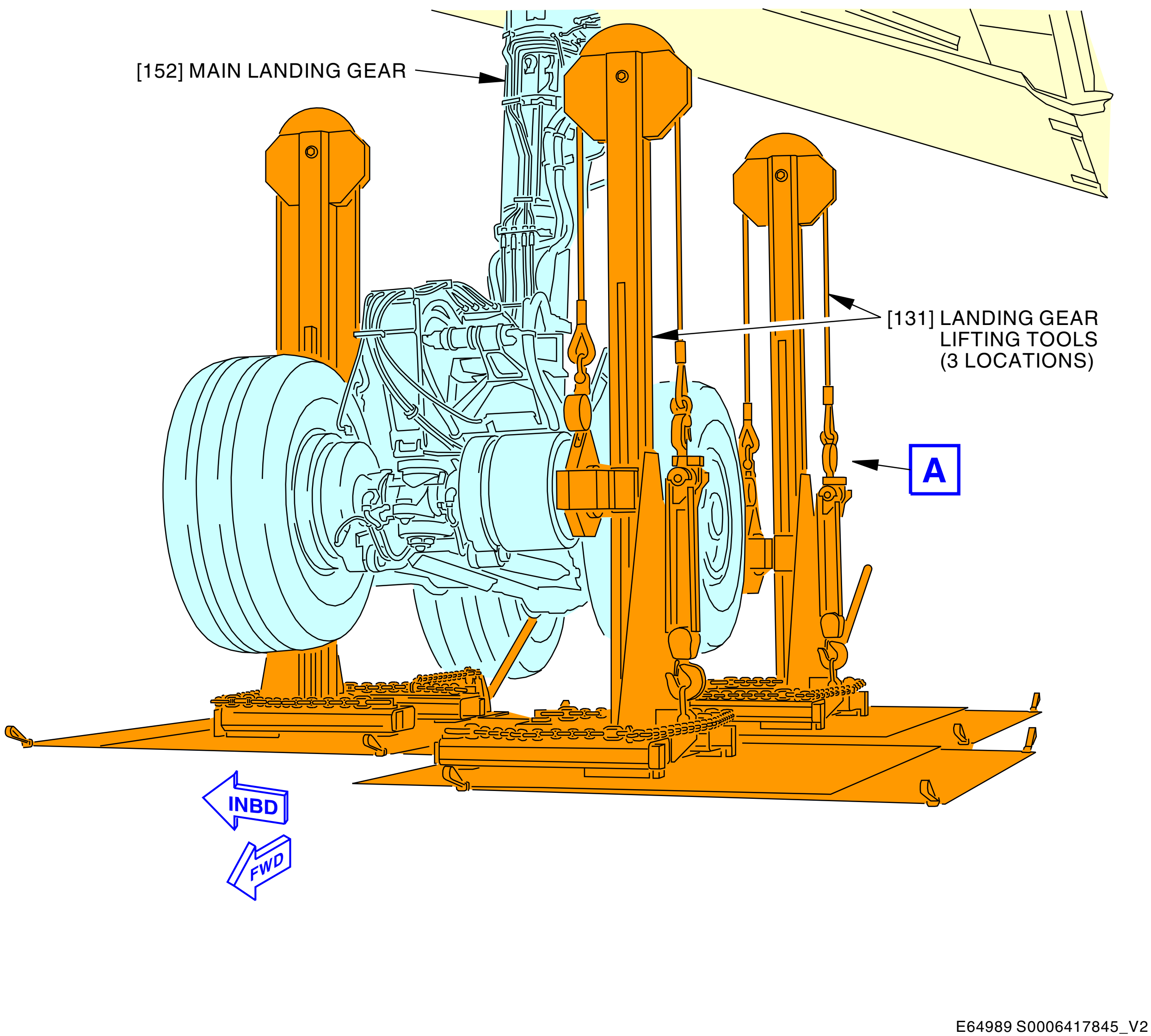
(d) Identify each half of the outer race [183] to show that each half is a part of a set.

SUBTASK 32-11-01-220-002

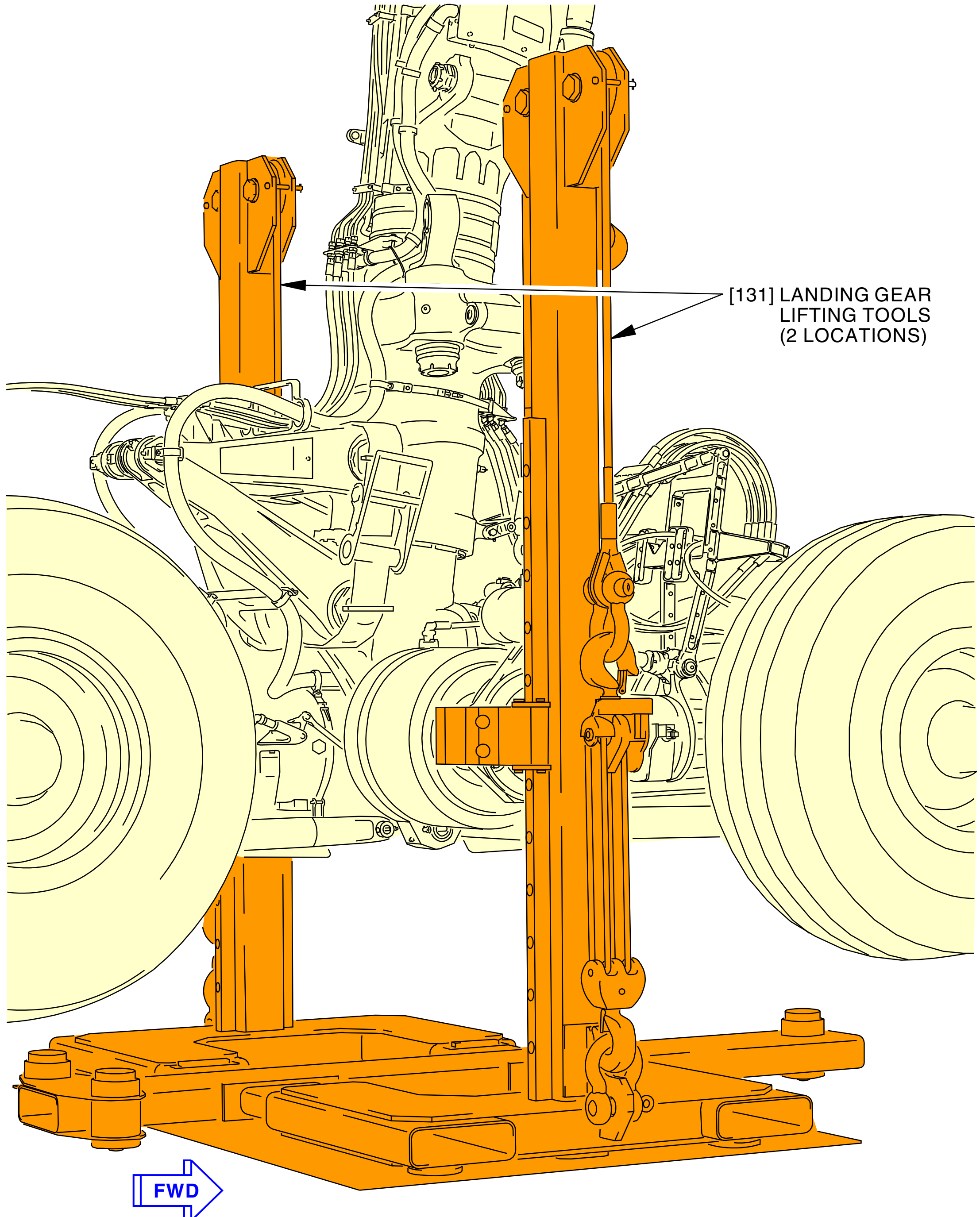
(26) To check for the wear limits of the forward and aft trunnion bearing assembly, do this task: MLG Forward and Aft Trunnion Bearing Wear Limits, TASK 57-54-01-910-801.

NOTE: New forward and aft trunnion parts do not require wear limit inspection.

END OF TASK



Main Landing Gear Lifting Tools
Figure 408/32-11-01-990-805 (Sheet 1 of 2)

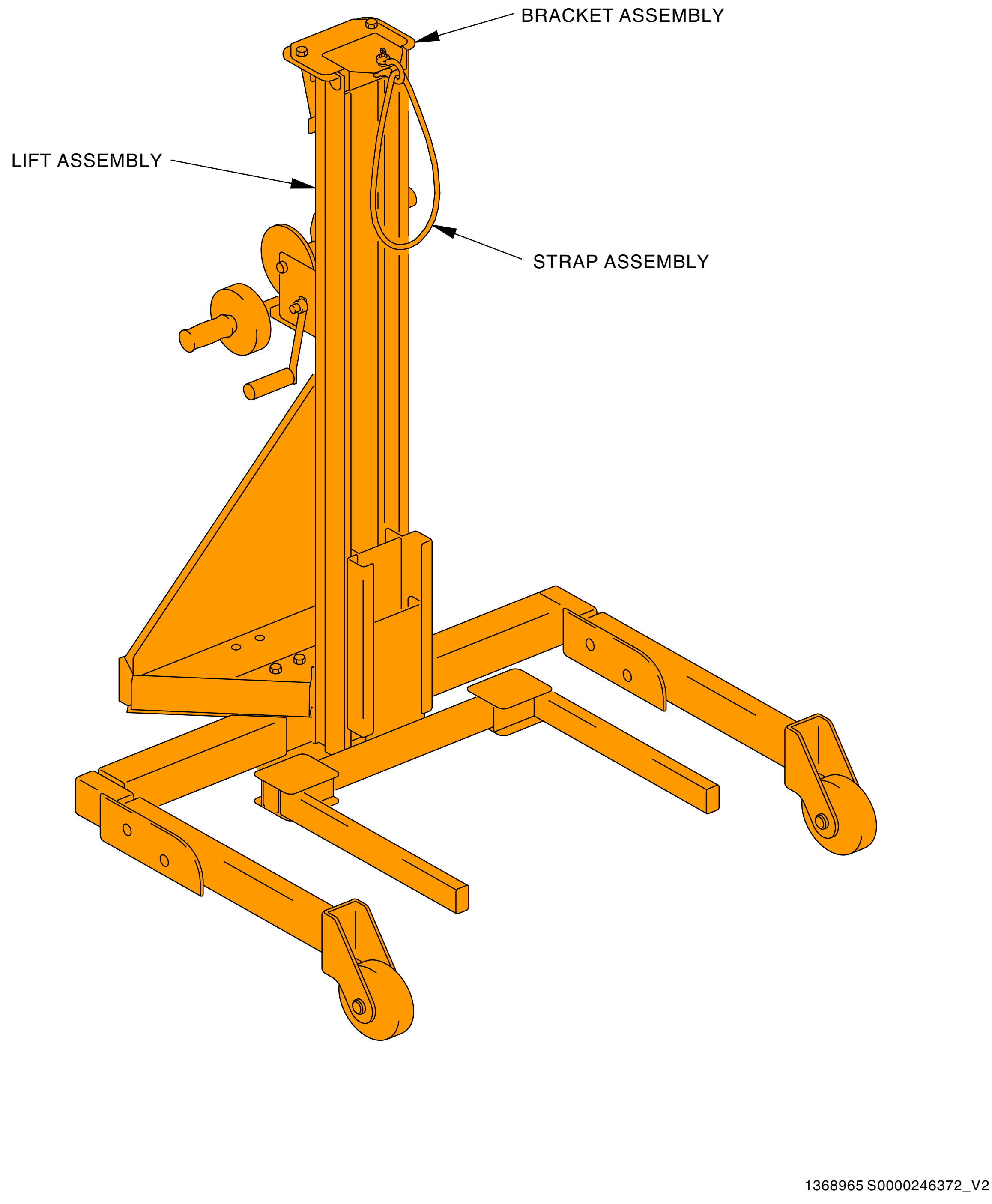


MAIN LANDING GEAR REMOVAL EQUIPMENT

A

E65471 S0006417846_V2

Main Landing Gear Lifting Tools
Figure 408/32-11-01-990-805 (Sheet 2 of 2)



Main Landing Gear Tower Jack Transporter Equipment
Figure 409/32-11-01-990-814

TASK 32-11-01-420-801

5. Main Landing Gear Installation

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This task supplies instructions to install the main landing gear on the airplane.

B. References

Reference	Title
06-44-00-800-802	Finding an Access Door or Panel on the Wings (P/B 201)
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-15-01-610-810	Main Landing Gear Shock Strut Servicing (P/B 301)
12-21-11-640-802-002	Main Landing Gear Support Beam Lubrication (P/B 301)
12-21-14-640-805-002	Upper Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
12-21-14-640-806-002	Lower Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
12-21-15-640-802-002	Main Landing Gear Doors and Actuating Mechanisms Lubrication (P/B 301)
20-11-00-910-801	Standard Torque Values (P/B 201)
27-51-00-040-801	Trailing Edge Flap Deactivation (P/B 201)
27-51-00-440-801	Trailing Edge Flap Reactivation (P/B 201)
27-51-00-860-804	Extend the Trailing Edge Flaps (P/B 201)
27-51-00-860-805	Retract the Trailing Edge Flaps (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-09-03-820-801	WOW Load Sensor Calibration (P/B 201)
32-11-03-400-816-002	Side Brace Assembly Installation (P/B 401)
32-11-10-400-807	Drag Brace Assembly Installation (P/B 401)
32-12-00-910-804	Main Landing Gear Shock Strut Door Adjustment (P/B 501)
32-12-06-420-801	Main Landing Gear Shock Strut Door Installation (P/B 401)
32-12-08-420-802	Main Landing Gear Drag Strut Door Installation (P/B 401)
32-12-11-420-801	Main Landing Gear Trunnion Door Installation (P/B 401)
32-30-01-720-801	Main Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks) (P/B 501)
32-30-01-720-802	Nose and Main Landing Gear Extension and Retraction Systems - Functional Test (Airplane on the Jacks) (P/B 501)
32-32-25-420-801	Main Landing Gear (SLG) Hydraulic Strut Installation (P/B 401)
32-35-00-720-801	Landing Gear Alternate Extension System - Operational Test (Airplane on the Jacks) (P/B 501)
32-41-00-870-801	Alternate Hydraulic Brake System - Bleeding (P/B 201)
32-41-00-870-802	Normal Hydraulic Brake System - Bleeding (P/B 201)
32-45-01-400-801	Main Landing Gear Wheel and Tire Assembly Installation (P/B 401)
32-45-07-000-801	Main Landing Gear Brake Removal (P/B 401)
32-45-07-400-801	Main Landing Gear Brake Installation (P/B 401)

(Continued)

Reference	Title
32-46-00-710-801	Brake Temperature Monitoring System (BTMS) - Operational Test (P/B 501)
32-53-00-720-801	Main Landing Gear Steering System - Functional Test (P/B 501)
32-61-00-700-801	Landing Gear Position Indicating and Warning System - System Test (P/B 501)
57-54-01-910-801	MLG Forward and Aft Trunnion Bearing Wear Limits (P/B 601)
SWPM 20-20-00	Standard Wiring Practices Manual

C. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meters - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: T477W Supplier: 01014 Opt Part #: M1B Supplier: 3AD17
SPL-1826	Pump - Retraction/Extension, Landing Gear Actuator Part #: A32027-177 Supplier: 81205 Part #: A32027-178 Supplier: 81205
SPL-1846	Turnbuckle - MLG Truck Position Actuator Part #: J32034-1 Supplier: 81205
SPL-1853	Retainer Equipment, MLG/NLG Torsion Link Part #: J32054-91 Supplier: 81205 Part #: J32054-92 Supplier: 81205
SPL-1859	Equipment - Removal/Installation, MLG Aft Trunnion Pin Part #: J32036-56 Supplier: 81205 Part #: J32036-75 Supplier: 81205 Opt Part #: J32036-55 Supplier: 81205 Opt Part #: J32036-57 Supplier: 81205
SPL-2557	Sling Eqpt, MLG Removal and Installation Part #: J32043-124 Supplier: 81205 Part #: J32043-125 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205
SPL-4685	Turnbuckle Eqpt, MLG Shock Strut Part #: J32087-1 Supplier: 81205
SPL-8264	Transportation Equipment - Tower Jack, Main Landing Gear Part #: J32062-1 Supplier: 81205
STD-1081	Flashlight - Explosion Proof

D. **Consumable Materials**

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

E. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
99	Cotter pin	Not Specified	
103	Cotter pin	Not Specified	
115A	Cotter pin	Not Specified	
152	Main landing gear	Not Specified	
172	Cotter pin	Not Specified	

F. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

G. **Access Panels**

Number	Name/Location
551BB	Inboard Fixed Trailing Edge Panel
551DB	Inboard Fixed Trailing Edge Panel
551DT	Left Main Landing Gear Upper Wing Panel
551EB	Inboard Fixed Trailing Edge Panel
551FB	Inboard Fixed Trailing Edge Panel
552BB	Inboard Fixed Trailing Edge Panel
651BB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel
651DT	Right Main Landing Gear Upper Wing Panel
651EB	Inboard Fixed Trailing Edge Panel
651FB	Inboard Fixed Trailing Edge Panel
652BB	Inboard Fixed Trailing Edge Panel

H. **Prepare for the Installation**

SUBTASK 32-11-01-210-002

(1) To check for the wear limits of the aft trunnion bearing assembly, do this task: MLG Forward and Aft Trunnion Bearing Wear Limits, TASK 57-54-01-910-801.

NOTE: New aft trunnion parts do not require wear limit inspection.

SUBTASK 32-11-01-420-059

(2) If it is necessary to install the aft trunnion bearing assembly, do these steps:

CAUTION: DO NOT CHANGE ONE HALF OF THE SPLIT BALL WITH A DIFFERENT HALF. EACH HALF IS PART OF A SPECIFIED PART. THE INSTALLATION OF AN INCORRECT HALF CAN CAUSE DETERIORATION OF THE AFT TRUNNION BEARING WHEN THE LANDING GEAR OPERATES.

(a) Identify each half of the split ball [176] to show that each half is part of a set.

(b) Install the split ball [176] and the outer race [177] on the main landing gear beam [51].

(c) Install the retainer nut [175] on the outer race [177].

(d) Use wrench kit, SPL-4133 to tighten the retainer nut [175] to 10 ft-lb (14 N·m)-15 ft-lb (20 N·m) (Figure 405).

(e) Install the lock tab [181] to the lockplate.

1) If it is necessary, loosen the retainer nut [175] until the lock tab [181] can engage into the slot of the retainer nut.

NOTE: Do not loosen the retainer nut very much.

2) Or, the lock tab [181] can be moved to adjacent threaded hole in the lock plate.

3) Install the screw [178 and the washer [179] to the lock tab [181].

4) Tighten the screw to 25 in-lb (3 N·m)-30 in-lb (3 N·m).

5) Install the lockwire [180] to the screw [178].

SUBTASK 32-11-01-640-014

(3) Do this task: Main Landing Gear Support Beam Lubrication, TASK 12-21-11-640-802-002.

SUBTASK 32-11-01-420-061

(4) Do the steps that follow to install the forward housing assembly [170] on the forward trunnion:

(a) Make sure that the cross pin assembly (cross pin plus two end caps) is installed at the location shown on Figure 404, detail K, view B-B.

1) If necessary remove material that is in place to temporarily keep the pin assembly in the trunnion.

(b) Put the retainer nut [182] on the protected surface of the forward trunnion.

CAUTION: DO NOT CHANGE ONE HALF OF THE OUTER RACE WITH A DIFFERENT HALF. EACH HALF IS PART OF A SPECIFIED PART. THE INSTALLATION OF AN INCORRECT HALF CAN CAUSE DETERIORATION OF THE FORWARD TRUNNION BEARING WHEN THE LANDING GEAR OPERATES.

(c) Put the outer race [183], and the housing assembly [170] on their position on the forward trunnion.

(d) Use wrench kit, SPL-4133 to tighten the nut [182] to 95 ft-lb (129 N·m)-120 ft-lb (163 N·m) (Figure 405).

SUBTASK 32-11-01-640-016

(5) Do this task: Upper Main Landing Gear and Actuating Mechanisms Lubrication, TASK 12-21-14-640-805-002.

SUBTASK 32-11-01-420-001

(6) Move the main landing gear [152] into its position below the wing.

SUBTASK 32-11-01-640-001

(7) Make sure the aft trunnion pin [43] can move easily (Figure 404).

(a) If you cannot easily move the aft trunnion pin [43], remove it from the trunnion and lubricate it with grease, D00633 (preferred) or grease, D00013 (optional).

(b) Install the aft trunnion pin [43] in the trunnion.

SUBTASK 32-11-01-860-008

(8) To extend the trailing edge flaps to 20 units, do this task: Extend the Trailing Edge Flaps, TASK 27-51-00-860-804.

NOTE: Move the flaps with either electrical or manual control.

NOTE: This will permit access to the aft trunnion pin [43].

SUBTASK 32-11-01-860-009

(9) Do this task: Trailing Edge Flap Deactivation, TASK 27-51-00-040-801.

SUBTASK 32-11-01-020-031

(10) Use the transportation equipment, SPL-8264 to install the landing gear lifting tools, sling equipment, SPL-2557, [131] on the axles (Figure 408) (Figure 409):

(a) To remove the wheels and the tires assemblies for one side of the center axle and one other side of the forward and aft axles, do this task: Main Landing Gear Brake Removal, TASK 32-45-07-000-801.

NOTE: The brake assemblies can stay on the axles.

(b) Put the pad beneath each axle where the tool [131] will be placed.

(c) Install the sleeve for the tool on the axles.

(d) Move each tool [131] into its position on the main landing gear axles.

(e) Install the nuts to hold the tools [131] on the axles.

(f) Connect each tool's power lines to the control box.

I. Procedure to Install the Main Landing Gear

SUBTASK 32-11-01-420-002

(1) Lift the forward end of the main landing gear [152] with the landing gear lifting tools, sling equipment, SPL-2557, [131] such that the landing gear is tilted approximately 8 degrees.

NOTE: The landing gear is tilted such that aft trunnion does not hit the main landing gear beam when the forward trunnion housing assembly [170] is installed.

SUBTASK 32-11-01-420-014

(2) Lift the main landing gear [152] with the landing gear lifting tools, sling equipment, SPL-2557, [131] such that the forward trunnion housing assembly [170] moves into its position in the rear spar supports.

NOTE: The forward trunnion housing assembly [170] will start at a position aft of the rear spar supports and move up and forward as it moves in to the rear spar supports.

SUBTASK 32-11-01-420-015

(3) Push on the main landing gear lifting tools, sling equipment, SPL-2557, [131] to turn the aft trunnion inboard such that it clears the main landing gear beam [51] and you can lift the main landing gear [152].

SUBTASK 32-11-01-420-016

(4) Lift the main landing gear [152] with the landing gear lifting tools, sling equipment, SPL-2557, [131] until the aft trunnion is above the lower flange of the main landing gear beam [51] and the aft trunnion can be turned back to its normal position.

SUBTASK 32-11-01-020-052

(5) Push on the landing gear lifting tools, sling equipment, SPL-2557, [131] to turn the aft trunnion outboard, back to its normal position.

SUBTASK 32-11-01-420-017

(6) Connect the forward trunnion housing assembly [170] (Figure 404):

(a) Use the lifting equipment to line up the fuse pin holes in the forward trunnion housing assembly [170] and the holes in the rear spar supports.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(b) Apply sealant, A00247 or Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the bearing plates [173] and [174].

(c) Install the bearing plates [173] (inbd) and [174] (outbd) between the forward trunnion housing assembly [170] and the rear spar supports.

NOTE: The cad plated and primed sides should face the housing support fittings.

(d) Make sure there is a 0.005 in. (0.127 mm)-0.015 in. (0.381 mm) clearance between the forward trunnion housing assembly [170] and the inboard rear spar support where you installed the bearing plate [173].

NOTE: Wear plate [174] may be used two places to meet the clearance requirements.

(e) Install the four fuse pins [160] such that the retaining bolt holes in the fuse pins line up with the holes in the forward trunnion housing assembly [170].

(f) Apply sealant, A00247 to the retaining bolts [167], and the nuts [169].

(g) Install these parts to connect the fuse pins [160] to the forward trunnion housing assembly [170]:

1) retaining bolts [167]

2) washers [168]

3) nuts [169]

a) Tighten the nut [169] to 15 in-lb (2 N·m)-25 in-lb (3 N·m).

(h) Check for proper engagement between the fuse pins [160] and retaining bolts [167] by either visual confirmation of engagement or by measuring the pin protrusion as shown in Figure 404 , cut section B-B.

(i) Install safety wire in the four retaining bolts [167].

1) cotter pin [172].

SUBTASK 32-11-01-420-004

(7) Install the upper housing assembly [166]:

NOTE: The upper housing assembly [166] and the forward trunnion housing assembly [170] are a matched set and must be kept together. Do not replace one part with out replacing the other.

(a) Put the upper housing assembly [166] in its position on the forward trunnion housing assembly [170].

(b) Install the two fuse pins [159] such that the retaining bolt holes in the fuse pins line up with the holes in the upper housing assembly [166].

(c) Apply sealant, A00247 to these parts and install them to connect the fuse pins [159] to the upper housing assembly [166]:

1) retaining bolt [163]

2) washer [164]

3) nut [165]

a) Tighten the nut [165] to 15 in-lb (2 N·m)-25 in-lb (3 N·m).

4) cotter pin [172].

SUBTASK 32-11-01-420-007

(8) Install the aft trunnion pin [43]:

ARO 001-013 POST SB 777-32A0103

NOTE: If the serial number of the aft trunnion pin begins with “EGL” or “MAL”, then there must be a marking saying “BASE METAL INSPECTED”.

ARO ALL

(a) Install the MLG aft trunnion pin equipment, SPL-1859 through the pin access hole and on the aft trunnion pin [43].

(b) Put explosion proof flashlight, STD-1081 or other bright lights at the top of the main landing gear and shine them back past the aft trunnion.

(c) Look through the trunnion pin access hole so you can see the aft trunnion pin through the spherical bearing.

(d) Pull the aft trunnion pin until it is approximately ½ in. (13 mm) away from the spherical bearing.

(e) Move the spherical bearing until it is in line with the aft trunnion pin.

(f) Pull the landing gear side to side or raise and lower it until you can see equal amounts of light all the way around the aft trunnion pin through the spherical bearing.

NOTE: When you have the trunnion pin and the spherical bearing correctly aligned, the trunnion pin will install very easily.

(g) Pull the aft trunnion pin [43] out of the trunnion with the MLG aft trunnion pin equipment, SPL-1859, so the aft trunnion is connected to the main landing gear beam [51].

(h) Turn the aft trunnion pin [43] to align the bolt hole in the trunnion with the cross bolt hole in the aft trunnion pin.

SUBTASK 32-11-01-420-068

(9) Connect the aft trunnion pin [43] to the aft trunnion:

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the bolt [113], the washer [114], and the nut [115].

(b) Install these parts to connect the aft trunnion pin [43] to the aft trunnion:

1) bolt [113]

2) washer [114]

3) nut [115]

a) Tighten the nut [115]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

4) cotter pin [115A]

SUBTASK 32-11-01-420-018

(10) Apply sealant, A00247 to the bolts [155], bolts [161], washers [156], washers [157], and nuts [158] for the side load straps.

SUBTASK 32-11-01-420-080

(11) Apply sealant, A00247 to the mating surfaces of the side load straps [162].

SUBTASK 32-11-01-420-008

(12) Install these parts to connect the two side load straps [162] to the rear spar supports.

(a) bolts [155]

(b) bolts [161]

(c) washers [156]

(d) washers [157]

(e) nuts [158]

1) Tighten the nut [158] to 1350 in-lb (153 N·m)-1650 in-lb (186 N·m).

SUBTASK 32-11-01-020-032

(13) To connect the side brace [15] and the lock links [5] to the shock strut [4], do this task: Side Brace Assembly Installation, TASK 32-11-03-400-816-002.

SUBTASK 32-11-01-020-033

(14) To connect the drag brace [7] and the lock links [6] to the shock strut [4], do this task: Drag Brace Assembly Installation, TASK 32-11-10-400-807.

SUBTASK 32-11-01-490-003

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(15) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-01-020-034

(16) Remove the landing gear lifting tools, sling equipment, SPL-2557, [131] from the axles with the transportation equipment, SPL-8264 (Figure 408) (Figure 409):

(a) Disconnect each tool's hydraulic lines from the control box.

(b) Remove the axle nuts that hold the tools [131] on the axles.

(c) Remove each tool [131] from its position on the main landing gear axles.

(d) Remove the sleeve for the tool from the axles.

(e) Remove the pad from beneath each axle.

(f) Install the brakes for the axles (TASK 32-45-07-400-801).

(g) Install the wheels and the tires assemblies for the axles (TASK 32-45-01-400-801).

SUBTASK 32-11-01-020-035

(17) Lower the airplane to remove the weight of the airplane from the jacks. Keep the jacks in their position for subsequent tasks, (TASK 07-11-01-580-805).

SUBTASK 32-11-01-090-001

(18) Remove the turnbuckle equipment, SPL-4685 [12] or the MLG truck position actuator turnbuckle, SPL-1846 [12] from the hydraulic strut location.

SUBTASK 32-11-01-410-004

(19) If you retracted the main landing gear retract actuator, do the steps that follow:

(a) Remove the cap on the hydraulic ports of the retract actuator [92].

(b) Extend the retract actuator [92]:

1) Install the landing gear actuator pump, SPL-1826 on the retract actuator [92].

2) Use the landing gear actuator pump, SPL-1826 to turn the retract fitting [95] so the actuator [92] is in its extended position.

3) Remove the landing gear actuator pump, SPL-1826 from the retract actuator [92].

SUBTASK 32-11-01-420-063

(20) Do this task: Main Landing Gear (SLG) Hydraulic Strut Installation, TASK 32-32-25-420-801.

SUBTASK 32-11-01-420-019

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(WARNING PRECEDES)

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(21) Install the upper reaction link [93]:

(a) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the pin [96], the washer [97], the nut [98], and the cotter pin [99].

NOTE: The thread protector from the wrench kit, SPL-4133

can be reinstalled on the pin [96] after Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 is applied.

(b) Install these parts connect the upper reaction link [93] to the retract fitting [95]:

1) pin [96]

2) washer [97]

3) nut [98]

a) Use the wrench kit, SPL-4133 to tighten the nut [98] to 80 ft-lb (108 N·m)-100 ft-lb (136 N·m), loosen the nut to the nearest castellation to install the cotter pin [99] (Figure 405).

4) cotter pin [99]

(c) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the pin [120], washer [126], nut [122], bolt [123], washer [124], and the nut [125].

(d) Install these parts connect the upper reaction link [93] to the link [121].

1) pin [120]

2) washer [126]

3) nut [122]

a) Tighten the nut [122] to 50 ft-lb (68 N·m)-75 ft-lb (102 N·m), loosen the nut to the nearest castellation to install the bolt [123].

4) Install the bolt [123], washer [124], and the nut [125].

(e) Install the link [121] to the retract fitting [190].

1) Apply a light coating of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the washers [184] and [186].

2) Put the link [121] and the washers [184] and [186] in place, in the retract fitting [190].

3) Install the pin [185] through the retract fitting [190] and the link [121].

4) Apply a light coating of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the thread group of the pin [185] and the washer faces.

5) Use the wrench kit, SPL-4133 to tighten the nut [187] to 15 in-lb (2 N·m)-25 in-lb (3 N·m) plus run-on torque.

6) Loosen the nut [187] to the nearest castellation to install the pin [188].

7) Wipe off all excess Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913.

SUBTASK 32-11-01-420-020

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(22) Install the lower reaction link [94]:

(a) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the pin [100], the washer [101], the nut [102], and the cotter pin [103].

NOTE: The thread protector from the wrench kit, SPL-4133

can be reinstalled on the pin [96] after Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 is applied.

(b) Install these parts connect the lower reaction link [94] to the retract fitting [95]:

1) pin [100]

2) washer [101]

3) nut [102]

a) Use the wrench kit, SPL-4133 to tighten the nut [102] to 80 ft-lb (108 N·m)-100 ft-lb (136 N·m), loosen the nut to the nearest castellation to install the cotter pin [103] (Figure 405).

4) cotter pin [103]

(c) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the pin [200], the washer [101], the nut [102], and the cotter pin [103].

(d) Install these parts connect the lower reaction link [94] to the upper airplane:

1) pin [200]

2) washer [101]

3) nut [102]

a) Tighten the nut [102] to 80 ft-lb (108 N·m)-100 ft-lb (136 N·m), loosen the nut to the nearest castellation to install the cotter pin [103].

4) cotter pin [103]

SUBTASK 32-11-01-420-021

(23) Remove the caps from the hydraulic lines [104] and the elbow fittings [105].

SUBTASK 32-11-01-420-009

(24) Connect the hydraulic lines [104] to the elbow fittings [105].

(a) Tighten the B-nuts on the hydraulic lines [104] to 1200 ±60 in-lb (136 ±7 N·m).

SUBTASK 32-11-01-420-010

(25) Install and connect the five hydraulic lines on the inboard side of the upper shock strut [4].

(a) Connect the hydraulic line [112] to the fitting 1.

1) Tighten the B-nut on the hydraulic line [112] to 700 ±35 in-lb (79 ±4 N·m).

(b) Connect the hydraulic line [200] to the fitting 2.

1) Tighten the B-nut on the hydraulic line [200] to 270 ±14 in-lb (31 ±2 N·m).

(c) Connect the hydraulic line [201] to the fitting 3.

1) Tighten the B-nut on the hydraulic line [201] to 500 ±25 in-lb (56 ±3 N·m).

(d) Connect the hydraulic line [202] to the fitting 4.

1) Tighten the B-nut on the hydraulic line [202] to 270 ±14 in-lb (31 ±2 N·m).

(e) Connect the hydraulic line [203] to the fitting 5.

1) Tighten the B-nut on the hydraulic line [203] to 270 ±14 in-lb (31 ±2 N·m).

(26) Install and connect the six hydraulic lines [118] on the outboard side of the upper shock strut [4].

(a) Tighten the B-nuts on the hydraulic lines [118] to 270 ±14 in-lb (31 ±2 N·m).

SUBTASK 32-11-01-420-011

(27) Connect the electrical connectors [109], [110]:

(a) Remove the caps on the electrical connectors [109], [110].

(b) Apply sealant, A00247 to the screws [107], the mating surfaces of the electrical conduit fitting [106], and the conduit bracket [119] on the rear spar.

(c) Install the screws [107] and the washers [108] to connect the electrical conduit fitting [106] to the conduit bracket [119] on the rear spar.

(d) Do a check of the resistance between the conduit fitting [106] and conduit bracket [119] with a intrinsically safe approved bonding meter, COM-1550.

NOTE: (SWPM 20-20-00) has instructions for measuring the bonding resistance.

1) Make sure that the resistance is less than 0.005 ohms.

(e) Connect the electrical connectors [109], [110] to the electrical connector bracket [111].

(f) Tighten the electrical connectors [109], [110] to 85 in-lb (10 N·m)-100 in-lb (11 N·m).

SUBTASK 32-11-01-020-064

(28) Do this task: Main Landing Gear Drag Strut Door Installation, TASK 32-12-08-420-802.

SUBTASK 32-11-01-640-002

(29) Install these parts to connect the actuator rod [16] for the drag brace door [22] to the actuator rod fitting on the drag brace [7].

(a) bolt [17]

(b) washer [18]

(c) bushing [19]

1) Lubricate the outside diameter of the bushing [19] with grease, D00633 (preferred), or grease, D00013 (optional).

(d) washer [20]

(e) nut [21]

1) Tighten the nut [21] to 370 in-lb (42 N·m)-690 in-lb (78 N·m).

SUBTASK 32-11-01-020-038

(30) Do this task: Main Landing Gear Trunnion Door Installation, TASK 32-12-11-420-801.

SUBTASK 32-11-01-420-012

(31) Do this task: Main Landing Gear Shock Strut Door Installation, TASK 32-12-06-420-801.

SUBTASK 32-11-01-020-191

(32) Connect the outboard end of the aft panel support beam [44] and the three links:

(a) Install the bolts [52] to connect the three links to the panel support beam [44].

(b) Install the two bolts [47], the three bolts [45], and the four bolts [49] on the outboard end of the aft panel support beam [44].

SUBTASK 32-11-01-020-192

(33) Connect the forward panel support beam [58]:

(a) Install the bolt [59] to connect the outboard end of the forward panel support beam [58] to the link.

(b) Install the two bolts [70], the three bolts [64], the bolt [66], and the bolt [68] to the inboard end of the forward panel support beam [58].

J. Put the Airplane Back to Its Usual Condition

SUBTASK 32-11-01-860-010

(1) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR
M	19	C32617	LG TIRE PRESSURE INDICATOR
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1
N	27	C32619	LG MAIN GEAR STEERING
N	28	C32618	LG BRAKE TEMP MONITOR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

SUBTASK 32-11-01-760-001

(2) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Right Power Management Panel, P210

Row	Col	Number	Name
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

SUBTASK 32-11-01-080-002

(3) Remove the retainer equipment, SPL-1853 [13] from the main landing gear [152].

SUBTASK 32-11-01-860-011

(4) Do this task: Trailing Edge Flap Reactivation, TASK 27-51-00-440-801.

SUBTASK 32-11-01-860-012

(5) To retract the trailing edge flaps, do this task: Retract the Trailing Edge Flaps, TASK 27-51-00-860-805.

SUBTASK 32-11-01-820-001

(6) If you changed the length of any of the door rods you will need to adjust the shock strut door [14], the trunnion door [42], or the drag brace door [22] (TASK 32-12-00-910-804).

NOTE: No adjustment to the doors is necessary if the door rods were not changed.

SUBTASK 32-11-01-610-001

(7) Do this task: Main Landing Gear Shock Strut Servicing, TASK 12-15-01-610-810.

(a) Install the cap [1] after you finish servicing the landing gear.

SUBTASK 32-11-01-640-003

(8) Do this task: Lower Main Landing Gear and Actuating Mechanisms Lubrication, TASK 12-21-14-640-806-002.

SUBTASK 32-11-01-640-004

(9) Do this task: Main Landing Gear Doors and Actuating Mechanisms Lubrication, TASK 12-21-15-640-802-002.

SUBTASK 32-11-01-870-005

(10) Do this task: Normal Hydraulic Brake System - Bleeding, TASK 32-41-00-870-802.

SUBTASK 32-11-01-870-001

(11) To bleed the right and center hydraulic systems, do this task: Alternate Hydraulic Brake System - Bleeding, TASK 32-41-00-870-801.

SUBTASK 32-11-01-720-001

(12) Do this task: Brake Temperature Monitoring System (BTMS) - Operational Test, TASK 32-46-00-710-801.

SUBTASK 32-11-01-720-013

(13) Do this task: Main Landing Gear Steering System - Functional Test, TASK 32-53-00-720-801.

SUBTASK 32-11-01-720-002

(14) Do the applicable position indication test in (TASK 32-61-00-700-801) in the "Landing Gear Position Indicating and Warning System - System Test."

(a) Left main landing gear position indication test

(b) Right main landing gear position indication test

SUBTASK 32-11-01-720-010

(15) Do one of these tasks: Main Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks), TASK 32-30-01-720-801 or Nose and Main Landing Gear Extension and Retraction Systems - Functional Test (Airplane on the Jacks), TASK 32-30-01-720-802.

(16) Do this task: Landing Gear Alternate Extension System - Operational Test (Airplane on the Jacks), TASK 32-35-00-720-801

SUBTASK 32-11-01-820-004

(17) Do this task: WOW Load Sensor Calibration, TASK 32-09-03-820-801.

SUBTASK 32-11-01-020-057

(18) Close the applicable access panels:

(TASK 06-44-00-800-802) (Figure 402)

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

SUBTASK 32-11-01-020-067

(19) Install the access panels that follow for the left or right gear (Left gear, Right gear) (TASK 06-44-00-800-802) (Figure 402):

(a) Install the applicable access panels:

Number	Name/Location
551BB	Inboard Fixed Trailing Edge Panel
651BB	Inboard Fixed Trailing Edge Panel

(b) Install the applicable access panels:

Number	Name/Location
552BB	Inboard Fixed Trailing Edge Panel
652BB	Inboard Fixed Trailing Edge Panel

(c) Install the applicable access panels:

Number	Name/Location
551FB	Inboard Fixed Trailing Edge Panel
651FB	Inboard Fixed Trailing Edge Panel

(d) Install the applicable access panels:

Number	Name/Location
551EB	Inboard Fixed Trailing Edge Panel
651EB	Inboard Fixed Trailing Edge Panel

(e) Install the applicable access panels:

Number	Name/Location
551DT	Left Main Landing Gear Upper Wing Panel
651DT	Right Main Landing Gear Upper Wing Panel

NOTE: This panel is directly above the landing gear trunnion, it is not illustrated.

SUBTASK 32-11-01-090-004

WARNING
OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(20) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

RETRACT ARM ASSEMBLY - CLEANING

1. **General**
   A. This procedure has the instructions to clean dried grease from the retract arm assembly of the main landing gear.
   B. In this procedure the retract arm assembly shall be referred to as the retract arm.

TASK 32-11-01-100-801

2. **Retract Arm Cleaning**
   (Figure 701)

   A. **References**

Reference	Title
06-44-00-800-802	Finding an Access Door or Panel on the Wings (P/B 201)
12-21-14-640-805-002	Upper Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
20-11-00-910-801	Standard Torque Values (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-30-01-720-801	Main Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks) (P/B 501)
32-32-01-020-801-001	Main Landing Gear Retract Actuator Removal (P/B 401)
32-32-01-020-802-002	Main Landing Gear Retract Actuator Removal (P/B 401)
32-32-01-420-801-001	Main Landing Gear Retract Actuator Installation (P/B 401)
32-32-01-420-803-002	Main Landing Gear Retract Actuator Installation (P/B 401)

   B. **Tools/Equipment**

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205
STD-583	Mallet - Non-metallic
STD-6389	Straps - Tie-down
STD-6449	Cloth - Emery
STD-6545	Rope - Nylon

   C. **Consumable Materials**

Reference	Description	Specification
B00062	Solvent - Acetone (99.5% Grade)	ASTM D 329 (Supersedes O-A-51)
B00068	Alcohol - Denatured, Ethyl (Ethanol)	AMS 3002, MIL-E-51454 Type II
B00130	Alcohol - Isopropyl	TT-I-735
B00316	Solvent - Aliphatic Naphtha (For Organic Coatings)	TT-N-95 Type I, ASTM D-3735 Type I

(Continued)

Reference	Description	Specification
B00666	Solvent - Methyl Propyl Ketone	BMS11-9
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00528	Grease - Aircraft - Royco 11MS	
D00633	Grease - Aircraft General Purpose	BMS3-33
D50255	Grease - Aircraft And Instrument	MIL-PRF-32014
G00111	Sheet - Mylar	
G00270	Tape - Scotch Flatback Masking 250	ASTM D6123 (Supersedes A-A-883)
G01043	Cloth - Lint-free	
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38
G50305	Sheeting - Plastic, Polyethylene	

D. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

E. **Access Panels**

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
551DT	Left Main Landing Gear Upper Wing Panel
651DB	Inboard Fixed Trailing Edge Panel
651DT	Right Main Landing Gear Upper Wing Panel

F. **Prepare for the Cleaning**

SUBTASK 32-11-01-480-025

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-01-480-026

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE DOOR LOCKS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Open the doors for the landing gear and install the door safety pins. Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-01-010-004

(3) Remove the access panels that follow for the left or right gear (Left gear, Right gear) (TASK 06-44-00-800-802)

(a) Remove this access panel for the left or right gear (Left gear, Right gear):

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

(b) Remove these access panels for the left or right gear (Left gear, Right gear):

Number	Name/Location
551DT	Left Main Landing Gear Upper Wing Panel
651DT	Right Main Landing Gear Upper Wing Panel

G. Main Landing Gear Cleaning

SUBTASK 32-11-01-020-209

ARO ALL; AIRPLANES WITH 293W3302 SERIES ACTUATORS

(1) Remove the retract actuator. Do this task: Main Landing Gear Retract Actuator Removal, TASK 32-32-01-020-801-001.

ARO ALL; AIRPLANES WITH 293W3322 OR 293W3352 SERIES ACTUATORS

(2) Remove the retract actuator. Do this task: Main Landing Gear Retract Actuator Removal, TASK 32-32-01-020-802-002.

ARO ALL

SUBTASK 32-11-01-020-210

(3) Remove the lower reaction link [2].

(a) Use the wrench kit, SPL-4133 to remove the pin [22] and the nut [20] to disconnect the lower reaction link [2] from the retract arm [3].

NOTE: The thread protector from wrench kit, SPL-4133 can be installed on the pin [22] before it is removed.

(b) Use the wrench kit, SPL-4133 to remove the pin [11] and the nut [9] to disconnect the lower reaction link [2] from the upper reaction link [1].

NOTE: The thread protector from wrench kit, SPL-4133 can be installed on the pin [11] before it is removed.

(c) Remove the lower reaction link [2] from the airplane.

SUBTASK 32-11-01-020-211

(4) Disconnect the upper reaction link [1] from the retract arm [3] and the link [18].

(a) Use the wrench kit, SPL-4133 to remove the pin [7] and the nut [5].

(b) Remove the pin [17] and the nut [15].

NOTE: The thread protector from wrench kit, SPL-4133 can be installed on the pin [17] before it is removed.

(c) Remove the upper reaction link [1] from the airplane.

SUBTASK 32-11-01-950-001

(5) Wind tightly a minimum of two layers of mylar sheet, G00111 or plastic sheeting, G50305 (alternative), or Scotch Flatback Masking Tape 250, G00270 (alternative) around the bare sections of the trunnion sleeve.

SUBTASK 32-11-01-020-212

(6) Do these steps to get access to the retract arm [3].

(a) Remove the bolts [23], the washers [24], and the lockplate [25] from the retaining nut [26].

(b) Move the retaining nut [26] forward.

(c) Move the retainer [27] forward.

SUBTASK 32-11-01-980-001

(7) Move the retract arm [3] forward to create access to the inner diameters of the retract arm [3].

NOTE: A non-metallic mallet, STD-583 may be necessary to move the retract arm [3].

SUBTASK 32-11-01-950-002

(8) Put a lint-free cloth, G01043 between the retract arm [3] and top of the trunnion sleeve to give protection to the retract arm [3] bushings.

SUBTASK 32-11-01-110-001

(9) Do these steps to clean the retract arm [3]:

(a) Use a lint-free cloth, G01043 to clean the inner diameter of the bushing bores of the retract arm [3].

NOTE: If necessary, turn the arm assembly to get access to all of the inner diameter.

(b) Use a strap, STD-6389 or a nylon rope, STD-6545 to put the retract arm [3] in a set position.

(c) Clean with solvent, B00316, or solvent, B00666 (alternative), or alcohol, B00130 (alternative), or alcohol, B00068 (alternative), or solvent, B00062 (alternative), all dried grease from all fittings.

(d) Make sure that the fittings are not clogged or blocked.

(e) Remove the strap, STD-6389 or the nylon rope, STD-6545 from the retract arm [3].

SUBTASK 32-11-01-950-003

(10) Remove the mylar sheet, G00111, or the plastic sheeting, G50305, or the Scotch Flatback Masking Tape 250, G00270 from the trunnion sleeve.

SUBTASK 32-11-01-110-002

(11) Clean with solvent, B00316, or solvent, B00666 (alternative), or alcohol, B00130 (alternative), or alcohol, B00068 (alternative), or solvent, B00062 (alternative), all dried grease from the outer diameter of the trunnion sleeve journals.

SUBTASK 32-11-01-210-008

(12) Examine the main landing gear for damage.

(a) Make sure that the surfaces of the trunnion sleeve journals do not have galling, burrs, and cracks.

(b) Make sure that the surfaces of the bushings of the retract arm [3] do not have galling, burrs, and cracks.

(c) Replace all parts which have cracks.

(d) Use an emery cloth, STD-6449 to repair the surface finish on retract arm bushings and trunnion sleeve journals.

(e) Make sure that no unwanted material is in the retract arm or on the trunnion sleeve journals.

SUBTASK 32-11-01-420-069

(13) Install the retract arm [3] on the trunnion sleeve.

(a) Remove the lint-free cloth, G01043 from between the retract arm [3] and top of the trunnion sleeve.

(b) Lightly lubricate the retract arm [3] and the trunnion sleeve with grease, D50255 (preferred) or Royco 11MS grease, D00528 (optional).

(c) Move the retract arm [3] back into its position.

CAUTION	DO NOT MIX DIFFERENT SPECIFICATIONS OR BRANDS OF GREASE. THE PERFORMANCE AND PROPERTIES OF MIXED GREASES MAY BE INFERIOR TO THE PERFORMANCE AND PROPERTIES OF THE INDIVIDUAL UNMIXED GREASES. THIS WILL HELP PREVENT DAMAGE TO AIRCRAFT COMPONENTS.

(d) Lubricate the retainer [27], the retaining nut [26], the washer [24], and the bolt [23] with grease, D00633 or grease, D00013 (alternative).

(e) Move the retainer [27] back into its position.

(f) Move the retaining nut [26] back into its position.

(g) Tighten the retaining nut [26] to 10 ft-lb (14 N·m) - 15 ft-lb (20 N·m), loosen the retaining nut [26] to the nearest castellation to install the lockplate [25].

(h) Install the lockplate [25], the washers [24], and the bolts [23] on the retaining nut [26].

(i) Make sure that the retract arm [3] can turn freely.

SUBTASK 32-11-01-640-017

(14) Lubricate the retract arm [3] with grease, D50255 (preferred) or Royco 11MS grease, D00528 (optional) while you turn the retract arm [3].

(a) Make sure that grease extrudes from all twelve grease groove locations on the forward and the aft side of the retract arm.

SUBTASK 32-11-01-750-001

(15) Make sure that the retract arm [3] turns freely and makes no noise.

SUBTASK 32-11-01-420-070

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(WARNING PRECEDES)

CAUTION	DO NOT MIX DIFFERENT SPECIFICATIONS OR BRANDS OF GREASE. THE PERFORMANCE AND PROPERTIES OF MIXED GREASES MAY BE INFERIOR TO THE PERFORMANCE AND PROPERTIES OF THE INDIVIDUAL UNMIXED GREASES. THIS WILL HELP PREVENT DAMAGE TO AIRCRAFT COMPONENTS.

(16) Install the upper reaction link [1].

(a) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the pin [7] threads, the washer [6], the nut [5], and the cotter pin [4].

NOTE: The thread protector from the wrench kit, SPL-4133 can be reinstalled on pin [7] after Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 is applied.

(b) Install the pin [7] on the retract arm [3] and the upper reaction link [1].

(c) Install the washer [6] and the nut [5] on the pin [7].

1) Use the wrench kit, SPL-4133 to tighten the nut [5] to 80 ft-lb (108 N·m) - 100 ft-lb (136 N·m), loosen the nut to the nearest castellation to install the cotter pin [4].

2) Install the cotter pin [4] on the nut [5].

(d) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the pin [17] threads, the washer [16], the nut [15], the bolt [14], the washer [13], and the nut [12].

(e) Install the pin [17] on the upper reaction link [1] and the link [18].

(f) Install the washer [16] and the nut [15] on the pin [17].

1) Tighten the nut [15] to 50 ft-lb (68 N·m) - 75 ft-lb (102 N·m), loosen the nut to the nearest castellation to install the bolt [14].

2) Install the bolt [14] on the nut [15] and the pin [17].

3) Install the washer [13] and the nut [12] on the bolt [14]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

SUBTASK 32-11-01-420-071

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(WARNING PRECEDES)

CAUTION	DO NOT MIX DIFFERENT SPECIFICATIONS OR BRANDS OF GREASE. THE PERFORMANCE AND PROPERTIES OF MIXED GREASES MAY BE INFERIOR TO THE PERFORMANCE AND PROPERTIES OF THE INDIVIDUAL UNMIXED GREASES. THIS WILL HELP PREVENT DAMAGE TO AIRCRAFT COMPONENTS.

(17) Install the lower reaction link [2].

(a) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the pin [11] threads, the washer [10], the nut [9], and the cotter pin [8].

NOTE: The thread protector from the wrench kit, SPL-4133 can be reinstalled on pin [11] after Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 is applied.

(b) Install the pin [11] on the lower reaction link [2] and the upper reaction link [1].

(c) Install the washer [10] and the nut [9] on the pin [11].

1) Use the wrench kit, SPL-4133 to tighten the nut [9] to 80 ft-lb (108 N·m) - 100 ft-lb (136 N·m), loosen the nut to the nearest castellation to install the cotter pin [8].

2) Install the cotter pin [8] on the nut [9].

(d) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the pin [22] threads, the washer [21], the nut [20], and the cotter pin [19].

NOTE: The thread protector from the wrench kit, SPL-4133 can be reinstalled on pin [22] after Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 is applied.

(e) Install the pin [22] on the lower reaction link [2] and the retract arm [3].

(f) Install the washer [21] and the nut [20] on the pin [22].

1) Use the wrench kit, SPL-4133 to tighten the nut [20] to 80 ft-lb (108 N·m) - 100 ft-lb (136 N·m), loosen the nut to the nearest castellation to install the cotter pin [19].

2) Install the cotter pin [19] on the nut [20].

SUBTASK 32-11-01-420-072

ARO ALL; AIRPLANES WITH 293W3302 SERIES ACTUATORS

(18) Install the retract actuator. Do this task: Main Landing Gear Retract Actuator Installation, TASK 32-32-01-420-801-001.

ARO ALL; AIRPLANES WITH 293W3322 OR 293W3352 SERIES ACTUATORS

(19) Install the retract actuator. Do this task: Main Landing Gear Retract Actuator Installation, TASK 32-32-01-420-801-001 or Main Landing Gear Retract Actuator Installation, TASK 32-32-01-420-803-002.

ARO ALL

SUBTASK 32-11-01-410-005

(20) Close these access panels for the left or right gear (Left gear, Right gear):

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
551DT	Left Main Landing Gear Upper Wing Panel
651DB	Inboard Fixed Trailing Edge Panel
651DT	Right Main Landing Gear Upper Wing Panel

SUBTASK 32-11-01-640-018

(21) Lubricate the retract arm. Do this task: Upper Main Landing Gear and Actuating Mechanisms Lubrication, TASK 12-21-14-640-805-002.

SUBTASK 32-11-01-720-014

(22) Make sure that the main landing gear retracts and extends correctly. Do this task: Main Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks), TASK 32-30-01-720-801.

(a) Do the functional test a minimum of three more times.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-11-01-480-028

WARNING MAKE SURE THE LANDING GEAR DOWNLOCK PINS ARE INSTALLED. THIS WILL PREVENT ACCIDENTAL RETRACTION OF THE LANDING GEAR, INJURY TO PERSONS, AND DAMAGE TO EQUIPMENT.

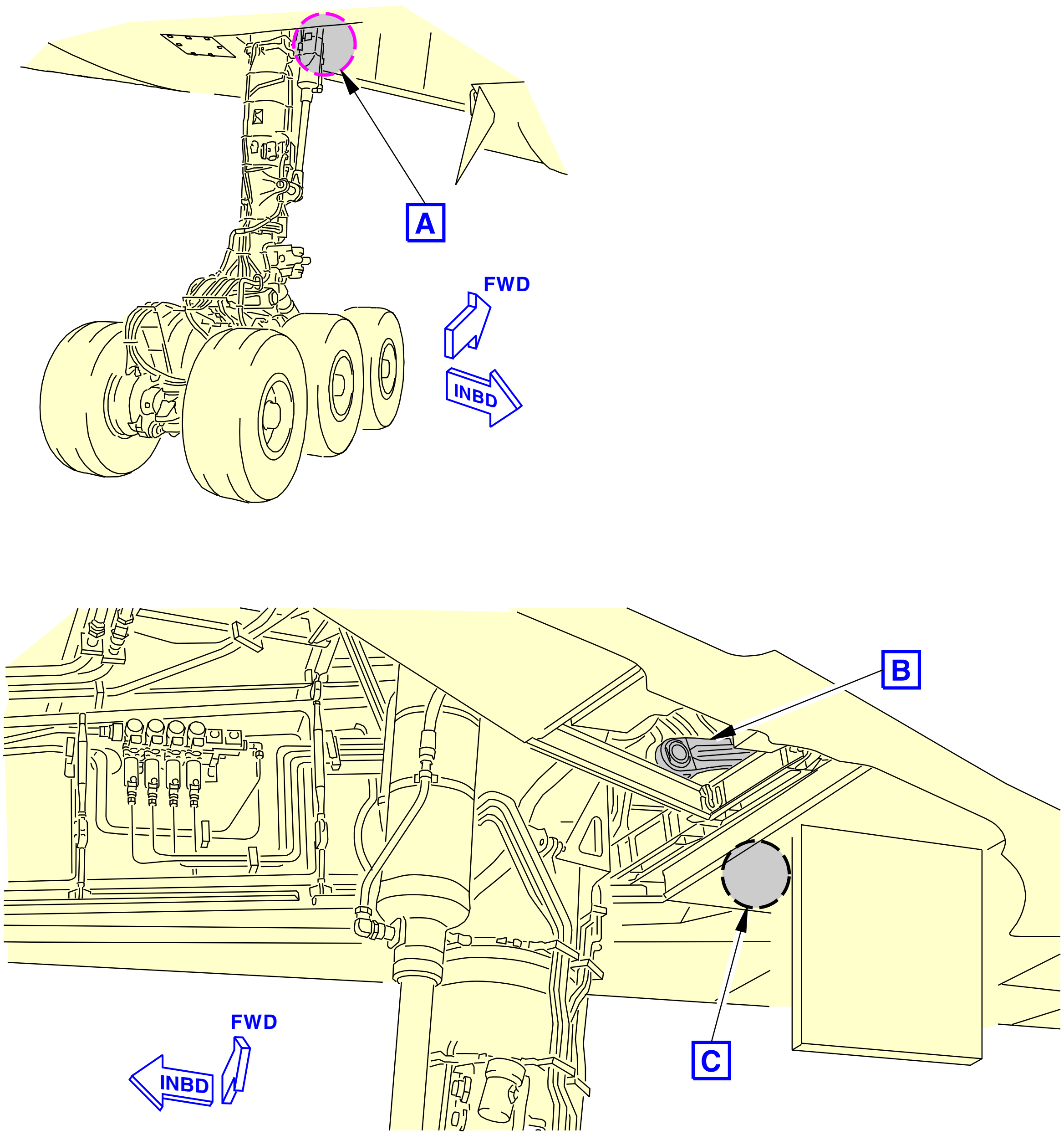
(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-01-080-005

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Remove the door safety pins. Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK



(PANELS, DOORS, LOCKLINKS, SIDE BRACE AND DRAG BRACE NOT SHOWN)

A

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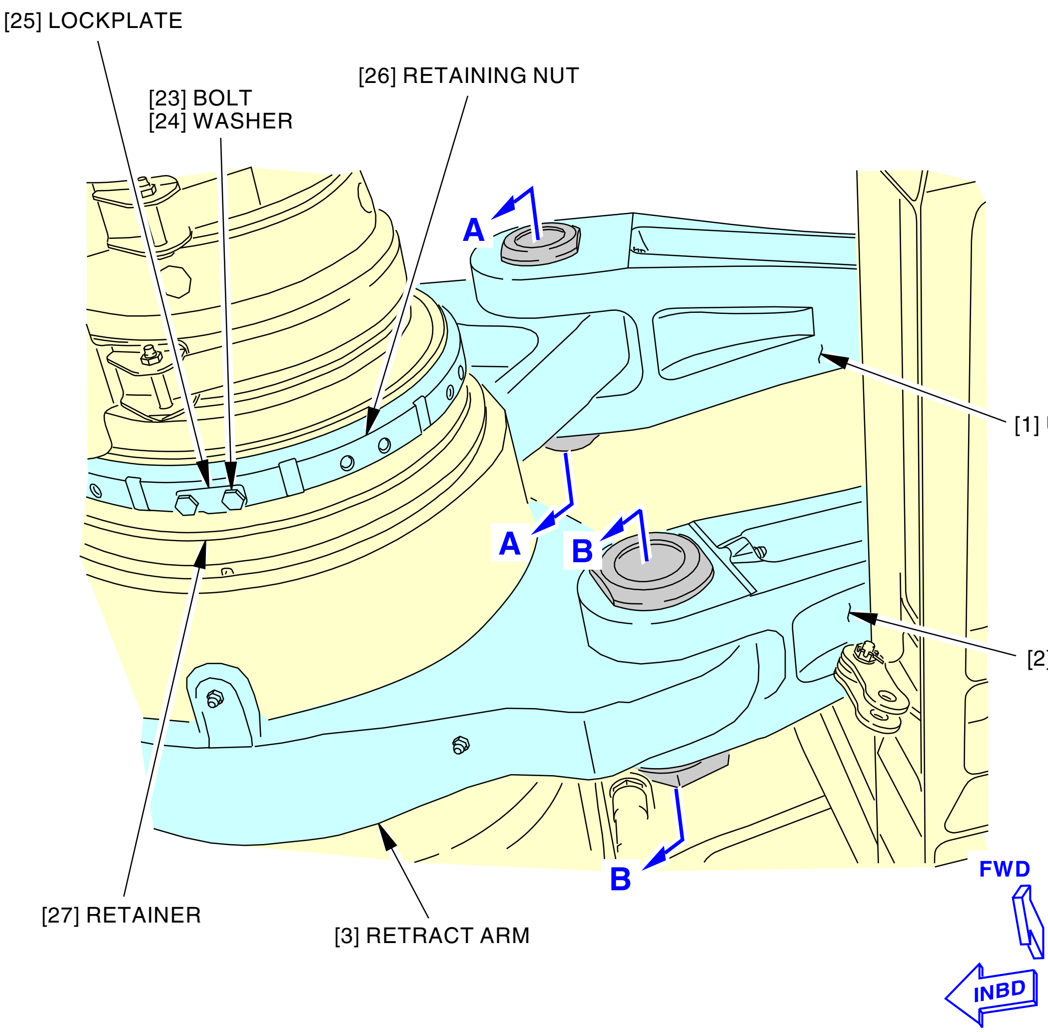
Main Landing Gear Cleaning
Figure 701/32-11-01-990-817 (Sheet 1 of 4)



INBOARD ENDS OF THE UPPER AND LOWER REACTION LINKS

B

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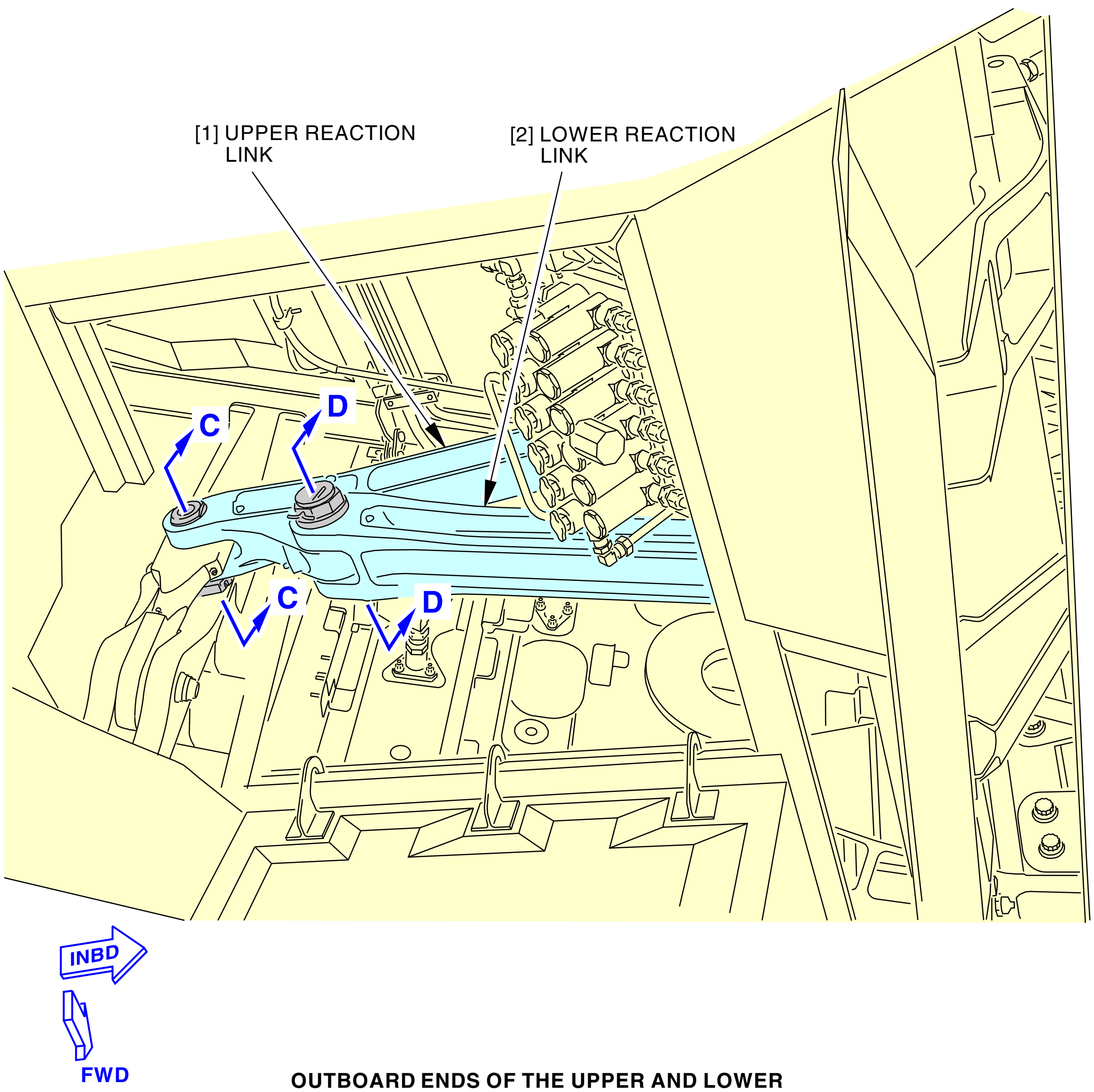
Main Landing Gear Cleaning
Figure 701/32-11-01-990-817 (Sheet 2 of 4)



OUTBOARD ENDS OF THE UPPER AND LOWER
REACTION LINKS

C

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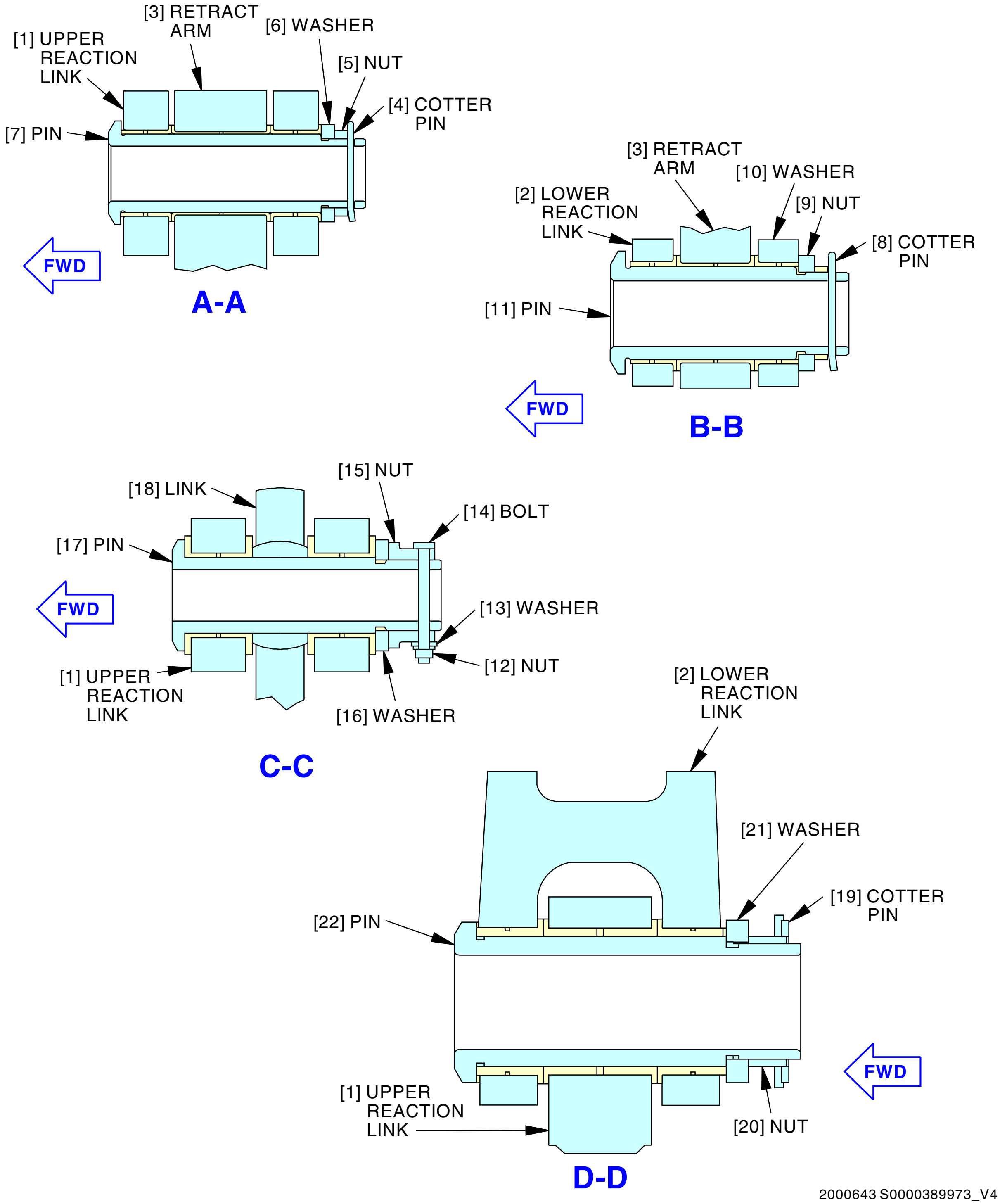
Main Landing Gear Cleaning
Figure 701/32-11-01-990-817 (Sheet 3 of 4)



Main Landing Gear Cleaning
Figure 701/32-11-01-990-817 (Sheet 4 of 4)

MAIN LANDING GEAR SHOCK STRUT - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has these tasks:

      (1) A removal of the main landing gear shock strut

      (2) An installation of the main landing gear shock strut.

   B. This procedure removes and installs the shock strut with two different referenced tasks. The first referenced task will remove the main landing gear from the airplane. The second referenced task will remove the truck from the shock strut.

TASK 32-11-02-910-801

2. **Main Landing Gear Shock Strut Removal**

   (Figure 401)

   A. **General**

      (1) This procedure provides instruction to first remove the main landing gear shock strut and truck from the airplane. Then the strut is separated from the main landing gear truck.

   B. **References**

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-11-01-020-801	Main Landing Gear Removal (P/B 401)
32-11-18-960-801	Main Landing Gear Truck Assembly Removal (P/B 401)

   C. **Tools/Equipment**

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1853	Retainer Equipment, MLG/NLG Torsion Link Part #: J32054-91 Supplier: 81205 Part #: J32054-92 Supplier: 81205
SPL-2558	Lift Lug Eqpt, MLG Removal and Installation Part #: J32043-119 Supplier: 81205 Part #: J32043-175 Supplier: 81205
SPL-4683	Dolly Equipment, Strut Assy Inner Cylinder, MLG Part #: J32077-67 Supplier: 81205 Part #: J32077-76 Supplier: 81205 Opt Part #: J32077-55 Supplier: 81205
SPL-4685	Turnbuckle Eqpt, MLG Shock Strut Part #: J32087-1 Supplier: 81205

   D. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left

(Continued)

Zone	Area
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for the Removal

SUBTASK 32-11-02-490-001

> **WARNING** MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-02-490-002

> **WARNING** OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-02-860-001

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-11-02-020-001

> **WARNING** DO NOT REMOVE THE VALVE BODY UNTIL YOU DEFLATE THE SHOCK STRUT FULLY. THE AIR PRESSURE CAN BLOW THE VALVE BODY OUT AND CAUSE INJURIES TO PERSONNEL.

(4) Deflate the shock strut [1] for the main landing gear:

(a) Remove the cap [2] from the air valve [3].

(b) Loosen the air valve swivel nut [4] a maximum of two turns.

NOTE: Fluid in the shock strut [1] will have bubbles when you release the pressure. Deflate the shock strut slowly to prevent the leakage of the fluid through the air valve.

(c) Loosen the air valve swivel nut [4] fully when all of the pressure in the shock strut [1] is released.

SUBTASK 32-11-02-480-002

(5) Use the retainer equipment, SPL-1853 to hold the shock strut [1] in its compressed position.

SUBTASK 32-11-02-860-002

(6) Lift the airplane with jacks until the main landing gear wheels are above the ground (TASK 07-11-01-580-804).

F. Main Landing Gear Shock Strut Removal

SUBTASK 32-11-02-020-002

(1) Do this task: Main Landing Gear Removal, TASK 32-11-01-020-801.

SUBTASK 32-11-02-020-003

(2) Move the main landing gear from the wheel well area.

SUBTASK 32-11-02-480-003

(3) Install the overhead lifting tool lift lug equipment, SPL-2558, for the main landing gear, in the hole at the top of the shock strut trunnion [7].

SUBTASK 32-11-02-020-004

(4) Lift the shock strut [1] by the overhead lifting tool with the lifting equipment until all the weight of the shock strut is removed from the truck.

SUBTASK 32-11-02-080-002

(5) Remove the turnbuckle equipment, SPL-4685.

SUBTASK 32-11-02-020-006

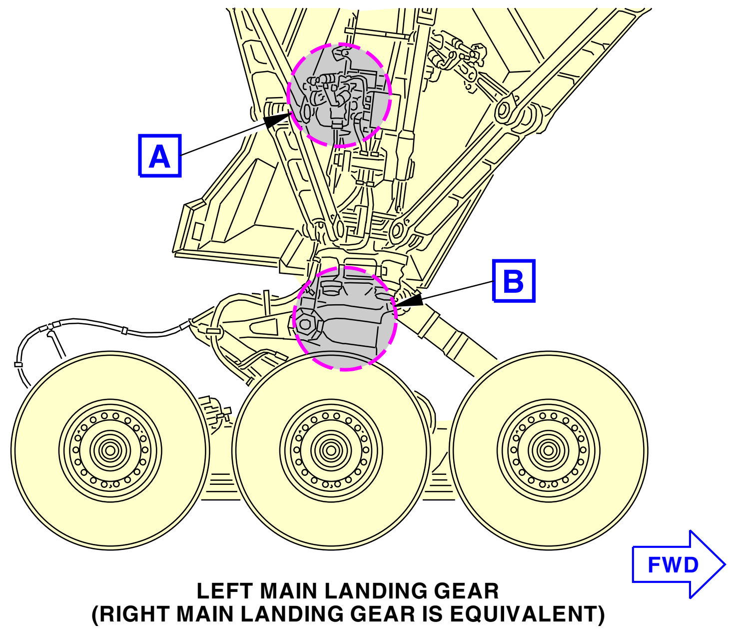
(6) Do this task: Main Landing Gear Truck Assembly Removal, TASK 32-11-18-960-801.

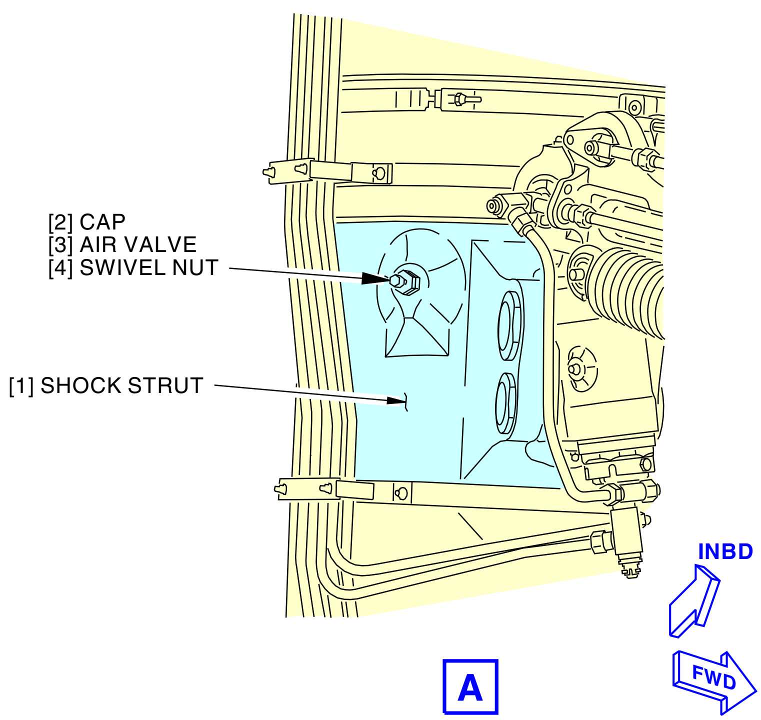
SUBTASK 32-11-02-020-007

(7) Remove the shock strut [1] from the truck [5] with the overhead lifting tool and the overhead lifting equipment.

(a) Lower the inner cylinder onto the dolly equipment, SPL-4683 to remove it from the work area (Figure 402).

END OF TASK





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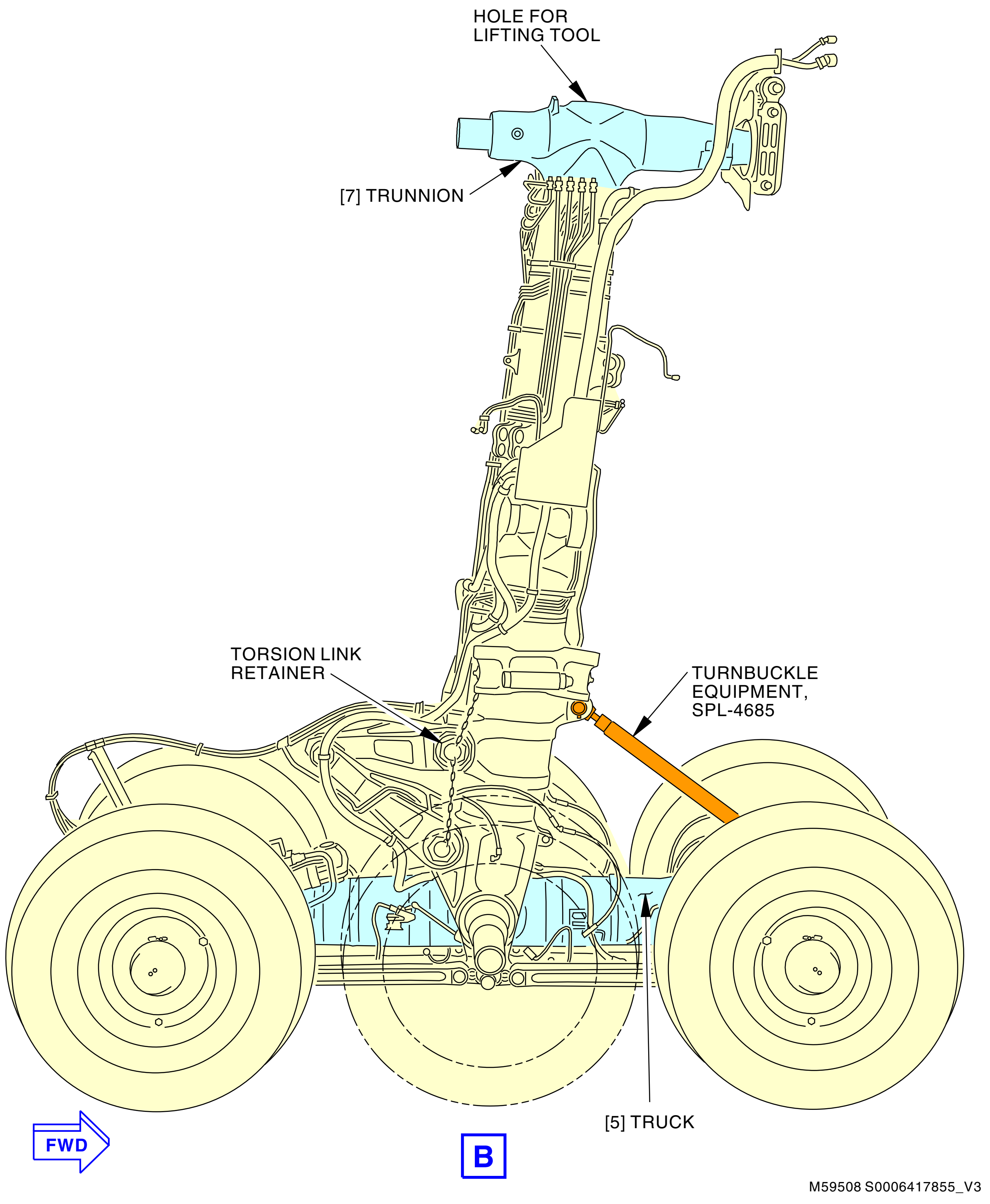
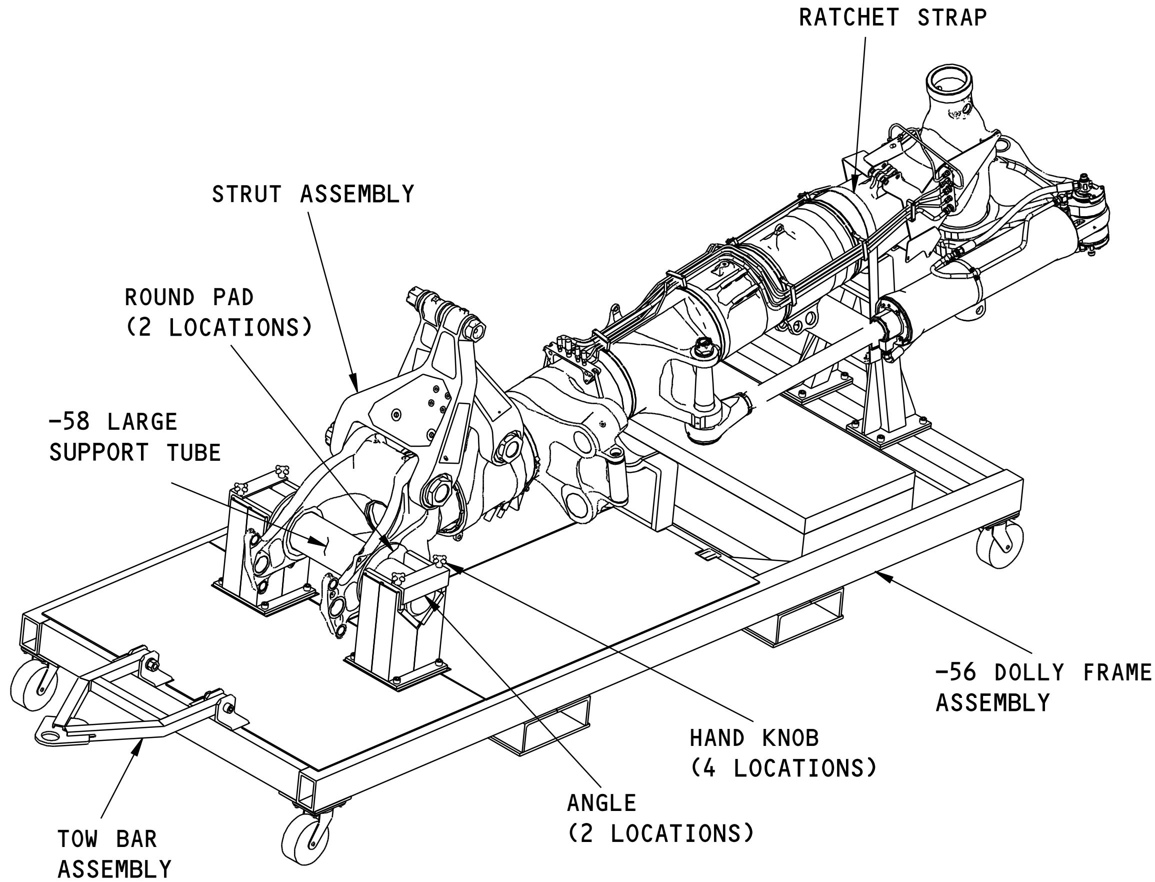
Main Landing Gear Shock Strut Installation
Figure 401/32-11-02-990-802 (Sheet 1 of 2)



Main Landing Gear Shock Strut Installation
Figure 401/32-11-02-990-802 (Sheet 2 of 2)



NOTE: DOLLY EQUIPMENT SHOWN WITH TOW BAR ASSEMBLY INSTALLED.

J32077-55
DOLLY EQUIPMENT

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Main Landing Gear Transportation Dolly Equipment
Figure 402/32-11-02-990-804

TASK 32-11-02-910-802

3. Main Landing Gear Shock Strut Installation

(Figure 401)

A. General

(1) This task installs the shock strut on the airplane.

B. References

Reference	Title
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-15-01-610-810	Main Landing Gear Shock Strut Servicing (P/B 301)
12-21-14-640-806-002	Lower Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-11-01-420-801	Main Landing Gear Installation (P/B 401)
32-11-18-400-801	Main Landing Gear Truck Assembly Installation (P/B 401)
32-30-01-720-801	Main Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks) (P/B 501)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1853	Retainer Equipment, MLG/NLG Torsion Link Part #: J32054-91 Supplier: 81205 Part #: J32054-92 Supplier: 81205
SPL-2558	Lift Lug Eqpt, MLG Removal and Installation Part #: J32043-119 Supplier: 81205 Part #: J32043-175 Supplier: 81205
SPL-4685	Turnbuckle Eqpt, MLG Shock Strut Part #: J32087-1 Supplier: 81205

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Shock strut	32-11-01-02D-680	ARO ALL

E. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Main Landing Gear Shock Strut Installation

SUBTASK 32-11-02-480-004

(1) Use the retainer equipment, SPL-1853 to hold the shock strut [1] in its compressed position.

SUBTASK 32-11-02-480-005

(2) Install the overhead lifting tool lift lug equipment, SPL-2558, for the main landing gear in the hole at the top of the shock strut trunnion [7].

SUBTASK 32-11-02-420-001

(3) Lift the shock strut [1] by the overhead lifting tool with the lifting equipment and move it in its position over the truck [5].

SUBTASK 32-11-02-020-012

(4) Do this task: Main Landing Gear Truck Assembly Installation, TASK 32-11-18-400-801.

NOTE: When you install the truck [5], install the turnbuckle equipment, SPL-4685 in the position of the hydraulic strut.

SUBTASK 32-11-02-420-004

WARNING	MAKE SURE THAT THE TRUCK POSITIONER TURNBUCKLE IS INSTALLED ON THE MAIN LANDING GEAR. WITHOUT THE TURNBUCKLE, THE SHOCK STRUT CAN MOVE QUICKLY WHEN YOU REMOVE THE OVERHEAD LIFTING TOOL. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(5) Install the turnbuckle equipment, SPL-4685 if not installed.

SUBTASK 32-11-02-020-009

(6) Remove the overhead lifting equipment lift lug equipment, SPL-2558, from the main landing gear trunnion [7].

SUBTASK 32-11-02-020-010

(7) Move the main landing gear in its position under the wing for installation.

SUBTASK 32-11-02-420-003

(8) Do this task: Main Landing Gear Installation, TASK 32-11-01-420-801.

SUBTASK 32-11-02-020-011

(9) Remove the retainer equipment, SPL-1853 that holds the shock strut [1] in its compressed position.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-11-02-710-001

(1) If the shock strut [1] requires inflation or hydraulic fluid, do this task: Main Landing Gear Shock Strut Servicing, TASK 12-15-01-610-810.

SUBTASK 32-11-02-710-002

(2) Do the extension and retraction test for the main landing gear, do this task: Main Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks), TASK 32-30-01-720-801.

SUBTASK 32-11-02-080-001

(3) Lower the airplane and remove the jacks (TASK 07-11-01-580-805).

SUBTASK 32-11-02-640-001

(4) To lubricate the main landing gear at the grease fittings, do this task: Lower Main Landing Gear and Actuating Mechanisms Lubrication, TASK 12-21-14-640-806-002.

SUBTASK 32-11-02-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(5) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

MAIN LANDING GEAR SIDE BRACE ASSEMBLY - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A task to prepare for the removal

(2) A task to install the side brace rigging tools

(3) A removal of the side brace assembly

(4) A removal of the upper side brace

(5) A removal of the lower side brace

(6) A removal of the lock links for the side brace

(7) A removal of the upper spindle for the side brace

(8) A removal of the lower spindle for the side brace

(9) A removal of the lock link spindle for the side brace

(10) A task to prepare for the installation

(11) An installation of the side brace assembly

(12) An installation of the upper side brace

(13) An installation of the lower side brace

(14) An installation of the lock links for the side brace

(15) An installation of the upper spindle for the side brace

(16) An installation of the lower spindle for the side brace

(17) An installation of the lock link spindle for the side brace

(18) An adjustment for the eccentric of side brace.

(19) A task to remove the side brace rigging tool.

(20) A task to put the airplane back to its usual condition.

B. Before you do a removal task it is necessary to do the task "Prepare for the Removal". After you do an installation task it is necessary to do the task, "Put the Airplane Back to its Usual Condition.

C. Before you do an installation task you must do the task, do this task: Drag Brace Assembly Installation, TASK 32-11-10-400-807.

TASK 32-11-03-910-805-002

2. Prepare for the Removal

(Figure 401, Figure 402)

A. General

(1) It is necessary to do this task before you do a removal procedure for any of the side brace components.

B. References

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Procedure

SUBTASK 32-11-03-490-011

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-03-490-012

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-03-860-004-002

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

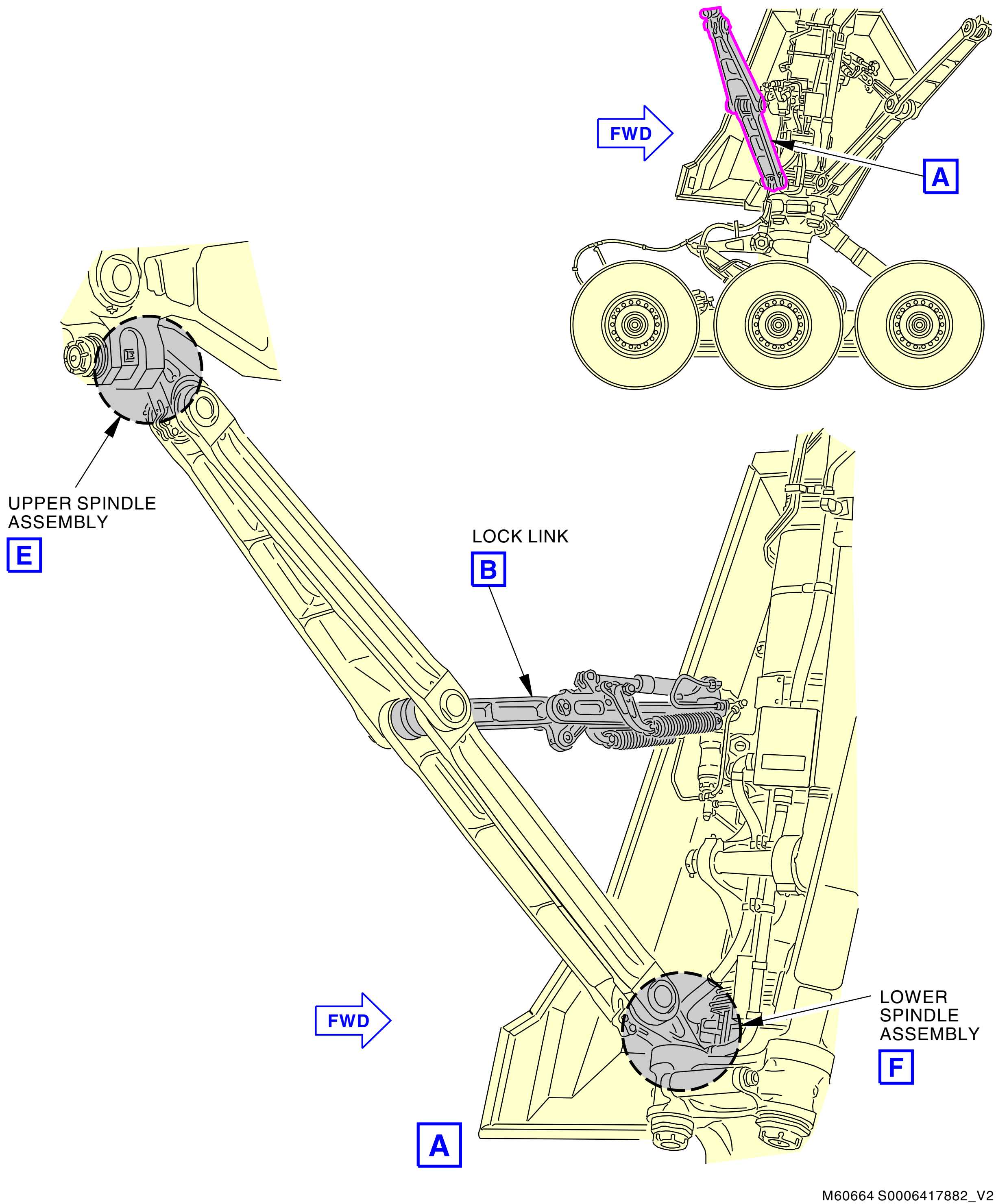
SUBTASK 32-11-03-420-090-002

(4) Lift the airplane until the main landing gear wheels are above the ground, (TASK 07-11-01-580-804).

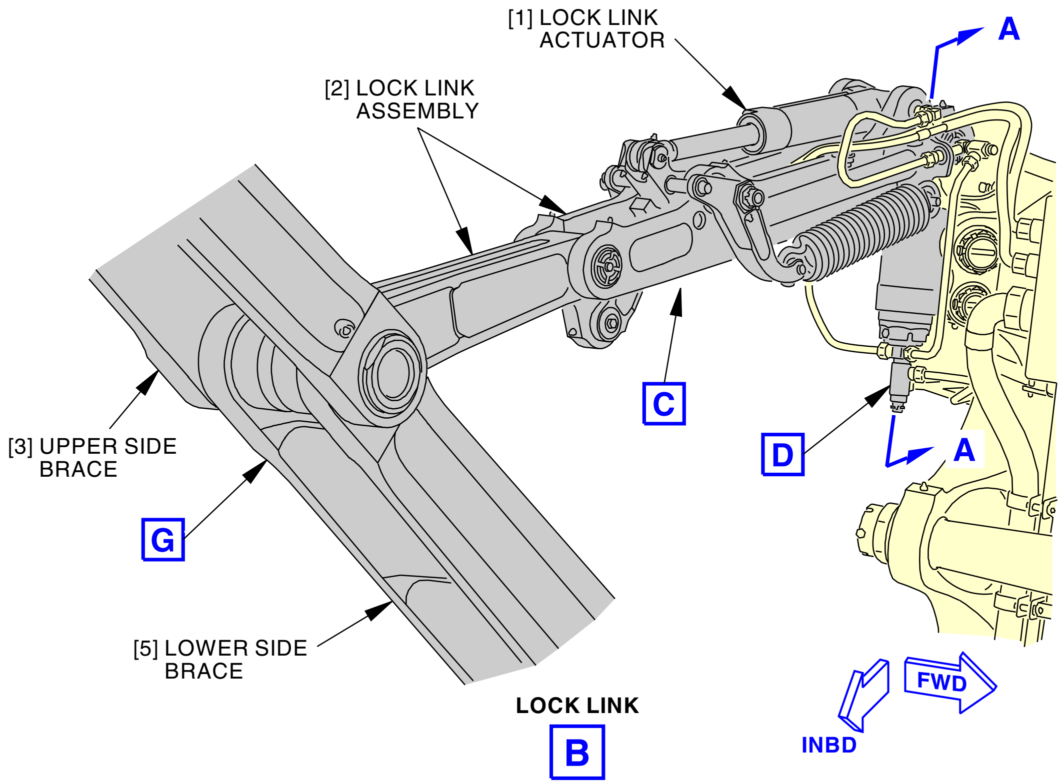
SUBTASK 32-11-03-480-069-002

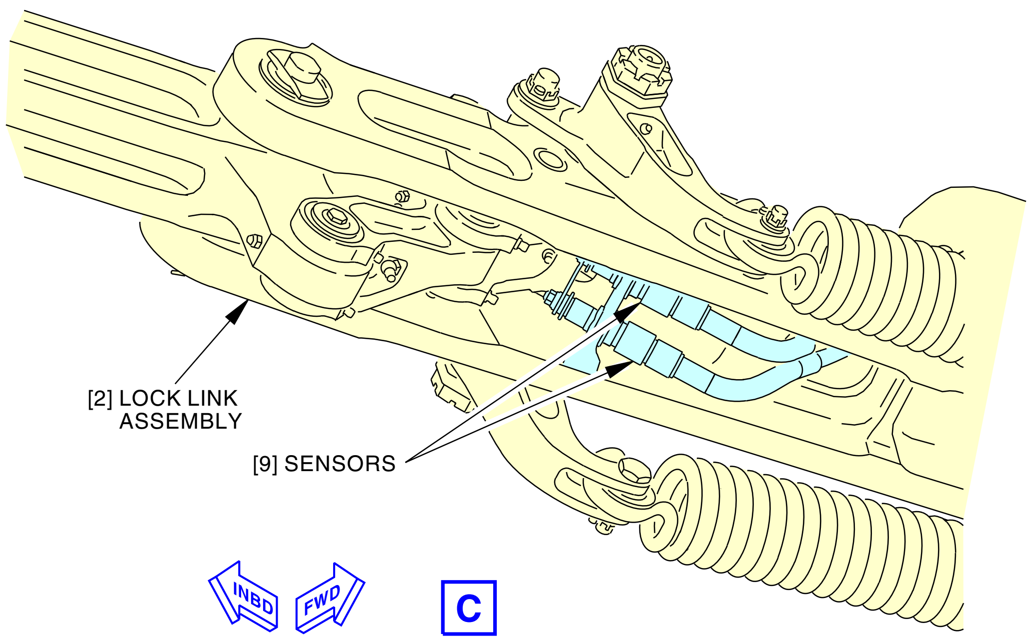
(5) To safely secure the landing gear that you will be working on, and to relieve the landing gear weight from the side brace components, do this task: Side Brace Rigging Tool Installation, TASK 32-11-03-480-801-002.

END OF TASK



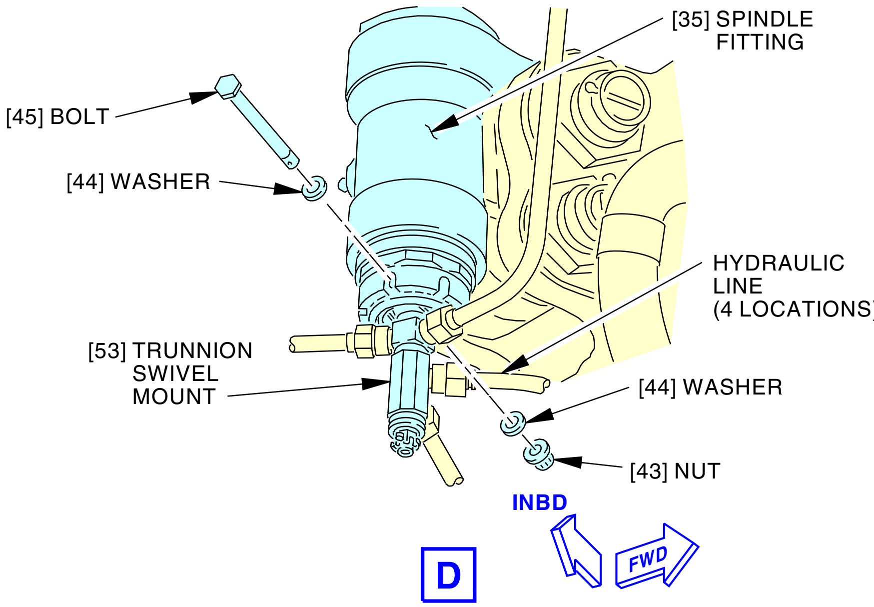
Main Landing Gear Side Brace Assembly Installation
Figure 401/32-11-03-990-803-002 (Sheet 1 of 7)

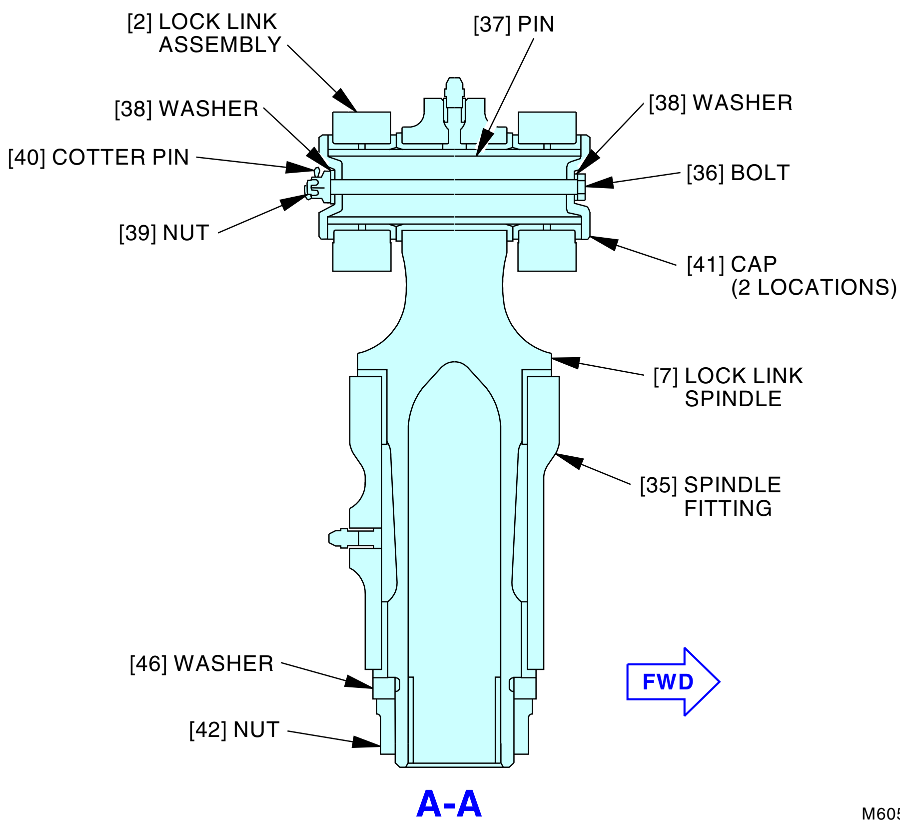




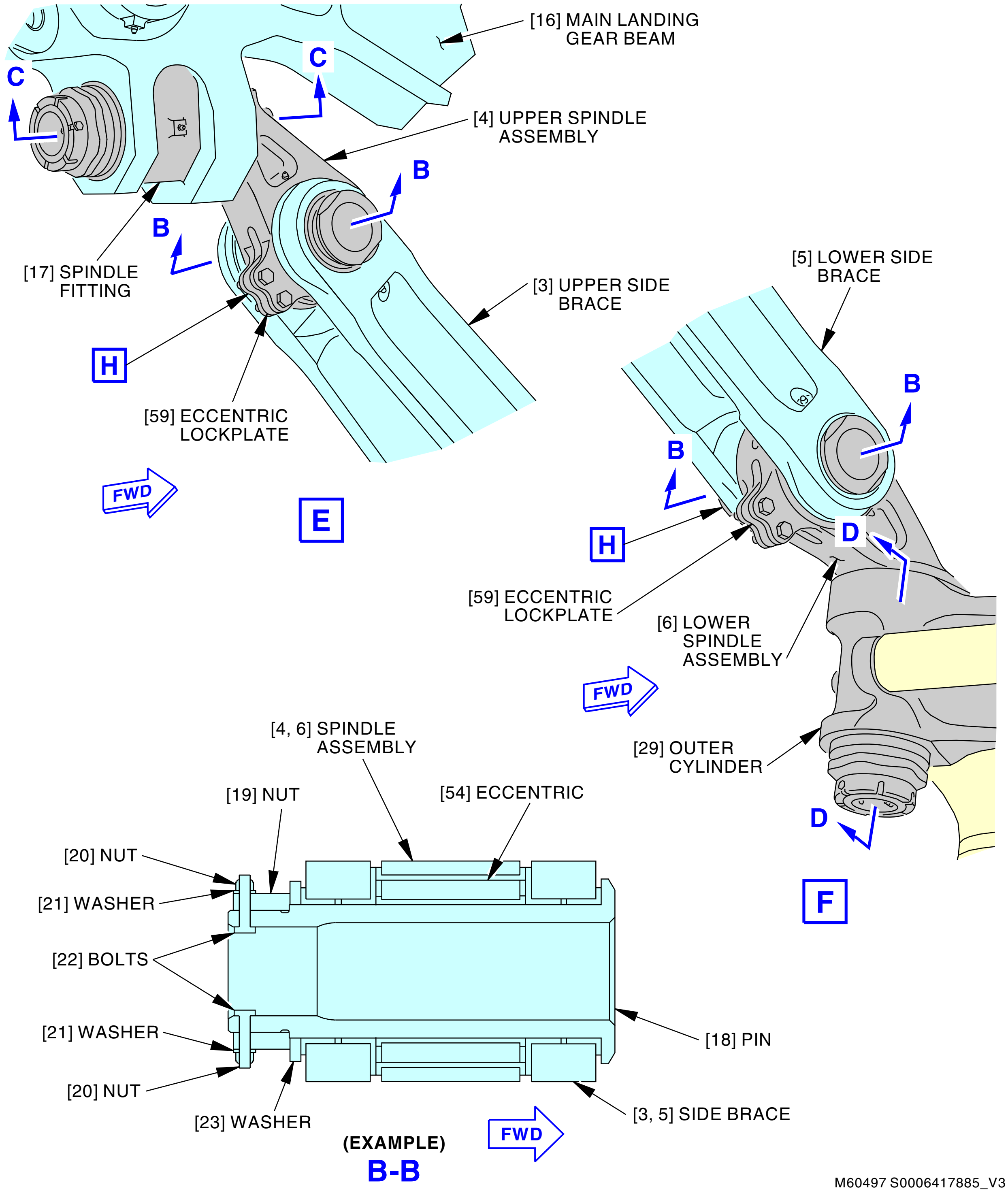
M60105 S0006417883_V3

Main Landing Gear Side Brace Assembly Installation
Figure 401/32-11-03-990-803-002 (Sheet 2 of 7)

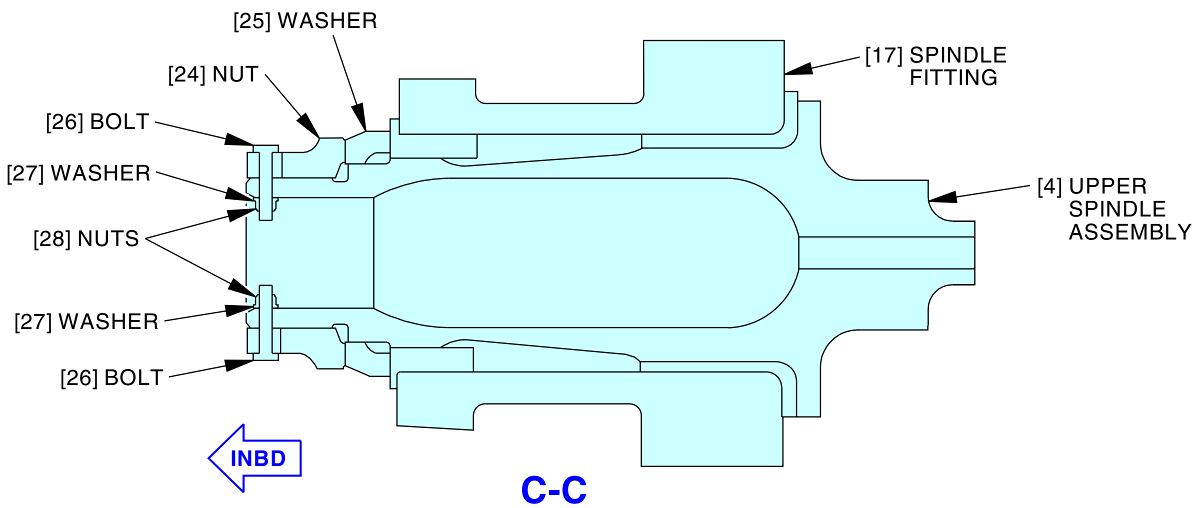


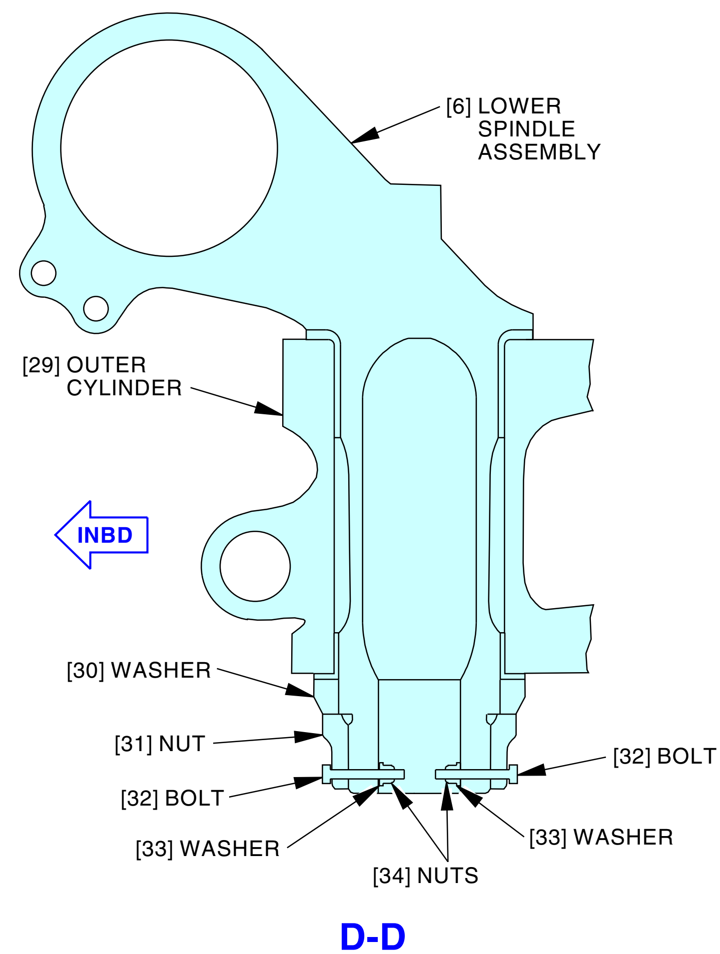


Main Landing Gear Side Brace Assembly Installation
Figure 401/32-11-03-990-803-002 (Sheet 3 of 7)



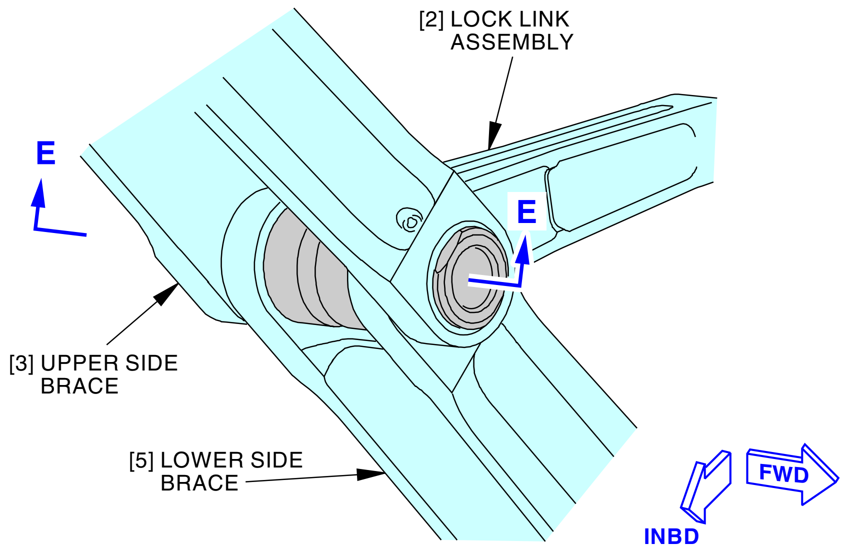
Main Landing Gear Side Brace Assembly Installation
Figure 401/32-11-03-990-803-002 (Sheet 4 of 7)



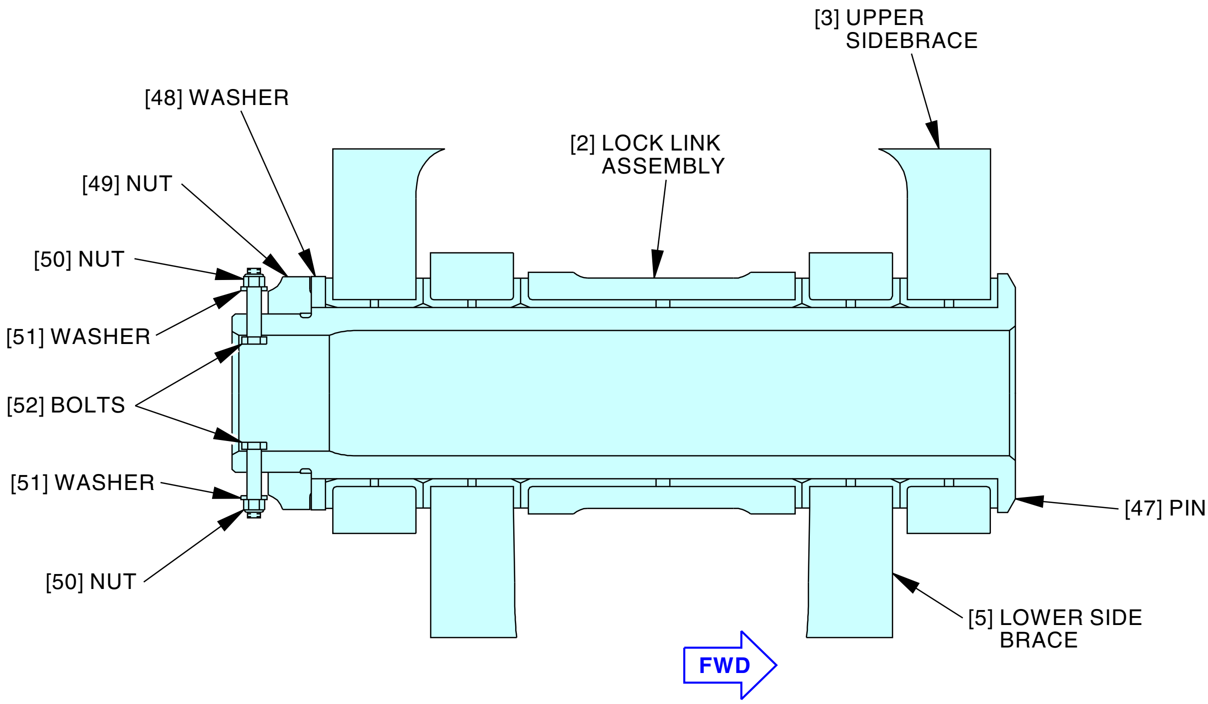


N65355 S0006417886_V3

Main Landing Gear Side Brace Assembly Installation
Figure 401/32-11-03-990-803-002 (Sheet 5 of 7)



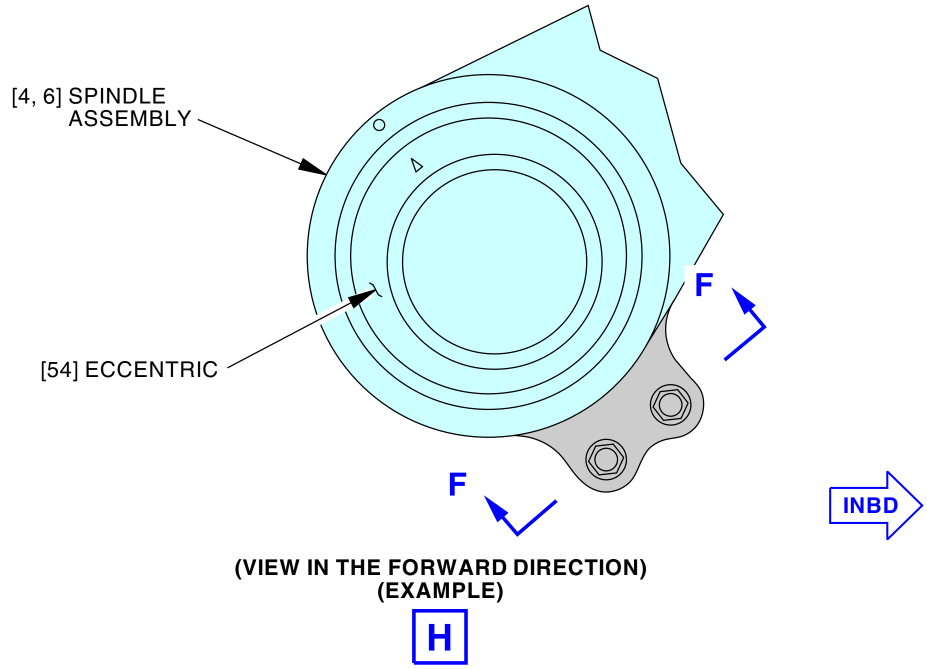
G

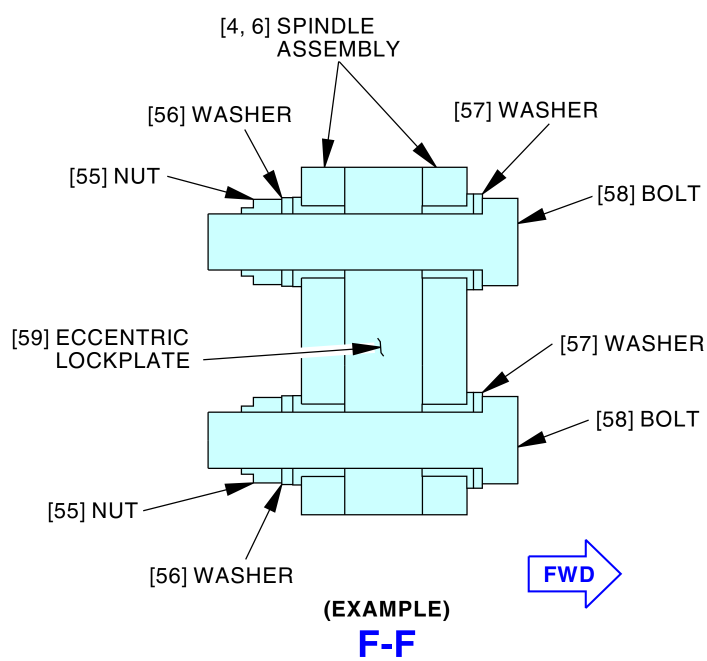


E-E

M60751 S0006417887_V2

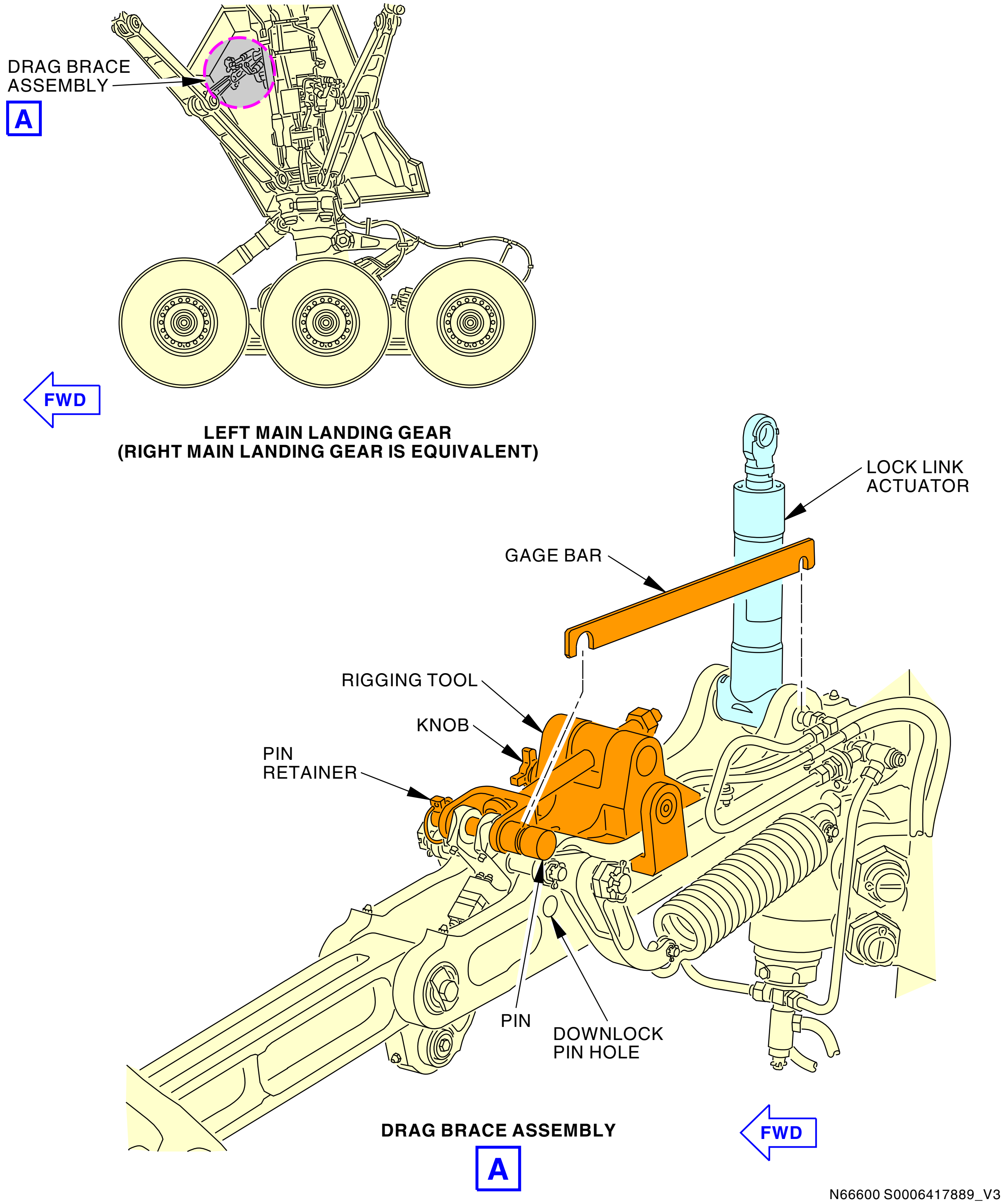
Main Landing Gear Side Brace Assembly Installation
Figure 401/32-11-03-990-803-002 (Sheet 6 of 7)



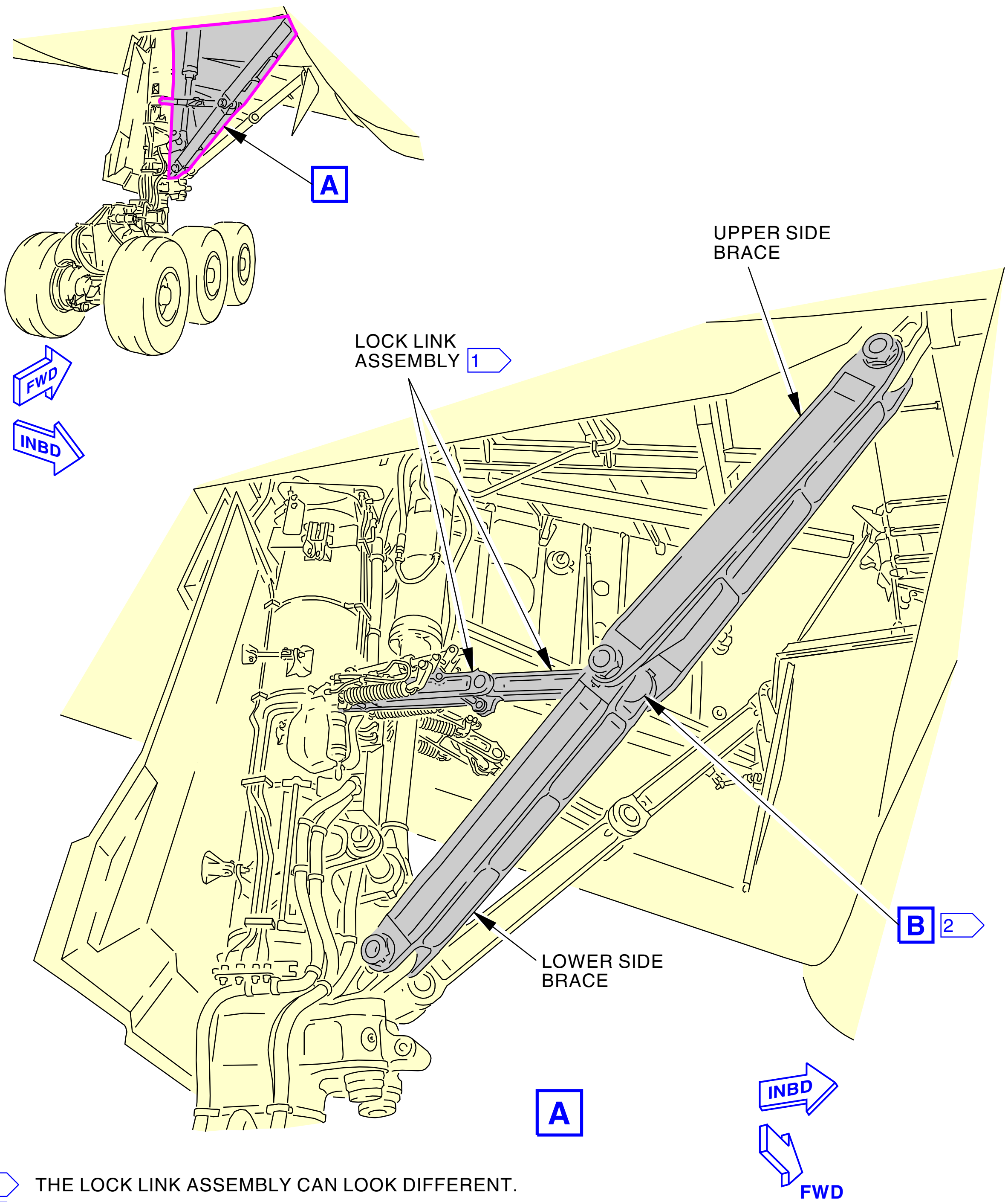


N65191 S0006417888_V3

Main Landing Gear Side Brace Assembly Installation
Figure 401/32-11-03-990-803-002 (Sheet 7 of 7)



Drag Brace Assembly Adjustment for the Side Brace Installation
Figure 402/32-11-03-990-804-002

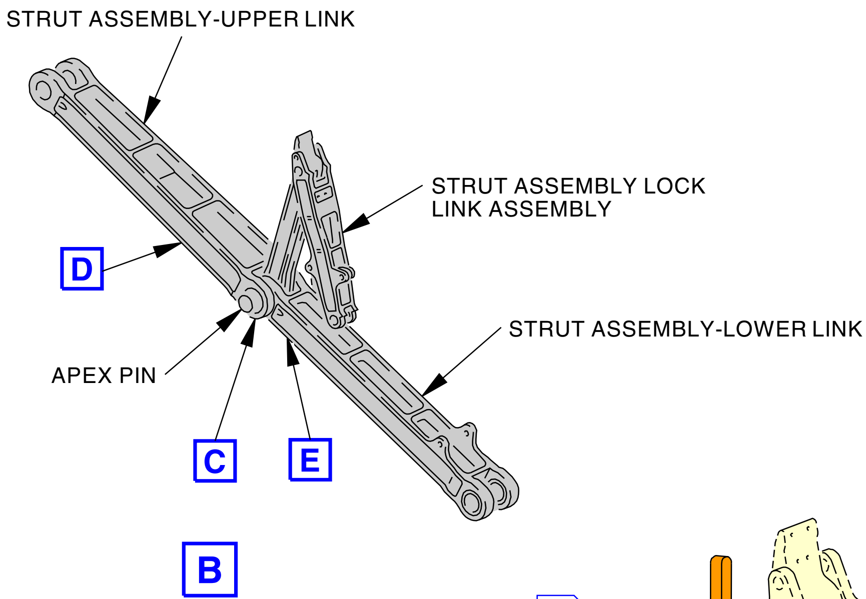


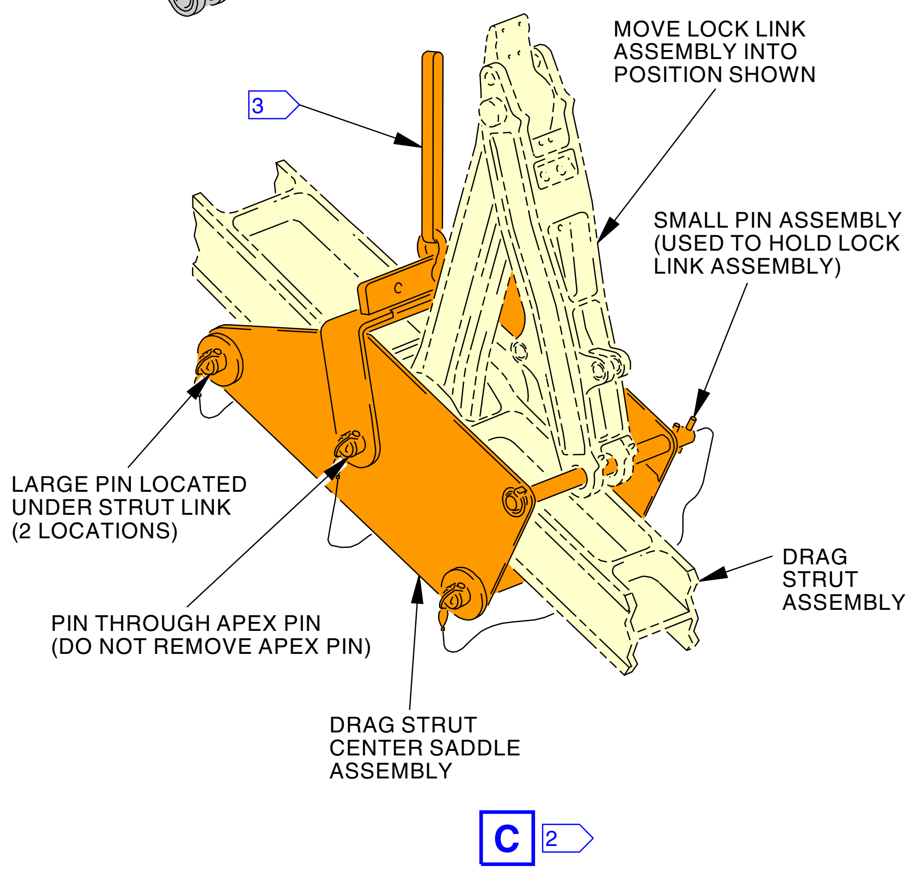
1 THE LOCK LINK ASSEMBLY CAN LOOK DIFFERENT.

2 SIDE BRACE ASSEMBLY IS SHOWN, DRAG BRACE ASSEMBLY IS EQUIVALENT.

U72089 S0000214624_V2

Main Landing Gear Side Brace Sling Equipment
Figure 403/32-11-03-990-808 (Sheet 1 of 3)

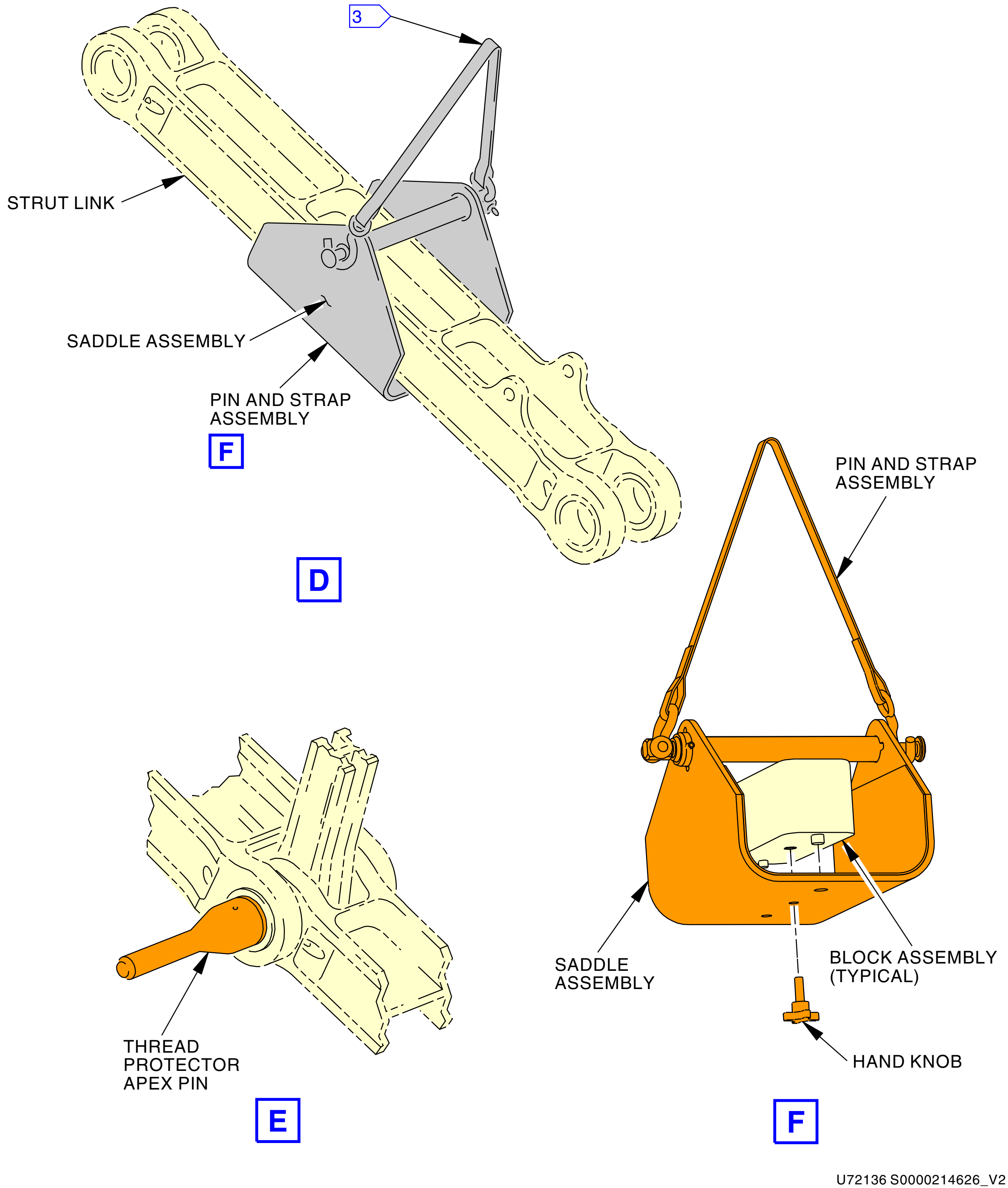




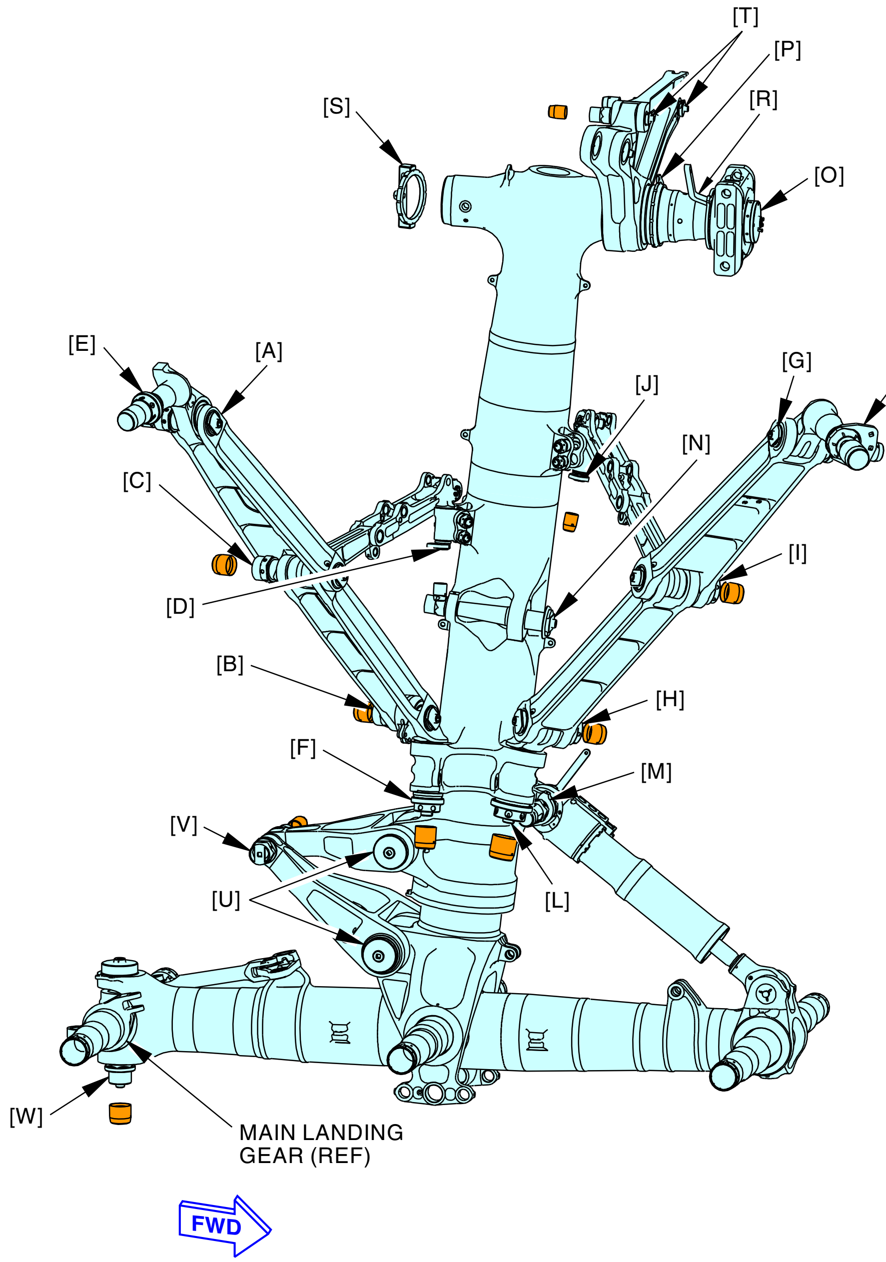
3 LIFT WITH A CUSTOMER FURNISHED BOOM HOIST MINIMUM WORKING CAPACITY: 400 LBS (181.437 kg)
MINIMUM LIFT HEIGHT: 145 INCHES (3683 mm)

U72123 S0000214625_V2

Main Landing Gear Side Brace Sling Equipment
Figure 403/32-11-03-990-808 (Sheet 2 of 3)



Main Landing Gear Side Brace Sling Equipment
Figure 403/32-11-03-990-808 (Sheet 3 of 3)



J90973 S0000185040_V2

Special Tools for Main Landing Gear Installation
Figure 404/32-11-03-990-810-002 (Sheet 1 of 4)

MAIN LANDING GEAR, SIDE STRUT					
COMPONENT	WRENCH OR SOCKET (FOR NUT)	THREAD PROTECTOR	WRENCH (FOR PIN RETENTION)	USED ON AIRCRAFT PART	USAGE LOCATION
SIDE STRUT, UPPER STRUT LINK ATTACH	J32085-36	J32085-17	J32085-12	161W3217 (NUT) 161W0260 (PIN)	[A]
SIDE STRUT, LOWER STRUT LINK ATTACH	J32085-36	J32085-17	J32085-12	161W3217 (NUT) 161W0260 (PIN)	[B]
SIDE STRUT, APEX	J32085-36	J32085-17	J32085-12	161W3217 (NUT) 161W3216 (PIN)	[C]
SIDE STRUT, LOCK LINK SPINDLE	J32085-7	J32085-15	NOT REQUIRED	161W1811 (NUT) 161W3211 (SPINDLE ASSEMBLY)	[D]
SIDE STRUT, UPPER ATTACH SPINDLE	J32085-26	J32085-18	NOT REQUIRED	161W0103 (NUT) 161W0200 (SPINDLE ASSEMBLY)	[E]
SIDE STRUT, LOWER ATTACH SPINDLE	J32085-27	J32085-19	NOT REQUIRED	161W2315 (NUT) 161W2310 (SPINDLE ASSEMBLY)	[F]

J91002 S0000185041_V2

Special Tools for Main Landing Gear Installation
Figure 404/32-11-03-990-810-002 (Sheet 2 of 4)

MAIN LANDING GEAR, DRAG STRUT					
COMPONENT	WRENCH OR SOCKET (FOR NUT)	THREAD PROTECTOR	WRENCH (FOR PIN RETENTION)	USED ON AIRCRAFT PART	USAGE LOCATION
DRAG STRUT, UPPER STRUT LINK ATTACH	J32085-24	J32085-16	J32085-10	161W0266 (NUT) 161W0265 (PIN)	[G]
DRAG STRUT, LOWER STRUT LINK ATTACH	J32085-25	J32085-68	J32085-13	161W4217 (NUT) 161W0264 (PIN)	[H]
DRAG STRUT, APEX	J32085-25	J32085-68	J32085-11	161W4217 (NUT) 161W4215 (PIN)	[I]
DRAG STRUT, LOCK LINK SPINDLE	J32085-7	J32085-15	NOT REQUIRED	161W1811 (NUT) 161W3211 (SPINDLE ASSEMBLY)	[J]
DRAG STRUT, UPPER ATTACH SPINDLE	J32085-8	J32085-14	NOT REQUIRED	161W0209 (NUT) 161W0206 (SPINDLE ASSEMBLY)	[K]
DRAG STRUT, LOWER ATTACH SPINDLE	J32085-28	J32085-20	NOT REQUIRED	161W2317 (NUT) 161W2312 (SPINDLE ASSEMBLY)	[L]
HYDRAULIC STRUT ATTACH, UPPER	J32085-34	J32085-23	J32085-30	161W0251 (NUT) 161W0250 (PIN)	[M]
RETRACT ACTUATOR, LOWER ATTACH	1923	J32085-69	J32085-64	161W1022 (NUT) 161W2020 (PIN)	[N]

J91016 S0000185955_V2

Special Tools for Main Landing Gear Installation
Figure 404/32-11-03-990-810-002 (Sheet 3 of 4)

MAIN LANDING GEAR, UPPER TRUNNION					
COMPONENT	WRENCH OR SOCKET (FOR NUT)	THREAD PROTECTOR	WRENCH (FOR PIN RETENTION)	USED ON AIRCRAFT PART	USAGE LOCATION
UPPER TRUNNION, NUT-RETAINING, FORWARD TRUNNION BEARING	J32085-6	NOT REQUIRED	NOT REQUIRED	161W1323 (NUT)	[O]
UPPER TRUNNION, NUT-RETAINING, RETRACT ARM	J32085-3	NOT REQUIRED	NOT REQUIRED	161W2306 (NUT)	[P]
UPPER TRUNNION, NUT-RETAINING, FORWARD TRUNNION BEARING	J32085-5	NOT REQUIRED	NOT REQUIRED	161W0216 (NUT)	[R]
UPPER TRUNNION, NUT-RETAINING, AFT TRUNNION BEARING ASSEMBLY	J32085-2	NOT REQUIRED	NOT REQUIRED	161W1504 (NUT)	[S]
UPPER TRUNNION, NUT-RETAINING, RETRACT ARM	1920	J32085-21	J32085-9	NASM21025 (NUT) 161W0081 (PIN)	[T]
TORSION LINK UPPER ATTACH	J32085-33	J32085-39	J32085-29	161W2147 (NUT) 161W2145 (PIN)	[U]
TORSION LINK LOWER ATTACH	J32085-33	J32085-39	J32085-29	161W2147 (NUT) 161W2146 (PIN)	[U]
TORSION LINK, APEX	J32085-35	J32085-37	J32085-34	161W2149 (NUT) 161W2144 (PIN)	[V]
AFT AXLE, PIVOT-TRUCK BEAM	J32085-32	J32085-38	J32085-31	161W1217 (NUT) 161W2209 (PIN)	[W]

J91021 S0000185956_V2

Special Tools for Main Landing Gear Installation
Figure 404/32-11-03-990-810-002 (Sheet 4 of 4)

TASK 32-11-03-480-801-002

3. Side Brace Rigging Tool Installation

(Figure 402)

A. General

(1) This task provides instructions to install the side brace rigging tool on the drag brace.

B. References

Reference	Title
32-32-05-020-804-002	Main Landing Gear Drag Brace Downlock Actuator Removal (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-6119	Side Strut Adjustment Eqpt - Drag Strut Lock Link Assy, MLG Part #: J32013-1 Supplier: 81205

D. Procedure

SUBTASK 32-11-03-840-031-002

(1) Attach a strap between the left and the right landing gear truck beams.

SUBTASK 32-11-03-480-070-002

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE SIDE BRACE RIGGING TOOL. IMPROPER INSTALLATION WILL ALLOW THE LANDING GEAR TO MOVE QUICKLY. THE MOVEMENT OF THE LANDING GEAR MAY CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) To install the side brace rigging tool adjustment eqpt, SPL-6119 on the drag brace, do the steps that follow:

(a) If installed, disconnect the rod end of the lock link actuator on the drag brace (Main Landing Gear Drag Brace Downlock Actuator Removal, TASK 32-32-05-020-804-002).

NOTE: Use a rope to hold the lock link actuator away from the lock link.

(b) Install the rigging tool on the lock link.

(c) Connect the rod end of the rigging tool to the upper toggle assembly of the lock link.

(d) Remove the downlock pin from the drag brace lock link.

(e) Adjust the rigging tool to meet the dimension of the guide bar.

NOTE: To lessen the load on the rigging tool, you can tighten the strap between the landing gears as you adjust the drag brace assembly to the rigged position.

(f) Lock the rigging tool in the rigged position.

END OF TASK

TASK 32-11-03-000-816-002

4. Side Brace Assembly Removal

(Figure 401, Figure 404)

A. General

(1) This task provides instructions to remove the side brace as one complete assembly.

(2) The side brace assembly weighs approximately 255 lb (116 kg).

(3) It is necessary to do the task "Prepare for the Removal" before you do this task.

B. References

Reference	Title
32-32-06-000-803	Main Landing Gear Side Brace Lock Spring Removal (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1905	Sling - MLG Side Brace Sling Part #: J32002**ECD NOV2018** Supplier: 81205 Part #: J32002-98 Supplier: 81205 Opt Part #: J32002-73 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Procedure

SUBTASK 32-11-03-840-032-002

(1) Do this task: Prepare for the Removal, TASK 32-11-03-910-805-002.

SUBTASK 32-11-03-480-071-002

(2) Install the MLG side brace sling, SPL-1905, on the lock link assembly [2], upper side brace [3], and lower side brace [5].

SUBTASK 32-11-03-480-072-002

(3) Connect the hoist, SPL-1556, to the MLG side brace sling, SPL-1905.

SUBTASK 32-11-03-020-087-002

(4) Do this task: Main Landing Gear Side Brace Lock Spring Removal, TASK 32-32-06-000-803.

SUBTASK 32-11-03-480-073-002

(5) Disconnect the sensors [9] and the clamps from the lock link assembly [2].

SUBTASK 32-11-03-020-088-002

(6) Disconnect the four hydraulic lines from the trunnion swivel mount [53].

SUBTASK 32-11-03-480-074-002

(7) Install caps on the trunnion swivel mount [53] and plugs on the hydraulic lines.

SUBTASK 32-11-03-020-089-002

(8) Remove the bolt [45], washers [44], nut [43] and trunnion swivel mount [53] from the lock link spindle [7].

SUBTASK 32-11-03-020-123

(9) Use the wrench kit, SPL-4133, to remove castellated nut [42] from the lock link spindle [7].

(a) Remove the washer [46] from the lock link spindle [7].

NOTE: The thread protector from the wrench kit, SPL-4133, can be installed on the lock link spindle before it is removed.

SUBTASK 32-11-03-480-075-002

(10) Use the MLG side brace sling, SPL-1905, and hoist, SPL-1556, to lift the weight of the side brace assembly.

SUBTASK 32-11-03-020-125

(11) Disconnect the lower side brace [5] from the lower spindle assembly [6].

(a) Remove the nut [20], washer [21], and bolt [22].

(b) Use the wrench kit, SPL-4133, to remove the nut [19].

(c) Remove the washer [23] and the pin [18].

NOTE: The thread protector from wrench kit, SPL-4133, can be installed on the pin before its removal.

SUBTASK 32-11-03-020-124

(12) Disconnect the upper side brace [3] from the upper spindle assembly [4].

(a) Remove the nut [20], washer [21], and bolt [22].

(b) Use the wrench kit, SPL-4133, to remove nut [19].

(c) Remove the washer [23] and the pin [18].

NOTE: The thread protector from wrench kit, SPL-4133, can be installed on the pin before its removal.

SUBTASK 32-11-03-020-093-002

(13) Remove the lock link assembly [2], the upper side brace [3], and the lower side brace [5].

SUBTASK 32-11-03-020-094-002

(14) Remove the bolts [58], washers [56], washers [57], nuts [55], eccentric lockplate [59] and eccentric [54] from the upper spindle assembly [4] and the lower spindle assembly [6].

END OF TASK

TASK 32-11-03-000-817-002

5. Upper Side Brace Removal

(Figure 401, Figure 404)

A. General

(1) It is necessary to do the task "Prepare for the Removal" before you do this task.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1905	Sling - MLG Side Brace Sling Part #: J32002**ECD NOV2018** Supplier: 81205 Part #: J32002-98 Supplier: 81205 Opt Part #: J32002-73 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Procedure

SUBTASK 32-11-03-840-033-002

(1) Do this task: Prepare for the Removal, TASK 32-11-03-910-805-002.

SUBTASK 32-11-03-480-076-002

(2) Install the MLG side brace sling, SPL-1905, on the upper side brace [3].

SUBTASK 32-11-03-480-077-002

(3) Connect the hoist, SPL-1556, to the MLG side brace sling, SPL-1905.

SUBTASK 32-11-03-480-078-002

(4) Support the lock link assembly [2], and the lower side brace [5] with a rope.

SUBTASK 32-11-03-020-126

(5) Disconnect the upper side brace [3] from the lower side brace [5] and the lock link assembly [2].

(a) Remove the nut [50], washer [51], and bolt [52].

(b) Use the wrench kit, SPL-4133, to remove the nut [49].

(c) Remove the washer [48] and pin [47].

NOTE: The thread protector from the wrench kit, SPL-4133, can be installed on pin before it is removed.

SUBTASK 32-11-03-420-091-002

(6) Install the pin [47] to hold the lower side brace [5] to the lock link assembly [2].

SUBTASK 32-11-03-020-127

(7) Disconnect the upper side brace [3] from the upper spindle assembly [4].

(a) Remove the nut [20], washer [21], and bolt [22].

(b) Use the wrench kit, SPL-4133, to remove the nut [19].

(c) Remove the washer [23] and the pin [18].

NOTE: The thread protector from the wrench kit, SPL-4133, can be installed on pin before it is removed.

SUBTASK 32-11-03-020-097-002

(8) Remove the upper side brace [3].

——— END OF TASK ———

TASK 32-11-03-000-818-002

6. Lower Side Brace Removal

(Figure 401, Figure 404)

A. General

(1) It is necessary to do the task "Prepare for the Removal" before you do this task.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1905	Sling - MLG Side Brace Sling Part #: J32002**ECD NOV2018** Supplier: 81205 Part #: J32002-98 Supplier: 81205 Opt Part #: J32002-73 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

C. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Procedure

SUBTASK 32-11-03-840-034-002

(1) Do this task: Prepare for the Removal, TASK 32-11-03-910-805-002.

SUBTASK 32-11-03-480-079-002

(2) Install the MLG side brace sling, SPL-1905, on the lower side brace [5].

SUBTASK 32-11-03-480-080-002

(3) Connect the hoist, SPL-1556, to the MLG side brace sling, SPL-1905.

SUBTASK 32-11-03-480-081-002

(4) Support the lock link assembly [2] and the upper side brace [3] with a rope.

SUBTASK 32-11-03-020-128

(5) Remove the nut [50], washer [51], and bolt [52] from the side brace apex.

(a) Use the wrench kit, SPL-4133, to remove the nut [49] from the side brace apex.

(b) Remove the washer [48] and pin [47] to disconnect the lower side brace [5] from the upper side brace [3] and the lock link assembly [2].

NOTE: The thread protector from the wrench kit, SPL-4133, can be installed on pin before it is removed.

SUBTASK 32-11-03-420-092-002

(6) Install the pin [47] to hold the upper side brace [3] to the lock link assembly [2].

SUBTASK 32-11-03-020-129

(7) Disconnect the lower side brace [5] from the lower spindle assembly [6].

(a) Remove the nut [20], washer [21], and bolt [22] from the lower spindle assembly [6].

(b) Use the wrench kit, SPL-4133, to remove the nut [19].

(c) Remove the washer [23] and pin [18].

NOTE: The thread protector from the wrench kit, SPL-4133, can be installed on pin before it is removed.

SUBTASK 32-11-03-020-100-002

(8) Remove the lower side brace [5].

END OF TASK

TASK 32-11-03-000-819-002

7. Side Brace Lock Link Removal

(Figure 401, Figure 404)

A. General

(1) It is necessary to do the task "Prepare for the Removal" before you do this task.

B. References

Reference	Title
32-32-04-020-809-002	Main Landing Gear Side Brace Downlock Actuator Hydraulic Swivel Removal (P/B 401)
32-32-06-000-803	Main Landing Gear Side Brace Lock Spring Removal (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1905	Sling - MLG Side Brace Sling Part #: J32002**ECD NOV2018** Supplier: 81205 Part #: J32002-98 Supplier: 81205 Opt Part #: J32002-73 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. Location Zones

Zone	Area
731	Left Main Landing Gear

(Continued)

Zone	Area
741	Right Main Landing Gear

E. **Procedure**

SUBTASK 32-11-03-840-035-002

(1) Do this task: Prepare for the Removal, TASK 32-11-03-910-805-002.

SUBTASK 32-11-03-480-082-002

(2) Disconnect the sensors [9] and clamps from the lock link assembly [2].

SUBTASK 32-11-03-480-083-002

(3) Install the MLG side brace sling, SPL-1905, on the lock link assembly [2].

SUBTASK 32-11-03-480-084-002

(4) Connect the hoist, SPL-1556, to the MLG side brace sling, SPL-1905.

SUBTASK 32-11-03-020-101-002

(5) Do this task: Main Landing Gear Side Brace Lock Spring Removal, TASK 32-32-06-000-803.

SUBTASK 32-11-03-020-137

(6) Do this task: Main Landing Gear Side Brace Downlock Actuator Hydraulic Swivel Removal, TASK 32-32-04-020-809-002.

SUBTASK 32-11-03-480-085-002

(7) Support the upper side brace [3] and the lower side brace [5] with a rope.

SUBTASK 32-11-03-020-130

(8) Disconnect the lock link assembly [2] from the upper side brace [3] and the lower side brace [5].

(a) Remove the nut [50], washer [51], and bolt [52].

(b) Use the wrench kit, SPL-4133, to remove the nut [49].

(c) Remove the washer [48] and the pin [47].

NOTE: The thread protector from the wrench kit, SPL-4133, can be installed on pin before it is removed.

SUBTASK 32-11-03-420-093-002

(9) Install the pin [47] to hold the upper side brace [3] to the lower side brace [5].

SUBTASK 32-11-03-020-103-002

(10) Disconnect the two hydraulic lines between the lock link assembly [2] and the trunnion swivel mount [53].

SUBTASK 32-11-03-020-104-002

(11) Remove the cotter pin [40], nut [39], washer [38], cap [41], bolt [36] and pin [37] to disconnect the lock link assembly [2] from the lock link spindle [7].

SUBTASK 32-11-03-020-105-002

(12) Remove the lock link assembly [2].

END OF TASK

TASK 32-11-03-000-820-002

8. Upper Spindle Removal

(Figure 401, Figure 404)

A. General

(1) It is necessary to do the task "Prepare for the Removal" before you do this task.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Procedure

SUBTASK 32-11-03-840-036-002

(1) Do this task: Prepare for the Removal, TASK 32-11-03-910-805-002.

SUBTASK 32-11-03-480-086-002

(2) Support the upper side brace [3] with a rope.

SUBTASK 32-11-03-020-131

(3) Disconnect the upper side brace [3] from the upper spindle assembly [4].

(a) Remove the nut [20], washer [21], and bolt [22].

(b) Use the wrench kit, SPL-4133, to remove the nut [19].

(c) Remove the washer [23] and the pin [18].

NOTE: The thread protector from the wrench kit, SPL-4133, can be installed on the pin before it is removed.

SUBTASK 32-11-03-020-132

(4) Disconnect the upper spindle assembly [4] from the spindle fitting [17].

(a) Remove the nut [28], washer [27], and bolt [26].

(b) Use the wrench kit, SPL-4133, to remove the nut [24].

(c) Remove the washer [25].

NOTE: The thread protector from the wrench kit, SPL-4133, can be installed on the upper spindle assembly before it is removed.

SUBTASK 32-11-03-020-108-002

(5) Remove the upper spindle assembly [4] from the spindle fitting [17].

END OF TASK

TASK 32-11-03-000-821-002

9. Lower Spindle Removal

(Figure 401, Figure 404)

A. General

(1) It is necessary to do the task "Prepare for the Removal, TASK 32-11-03-910-805-002" before you do this task.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

C. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Procedure

SUBTASK 32-11-03-840-037-002

(1) Do this task: Prepare for the Removal, TASK 32-11-03-910-805-002.

SUBTASK 32-11-03-480-087-002

(2) Support the lower side brace [5] with a rope.

SUBTASK 32-11-03-020-138-002

(3) Disconnect the lower side brace [5] from the lower spindle assembly [6].

(a) Remove the nut [20], the washer [21], and the bolt [22].

(b) Use the wrench kit, SPL-4133, to remove the nut [19].

(c) Remove the washer [23] and the pin [18].

NOTE: The thread protector from the wrench kit, SPL-4133, can be installed on the pin before it is removed.

SUBTASK 32-11-03-020-139-002

(4) Disconnect the lower spindle assembly [6] from the outer cylinder [29].

(a) Remove the nut [34], the washer [33] and the bolt [32].

(b) Use the wrench kit, SPL-4133, to remove the nut [31].

(c) Remove the washer [30].

NOTE: The thread protector from the wrench kit, SPL-4133, can be installed on the lower spindle assembly before it is removed.

SUBTASK 32-11-03-020-111-002

(5) Remove the lower spindle assembly [6] from the outer cylinder [29].

END OF TASK

TASK 32-11-03-000-822-002

10. Lock Link Spindle Removal

(Figure 401, Figure 404)

A. General

(1) It is necessary to do the task "Prepare for the Removal" before you do this task.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

C. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Procedure

SUBTASK 32-11-03-840-038-002

(1) Do this task: Prepare for the Removal, TASK 32-11-03-910-805-002.

SUBTASK 32-11-03-480-088-002

(2) Disconnect the sensors [9] and the clamps from the lock link assembly [2].

SUBTASK 32-11-03-480-089-002

(3) Support the lock link assembly [2] with a rope.

SUBTASK 32-11-03-020-112-002

(4) Remove the cotter pin [40], nut [39], washer [38], cap [41], bolt [36] and pin [37] to disconnect the lock link assembly [2] from the lock link spindle [7].

SUBTASK 32-11-03-020-113-002

(5) Disconnect the four hydraulic lines from the trunnion swivel mount [53].

SUBTASK 32-11-03-020-114-002

(6) Remove the nut [43], washer [44], bolt [45], and trunnion swivel mount [53] from the lock link spindle [7].

SUBTASK 32-11-03-020-135

(7) Disconnect the lock link spindle [7] from the spindle fitting [35].

(a) Use the wrench kit, SPL-4133, to remove the nut [42].

NOTE: The thread protector from the wrench kit, SPL-4133, can be installed on the lock link spindle before it is removed.

(b) Remove the washer [46].

SUBTASK 32-11-03-020-116-002

(8) Remove the lock link spindle [7] from the spindle fitting [35].

END OF TASK

TASK 32-11-03-910-808-002

11. Prepare for the Installation

Figure 405

A. General

(1) It is necessary to do this task before you do an installation procedure for any of the side brace components.

B. References

Reference	Title
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-32-05-020-804-002	Main Landing Gear Drag Brace Downlock Actuator Removal (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38

E. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Procedure

SUBTASK 32-11-03-490-005-002

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-03-490-006-002

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-03-620-002-002

(3) Apply a thin layer of corrosion inhibiting material, G50136 to the parts, to be installed, that follow:

(a) Under the head of the pins.

NOTE: Compound will be applied to the threads after the pin is installed.

(b) To the faces of the washers.

(c) To the face and threads of the nuts.

(d) Under the head and entire length of the bolts.

(e) To the threads of the lock link spindle.

SUBTASK 32-11-03-640-020-002

(4) Apply a thin layer of grease, D00633 to the parts, to be installed, that follow:

(a) The shank of the pins.

(b) To the chrome surfaces of the lock link spindle.

(c) To the fay surfaces on the inner diameters of the side brace.

SUBTASK 32-11-03-490-009-002

(5) Install the bullet-nosed thread protector from the wrench kit, SPL-4133 on the pins to be installed.

SUBTASK 32-11-03-490-010-002

(6) To remove the load from the side brace components, do one of the steps that follow:

(a) To install a turnbuckle on the drag brace lock link, do these steps:

NOTE: The turnbuckle will make it easier to adjust the position of the landing gear when you install the side brace pins.

1) Remove the downlock actuator on the drag brace (Main Landing Gear Drag Brace Downlock Actuator Removal, TASK 32-32-05-020-804-002).

2) Install a turnbuckle at the downlock actuator attach points.

3) Remove the downlock pin from the drag strut.

4) Push up on the drag brace lock link to move it from the locked position.

5) Adjust the turnbuckle until the load on the side brace components is removed, then lock the turnbuckle.

(b) To attach a strap between the main landing gears, do these steps:

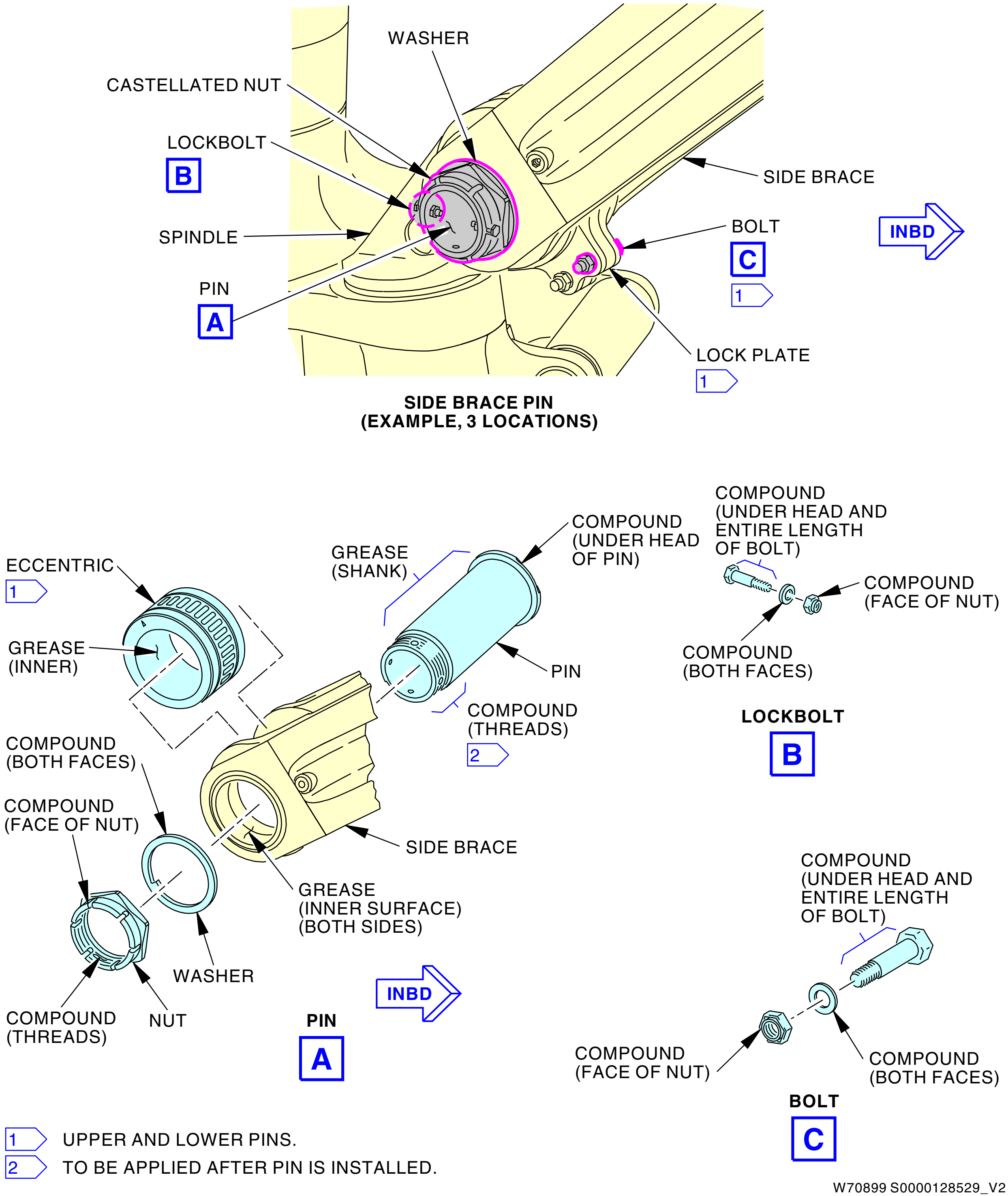
1) Attach a strap between the left and the right landing gear truck beams.

2) Remove the downlock pin from the drag strut.

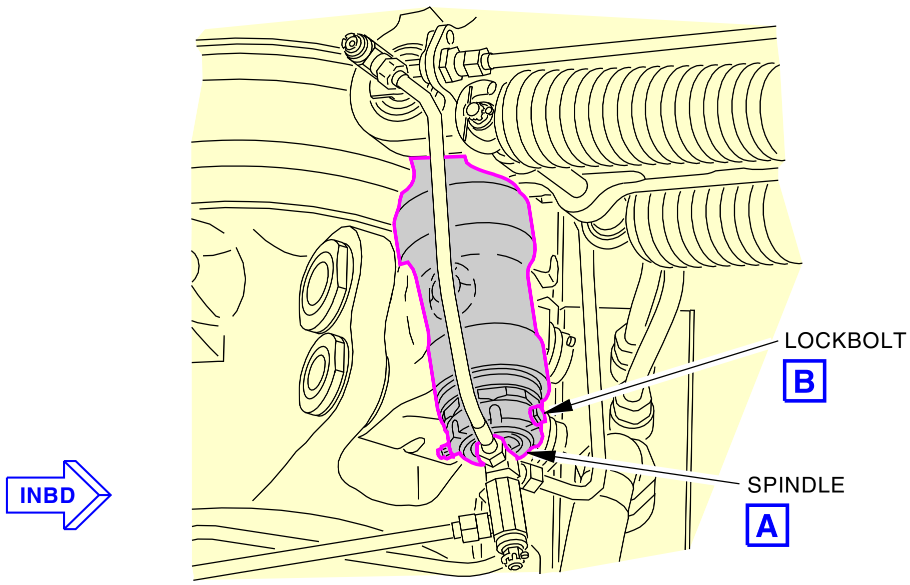
3) Push UP on the drag brace lock links, on the landing gear you will work on, to move it from the over-center position.

4) Tighten the strap between the left and right landing gear until the weight on the side brace components is removed.

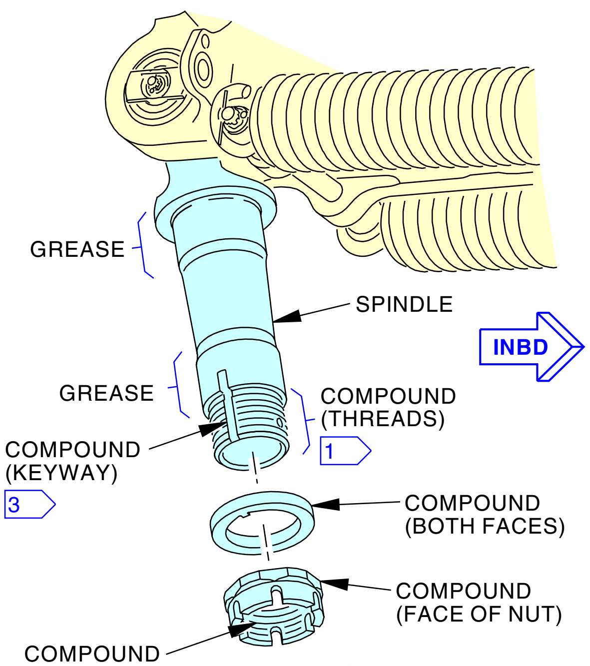
——— END OF TASK ———



MLG Side Brace Attaching Parts - Lubrication
Figure 405/32-11-03-990-806-002 (Sheet 1 of 2)

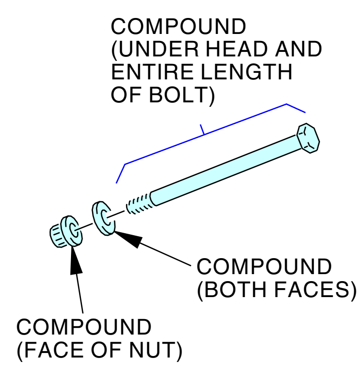


LOCK LINK SPINDLE



SPINDLE

A



LOCKBOLT

B

1 TO BE APPLIED AFTER SPINDLE IS INSTALLED.

W70925 S0000128530_V3

MLG Side Brace Attaching Parts - Lubrication
Figure 405/32-11-03-990-806-002 (Sheet 2 of 2)

TASK 32-11-03-400-816-002

12. Side Brace Assembly Installation

(Figure 401)

A. General

(1) This task provides instructions to install the side brace as one complete assembly.

(2) The side brace assembly weighs approximately 255 lb (116 kg).

B. References

Reference	Title
32-11-10-400-807	Drag Brace Assembly Installation (P/B 401)
32-32-04-420-804-002	Main Landing Gear Side Brace Downlock Actuator Installation (P/B 401)
32-32-06-400-803	Main Landing Gear Side Brace Lock Spring Installation (P/B 401)
32-61-01-400-801	Proximity Sensors for the Main Landing Gear Installation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1905	Sling - MLG Side Brace Sling Part #: J32002**ECD NOV2018** Supplier: 81205 Part #: J32002-98 Supplier: 81205 Opt Part #: J32002-73 Supplier: 81205

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Procedure

SUBTASK 32-11-03-100-001-002

(1) Make sure the drag brace assembly is installed prior to side brace installation (TASK 32-11-10-400-807).

SUBTASK 32-11-03-100-002-002

(2) Make sure the side brace rigging tool is installed (TASK 32-11-03-480-801-002).

SUBTASK 32-11-03-100-003-002

(3) Make sure the fay surfaces of all disassembled joints are clean when assembled.

SUBTASK 32-11-03-100-004-002

(4) Make sure all pins, bolts, washers and nuts are clean when installed.

SUBTASK 32-11-03-480-090-002

(5) Install the MLG side brace sling, SPL-1905, on the lock link assembly [2], the upper side brace [3], and the lower side brace [5].

SUBTASK 32-11-03-480-091-002

(6) Connect the hoist, SPL-1556, to the MLG side brace sling, SPL-1905.

SUBTASK 32-11-03-480-092-002

(7) Use the hoist, SPL-1556, to lift the lock link assembly [2], the upper side brace [3], and the lower side brace [5] into their positions.

SUBTASK 32-11-03-820-007-002

(8) Adjust the eccentrics and complete the installations for the upper side brace [3] to the upper spindle assembly [4] and the lower side brace [5] to the lower spindle assembly [6].

(a) Do this task: Eccentric Adjustment Procedure, TASK 32-11-03-820-801-002.

SUBTASK 32-11-03-080-011-002

(9) Remove the hoist, SPL-1556, from the lock link assembly [2], the upper side brace [3], and the lower side brace [5].

SUBTASK 32-11-03-020-117-002

(10) If you disconnected the lock link actuator, do this task: Main Landing Gear Side Brace Downlock Actuator Installation, TASK 32-32-04-420-804-002.

SUBTASK 32-11-03-020-118-002

(11) If you disconnected the hydraulic lines from the lock link actuator, connect the hydraulic lines (TASK 32-32-04-420-804-002).

SUBTASK 32-11-03-020-119-002

(12) Do this task: Main Landing Gear Side Brace Lock Spring Installation, TASK 32-32-06-400-803.

SUBTASK 32-11-03-420-098-002

(13) Do this task: Proximity Sensors for the Main Landing Gear Installation, TASK 32-61-01-400-801.

(a) Make sure that critical flag markers are correctly positioned in their clamps and that some of these clamps are pointed in the correct direction for down-lock indication proximity sensor wire bundles.

SUBTASK 32-11-03-840-039-002

(14) Do this task: Put the Airplane Back to Its Usual Condition, TASK 32-11-03-910-806-002.

END OF TASK

TASK 32-11-03-400-817-002

13. Upper Side Brace Installation

(Figure 401, Figure 404)

A. General

(1) It is necessary to do the task "Put the Airplane Back to Its Usual Condition, TASK 32-11-03-910-806-002" after you complete this task.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1905	Sling - MLG Side Brace Sling Part #: J32002**ECD NOV2018** Supplier: 81205 Part #: J32002-98 Supplier: 81205 Opt Part #: J32002-73 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

C. **Consumable Materials**

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38

D. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

E. **Procedure**

SUBTASK 32-11-03-100-005-002

(1) Make sure the fay surfaces of all disassembled joints are clean when assembled.

SUBTASK 32-11-03-100-006-002

(2) Make sure all pins, bolts, washers and nuts are clean when installed.

SUBTASK 32-11-03-100-007-002

(3) Make sure the side brace rigging tool is installed (TASK 32-11-03-480-801-002).

SUBTASK 32-11-03-480-094-002

(4) Install the MLG side brace sling, SPL-1905, on the upper side brace [3].

SUBTASK 32-11-03-480-095-002

(5) Connect the hoist, SPL-1556, to the MLG side brace sling, SPL-1905.

SUBTASK 32-11-03-420-099-002

(6) Put the upper side brace [3] in its position.

SUBTASK 32-11-03-420-100-002

(7) To connect the upper side brace [3] to the lower side brace [5] and the lock link assembly [2], do the steps that follow.

   (a) Apply a thin layer of grease, D00633, to the chrome surface of the pin [47].

   (b) Align the attach point of the upper side brace [3], the lower side brace [5] and the lock link assembly [2], to allow the pin [47] to be installed.

CAUTION MAKE SURE THAT YOU INSTALL THE PIN WITH THE HEAD OF THE PIN ON THE FORWARD SIDE OF THE SIDE BRACE. INCORRECT INSTALLATION OF THE PIN CAN CAUSE DAMAGE TO EQUIPMENT.

(c) Put the pin [47] in the attach point of the upper side brace [3], the lower side brace [5] and lock link assembly [2].

(d) Apply a thin layer of corrosion inhibiting material, G50136, to the fay surfaces of the washer [48] and the threads of pin [47] and the nut [49].

NOTE: The thread protector for the pin [47] from the wrench kit, SPL-4133, can be reinstalled after the corrosion inhibiting material, G50136, has been applied.

(e) Install the washer [48] and nut [49] on the pin [47].

(f) Use the wrench kit, SPL-4133, to tighten the nut [49] to 110 ft-lb (149 N·m) - 120 ft-lb (163 N·m).

(g) Apply a thin layer of corrosion inhibiting material, G50136, to the fay surfaces of the washer [51] and the threads of bolt [52] and the nut [50].

(h) Install the bolt [52], washer [51], and nut [50].

1) If it is necessary, loosen the nut [49] to the nearest castellation to align the holes for the bolt [52].

(i) Tighten the nut [50] to 50 in-lb (6 N·m) - 70 in-lb (8 N·m).

(j) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-03-820-008-002

(8) Adjust the eccentrics and complete the installations for the upper side brace [3] to the upper spindle assembly [4] and the lower side brace [5] to the lower spindle assembly [6].

(a) Do this task: Eccentric Adjustment Procedure, TASK 32-11-03-820-801-002.

SUBTASK 32-11-03-080-012-002

(9) Remove the MLG side brace sling, SPL-1905, from the upper side brace [3].

SUBTASK 32-11-03-840-040-002

(10) Do this task: Put the Airplane Back to Its Usual Condition, TASK 32-11-03-910-806-002.

——— END OF TASK ———

TASK 32-11-03-400-818-002

14. Lower Side Brace Installation

(Figure 401, Figure 404)

A. General

(1) It is necessary to do the task "Put the Airplane Back to Its Usual Condition, TASK 32-11-03-910-806-002" after you complete this task.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1905	Sling - MLG Side Brace Sling Part #: J32002**ECD NOV2018** Supplier: 81205 Part #: J32002-98 Supplier: 81205 Opt Part #: J32002-73 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Procedure

SUBTASK 32-11-03-100-008-002

(1) Make sure the fay surfaces of all disassembled joints are clean when assembled.

SUBTASK 32-11-03-100-009-002

(2) Make sure all pins, bolts, washers and nuts are clean when installed.

SUBTASK 32-11-03-100-010-002

(3) Make sure the side brace rigging tool is installed (TASK 32-11-03-480-801-002).

SUBTASK 32-11-03-480-096-002

(4) Install the MLG side brace sling, SPL-1905, on the lower side brace [5].

SUBTASK 32-11-03-480-097-002

(5) Connect the hoist, SPL-1556, to the MLG side brace sling, SPL-1905.

SUBTASK 32-11-03-420-104-002

(6) Lubricate the chrome surface of the pin [47] with grease, D00633.

SUBTASK 32-11-03-420-105-002

CAUTION: MAKE SURE THAT YOU INSTALL THE PIN WITH THE HEAD OF THE PIN ON THE FORWARD SIDE OF THE SIDE BRACE. INCORRECT INSTALLATION OF THE PIN CAN CAUSE DAMAGE TO EQUIPMENT.

(7) Install pin [47] to connect the lower side brace [5] to the upper side brace [3] and the lock link assembly [2].

SUBTASK 32-11-03-420-106-002

(8) Apply corrosion inhibiting material, G50136, to the threads of pin [47], and to the parts that follow, and install them on the pin [47]:

NOTE: The thread protector for the pin [47] from the wrench kit, SPL-4133, can be reinstalled after the corrosion inhibiting material, G50136, has been applied.

(a) washer [48]

(b) nut [49]

1) Use the wrench kit, SPL-4133, to tighten the nut [49] to 110 ft-lb (149 N·m) - 120 ft-lb (163 N·m).

2) If it is necessary, loosen the nut [49] to the nearest castellation to align the holes for the bolt [52].

(c) bolt [52]

(d) washer [51]

(e) nut [50].

1) Tighten the nut [50] to 50 in-lb (6 N·m) - 70 in-lb (8 N·m).

SUBTASK 32-11-03-160-018-002

(9) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-03-420-152-002

(10) Put the lower side brace [5] in its position on the lower spindle assembly [6].

SUBTASK 32-11-03-820-014-002

(11) Adjust the eccentrics and complete the installations for the upper side brace [3] to the upper spindle assembly [4] and the lower side brace [5] to the lower spindle assembly [6].

(a) Do this task: Eccentric Adjustment Procedure, TASK 32-11-03-820-801-002.

SUBTASK 32-11-03-080-013-002

(12) Remove the MLG side brace sling, SPL-1905, from the lower side brace [5].

SUBTASK 32-11-03-840-041-002

(13) Do this task: Put the Airplane Back to Its Usual Condition, TASK 32-11-03-910-806-002.

——— END OF TASK ———

TASK 32-11-03-400-819-002

15. Side Brace Lock Link Installation

(Figure 401, Figure 404)

A. General

(1) It is necessary to do the task "Put the Airplane Back to Its Usual Condition, TASK 32-11-03-910-806-002" after you complete this task.

B. References

Reference	Title
32-32-04-420-804-002	Main Landing Gear Side Brace Downlock Actuator Installation (P/B 401)
32-32-04-420-809-002	Main Landing Gear Side Brace Downlock Actuator Hydraulic Swivel Installation (P/B 401)
32-32-06-400-803	Main Landing Gear Side Brace Lock Spring Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1905	Sling - MLG Side Brace Sling Part #: J32002**ECD NOV2018** Supplier: 81205 Part #: J32002-98 Supplier: 81205 Opt Part #: J32002-73 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. **Consumable Materials**

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38

E. **Location Zones**

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

F. **Procedure**

SUBTASK 32-11-03-100-011-002

(1) Make sure the fay surfaces of all disassembled joints are clean when assembled.

SUBTASK 32-11-03-100-012-002

(2) Make sure all pins, bolts, washers and nuts are clean when installed.

SUBTASK 32-11-03-100-013-002

(3) Make sure the side brace rigging tool is installed (TASK 32-11-03-480-801-002).

SUBTASK 32-11-03-480-098-002

(4) Install the MLG side brace sling, SPL-1905, on the lock link assembly [2].

SUBTASK 32-11-03-480-099-002

(5) Connect the hoist, SPL-1556, to the MLG side brace sling, SPL-1905.

SUBTASK 32-11-03-420-107-002

(6) Put the lock link assembly [2] in position on the lock link spindle [7].

SUBTASK 32-11-03-420-108-002

(7) Lubricate the pin [37] and the cap [41] with grease, D00633.

SUBTASK 32-11-03-420-109-002

(8) Install these parts to connect the lock link assembly [2] to the lock link spindle [7]:

(a) pin [37]

(b) cap [41]

(c) bolt [36]

(d) washer [38]

(e) nut [39]

1) Tighten the nut [39] to 50 in-lb (6 N·m) - 70 in-lb (8 N·m).

2) If it is necessary, loosen the nut [39] to the nearest castellation to align the holes for the cotter pin [40].

(f) cotter pin [40].

SUBTASK 32-11-03-420-110-002

(9) Lubricate the chrome surface of the pin [47] with grease, D00633.

SUBTASK 32-11-03-420-111-002

(10) Install pin [47] to connect the lower side brace [5] to the upper side brace [3] and the lock link assembly [2].

SUBTASK 32-11-03-420-112-002

(11) Apply corrosion inhibiting material, G50136, to the threads of pin [47], and to the parts that follow, and install them on the pin [47]:

NOTE: The thread protector for the pin [47] from the wrench kit, SPL-4133, can be reinstalled after the corrosion inhibiting material, G50136 has been applied.

(a) washer [48]

(b) nut [49]

1) Use the wrench kit, SPL-4133, to tighten the to 110 ft-lb (149 N·m) - 120 ft-lb (163 N·m).

2) If it is necessary, loosen the nut [49] to the nearest castellation to align the holes for the bolt [52].

(c) bolt [52]

(d) washer [51]

(e) nut [50].

1) Tighten the nut [50] to 50 in-lb (6 N·m) - 70 in-lb (8 N·m).

SUBTASK 32-11-03-160-019-002

(12) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-03-820-010-002

(13) Adjust the eccentrics and complete the installations for the upper side brace [3] to the upper spindle assembly [4] and the lower side brace [5] to the lower spindle assembly [6].

(a) Do this task: Eccentric Adjustment Procedure, TASK 32-11-03-820-801-002.

SUBTASK 32-11-03-080-014-002

(14) Remove the MLG side brace sling, SPL-1905, from the lock link assembly [2].

SUBTASK 32-11-03-020-120-002

(15) If you disconnected the lock link actuator, do this task: Main Landing Gear Side Brace Downlock Actuator Installation, TASK 32-32-04-420-804-002

SUBTASK 32-11-03-420-151-002

(16) Do this task to connect the hydraulic swivels to the lock link assembly [2]: Main Landing Gear Side Brace Downlock Actuator Hydraulic Swivel Installation, TASK 32-32-04-420-809-002.

SUBTASK 32-11-03-020-121-002

(17) If you disconnected the hydraulic lines from the lock link actuator, connect the hydraulic lines, (TASK 32-32-04-420-804-002).

SUBTASK 32-11-03-020-122-002

(18) Do this task: Main Landing Gear Side Brace Lock Spring Installation, TASK 32-32-06-400-803.

SUBTASK 32-11-03-420-113-002

(19) Connect the sensors [9] and the clamps to the lock link assembly [2].

SUBTASK 32-11-03-840-042-002

(20) Do this task: Put the Airplane Back to Its Usual Condition, TASK 32-11-03-910-806-002.

——— END OF TASK ———

TASK 32-11-03-400-820-002

16. Upper Spindle Installation

(Figure 401, Figure 404)

A. General

(1) It is necessary to do the task "Put the Airplane Back to Its Usual Condition, TASK 32-11-03-910-806-002" after you complete this task.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Procedure

SUBTASK 32-11-03-100-014-002

(1) Make sure the fay surfaces of all disassembled joints are clean when assembled.

SUBTASK 32-11-03-100-015-002

(2) Make sure all pins, bolts, washers and nuts are clean when installed.

SUBTASK 32-11-03-100-016-002

(3) Make sure the side brace rigging tool is installed (TASK 32-11-03-480-801-002).

SUBTASK 32-11-03-420-114-002

(4) Apply corrosion inhibiting material, G50136, to the splines and threads of the upper spindle assembly [4].

NOTE: The thread protector for the upper spindle assembly [4] from the wrench kit, SPL-4133, can be reinstalled after the corrosion inhibiting material, G50136, has been applied.

SUBTASK 32-11-03-420-115-002

(5) Install the upper spindle assembly [4] in its position in the spindle fitting [17].

SUBTASK 32-11-03-420-116-002

(6) Apply corrosion inhibiting material, G50136, to the parts that follow, and install them to connect the upper spindle assembly [4] to the spindle fitting [17]:

(a) washer [25].

(b) Use the wrench kit, SPL-4133, to install the nut [24] as follows:

1) Tighten the nut [24] to 250 ft-lb (339 N·m) - 300 ft-lb (407 N·m).

2) Loosen the nut [24] until you can insert a 0.0050 in. (0.1270 mm) gauge between the washer [25] and the nut [24].

3) Tighten the nut [24] to 5 ft-lb (7 N·m) - 10 ft-lb (14 N·m) against the 0.0050 in. (0.1270 mm) gauge.

4) Remove the 0.0050 in. (0.1270 mm).

a) If it is necessary, loosen the nut [24] to the nearest castellation to align the holes for the bolt [26].

(c) bolt [26]

(d) washer [27]

(e) nut [28]

SUBTASK 32-11-03-160-023-002

(7) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-03-820-011-002

(8) Adjust the eccentrics and complete the installations for the upper side brace [3] to the upper spindle assembly [4] and the lower side brace [5] to the lower spindle assembly [6].

(a) Do this task: Eccentric Adjustment Procedure, TASK 32-11-03-820-801-002.

SUBTASK 32-11-03-840-043-002

(9) Do this task: Put the Airplane Back to Its Usual Condition, TASK 32-11-03-910-806-002.

——— END OF TASK ———

TASK 32-11-03-400-821-002

17. Lower Spindle Installation

(Figure 401, Figure 404)

A. General

(1) It is necessary to do the task "Put the Airplane Back to Its Usual Condition, TASK 32-11-03-910-806-002" after you complete this task.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33

(Continued)

Reference	Description	Specification
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Procedure

SUBTASK 32-11-03-100-017-002

(1) Make sure the fay surfaces of all disassembled joints are clean when assembled.

SUBTASK 32-11-03-100-018-002

(2) Make sure all pins, bolts, washers and nuts are clean when installed.

SUBTASK 32-11-03-100-019-002

(3) Make sure the side brace rigging tool is installed (TASK 32-11-03-480-801-002).

SUBTASK 32-11-03-420-118-002

(4) Lubricate the bearing surfaces of the lower spindle assembly [6] with grease, D00633.

SUBTASK 32-11-03-420-119-002

(5) Install the lower spindle assembly [6] in its position in the outer cylinder [29].

SUBTASK 32-11-03-420-120-002

(6) Apply corrosion inhibiting material, G50136, to the parts that follow, and install them to connect the lower spindle assembly [6] to the outer cylinder [29]:

(a) lower spindle assembly [6] threads

NOTE: The thread protector from the wrench kit, SPL-4133, can be reinstalled after the corrosion inhibiting material, G50136, has been applied.

(b) washer [30]

(c) Use the wrench kit, SPL-4133 to install the nut [31] as follows:

1) Tighten the nut [31] to 250 ft-lb (339 N·m) - 300 ft-lb (407 N·m).

2) Loosen the nut [31] until you can insert a 0.0030 in. (0.0762 mm) - 0.0050 in. (0.1270 mm) gauge between the washer [30] and the nut [31].

3) Remove the gauge. If it is necessary, loosen the nut [31] to the nearest castellation to align the holes for the bolt [32].

(d) bolt [32]

(e) washer [33]

(f) nut [34]

SUBTASK 32-11-03-160-024-002

(7) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-03-820-012-002

(8) Adjust the eccentrics and complete the installations for the upper side brace [3] to the upper spindle assembly [4] and the lower side brace [5] to the lower spindle assembly [6].

(a) Do this task: Eccentric Adjustment Procedure, TASK 32-11-03-820-801-002.

SUBTASK 32-11-03-840-044-002

(9) Do this task: Put the Airplane Back to Its Usual Condition, TASK 32-11-03-910-806-002.

END OF TASK

TASK 32-11-03-400-822-002

18. Lock Link Spindle Installation

(Figure 401, Figure 404)

A. General

(1) It is necessary to do the task "Put the Airplane Back to Its Usual Condition, TASK 32-11-03-910-806-002" after you complete this task.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Procedure

SUBTASK 32-11-03-100-020-002

(1) Make sure the fay surfaces of all disassembled joints are clean when assembled.

SUBTASK 32-11-03-100-021-002

(2) Make sure all pins, bolts, washers and nuts are clean when installed.

SUBTASK 32-11-03-100-022-002

(3) Make sure the side brace rigging tool is installed (TASK 32-11-03-480-801-002).

SUBTASK 32-11-03-420-122-002

(4) Apply grease, D00633, to the lock link spindle [7].

NOTE: The thread protector from the wrench kit, SPL-4133, can be reinstalled after the grease, D00633, has been applied.

SUBTASK 32-11-03-420-123-002

(5) Install the lock link spindle [7] in its position in the spindle fitting [35].

SUBTASK 32-11-03-420-124-002

(6) Apply corrosion inhibiting material, G50136, to the parts that follow, and install them to connect the lock link spindle [7] to the spindle fitting [35]:

(a) washer [46]

(b) nut [42]

1) Use the wrench kit, SPL-4133, to tighten the nut [42] to 50 ft-lb (68 N·m) - 75 ft-lb (102 N·m).

2) If it is necessary, loosen the nut [42] to the nearest castellation to align the holes for the bolt [45].

(c) bolt [45]

(d) washer [44]

(e) nut [43].

SUBTASK 32-11-03-420-125-002

(7) Lubricate the pin [37] and the cap [41] with grease, D00633.

SUBTASK 32-11-03-420-126-002

(8) Install these parts to connect the lock link assembly [2] to the lock link spindle [7]:

(a) pin [37]

(b) cap [41]

(c) bolt [36]

(d) washer [38]

(e) nut [39]

1) Tighten the nut [39] to 50 in-lb (6 N·m) - 75 in-lb (8 N·m).

2) If it is necessary, loosen the nut [39] to the nearest castellation to align the holes for the cotter pin [40].

(f) cotter pin [40].

SUBTASK 32-11-03-160-025-002

(9) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-03-420-127-002

(10) Connect the sensors [9] and the clamps to the lock link assembly [2].

SUBTASK 32-11-03-820-013-002

(11) Adjust the eccentrics and complete the installations for the upper side brace [3] to the upper spindle assembly [4] and the lower side brace [5] to the lower spindle assembly [6].

(a) Do this task: Eccentric Adjustment Procedure, TASK 32-11-03-820-801-002.

SUBTASK 32-11-03-840-045-002

(12) Do this task: Put the Airplane Back to Its Usual Condition, TASK 32-11-03-910-806-002.

END OF TASK

TASK 32-11-03-820-801-002

19. Eccentric Adjustment Procedure

(Figure 401, Figure 404)

A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Procedure

SUBTASK 32-11-03-480-102-002

(1) Make sure that the rigging tool for the side brace is installed.

(a) If necessary, do this task: Side Brace Rigging Tool Installation, TASK 32-11-03-480-801-002.

SUBTASK 32-11-03-860-012-002

(2) Make sure that the downlock pin for the drag strut is removed.

SUBTASK 32-11-03-860-011-002

(3) Open the lock links for the drag brace until the distance between the actuator attach lugs is 13.571 ±0.010 in. (34.470 ±0.026 cm).

(a) Make sure that the distance stays at 13.571 ±0.010 in. (34.470 ±0.026 cm) until you complete the rigging.

SUBTASK 32-11-03-420-141-002

(4) To set initially the upper eccentric [54], do these steps:

(a) If not installed, then install the upper spindle assembly [4].

1) Do this task: Upper Spindle Installation, TASK 32-11-03-400-820-002.

(b) If not installed, then install the upper eccentric [54] (Figure 406, View B).

1) Put the upper eccentric [54] into the upper spindle assembly [4].

2) Align the arrow on the upper eccentric [54] with the red marker dot on the upper spindle assembly [4].

(c) Install the eccentric lockplate [59] with the upper eccentric [54] in the best possible position as follows:

1) Align the arrow on the upper eccentric [54] with the red marker dot on the upper spindle assembly [4].

2) If necessary, turn the upper eccentric [54] the minimum to install the eccentric lockplate [59].

(d) Temporarily install the bolts [58] to secure the upper eccentric lockplate [59].

SUBTASK 32-11-03-420-142-002

(5) Apply a thin layer of grease, D00633, to the outer diameter of the shank of the upper attach pin [18].

SUBTASK 32-11-03-420-143-002

(6) Position the upper side brace [3] onto the upper spindle assembly [4] and temporarily install the upper attach pin [18] and the nut [19].

SUBTASK 32-11-03-420-144-002

(7) If not installed, then install the lock link assembly [2], the trunnion swivel mount [53] and the hydraulic lines as follows:

   (a) To connect the lock link assembly [2] to the spindle fitting [35], do the steps that follow:

      1) Apply a thin layer of grease, D00633, to the fay surfaces of the lock link spindle [7].

      2) Put the lock link spindle [7], of the lock link assembly [2], in its position on the spindle fitting [35].

      3) Apply a thin layer of corrosion inhibiting material, G50136, to the fay surfaces of the washer [46] and to the threads of the lock link spindle [7] and the nut [42].

      NOTE: The thread protector for the lock link spindle [7] from the wrench kit, SPL-4133, can be installed after the corrosion inhibiting material, G50136, is applied.

      4) Install the washer [46] and the nut [42] on the lock link spindle [7].

      5) Use the wrench kit, SPL-4133, to tighten the nut [42] to 50 ft-lb (68 N·m) - 75 ft-lb (102 N·m).

      6) Apply a thin layer of corrosion inhibiting material, G50136, to the fay surfaces of the washers [44], the trunnion swivel mount [53], and to the threads of the bolt [45] and the nut [43].

      7) Install the bolt [45], the washers [44], the trunnion swivel mount [53] and the nut [43] on the lock link spindle [7].

         a) If it is necessary, loosen the nut [42] to the nearest castellation to align the holes for the bolt [45].

   (b) Remove the plugs and the caps from the four hydraulic lines and the trunnion swivel mount [53].

   (c) Connect the four hydraulic lines to the trunnion swivel mount [53].

   (d) Push down on the lock link assembly [2] to put the lock link assembly [2] in the locked position.

   (e) Install the downlock pin to keep the lock link assembly [2] in the locked position (TASK 32-00-30-480-801).

SUBTASK 32-11-03-420-145-002

(8) If not installed, then install the lower spindle assembly [6].

   (a) Do this task: Lower Spindle Installation, TASK 32-11-03-400-821-002.

SUBTASK 32-11-03-420-146-002

(9) If not installed, then install the lower eccentric [54] (Figure 406).

   (a) Put the lower eccentric [54] into the lower spindle assembly [6].

   (b) Align the arrow on the lower eccentric [54] with the red marker dot on the lower spindle assembly [6].

SUBTASK 32-11-03-820-005-002

CAUTION	MAKE SURE THAT YOU ADJUST THE LOWER ECCENTRIC FIRST, WITH UPPER ECCENTRIC SET TO NOMINAL. IF YOU ADJUST THE UPPER ECCENTRIC FIRST, OR IT IS INITIALLY SET TO NOMINAL INCORRECTLY, AN "OVER-CENTER" CONDITION OF THE SIDE BRACE TOGGLE LINKS CAN OCCUR DURING THE LANDING GEAR ALTERNATE EXTENSION. THIS CAN CAUSE DAMAGE TO LANDING GEAR COMPONENTS

(10) To set the lower eccentric [54], do the steps that follow:

(a) Apply a thin layer of grease, D00633, to the outer diameter of the shank of the lower attach pin [18].

(b) Prepare to install the attach pin [18] into the lower spindle assembly [6] and the lower side brace [5] as follows:

1) Turn the lower eccentric [54] within the 180 degree range to allow attach pin [18] to be installed.

CAUTION	MAKE SURE THAT YOU INSTALL THE PIN WITH THE HEAD OF THE PIN ON THE FORWARD SIDE OF THE SIDE BRACE. INCORRECT INSTALLATION OF THE PIN CAN CAUSE DAMAGE TO EQUIPMENT.

(c) If it is possible to install the attach pin [18], then do these steps:

1) Temporarily install the attach pin [18] and the nut [19] on the lower spindle assembly [6] and the lower side brace [5].

2) Install the eccentric lockplate [59] with the lower eccentric [54] in the best possible position as follows:

a) If necessary, turn the lower eccentric [54] a minimum amount to install the eccentric lockplate [59].

b) Engage the eccentric lockplate [59] n the position that results in the minimum turning resistance on the pin [18].

c) Make sure that the two eccentrics [54] are in the A Position (Figure 406).

3) Temporarily install the bolts [58] to secure the eccentric lockplate [59].

4) Make sure that one of the attach pins [18] can turn freely by hand.

NOTE: You can install the nut [19] on the pin [18] to make it easier to hold and turn the pin [18].

a) If necessary, turn the pin [18] with a wrench or a socket to apply the grease, D00633, equally on the pin [18] prior to turning the pin [18] by hand.

5) If either can turn freely then proceed to the SUBTASK: 32-11-03-420-147-002.

(d) If it is not possible to install the lower attach pin [18] by turning the lower eccentric [54] within the adjustment range in the A position, turn the upper eccentric [54] to the B position or the C position (Figure 406).

1) Use the B position or the C position that almost lets the lower attach pin [18] be installed.

2) Align the arrow on the lower eccentric [54] in the applicable direction directly to or away from the upper eccentric [54].

(e) Install the lower eccentric lockplate [59] with the lower eccentric [54] in the best possible position as follows:

1) If necessary, turn the lower eccentric [54] the minimum to install the lower eccentric lockplate [59].

(f) Temporarily install the bolts [58] to secure the lower eccentric lockplate [59].

SUBTASK 32-11-03-820-006-002

CAUTION	MAKE SURE THAT YOU ADJUST THE LOWER ECCENTRIC FIRST, WITH UPPER ECCENTRIC SET TO NOMINAL. IF YOU ADJUST THE UPPER ECCENTRIC FIRST, OR IT IS INITIALLY SET TO NOMINAL INCORRECTLY, AN "OVER-CENTER" CONDITION OF THE SIDE BRACE TOGGLE LINKS CAN OCCUR DURING THE LANDING GEAR ALTERNATE EXTENSION. THIS CAN CAUSE DAMAGE TO LANDING GEAR COMPONENTS

(11) To set the upper eccentric [54], do the steps that follow:

WARNING	HOLD THE UPPER AND THE LOWER SIDE BRACES WHILE THE TWO ATTACH PINS ARE REMOVED. WITH THE TWO ATTACH PINS REMOVED, THE SIDE STRUT IS FREE TO TURN AROUND THE LOCK LINK CONNECTION. THE SIDE STRUT MOVEMENT CAN CAUSE DAMAGE TO LANDING GEAR PARTS, AND INJURIES TO PERSONNEL.

(a) Remove the upper attach pin [18] and the nut [19] from the upper side brace [3] and the upper spindle assembly [4].

(b) Remove the upper eccentric lockplate [59] and the bolts [58].

(c) Temporarily install the lower attach pin [18] and the nut [19] on the lower spindle assembly [6] and the lower side brace [5].

(d) Prepare to install the attach pin [18] in the upper side brace [3] and the upper spindle assembly [4] as follows:

1) Turn the upper eccentric [54] within the applicable 90 degree range shown in the applicable B position or C position (Figure 406), as previously chosen in SUBTASK 32-11-03-820-005-002, to allow installation of the upper attach pin [18].

(e) Apply a thin layer of grease, D00633 to the outer diameter of the shank of the upper attach pin [18].

CAUTION	MAKE SURE THAT YOU INSTALL THE PIN WITH THE HEAD OF THE PIN ON THE FORWARD SIDE OF THE SIDE BRACE. INCORRECT INSTALLATION OF THE PIN CAN CAUSE DAMAGE TO EQUIPMENT.

(f) Temporarily install the upper attach pin [18].

(g) Install the upper eccentric lockplate [59] with the upper eccentric [54] in the best possible position as follows:

1) If necessary, turn the upper eccentric [54] a minimum amount to install the eccentric lockplate [59].

2) Engage the eccentric lockplate [59] in the position that results in the minimum turning resistance on the pin [18].

(h) Temporarily install the bolts [58] to secure the upper eccentric lockplate [59].

(i) Make sure that either the upper or the lower attach pin [18] can turn freely by hand.

<u>NOTE</u>: You can install the nut [19] on the pin [18] to make it easier to hold and turn the pin [18].

1) If necessary, turn the pin [18] with a wrench or a socket to apply the grease, D00633, equally on the pin [18] prior to turning the pin [18] by hand.

SUBTASK 32-11-03-420-147-002

(12) To complete the last installation of upper eccentric lockplate [59], do the steps that follow:

NOTE: Perform below steps (a), (b), and (c) on one bolt [58] before removing the second bolt [58]. This will ensure that the eccentric lockplate [59] stays in its position and prevents turning of the eccentric [54] from the rigged position.

(a) Remove the bolts [58] from the upper eccentric lockplate [59].

(b) Apply a thin layer of corrosion inhibiting material, G50136, to the bolts [58], the washers [56], the washers [57], and to the threads of the nuts [55].

(c) Install the bolts [58], the washers [56], the washers [57], and the nuts [55] to secure the eccentric lockplate [59] and the upper eccentric [54].

(d) Tighten the nuts [55] to 262 in-lb (30 N·m) - 278 in-lb (31 N·m).

(e) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-03-420-148-002

(13) To complete last installation of lower eccentric lockplate [59], do the steps that follow:

NOTE: Perform below steps (a), (b), and (c) on one bolt [58] before removing the second bolt [58]. This will ensure that the eccentric lockplate [59] stays in its position and prevents turning of the eccentric [54] from the rigged position.

(a) Remove the bolts [58] from the lower eccentric lockplate [59].

(b) Apply a thin layer of compound, corrosion inhibiting material, G50136, to the bolts [58], the washers [56], the washers [57], and to the threads of the nuts [55].

(c) Install the bolts [58], the washers [56], the washers [57], and the nuts [55] to secure the eccentric lockplate [59] and the lower eccentric [54].

(d) Tighten the nuts [55] to 262 in-lb (30 N·m) - 278 in-lb (31 N·m).

(e) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-03-420-149-002

(14) To complete the connection of the upper side brace [3] to the upper spindle assembly [4], do the steps that follow:

(a) Apply a thin layer of corrosion inhibiting material, G50136, to the threads of the upper attach pin [18].

(b) Apply a thin layer of corrosion inhibiting material, G50136, to the fay surfaces of the washer [23] and the threads of the nut [19].

(c) Install the washer [23] and the nut [19] on the pin [18].

(d) Use the wrench kit, SPL-4133, to tighten the nut [19] to 80 ft-lb (108 N·m) - 100 ft-lb (136 N·m).

(e) Apply a thin layer of corrosion inhibiting material, G50136, to the bolts [22], the washers [21] and the threads of the nuts [20].

(f) Install the bolts [22], the washers [21] and the nuts [20].

NOTE: If it is necessary, loosen the nut [19] to the nearest castellation to align the holes for the bolt [22].

(g) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-03-420-150-002

(15) To complete the connection of the lower side brace [5] to the lower spindle assembly [6], do the steps that follow:

(a) Apply a thin layer of corrosion inhibiting material, G50136, to the threads of the pin [18].

(b) Apply a thin layer of corrosion inhibiting material, G50136, to the fay surfaces of the washer [23] and the threads of the nut [19].

(c) Install the washer [23] and the nut [19] on the pin [18].

(d) Use the wrench kit, SPL-4133, to tighten the nut [19] to 80 ft-lb (108 N·m) - 100 ft-lb (136 N·m).

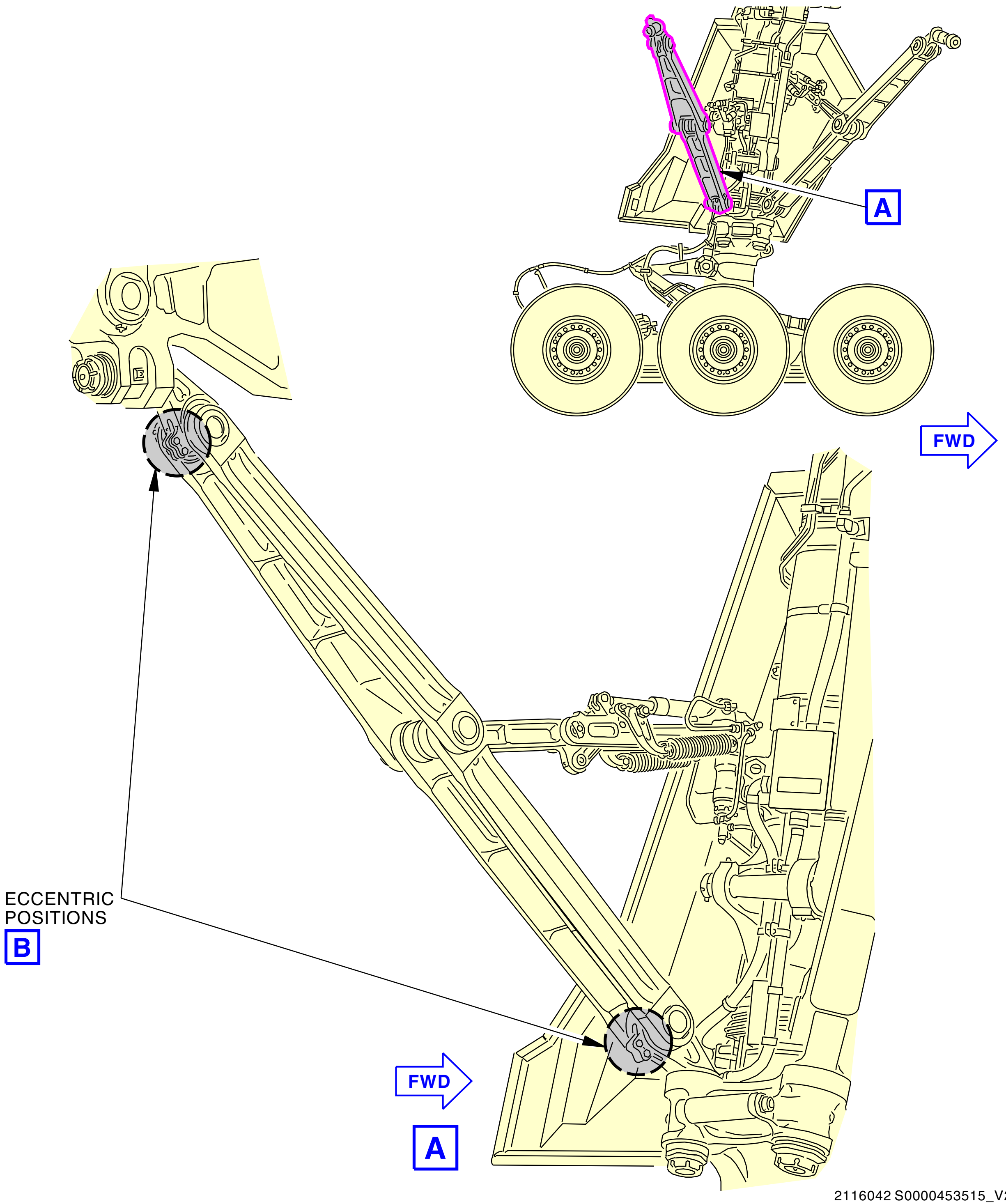
(e) Apply a thin layer of corrosion inhibiting material, G50136, to the bolts [22], washers [21] and the threads of the nuts [20].

(f) Install the bolts [22], the washers [21] and the nuts [20].

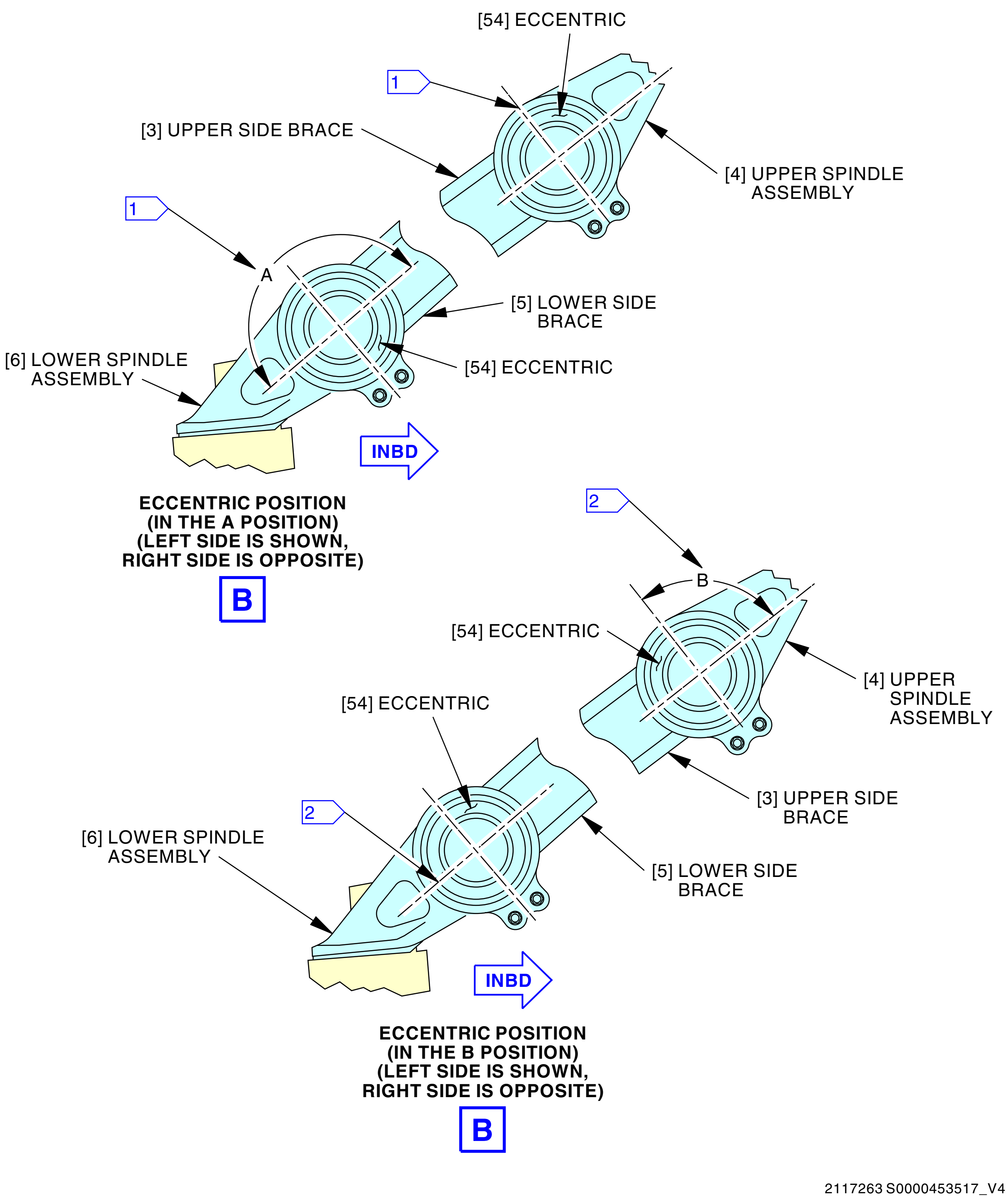
NOTE: If it is necessary, loosen the nut [19] to the nearest castellation to align the holes for the bolts [22].

(g) Remove the excess corrosion inhibiting material, G50136.

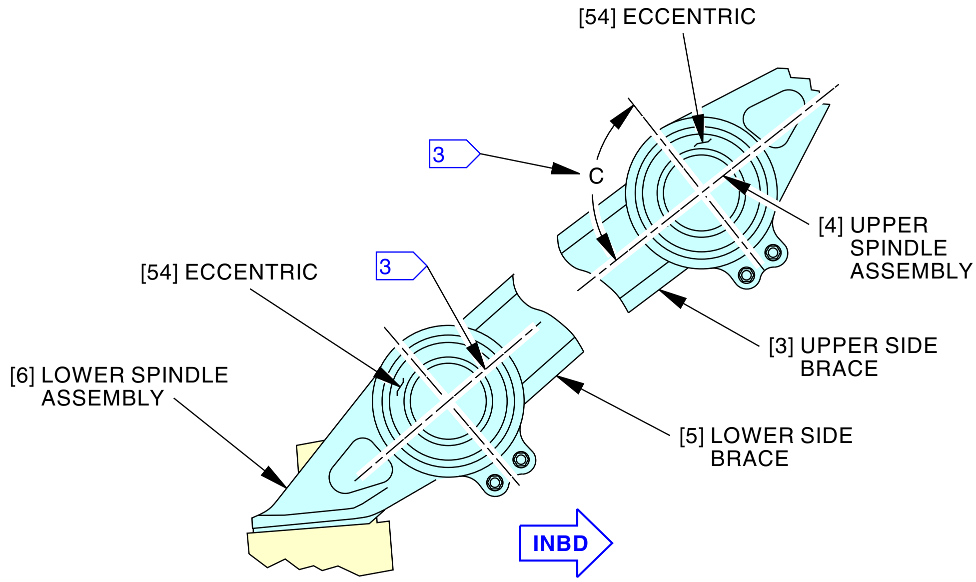
END OF TASK



Eccentric Adjustment Procedure
Figure 406/32-11-03-990-809-002 (Sheet 1 of 3)



Eccentric Adjustment Procedure
Figure 406/32-11-03-990-809-002 (Sheet 2 of 3)



ECCENTRIC POSITION
(IN THE C POSITION)
(LEFT SIDE IS SHOWN,
RIGHT SIDE IS OPPOSITE)

B

1 WITH THE ARROW ON THE UPPER ECCENTRIC [54] SET TO THE RED DOT ON THE UPPER SPINDLE ASSEMBLY [4], THE ARROW ON THE LOWER ECCENTRIC [54] MAY BE LOCATED ANYWHERE WITHIN THE INDICATED "A" 180 DEGREE RANGE AS REQUIRED TO OBTAIN FREE PIN.

2 WITH THE ARROW ON THE LOWER ECCENTRIC [54] POINTED DIRECTLY AWAY FROM THE UPPER ECCENTRIC [54], THE ARROW ON THE UPPER ECCENTRIC [54] MAY BE LOCATED ANYWHERE WITHIN THE INDICATED "B" 90 DEGREE RANGE AS REQUIRED TO OBTAIN FREE PIN.

3 WITH THE ARROW ON THE LOWER ECCENTRIC [54] POINTED DIRECTLY TO THE UPPER ECCENTRIC [54], THE ARROW ON THE UPPER ECCENTRIC [54] MAY BE LOCATED ANYWHERE WITHIN THE INDICATED "C" 90 DEGREE RANGE AS REQUIRED TO OBTAIN FREE PIN.

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Eccentric Adjustment Procedure
Figure 406/32-11-03-990-809-002 (Sheet 3 of 3)

TASK 32-11-03-080-801-002

20. Side Brace Rigging Tool Removal

(Figure 402)

A. General

(1) This task provides steps to remove the side brace rigging tool from the drag brace.

B. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-32-05-420-804-002	Main Landing Gear Drag Brace Downlock Actuator Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-6119	Side Strut Adjustment Eqpt - Drag Strut Lock Link Assy, MLG Part #: J32013-1 Supplier: 81205

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Procedure

SUBTASK 32-11-03-080-015-002

(1) Remove the slide bar assembly from the drag brace pins.

SUBTASK 32-11-03-080-016-002

(2) Remove the rigging tool adjustment eqpt, SPL-6119 from the lock links on the drag brace.

SUBTASK 32-11-03-980-002-002

(3) Push down on the lock link, of the drag brace assembly, to position the lock link in the locked position.

SUBTASK 32-11-03-480-100-002

(4) Install the downlock pin on the drag brace (TASK 32-00-30-480-801).

SUBTASK 32-11-03-420-128-002

(5) If the rod end of the lock link actuator, for the drag strut assembly, was disconnected, then do the steps that follow:

(a) Position the rod end of the lock link actuator with the lock link attach point.

(b) Install the rod end of the lock link actuator (Main Landing Gear Drag Brace Downlock Actuator Installation, TASK 32-32-05-420-804-002).

END OF TASK

TASK 32-11-03-910-806-002

21. Put the Airplane Back to Its Usual Condition

(Figure 401)

A. General

(1) It is necessary to do this task after you do an installation procedure for any of the side brace components.

B. References

Reference	Title
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-21-14-640-805-002	Upper Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-30-01-720-801	Main Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks) (P/B 501)
32-35-00-710-801	Landing Gear Alternate Extension System - Operational Test (Airplane on the Ground) (P/B 501)

C. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Procedure

SUBTASK 32-11-03-710-005-002

(1) Remove all ropes or straps that you used.

SUBTASK 32-11-03-480-101-002

(2) Do this task: Side Brace Rigging Tool Removal, TASK 32-11-03-080-801-002.

SUBTASK 32-11-03-710-006-002

(3) Do the extension and retraction operational test for the main landing gear (TASK 32-30-01-720-801).

SUBTASK 32-11-03-080-017-002

(4) To lower the airplane and remove the jacks, do this task: Lower the Airplane Off of the Jacks, TASK 07-11-01-580-805.

SUBTASK 32-11-03-710-008

(5) Do this task: Landing Gear Alternate Extension System - Operational Test (Airplane on the Ground), TASK 32-35-00-710-801

SUBTASK 32-11-03-640-018-002

(6) Lubricate the side brace assembly at the grease fittings, do this task: Upper Main Landing Gear and Actuating Mechanisms Lubrication, TASK 12-21-14-640-805-002.

SUBTASK 32-11-03-410-004-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(7) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

MAIN LANDING GEAR SHOCK STRUT INNER CYLINDER - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the main landing gear shock strut inner cylinder.

(2) An installation of the main landing gear shock strut inner cylinder.

B. Do these tasks in a sheltered and clean environment. This will prevent contamination of the seals which can cause seal leakage.

TASK 32-11-04-960-801

2. Main Landing Gear Inner Cylinder Removal

A. References

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-11-22-000-806-002	Main Landing Gear Lower Torsion Link Removal (P/B 401)
32-11-26-000-802	Main Landing Gear Center Axle Removal (P/B 401)
32-21-11-000-802	Nose Landing Gear Lower Torsion Link Removal (P/B 201)
32-32-25-020-801	Main Landing Gear (SLG) Hydraulic Strut Removal (P/B 401)
32-45-01-000-801	Main Landing Gear Wheel and Tire Assembly Removal (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1829	Valve - Drain, Landing Gear Shock Strut Oil Part #: J32060-1 Supplier: 81205 Opt Part #: A32066-1 Supplier: 81205
SPL-1844	Replacement Equipment, MLG Lower Bearing Seals Part #: J32082 **ECD JAN2019** Supplier: 81205 Part #: J32082-73 Supplier: 81205
SPL-1846	Turnbuckle - MLG Truck Position Actuator Part #: J32034-1 Supplier: 81205
SPL-1851	Equipment - Handling, MLG Torsion Links Part #: J32048-53 Supplier: 81205
SPL-2557	Sling Eqpt, MLG Removal and Installation Part #: J32043-124 Supplier: 81205 Part #: J32043-125 Supplier: 81205
SPL-4250	Wrench - Support, MLG Gland Nut Part #: A32045-110 Supplier: 81205
SPL-4614	Sling Equipment, Main Landing Gear Inner Cylinder Part #: J32076-13 Supplier: 81205

(Continued)

Reference	Description
SPL-4683	Dolly Equipment, Strut Assy Inner Cylinder, MLG Part #: J32077-67 Supplier: 81205 Part #: J32077-76 Supplier: 81205 Opt Part #: J32077-55 Supplier: 81205
SPL-8264	Transportation Equipment - Tower Jack, Main Landing Gear Part #: J32062-1 Supplier: 81205
STD-1110	Container - Hydraulic Fluid Resistant, 5 Gallon (19 Liter)
STD-1140	Hose - Flexible, 1/2 Inch ID, BMS 3-11 Resistant, 10 Foot

C. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for the Removal of the Inner Cylinder

SUBTASK 32-11-04-490-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-04-860-001

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-11-04-480-002

(3) Lift the airplane a small amount to set the jacks properly and to keep the airplane level when the shock strut is deflated, (TASK 07-11-01-580-804).

SUBTASK 32-11-04-020-001

WARNING DO NOT REMOVE THE VALVE BODY UNTIL YOU DEFLATE THE SHOCK STRUT FULLY. THE AIR PRESSURE CAN BLOW THE VALVE BODY OUT AND CAUSE INJURIES TO PERSONNEL.

(4) Deflate the shock strut [1] for the main landing gear:

(a) Remove the cap [3] for the air valve [2].

(b) Loosen the swivel nut [4] a maximum of two turns.

(c) Loosen the swivel nut [4] fully when all of the pressure in the shock strut is released.

SUBTASK 32-11-04-680-001

(5) Drain the oil from the shock strut [1] for the main landing gear:

(a) Remove the cap [5] from the oil check valve [6].

(b) Put a 5 gallon (19 liter) hydraulic fluid resistant container, STD-1110 in a position to catch the shock strut fluid when the oil check valve [6] is opened.

(c) Install the drain equipment on the oil check valve [6]:

1) Install the tool, landing gear shock strut drain valve, SPL-1829, on the oil check valve [6] to drain the shock strut [1].

2) If you wish to drain the shock strut [1] with a quicker method, do the steps that follow:

a) Cut a length of plastic ten foot hose (1/2 inch ID), STD-1140, long enough to reach the container on the floor.

b) Insert a small allen wrench in the end of the length of tubing, such that the end of the long part of the allen wrench is flush with the end of the tube and the short part penetrates the side wall of the tube.

c) Install the ten foot hose (1/2 inch ID), STD-1140 on the oil check valve [6] such that the allen wrench goes into the check valve and holds it open to drain the hydraulic fluid.

(d) Remove the drain equipment when you have removed all of the shock strut oil.

SUBTASK 32-11-04-010-001

(6) Remove the wheel and tire assemblies from the outboard center axle to get better access to the inner and outer cylinder, do this task: (TASK 32-45-01-000-801).

SUBTASK 32-11-04-020-025

(7) Disconnect the aft hydraulic lines [38] and electrical conduit [32] , do these steps:

NOTE: Aft hydraulic lines [38] include brake hoses and steering actuator hydraulic lines [40]. They are grouped to show the disconnection between outer cylinder [9] and inner cylinder [8] (Figure 401).

(a) Disconnect the brake hoses at the aft and center brake disconnect (4 locations).

(b) Disconnect the electrical connector [43] and electrical connector [52] from each side of the forward junction box.

(c) Remove the clamp [44], clamp [48], clamp [50], clamp [53], clamp [57], and the clamp [59], that hold the electrical conduit [32] on each side of the truck.

(d) Disconnect the steering actuator hydraulic lines [40] at their disconnects on the steering actuator.

(e) Disconnect the hydraulic aft support arm [80] from the truck.

(f) Use a rope to hold the aft hydraulic line [38], electrical conduit [32] and the hydraulic aft support arm [80] up and away from the work area.

SUBTASK 32-11-04-020-026

(8) Disconnect the hydraulic strut [7], forward hydraulic lines [41], and forward hydraulic lines [42], do these steps:

(a) Disconnect the lower end of the hydraulic strut [7] from the truck, (TASK 32-32-25-020-801).

(b) Use a rope to hold the hydraulic strut [7] up and away from the work area.

(c) Disconnect the forward hydraulic lines [41] and forward hydraulic line [42] from the aft side of the hydraulic bracket [70].

(d) Remove the bolt [75], washer [73], washer [74], nut [72], and the cotter pin [71] to disconnect the hydraulic bracket [70] from the fork of the inner cylinder [8].

(e) Remove the truck tilt stop [93] from the lower lug of the inner cylinder.

(f) Install the MLG truck position actuator turnbuckle, SPL-1846, in the location of the kickstand and the lug on the truck that is aft of the lug for the hydraulic strut [7].

1) Adjust the length of the MLG truck position actuator turnbuckle, SPL-1846, to fit.

2) Install the tool pins to connect the MLG truck position actuator turnbuckle, SPL-1846, to the truck and the inner cylinder [8].

SUBTASK 32-11-04-020-003

(9) Loosen the gland nut [18]:

NOTE: This is to loosen the gland nut [18] when it is easier to reach.

(a) Remove the bolt [23], the washer [24], the nut [25], for the lockplate [27] to release the gland nut [18].

(b) Use the MLG gland nut spanner wrench, SPL-4250, to loosen the gland nut [18] enough to break the torque.

SUBTASK 32-11-04-020-004

(10) Use the transportation equipment, SPL-8264, to install the shock strut separation tools, sling equipment, SPL-2557:

(a) To remove the wheel and tire assemblies for one side of the center axle and the other side of the forward and aft axles, do this task: Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-01-000-801.

NOTE: The brake assemblies can stay on the forward and aft axles.

(b) Put a plate beneath each axle where the tool will be placed:

1) Attach a plumb line from the tow lug on the front of the main landing gear truck to locate point A1 or B1.

2) Attach a plumb line from the jack point on the aft of the main landing gear truck to locate point the center line of the truck beam.

3) Put the forward plate in its position beneath the forward axle with the point A1 or B1 under the plumb line for the tow lug.

NOTE: Use the alignment point (A1 or B1) that is forward.

4) Align the forward plate, forward to aft, in relation to the main landing gear beam with the two plumb lines.

5) Put the center plate in its position beneath the center axle with its forward alignment point in-line with the forward plate's alignment point.

6) Put the aft plate in its position beneath the aft axle with its forward alignment point in-line with the center plate's aft alignment point.

7) Use tape to mark the location of the plates on the ground.

(c) Set the mylar sheets on top of each plate.

NOTE: The mylar sheets are used to decrease the tool sliding friction.

(d) Install the tool's axle protectors on the three axles.

(e) Use the transportation equipment, SPL-8264 to move each tool, sling equipment, SPL-2557, into its position on the main landing gear axles.

(f) Install the tool's dummy axle nuts to secure the tools to the axles.

(g) Apply the spray lubricant on the mylar sheets at the base of three pads for each tool.

(h) Install the hoists on the sling equipment, SPL-2557.

NOTE: You can either use chain hoists or air powered hoists, the steps given are for air powered hoist but the steps can also be used for chain hoists.

(i) Connect each tool's power lines to the control box.

SUBTASK 32-11-04-020-005

(11) Disconnect the chain hoist from the link on the shock strut separation tools.

SUBTASK 32-11-04-020-006

(12) Move the chain hoist together such that it is in its shortest condition with the excess chain in the chain bag.

SUBTASK 32-11-04-020-007

(13) Lift the airplane until the center line of the center axle is 64 in. (1.63 m) - 68 in. (1.73 m) off the ground, do this task: Lift the Airplane with Jacks, TASK 07-11-01-580-804.

SUBTASK 32-11-04-020-008

(14) Connect the chain hoists to the shock strut separation tools.

SUBTASK 32-11-04-020-009

(15) Lift the main landing gear truck with the shock strut separation tools until the shock strut starts to compress (approximately 0.5 in. (12.7 mm).

NOTE: This will remove the landing gear weight from the gland nut.

SUBTASK 32-11-04-020-010

(16) Use tape to mark the height of each tool.

SUBTASK 32-11-04-480-003

WARNING OBEY THE REMOVAL INSTRUCTIONS FOR THIS STEP. THE TORSION LINKS ARE HEAVY. HOLD THEM SAFELY IN THEIR POSITION. IF NOT, THEY WILL MOVE AND CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(17) Disconnect the lower torsion link [37] from the inner cylinder, do these steps:

(a) Use the MLG torsion links handling equipment, SPL-1851, to hold the upper torsion link [33] and the lower torsion link [37] in position.

(b) Disconnect the lower torsion link [37] from the inner cylinder [8], (TASK 32-11-22-000-806-002 or TASK 32-21-11-000-802).

CAUTION MAKE SURE THAT THE LOWER TORSION LINK DOES NOT MOVE QUICKLY IN THE AFT DIRECTION. MOVING THE TORSION LINK QUICKLY CAN CAUSE DAMAGE TO EQUIPMENT.

(c) Use the MLG torsion links handling equipment, SPL-1851, to lift the upper torsion link [33] to allow the lower torsion link [37] to move to a vertical position.

E. Remove the Main Landing Gear Inner Cylinder

(Figure 401, Figure 402)

SUBTASK 32-11-04-020-030

(1) Use the MLG gland nut spanner wrench, SPL-4250, to disconnect the gland nut from the outer cylinder [9].

SUBTASK 32-11-04-800-001

(2) Do not move the gland nut [18] down the inner cylinder [8] until the gland nut protector is installed.

SUBTASK 32-11-04-020-014

(3) Lower the main landing gear truck with the shock strut separation tools until the gland nut [18] is approximately 3 in. (76 mm) below the outer cylinder [9].

NOTE: This will allow you to install the gland nut protector, such that the gland nut can slide down the inner cylinder.

SUBTASK 32-11-04-020-015

(4) Do these steps for the gland nut [18]:

(a) Install the gland nut protector, from seal replacement equipment, SPL-1844, around the gland nut [18].

NOTE: The protector will keep the scraper ring in the gland nut.

(b) Move the gland nut [18] down the inner cylinder [8].

SUBTASK 32-11-04-020-016

(5) Lower the main landing gear truck with the shock strut separation tools until the inner cylinder [8] is separated from the outer cylinder [9].

NOTE: This will pull the lower bearing carrier out of the outer cylinder [9].

NOTE: The shock strut separation tools and landing gear will move aft approximately 8 in. (203 mm) as you lower the gear.

SUBTASK 32-11-04-020-017

(6) Push the lower bearing carrier [28] down the inner cylinder [8] until it rests on the gland nut [18].

NOTE: The lower bearing carrier [28] is coated with a dry lube film. The film may be worn and appear uneven, this is not cause for bearing carrier replacement.

SUBTASK 32-11-04-020-018

(7) Remove the upper bearing carrier [22] from the top of the inner cylinder [8]:

(a) Remove the two bearing rings from the upper bearing carrier [22].

1) Check the condition of the bearing surface that contacts the outer cylinder chrome:

a) The appearance of approximately 10 percent of the bronze exposed on the bearing surface, that contacts the inner cylinder chrome, indicates normal bearing wear.

b) When 40 - 50 percent of the bronze is exposed, the bearing approaches its half life.

c) If 75 percent of the bronze is visible on the bearing surface, a measurement of the wall thickness is recommended. The bearing should be replaced when the wall thickness measures 0.116 in. (2.946 mm) or less.

(b) Remove the snap ring from the upper bearing carrier [22].

(c) Remove the upper bearing carrier [22] halves from the inner cylinder [8].

(d) Remove the recoil valve from the inner cylinder [8].

SUBTASK 32-11-04-420-001

(8) Disconnect the shock strut separation sling equipment, SPL-2557.

NOTE: Leave plates beneath each axle, this is where the landing gear truck and inner cylinder will be placed for installation.

(a) Move the landing gear truck and inner cylinder away from the wheel well area.

SUBTASK 32-11-04-020-027

(9) Disconnect the position sensor link [68] from the fork of the inner cylinder [8].

SUBTASK 32-11-04-420-020

(10) Install the main landing gear inner cylinder Sling Equipment, SPL-4614.

(a) Install the strap/block assembly on the top of the inner cylinder.

(b) Position the wear pads between the fork and bottom of the inner cylinder.

(c) Move the lower straps to the top of the inner cylinder and pass the choker strap through the end loop of the strap/block assembly and lower straps on the aft side of inner cylinder.

(d) Pull the free end of the strap to tighten strap/block assembly after the slack is pulled out of the choker strap and lower straps.

SUBTASK 32-11-04-020-019

(11) Using a crane or overhead lifting equipment, lift the inner cylinder until the center axle carries no load. Do not lift the truck.

SUBTASK 32-11-04-080-001

(12) Disconnect the MLG truck position actuator turnbuckle, SPL-1846, from the inner cylinder [8].

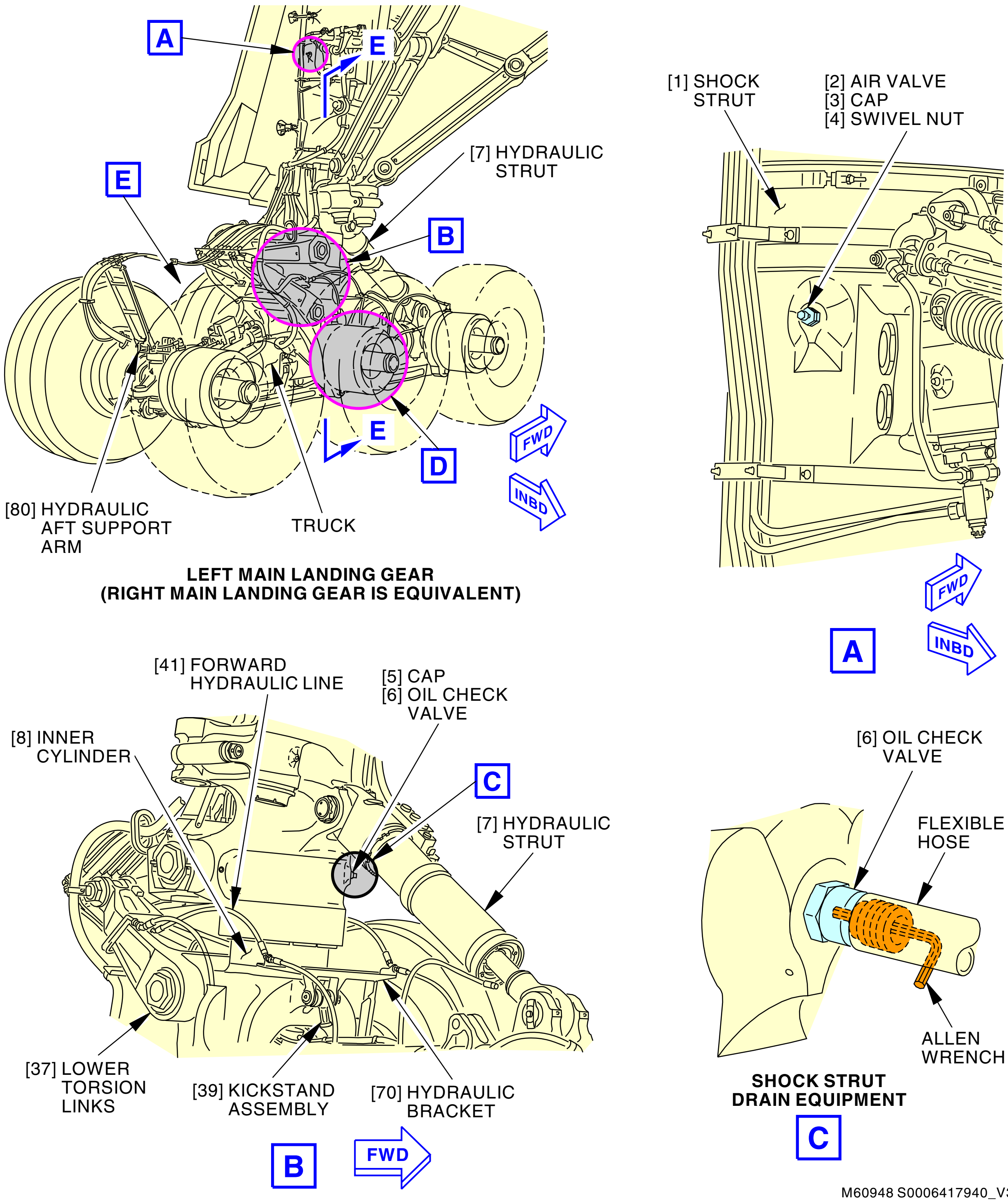
SUBTASK 32-11-04-020-020

(13) Do this task: Main Landing Gear Center Axle Removal, TASK 32-11-26-000-802.

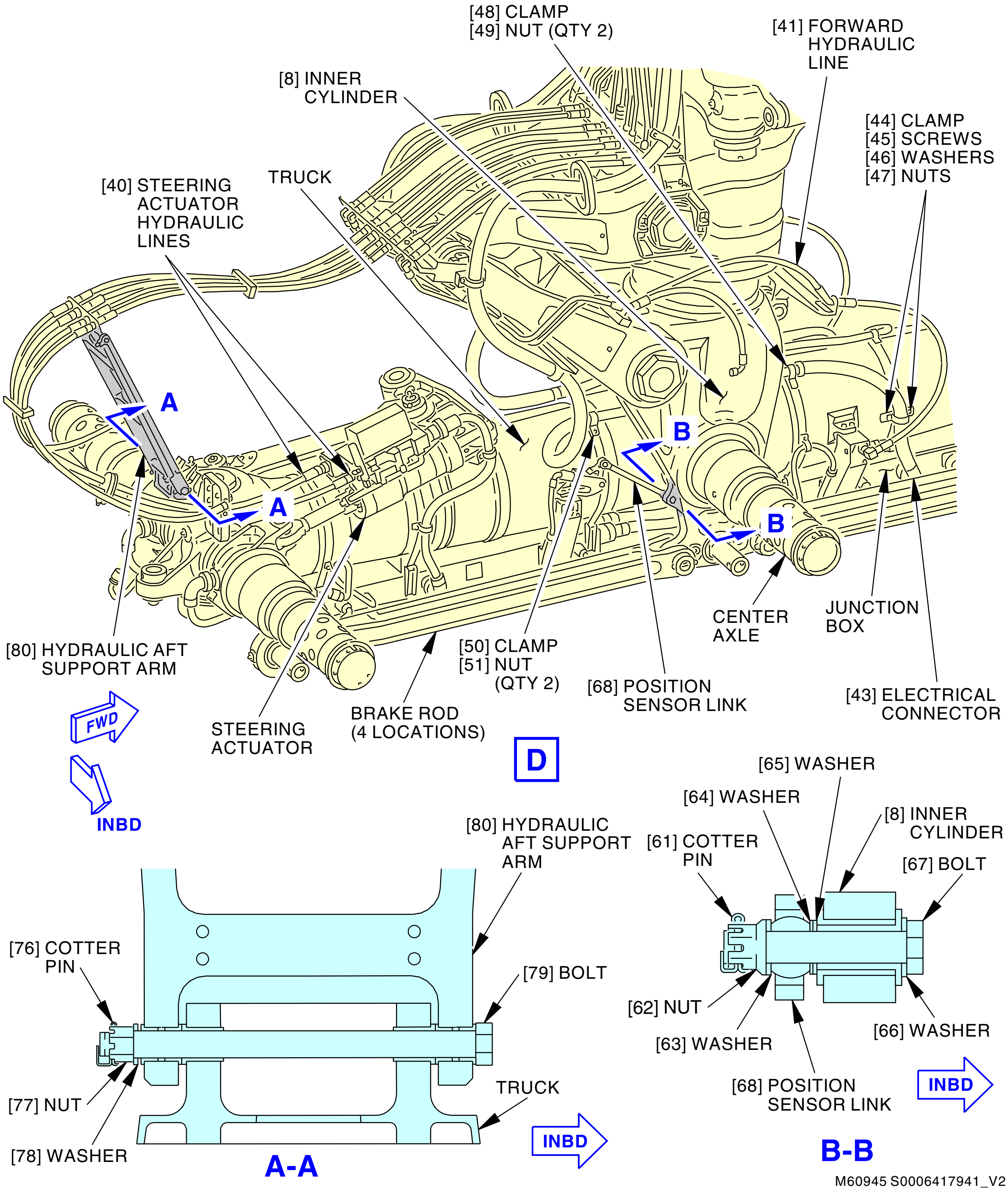
SUBTASK 32-11-04-020-021

(14) Lower the inner cylinder onto the dolly equipment, SPL-4683, and remove the inner cylinder from the work area (Figure 403).

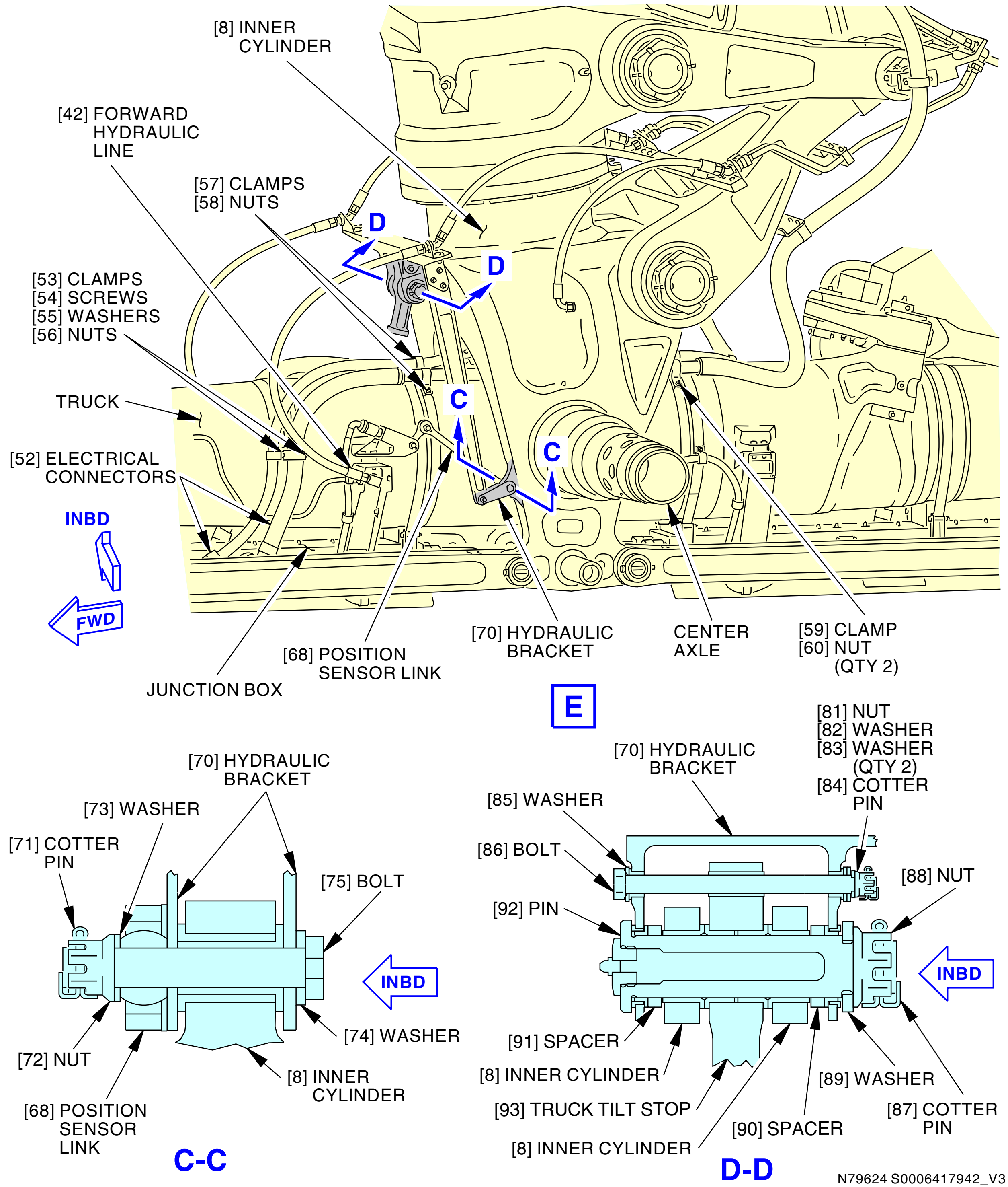
——— END OF TASK ———



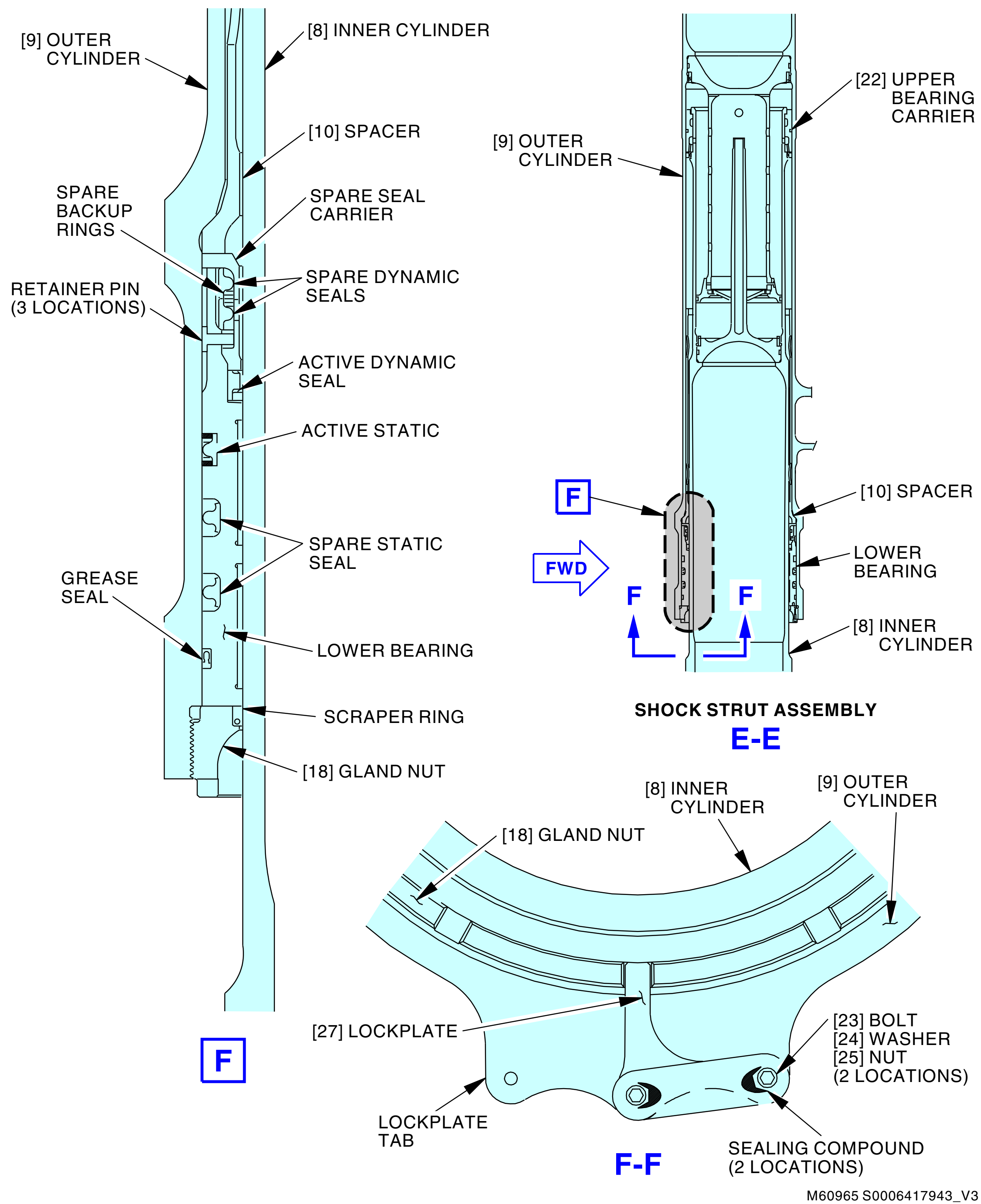
MLG Shock Strut Inner Cylinder Installation
Figure 401/32-11-04-990-806 (Sheet 1 of 7)



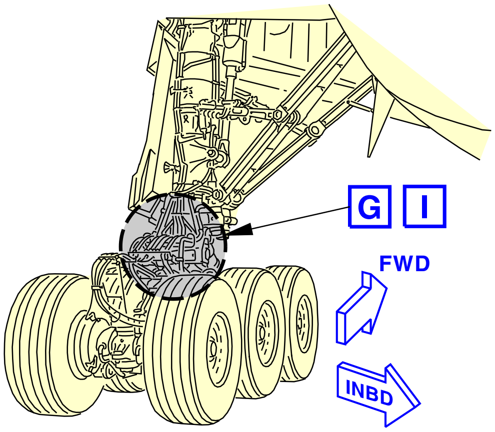
MLG Shock Strut Inner Cylinder Installation
Figure 401/32-11-04-990-806 (Sheet 2 of 7)

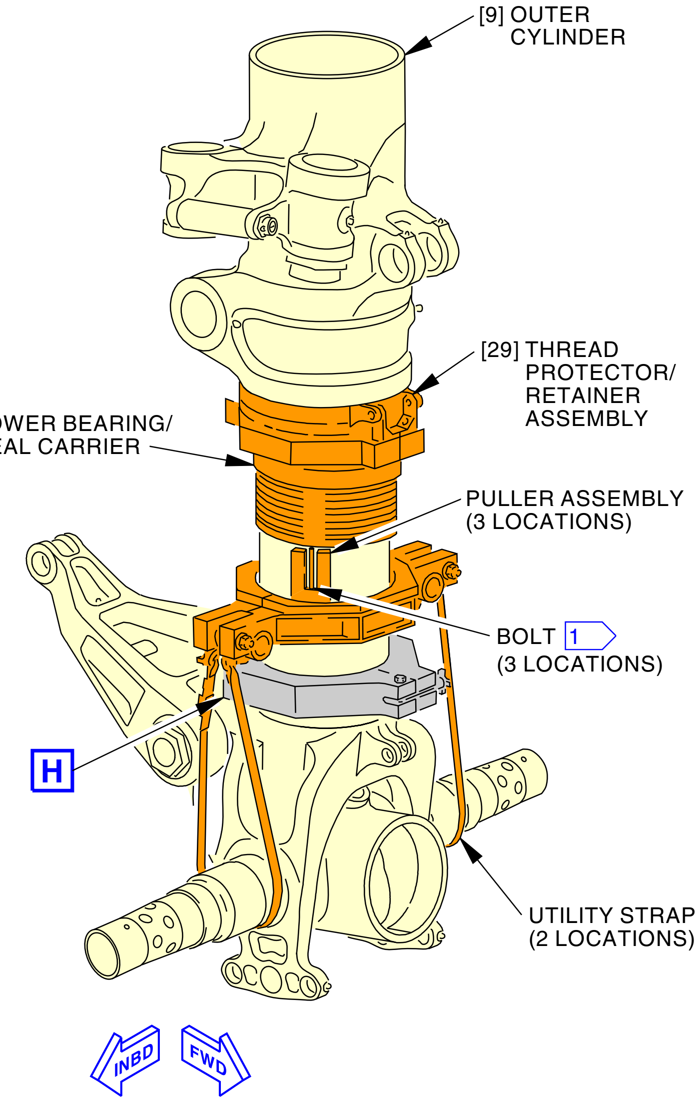


MLG Shock Strut Inner Cylinder Installation
Figure 401/32-11-04-990-806 (Sheet 3 of 7)



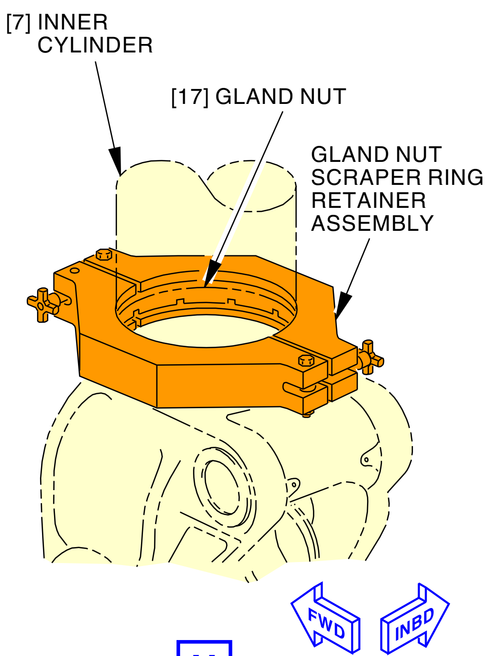
MLG Shock Strut Inner Cylinder Installation
Figure 401/32-11-04-990-806 (Sheet 4 of 7)





LOWER BEARING REMOVAL

G

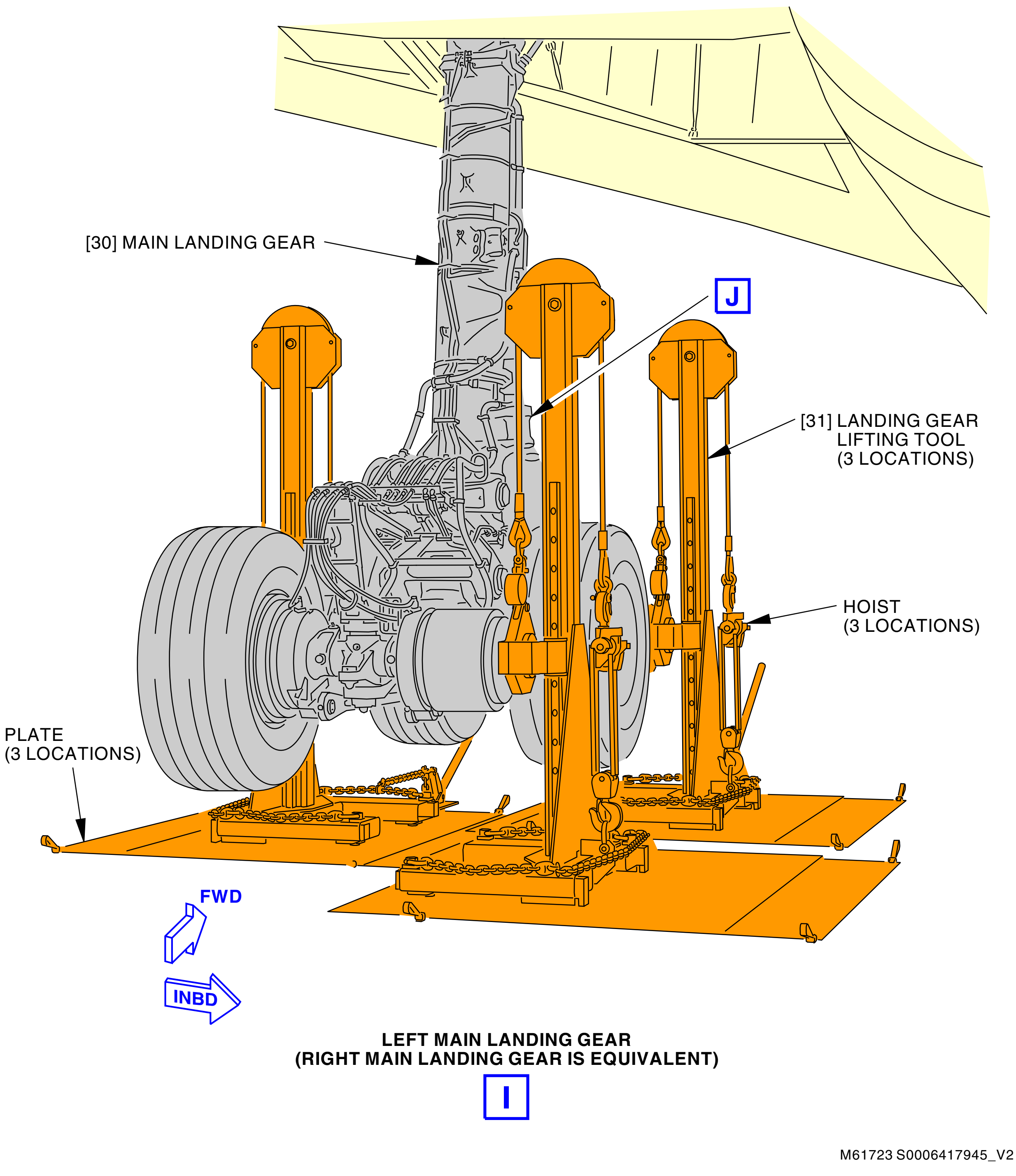


H

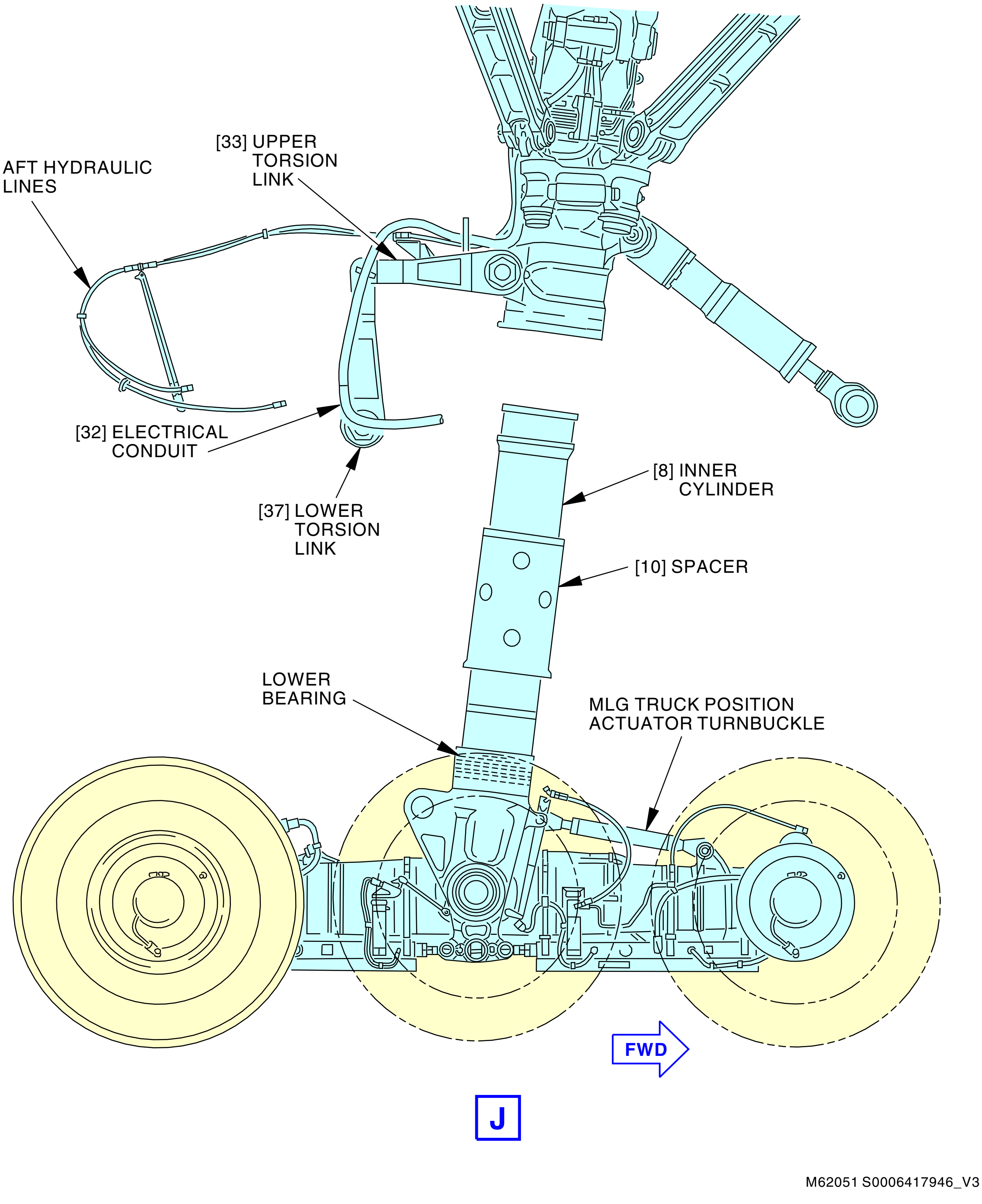
1 INSERTED THROUGH BOTTOM OF RING ASSEMBLY INTO BEARING CARRIER

M61110 S0006417944_V2

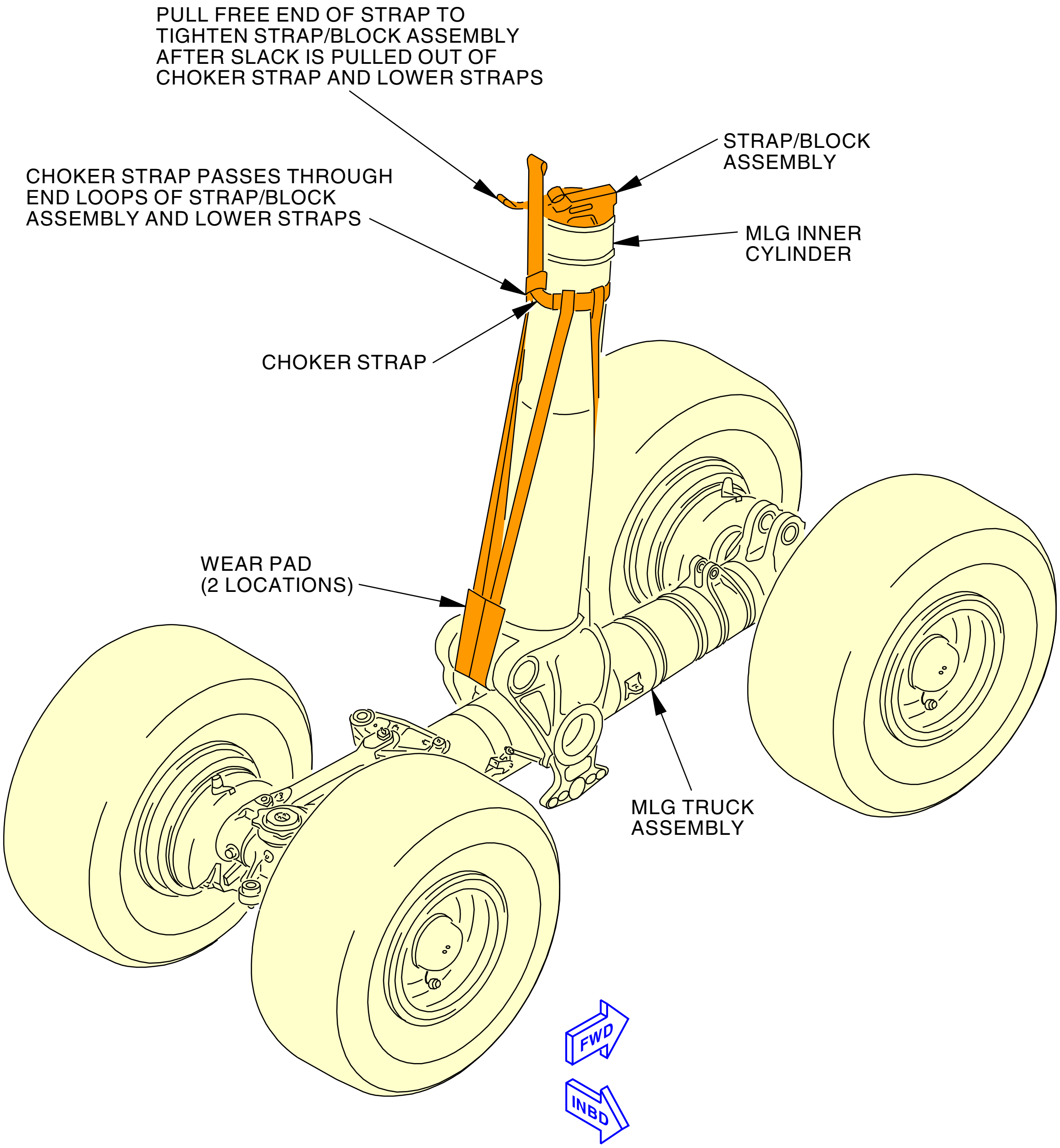
MLG Shock Strut Inner Cylinder Installation
Figure 401/32-11-04-990-806 (Sheet 5 of 7)



MLG Shock Strut Inner Cylinder Installation
Figure 401/32-11-04-990-806 (Sheet 6 of 7)

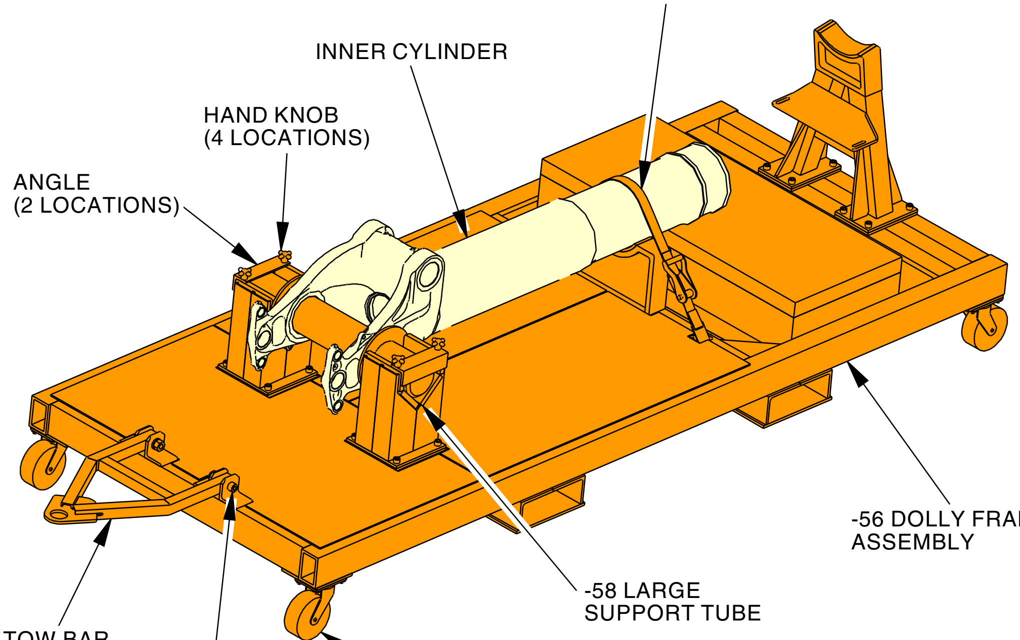


MLG Shock Strut Inner Cylinder Installation
Figure 401/32-11-04-990-806 (Sheet 7 of 7)



M62082 S0006417947_V2

MLG Inner Cylinder Sling
Figure 402/32-11-04-990-805



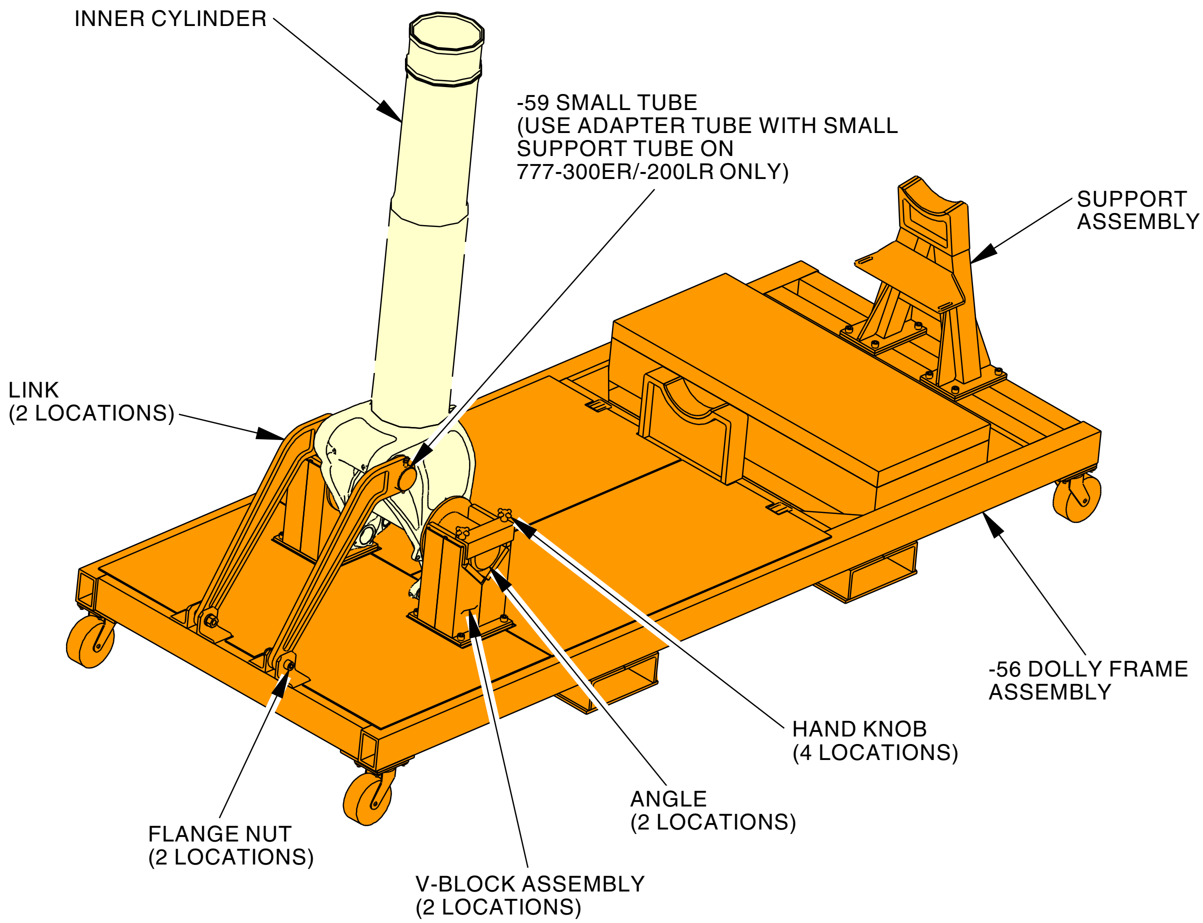
J32077-55
DOLLY EQUIPMENT

NOTE:

DOLLY EQUIPMENT SHOWN WITH TOW BAR ASSEMBLY INSTALLED.

U57948 S0000182407_V2

Main Landing Gear Transportation Dolly Equipment
Figure 403/32-11-04-990-808 (Sheet 1 of 2)

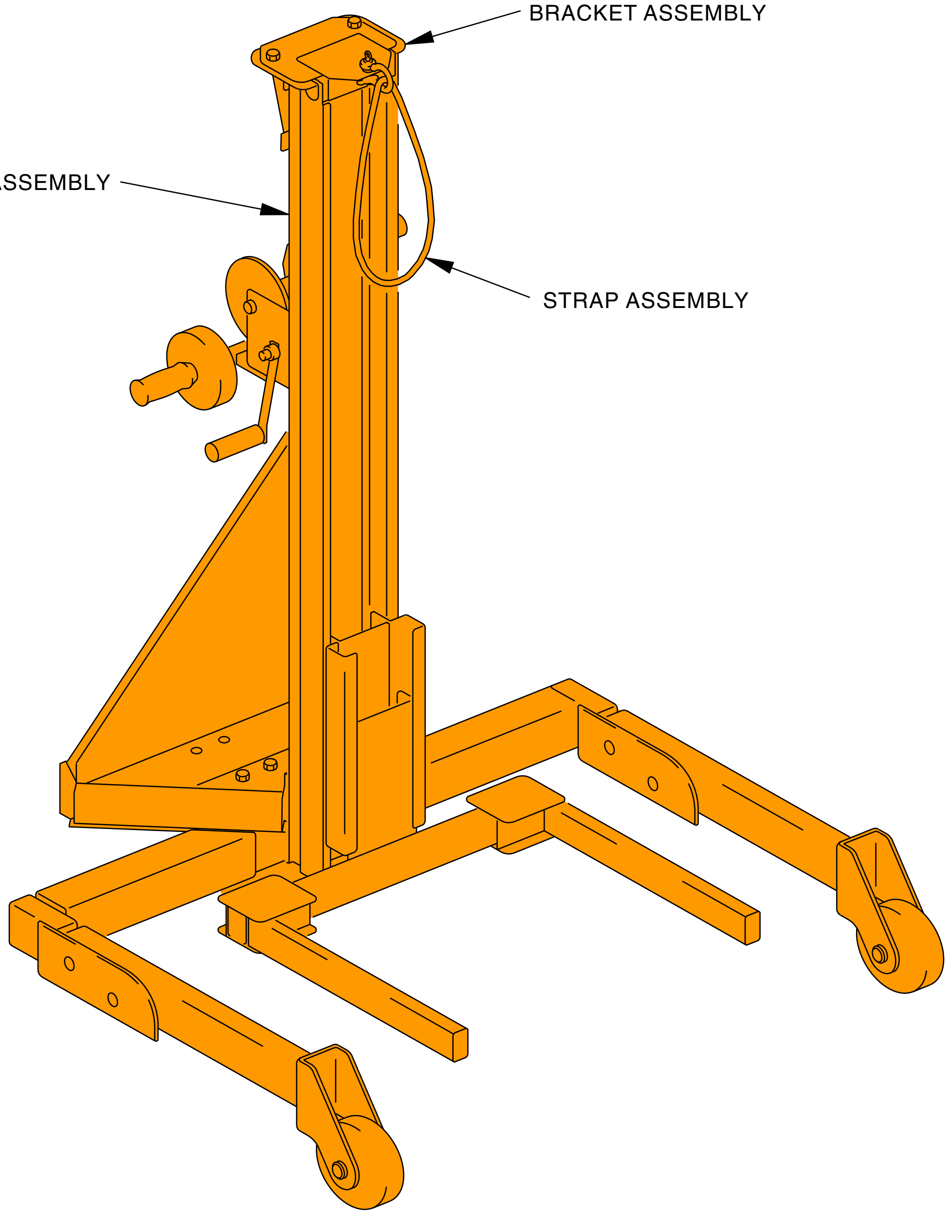


J32077-55
DOLLY EQUIPMENT

NOTE:
DOLLY EQUIPMENT SHOWN WITH TOW BAR ASSEMBLY INSTALLED.

U57965 S0000182406_V2

Main Landing Gear Transportation Dolly Equipment
Figure 403/32-11-04-990-808 (Sheet 2 of 2)



1368965 S0000246372_V2

Main Landing Gear Tower Jack Transporter Equipment
Figure 404/32-11-04-990-809

TASK 32-11-04-400-801

3. Main Landing Gear Shock Strut Inner Cylinder Installation

A. References

Reference	Title
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-15-01-610-810	Main Landing Gear Shock Strut Servicing (P/B 301)
20-11-00-910-801	Standard Torque Values (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-809	Main Hydraulic System - Air Bleed - Left, Center and Right (P/B 201)
32-11-18-400-801	Main Landing Gear Truck Assembly Installation (P/B 401)
32-11-22-400-807-002	Main Landing Gear Lower Torsion Link Installation (P/B 401)
32-11-25-200-802	Main Landing Gear Shock Strut Seal Leakage Check (P/B 601)
32-11-25-960-807-002	Replace the Active and the Spare Seals (P/B 201)
32-11-26-400-802	Main Landing Gear Center Axle Installation (P/B 401)
32-21-11-400-802	Nose Landing Gear Lower Torsion Link Installation (P/B 201)
32-30-01-720-801	Main Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks) (P/B 501)
32-32-25-420-801	Main Landing Gear (SLG) Hydraulic Strut Installation (P/B 401)
32-45-01-400-801	Main Landing Gear Wheel and Tire Assembly Installation (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1844	Replacement Equipment, MLG Lower Bearing Seals Part #: J32082 **ECD JAN2019** Supplier: 81205 Part #: J32082-73 Supplier: 81205
SPL-1846	Turnbuckle - MLG Truck Position Actuator Part #: J32034-1 Supplier: 81205
SPL-1851	Equipment - Handling, MLG Torsion Links Part #: J32048-53 Supplier: 81205
SPL-2557	Sling Eqpt, MLG Removal and Installation Part #: J32043-124 Supplier: 81205 Part #: J32043-125 Supplier: 81205
SPL-4250	Wrench - Support, MLG Gland Nut Part #: A32045-110 Supplier: 81205
SPL-4614	Sling Equipment, Main Landing Gear Inner Cylinder Part #: J32076-13 Supplier: 81205
SPL-8264	Transportation Equipment - Tower Jack, Main Landing Gear Part #: J32062-1 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
A00226	Compound - Tamper-Proof Putty	BMS8-45

(Continued)

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00633	Grease - Aircraft General Purpose	BMS3-33
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
8	Inner cylinder	Not Specified	

E. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Prepare for the installation of the inner cylinder

SUBTASK 32-11-04-420-003

(1) Using a crane or overhead lifting equipment, lift the inner cylinder [8] and position it over the main landing gear truck.

SUBTASK 32-11-04-020-028

(2) Do this task: Main Landing Gear Center Axle Installation, TASK 32-11-26-400-802.

SUBTASK 32-11-04-080-002

(3) Connect the MLG truck position actuator turnbuckle, SPL-1846, to the inner cylinder [8].

SUBTASK 32-11-04-420-019

(4) Remove the main landing gear inner cylinder Sling Equipment, SPL-4614.

SUBTASK 32-11-04-020-029

(5) Connect the position sensor link [68] to the fork of the inner cylinder [8].

SUBTASK 32-11-04-400-001

(6) Install the shock strut bearings and seals, do this task: Replace the Active and the Spare Seals, TASK 32-11-25-960-807-002.

(a) Position landing gear truck and inner cylinder on plates.

(b) Use the transportation equipment, SPL-8264, to install shock strut separation tools, sling equipment, SPL-2557.

SUBTASK 32-11-04-420-004

(7) Install the thread protector assembly [29].

(a) Put the thread protector assembly [29] in the outer cylinder [9].

(b) Connect the forward end to the hydraulic bracket on the outer cylinder with the pin.

(c) Install the bolts to connect the aft end of the assembly to lock plate tab on the outer cylinder.

G. Install the Main Landing Gear Inner Cylinder

(Figure 401, Figure 402)

SUBTASK 32-11-04-420-006

CAUTION	MAKE SURE THAT YOU PUT THE INNER AND OUTER CYLINDER TOGETHER CAREFULLY. THE NEW SEALS CAN CATCH ON THE OUTER CYLINDER, OR THE INNER AND OUTER CYLINDERS CATCH WHEN YOU ASSEMBLE THEM. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

(1) Lift the inner cylinder [8] and truck assembly with the shock strut separation tools, sling equipment, SPL-2557, such that the inner cylinder [8] goes into the outer cylinder [9].

NOTE: Leave enough chrome visible on the inner cylinder [8] such that you can install the bearing carrier installation tool, from seal replacement equipment, SPL-1844.

SUBTASK 32-11-04-420-007

(2) Move the lower bearing carrier [28] and the spacer [10] up the inner cylinder [8] into the outer cylinder [9]:

(a) Install the upper part of the carrier installation tool, from seal replacement equipment, SPL-1844, on the outer cylinder [9].

(b) Install the lower support of the carrier installation tool below the bearing carrier.

(c) Install the jack screw assemblies on the upper support and the lower support.

(d) Turn the two jack screw assemblies at the same time to pull the lower bearing carrier [28] into the outer cylinder [9].

NOTE: Make sure the static seals stay in their position as the lower bearing carrier is installed.

(e) Remove the bearing carrier installation seal replacement equipment, SPL-1844.

SUBTASK 32-11-04-020-022

(3) Remove the thread protector assembly [29].

SUBTASK 32-11-04-640-001

(4) Remove the gland nut protector from around the gland nut [18].

SUBTASK 32-11-04-640-002

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(5) Apply a thin layer of Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237, to the threads of the gland nut [18].

SUBTASK 32-11-04-420-008

(6) Use the MLG torsion links handling equipment, SPL-1851, to lower the upper torsion link [33] until the lower torsion link [37] is in position with the inner cylinder [8].

SUBTASK 32-11-04-420-009

(7) Connect the lower torsion link [37] to the inner cylinder [8] (TASK 32-11-22-400-807-002 or TASK 32-21-11-400-802).

SUBTASK 32-11-04-420-010

(8) Install the gland nut [18]:

(a) Move the gland nut [18] up to the outer cylinder [9] and engage the gland nut threads.

(b) Use the MLG gland nut spanner wrench, SPL-4250 to tighten the gland nut [18] to 230 ft-lb (312 N·m) to 260 ft-lb (353 N·m).

SUBTASK 32-11-04-410-001

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(9) Install the lockplate [27] for the gland nut [18]:

(a) Apply a thin layer of Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237, to the shank and threads of bolt [23] and washer [24].

(b) Install the lockplate [27] in the holes which will put the tab of the lockplate [27] as close to a slot in the gland nut [18] as possible.

NOTE: If it is necessary, loosen the gland nut [18] a small amount to help with the alignment.

(c) Install the bolt [23], washer [24] and nut [25]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

(d) Apply compound, A00226, (View F-F, (Figure 401)

NOTE: Apply it to make sure the seal made by the compound, A00226, must break if the bolt [23] are loosened.

SUBTASK 32-11-04-020-023

(10) Lower the main landing gear until you can remove the landing gear lifting landing gear lifting tools [31] from the axles:

(a) Lower the main landing gear [30] until the lifting equipment no longer carries a load.

(b) Disconnect each tool's hydraulic lines from the control box.

(c) Remove the tool nuts that hold the landing gear lifting tools [31] on the axles.

(d) Use the transportation equipment, SPL-8264, to remove each landing gear lifting tool [31] from its position on the main landing gear axles.

(e) Remove the sleeve for the tool from the axles.

(f) Remove the plate from beneath each axle.

(g) To install the wheels and tires for the forward and aft axles, do this task: Main Landing Gear Wheel and Tire Assembly Installation, TASK 32-45-01-400-801.

SUBTASK 32-11-04-580-002

(11) Lower the airplane but leave the jacks in place, (TASK 07-11-01-580-805).

H. Put the Airplane Back to Its Usual Condition.

SUBTASK 32-11-04-080-003

(1) Remove the MLG truck position actuator turnbuckle, SPL-1846.

SUBTASK 32-11-04-420-017

(2) Connect the hydraulic strut [7], hydraulic bracket [70] and kickstand assembly [39], do these steps:

(a) Connect the hydraulic bracket [70] and kickstand assembly [39] to the inner cylinder [8], (TASK 32-11-18-400-801).

(b) Connect the hydraulic strut [7] to the truck, (TASK 32-32-25-420-801).

(c) Connect the forward hydraulic line [41] and forward hydraulic line [42].

1) Tighten the B-nuts on the forward hydraulic line [41] and forward hydraulic line [42] to 270 ±14 in-lb (31 ±2 N·m).

SUBTASK 32-11-04-400-002

(3) Install the pin [92], truck tilt stop [93], spacer [90], spacer [91], and nut [88].

(a) Apply grease, D00633, to the pin [92] shank and bushings.

(b) Tighten the nut [88] and install the cotter pin [87].

1) Do a check of the nut for self-locking torque. It must be 137 in-lb (15 N·m) to 900 in-lb (102 N·m). Calculate installation torque range by adding 180 in-lb (20 N·m) to 240 in-lb (27 N·m) to the measured self-locking torque. Tighten nuts within this calculated range. Loosen if necessary to insert the cotter pin.

SUBTASK 32-11-04-420-018

(4) Connect the steering actuator hydraulic line [40] and electrical conduit [32], do these steps:

(a) Connect the hydraulic aft support arm [80] to the truck, (TASK 32-11-18-400-801).

(b) Connect the steering actuator hydraulic lines [40] to the steering actuator.

1) Install steering actuator hydraulic line [40] in the PRESSURE PORT of the steering actuator.

a) Tighten the B-nut on the steering actuator hydraulic line [40] to 270 ±14 in-lb (31 ±2 N·m)

2) Install steering actuator hydraulic line [40] in the RETURN port of the steering actuator.

a) Tighten the B-nut on the steering actuator hydraulic line [40] to 500 ±25 in-lb (56 ±3 N·m).

(c) Put the electrical conduit [32] through each clamp [44], clamp [48], clamp [50], clamp [57] and clamp [59] on each side of the truck.

NOTE: Do not tighten the clamps.

(d) Connect the electrical connector [43] and electrical connector [52] on each side of the forward junction box.

(e) Make sure the electrical conduit is not twisted or pinched.

(f) Tighten the clamp [44], clamp [48], clamp [50], clamp [57] and clamp [59] that hold the electrical conduit [32] on each side of the truck.

(g) Connect the brake hoses at the aft and center brake disconnect (4 locations).

1) Tighten the B-nut on the brake hoses to 270 ±14 in-lb (31 ±2 N·m).

SUBTASK 32-11-04-420-015

(5) Install the oil valve cap [5] assembly loosely.

SUBTASK 32-11-04-600-001

(6) Do this task: Main Landing Gear Shock Strut Servicing, TASK 12-15-01-610-810.

SUBTASK 32-11-04-720-001

(7) Do the system test that follows on the Maintenance Access Terminal:.

NOTE: This will check the electrical connections to the truck.

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE

2) LINE MAINTENANCE

3) GROUND TESTS

4) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM

5) SYSTEM TEST

6) SYSTEM INTERFACE

7) CONTINUE

(b) Do the test preparation instructions that show on the MAT.

(c) Start the test.

(d) Do the test instructions that show on the MAT.

(e) When the test is completed, make sure that PASSED shows adjacent to TEST CONDITION on the MAT.

(f) If FAILED shows, refer to the applicable Maintenance Message Index in the FIM to find the fault isolation task for each maintenance message that shows on the MAT.

SUBTASK 32-11-04-600-002

(8) Do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

NOTE: Check for leaks at the hydraulic connections that you disconnected.

SUBTASK 32-11-04-210-001

(9) Do this task: Main Hydraulic System - Air Bleed - Left, Center and Right, TASK 29-11-00-860-809.

SUBTASK 32-11-04-710-002

(10) Do these steps 15 times to bleed the steering actuator:

NOTE: During the first of the 15 cycles, the aft axles may not move. When the aft axles move during subsequent cycles, it can be determined as normal.

(a) Make sure the parking brake is released.

(b) Rotate the Captain's tiller fully clockwise and hold for 5 seconds.

(c) Make sure the left and right aft axles turn smoothly.

(d) Release the Captain's tiller.

(e) Make sure the left and right aft axles move back to the centered position smoothly.

(f) Rotate the Captain's tiller fully counterclockwise and hold for 5 seconds.

(g) Make sure the left and right aft axles turn smoothly.

(h) Release the Captain's tiller.

(i) Make sure the left and right aft axles move back to the centered position smoothly.

SUBTASK 32-11-04-710-001

(11) Do this task: Main Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks), TASK 32-30-01-720-801.

SUBTASK 32-11-04-790-001

(12) Do this task: Main Landing Gear Shock Strut Seal Leakage Check, TASK 32-11-25-200-802.

——— END OF TASK ———

MAIN LANDING GEAR DRAG BRACE ASSEMBLY - REMOVAL/INSTALLATION

1. **General**

A. This procedure has these tasks:

(1) A task to prepare for the removal

(2) A removal of the drag brace assembly

(3) A removal of the upper drag brace

(4) A removal of the lower drag brace

(5) A removal of the lock links for the drag brace

(6) A removal of the upper spindle for the drag brace

(7) A removal of the lower spindle for the drag brace

(8) A removal of the lock link spindle for the drag brace

(9) An installation of the drag brace assembly

(10) An installation of the upper drag brace

(11) An installation of the lower drag brace

(12) An installation of the lock links for the drag brace

(13) An installation of the upper spindle for the drag brace

(14) An installation of the lower spindle for the drag brace

(15) An installation of the lock link spindle for the drag brace

(16) A task to put the airplane back to its usual condition.

B. Before you do a removal task it is necessary to do the task "Prepare for the Removal". After you do an installation task it is necessary to do the task, "Put the Airplane Back to its Usual Condition.

TASK 32-11-10-910-801

2. **Prepare for the Removal**

(Figure 401, Figure 402)

A. General

(1) It is necessary to do this task before you do a removal procedure for any of the drag brace components.

B. References

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Procedure

SUBTASK 32-11-10-480-001

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-10-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-10-860-001

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-11-10-860-002

(4) To lift the airplane until the main landing gear wheels are above the ground, do this task: Lift the Airplane with Jacks, TASK 07-11-01-580-804.

SUBTASK 32-11-10-480-016

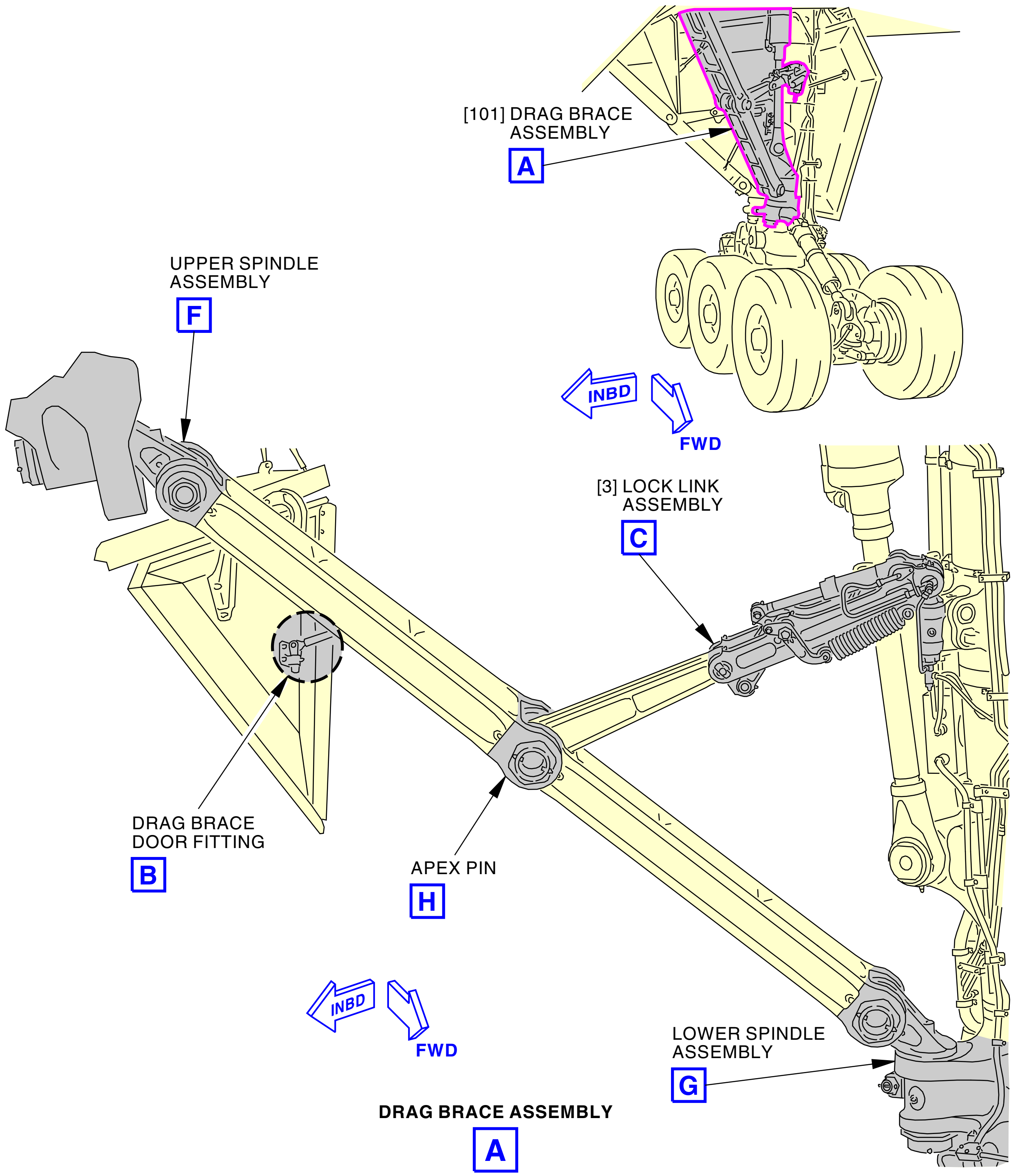
(5) Do the steps that follow to relieve the landing gear weight from the drag brace components:

(a) Attach a strap between the left and the right landing gear truck beams.

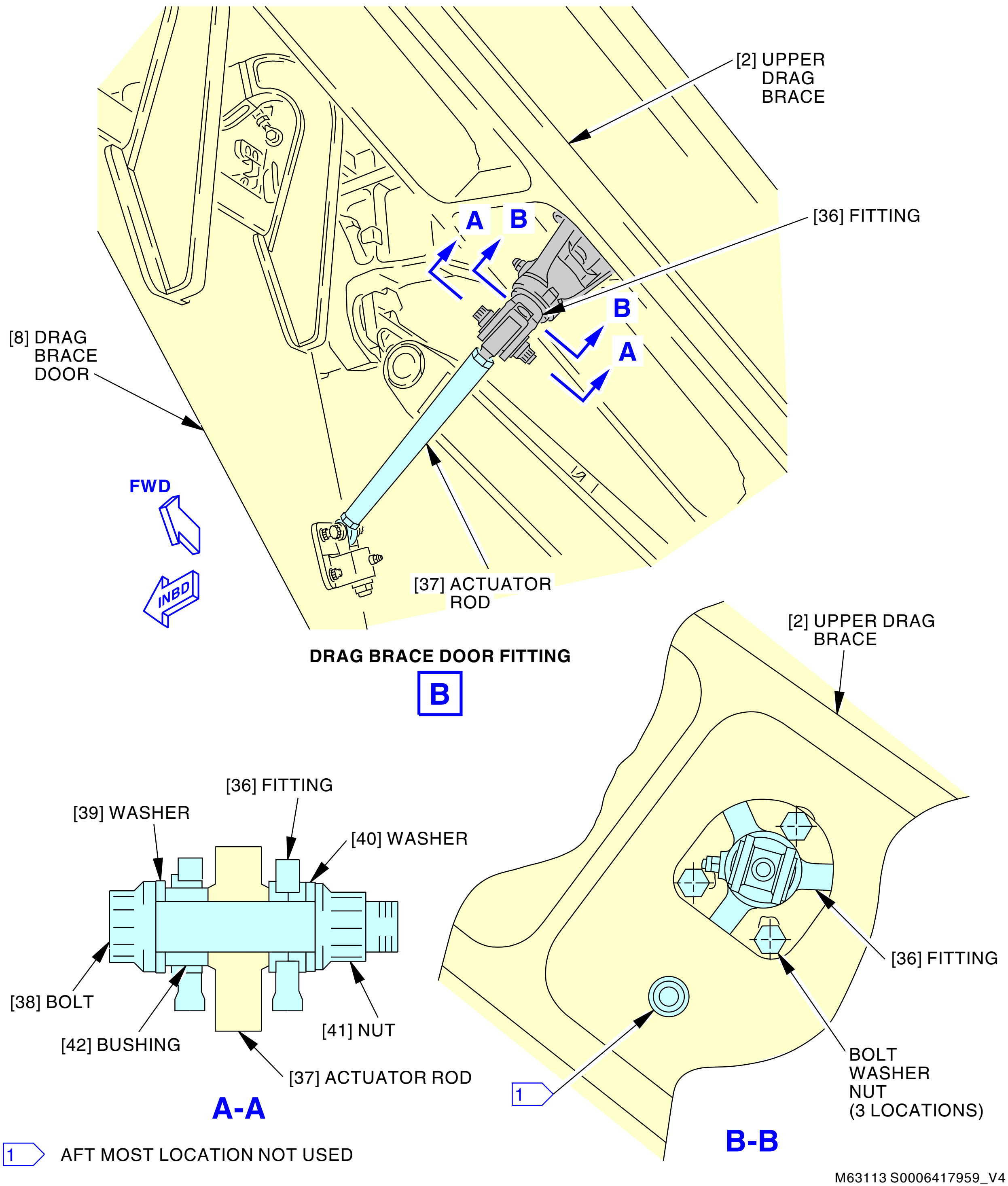
(b) Push UP on the side brace lock links, on the landing gear you are working on, to move it from the over-center position.

(c) Tighten the strap between the left and right landing gear until the weight on the drag brace components is removed.

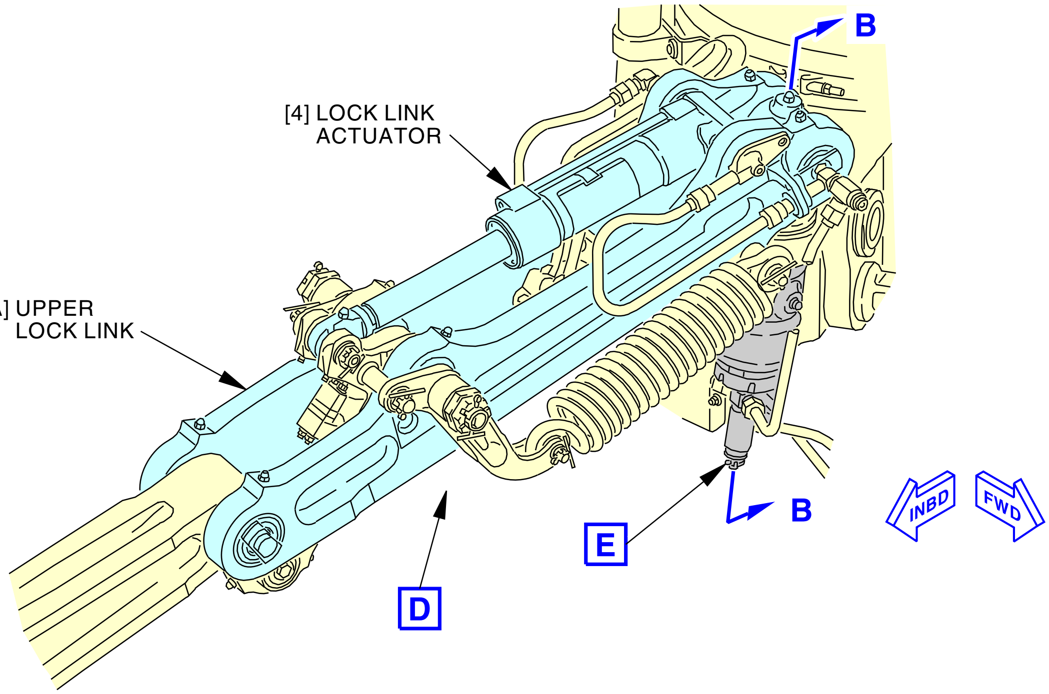
——— END OF TASK ———



Main Landing Gear Drag Brace Assembly Installation
Figure 401/32-11-10-990-803 (Sheet 1 of 7)

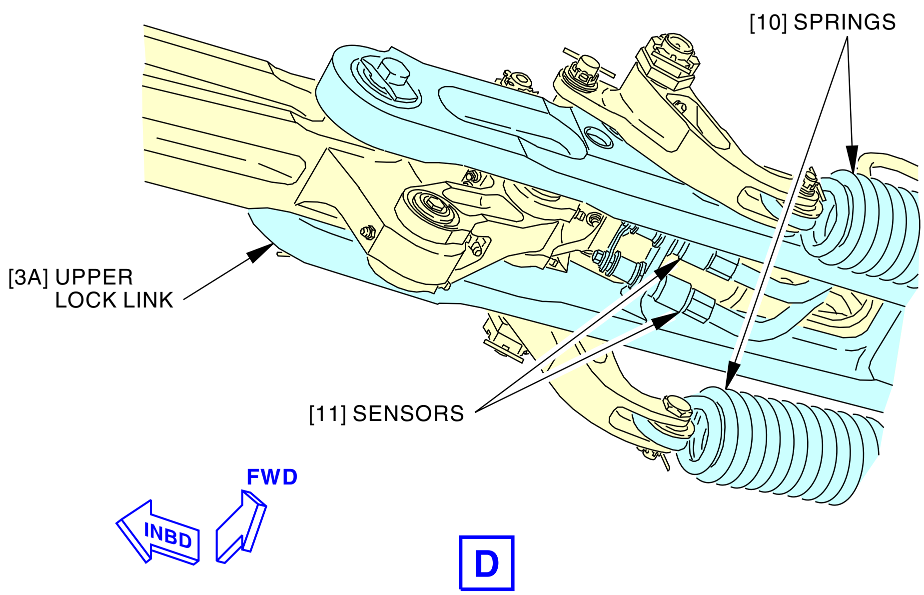


Main Landing Gear Drag Brace Assembly Installation
Figure 401/32-11-10-990-803 (Sheet 2 of 7)



LOCK LINK ASSEMBLY

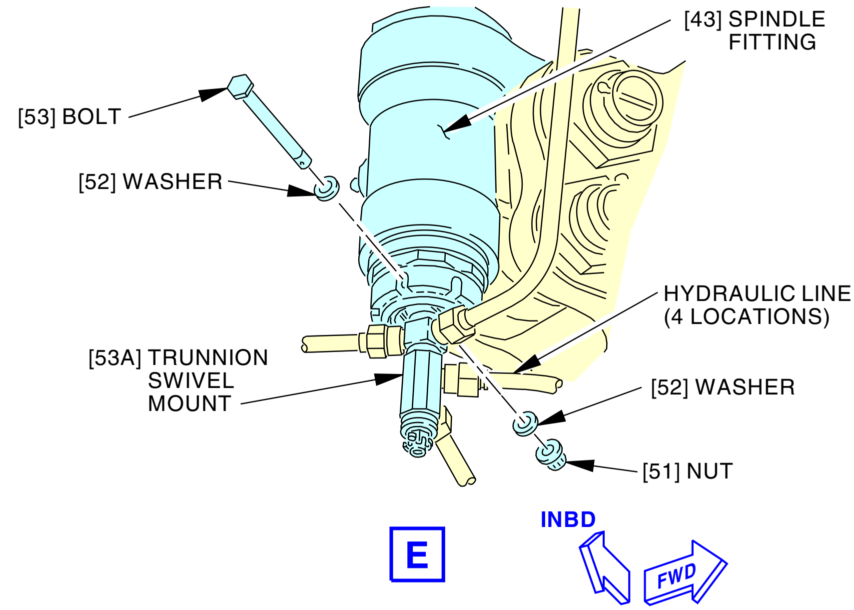
C

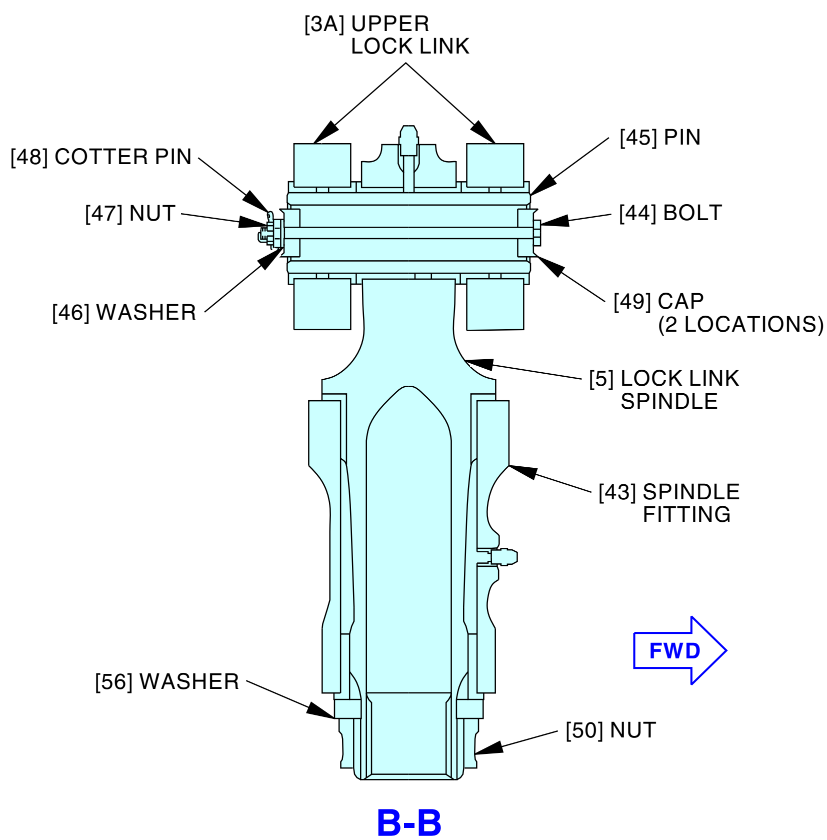


D

M63154 S0006417960_V2

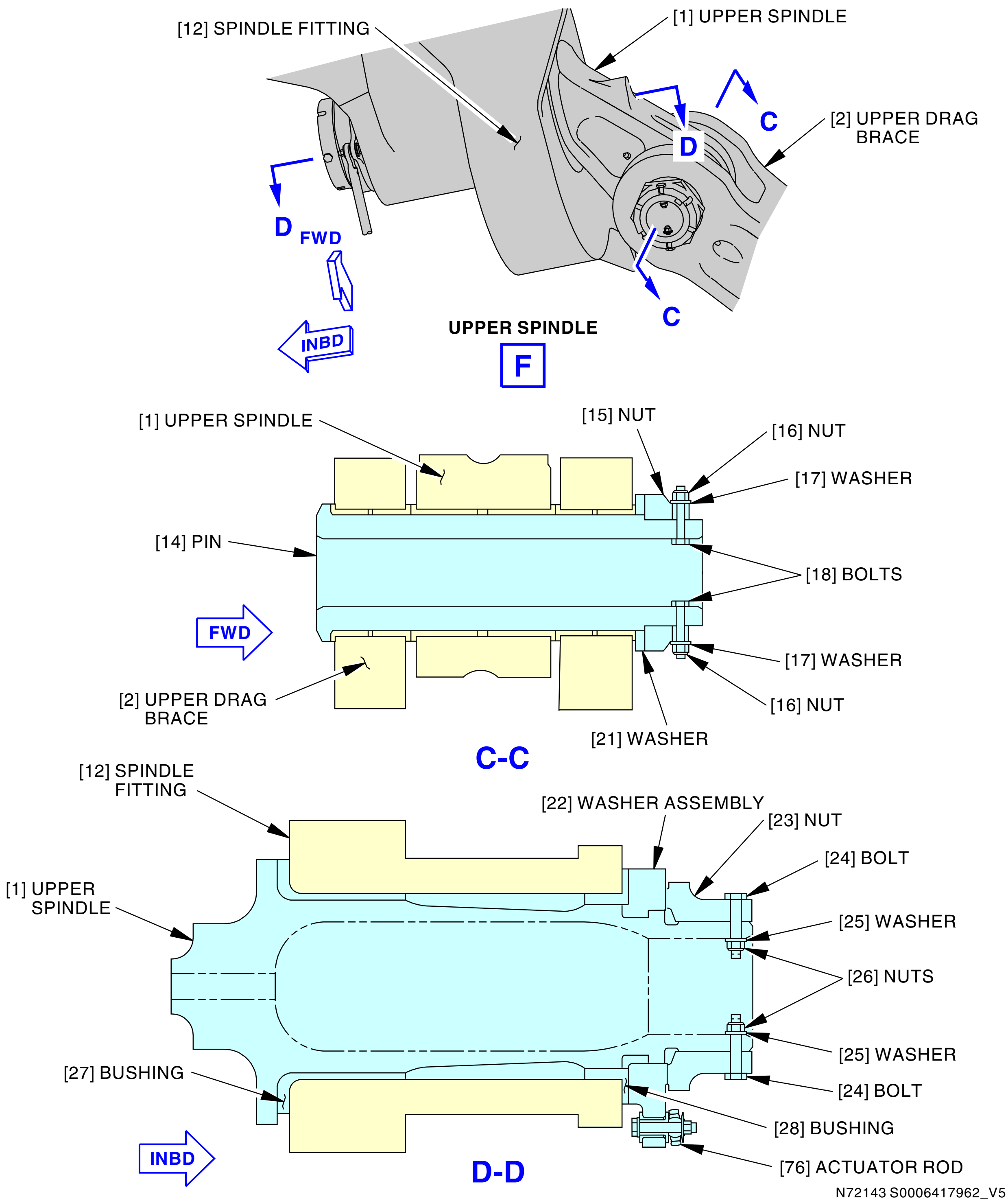
Main Landing Gear Drag Brace Assembly Installation
Figure 401/32-11-10-990-803 (Sheet 3 of 7)



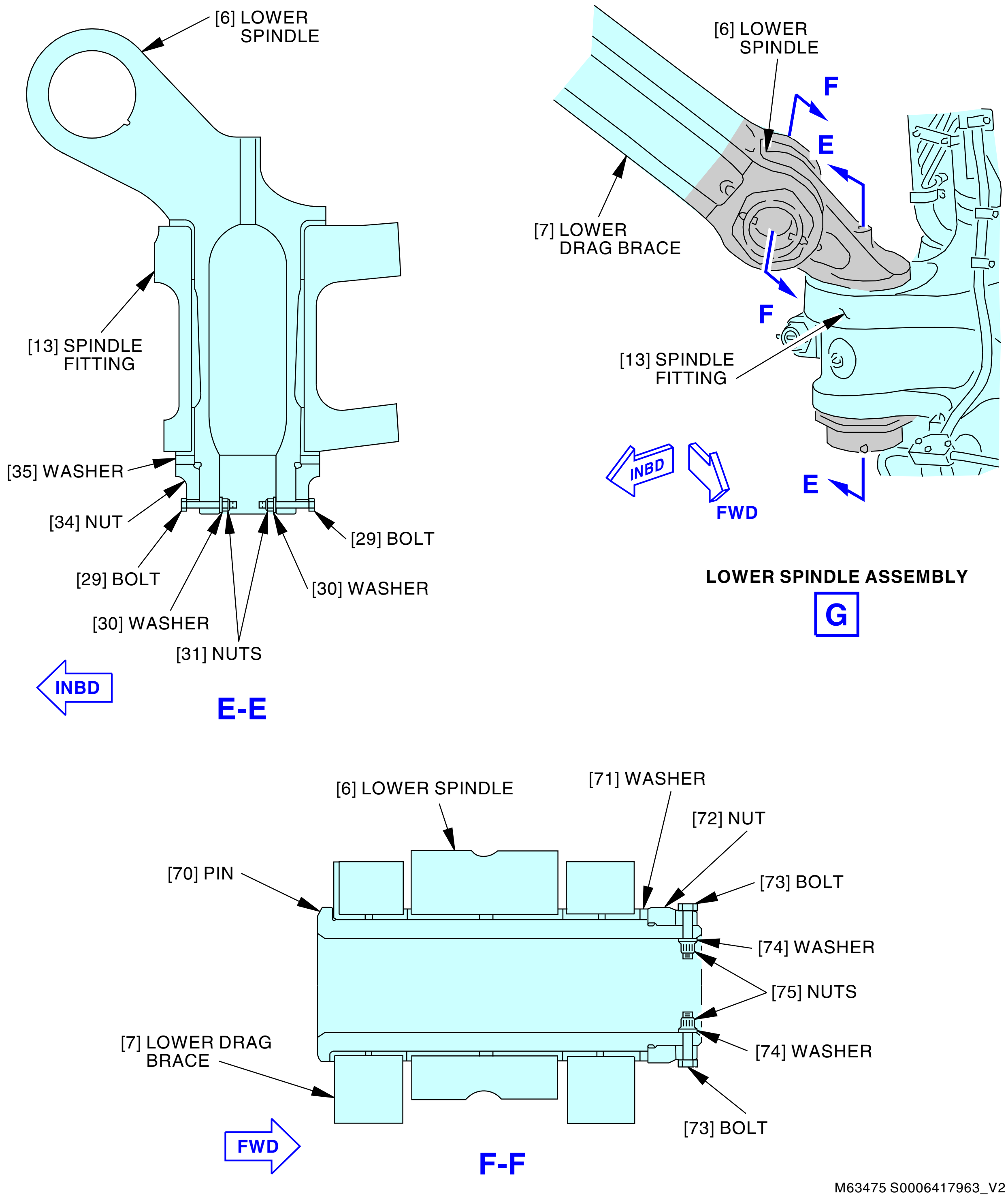


M63446 S0006417961_V2

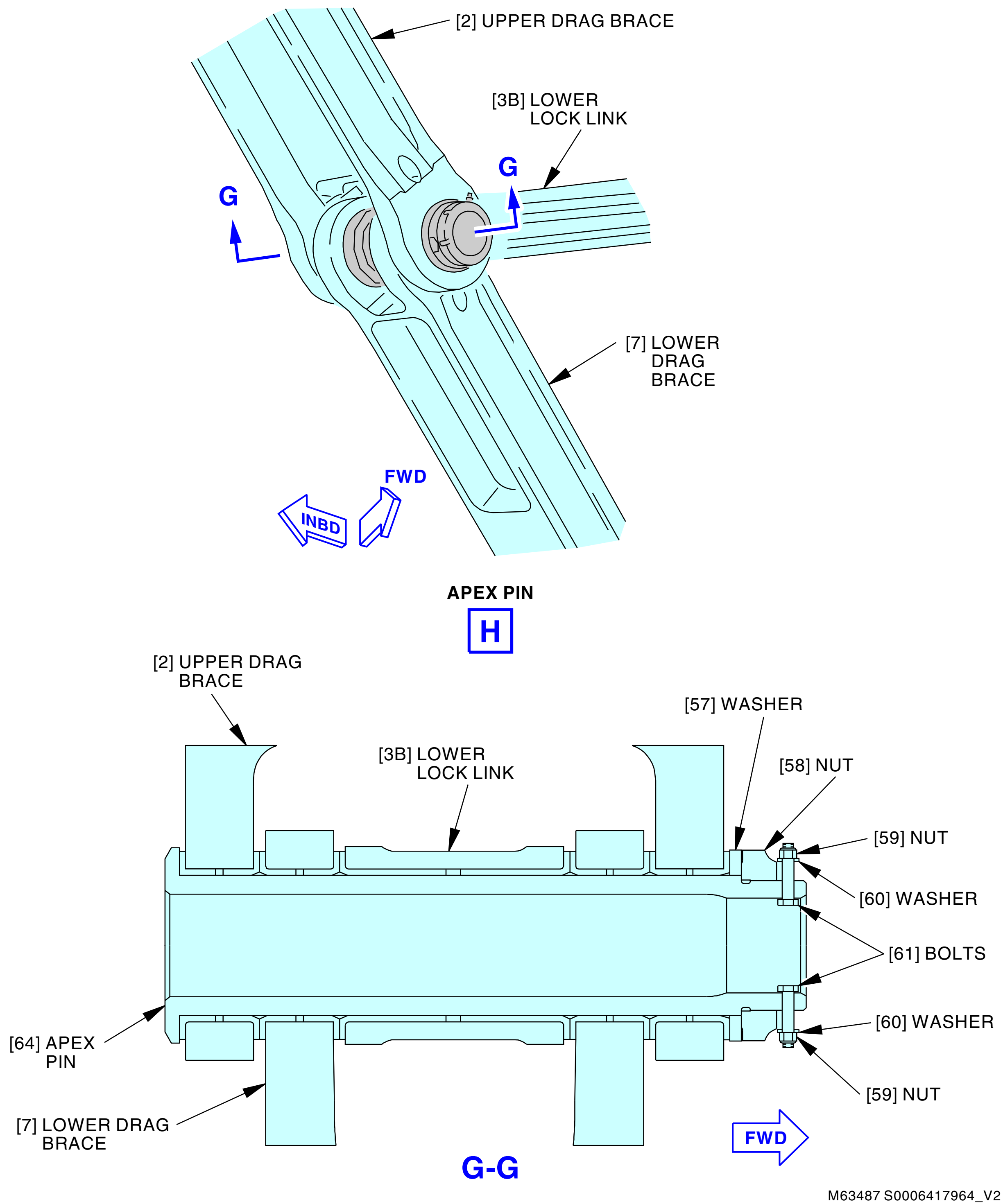
Main Landing Gear Drag Brace Assembly Installation
Figure 401/32-11-10-990-803 (Sheet 4 of 7)



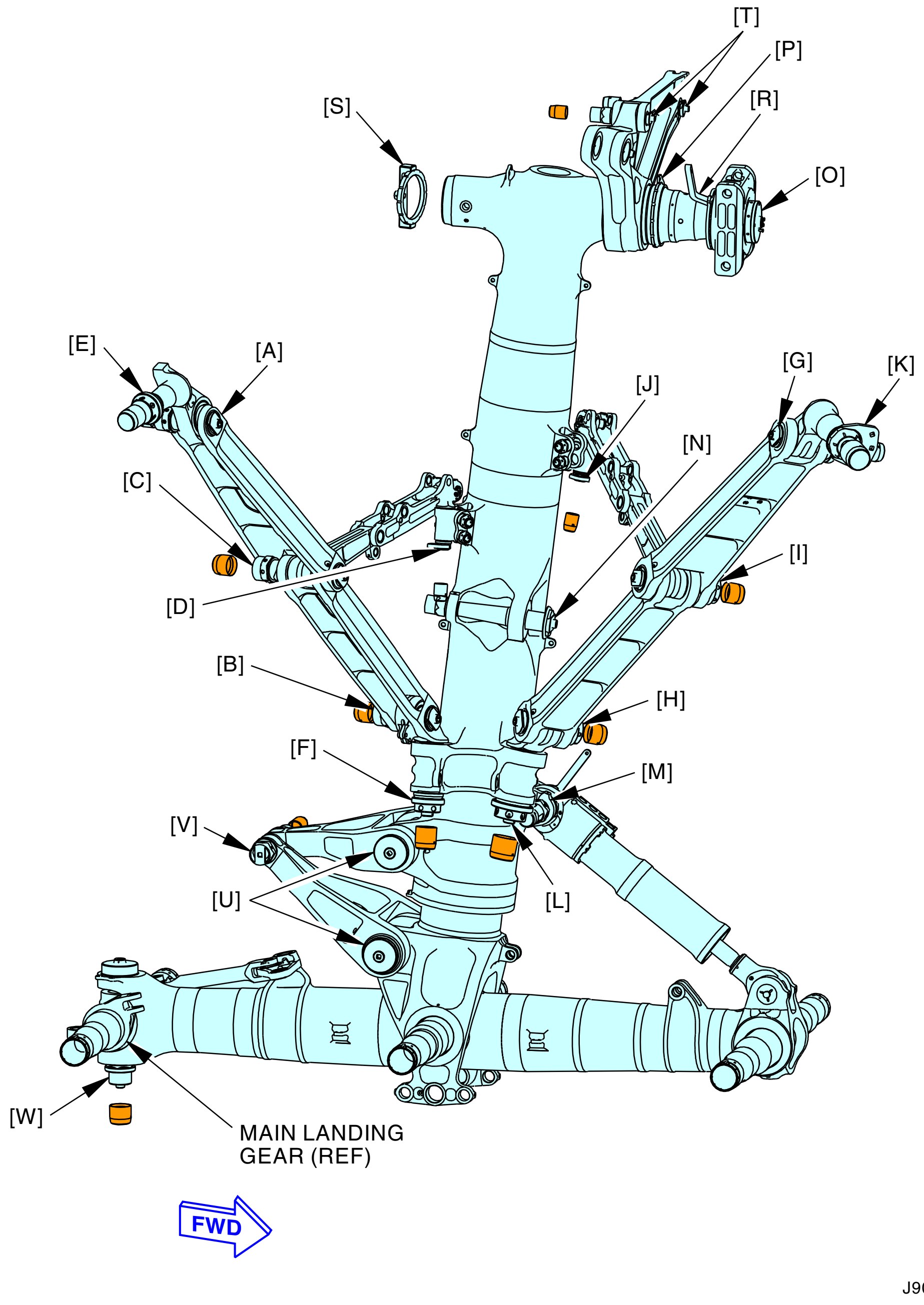
Main Landing Gear Drag Brace Assembly Installation
Figure 401/32-11-10-990-803 (Sheet 5 of 7)



Main Landing Gear Drag Brace Assembly Installation
Figure 401/32-11-10-990-803 (Sheet 6 of 7)



Main Landing Gear Drag Brace Assembly Installation
Figure 401/32-11-10-990-803 (Sheet 7 of 7)



Special Tools for Main Landing Gear Installation
Figure 402/32-11-10-990-804 (Sheet 1 of 4)

MAIN LANDING GEAR, SIDE STRUT					
COMPONENT	WRENCH OR SOCKET (FOR NUT)	THREAD PROTECTOR	WRENCH (FOR PIN RETENTION)	USED ON AIRCRAFT PART	USAGE LOCATION
SIDE STRUT, UPPER STRUT LINK ATTACH	J32085-36	J32085-17	J32085-12	161W3217 (NUT) 161W0260 (PIN)	[A]
SIDE STRUT, LOWER STRUT LINK ATTACH	J32085-36	J32085-17	J32085-12	161W3217 (NUT) 161W0260 (PIN)	[B]
SIDE STRUT, APEX	J32085-36	J32085-17	J32085-12	161W3217 (NUT) 161W3216 (PIN)	[C]
SIDE STRUT, LOCK LINK SPINDLE	J32085-7	J32085-15	NOT REQUIRED	161W1811 (NUT) 161W3211 (SPINDLE ASSEMBLY)	[D]
SIDE STRUT, UPPER ATTACH SPINDLE	J32085-26	J32085-18	NOT REQUIRED	161W0103 (NUT) 161W0200 (SPINDLE ASSEMBLY)	[E]
SIDE STRUT, LOWER ATTACH SPINDLE	J32085-27	J32085-19	NOT REQUIRED	161W2315 (NUT) 161W2310 (SPINDLE ASSEMBLY)	[F]

J91002 S0000185041_V2

**Special Tools for Main Landing Gear Installation
Figure 402/32-11-10-990-804 (Sheet 2 of 4)**

MAIN LANDING GEAR, DRAG STRUT					
COMPONENT	WRENCH OR SOCKET (FOR NUT)	THREAD PROTECTOR	WRENCH (FOR PIN RETENTION)	USED ON AIRCRAFT PART	USAGE LOCATION
DRAG STRUT, UPPER STRUT LINK ATTACH	J32085-24	J32085-16	J32085-10	161W0266 (NUT) 161W0265 (PIN)	[G]
DRAG STRUT, LOWER STRUT LINK ATTACH	J32085-25	J32085-68	J32085-13	161W4217 (NUT) 161W0264 (PIN)	[H]
DRAG STRUT, APEX	J32085-25	J32085-68	J32085-11	161W4217 (NUT) 161W4215 (PIN)	[I]
DRAG STRUT, LOCK LINK SPINDLE	J32085-7	J32085-15	NOT REQUIRED	161W1811 (NUT) 161W3211 (SPINDLE ASSEMBLY)	[J]
DRAG STRUT, UPPER ATTACH SPINDLE	J32085-8	J32085-14	NOT REQUIRED	161W0209 (NUT) 161W0206 (SPINDLE ASSEMBLY)	[K]
DRAG STRUT, LOWER ATTACH SPINDLE	J32085-28	J32085-20	NOT REQUIRED	161W2317 (NUT) 161W2312 (SPINDLE ASSEMBLY)	[L]
HYDRAULIC STRUT ATTACH, UPPER	J32085-34	J32085-23	J32085-30	161W0251 (NUT) 161W0250 (PIN)	[M]
RETRACT ACTUATOR, LOWER ATTACH	1923	J32085-69	J32085-64	161W1022 (NUT) 161W2020 (PIN)	[N]

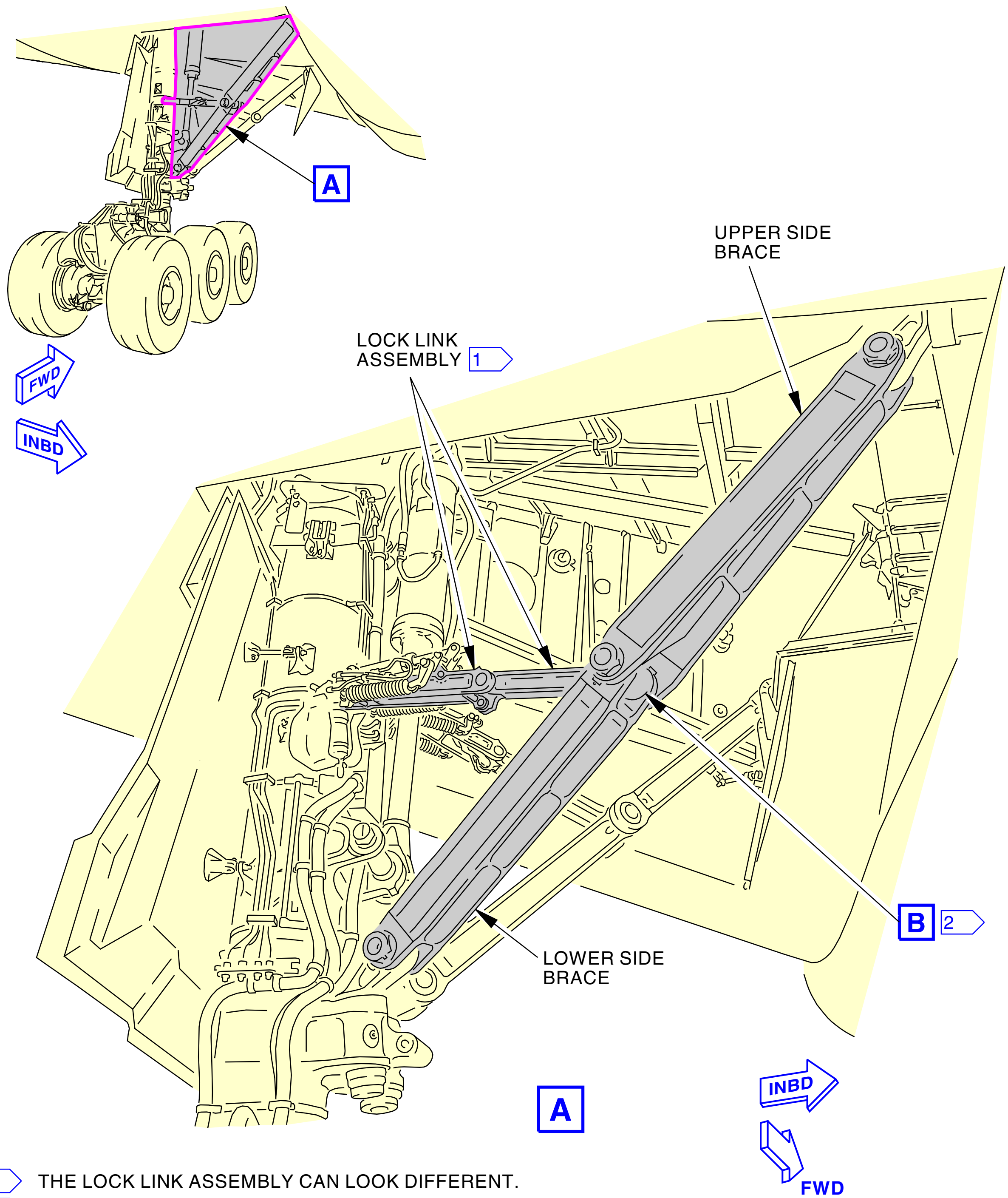
J91016 S0000185955_V2

Special Tools for Main Landing Gear Installation
Figure 402/32-11-10-990-804 (Sheet 3 of 4)

MAIN LANDING GEAR, UPPER TRUNNION					
COMPONENT	WRENCH OR SOCKET (FOR NUT)	THREAD PROTECTOR	WRENCH (FOR PIN RETENTION)	USED ON AIRCRAFT PART	USAGE LOCATION
UPPER TRUNNION, NUT-RETAINING, FORWARD TRUNNION BEARING	J32085-6	NOT REQUIRED	NOT REQUIRED	161W1323 (NUT)	[O]
UPPER TRUNNION, NUT-RETAINING, RETRACT ARM	J32085-3	NOT REQUIRED	NOT REQUIRED	161W2306 (NUT)	[P]
UPPER TRUNNION, NUT-RETAINING, FORWARD TRUNNION BEARING	J32085-5	NOT REQUIRED	NOT REQUIRED	161W0216 (NUT)	[R]
UPPER TRUNNION, NUT-RETAINING, AFT TRUNNION BEARING ASSEMBLY	J32085-2	NOT REQUIRED	NOT REQUIRED	161W1504 (NUT)	[S]
UPPER TRUNNION, NUT-RETAINING, RETRACT ARM	1920	J32085-21	J32085-9	NASM21025 (NUT) 161W0081 (PIN)	[T]
TORSION LINK UPPER ATTACH	J32085-33	J32085-39	J32085-29	161W2147 (NUT) 161W2145 (PIN)	[U]
TORSION LINK LOWER ATTACH	J32085-33	J32085-39	J32085-29	161W2147 (NUT) 161W2146 (PIN)	[U]
TORSION LINK, APEX	J32085-35	J32085-37	J32085-34	161W2149 (NUT) 161W2144 (PIN)	[V]
AFT AXLE, PIVOT-TRUCK BEAM	J32085-32	J32085-38	J32085-31	161W1217 (NUT) 161W2209 (PIN)	[W]

J91021 S0000185956_V2

Special Tools for Main Landing Gear Installation
Figure 402/32-11-10-990-804 (Sheet 4 of 4)

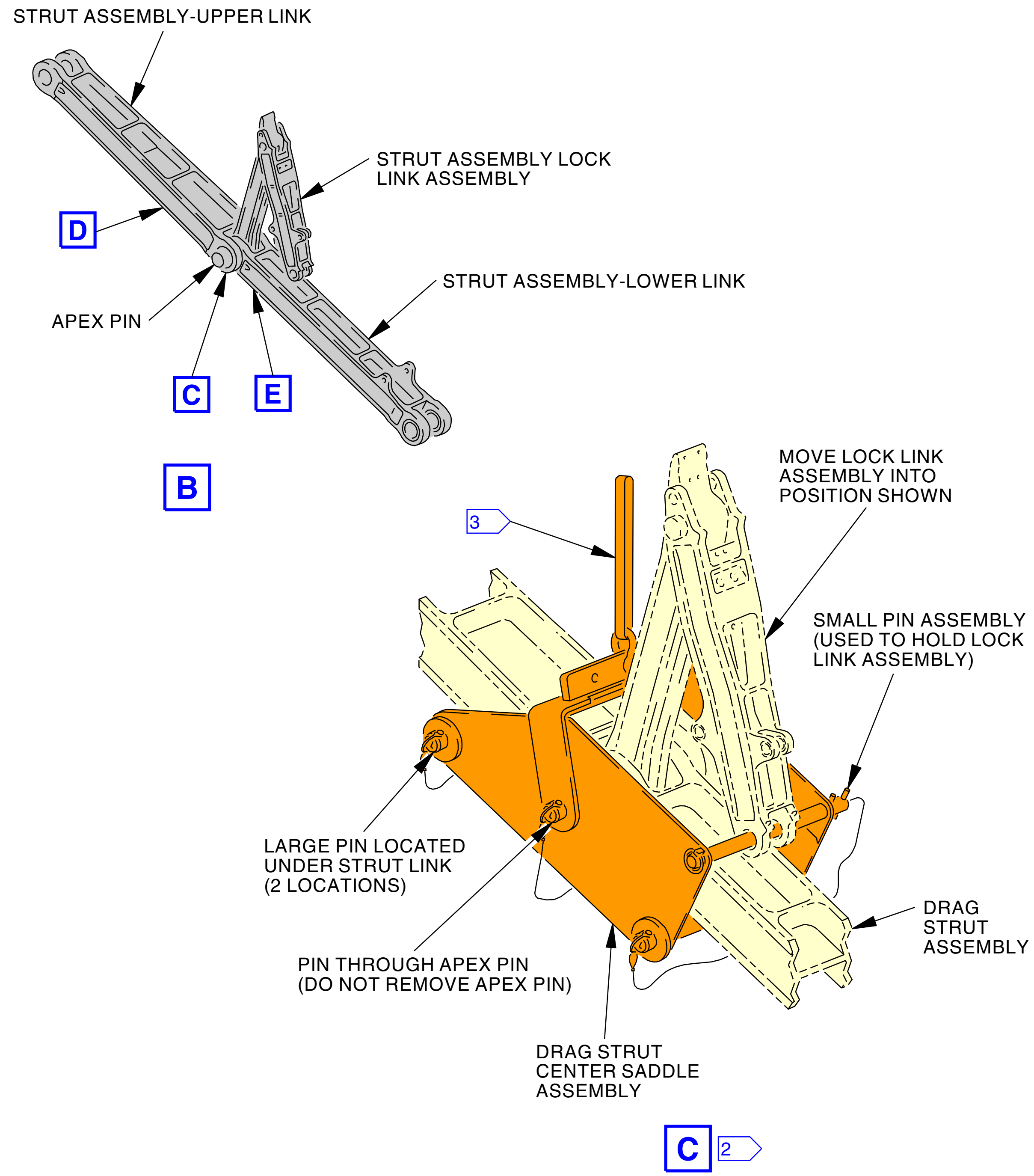


1 THE LOCK LINK ASSEMBLY CAN LOOK DIFFERENT.

2 SIDE BRACE ASSEMBLY IS SHOWN, DRAG BRACE ASSEMBLY IS EQUIVALENT.

U72089 S0000214624_V2

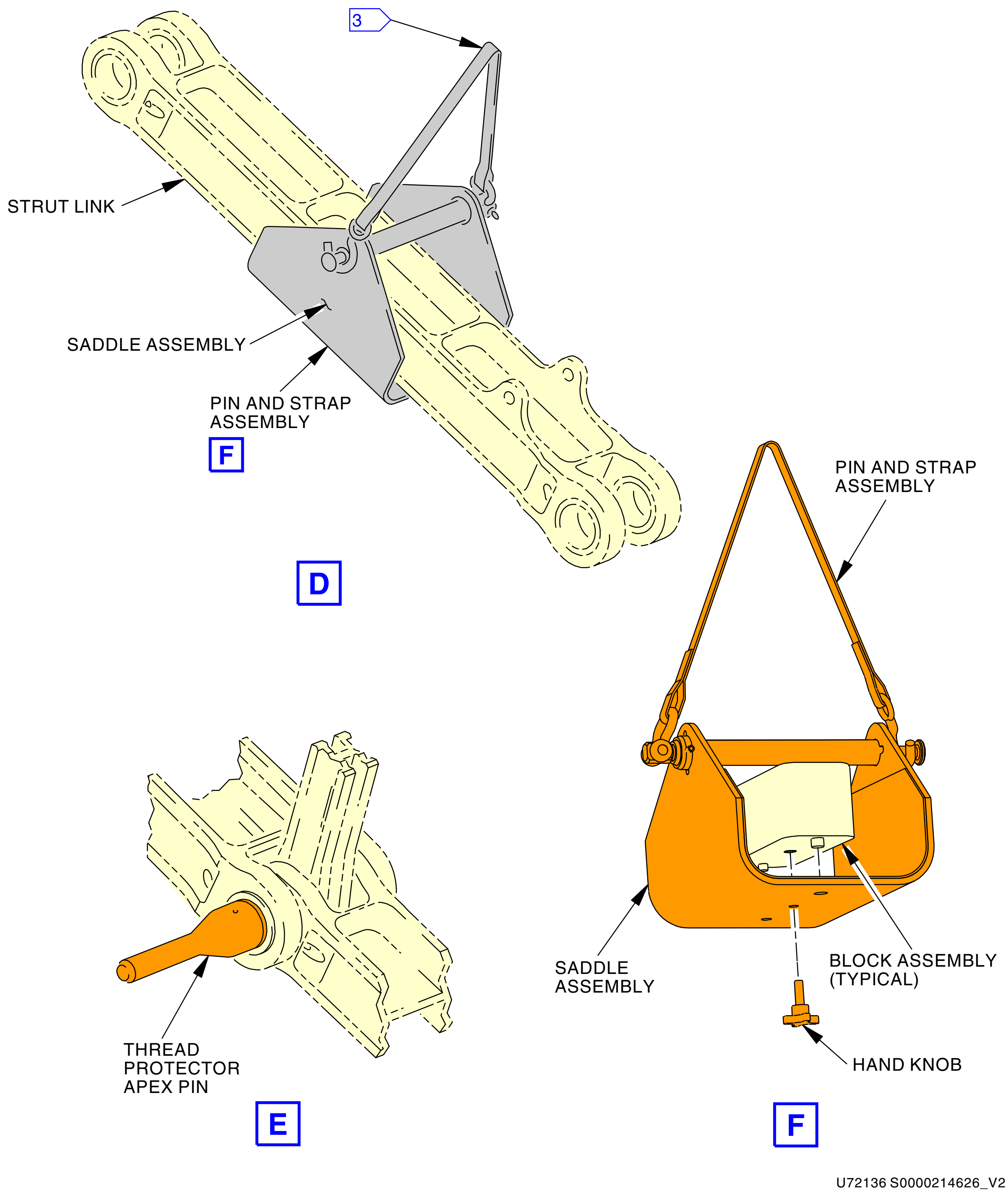
Main Landing Gear Side Brace Sling Equipment
Figure 403/32-11-10-990-805 (Sheet 1 of 3)



3 LIFT WITH A CUSTOMER FURNISHED BOOM HOIST MINIMUM WORKING CAPACITY: 400 LBS (181.437 kg)
MINIMUM LIFT HEIGHT: 145 INCHES (3683 mm)

U72123 S0000214625_V2

Main Landing Gear Side Brace Sling Equipment
Figure 403/32-11-10-990-805 (Sheet 2 of 3)



Main Landing Gear Side Brace Sling Equipment
Figure 403/32-11-10-990-805 (Sheet 3 of 3)

TASK 32-11-10-000-807

3. Drag Brace Assembly Removal

(Figure 401, Figure 402)

A. General

(1) This task provides instructions to remove the drag brace as one complete assembly. The drag brace assembly [101] consists of the upper drag brace [2], the lock link assembly [3], and the lower drag brace [7]. The lock link assembly [3] consists of the upper lock link [3A], lower lock link [3B], spring [10] and the lock link spindle [5].

(2) The drag brace assembly [101] weighs approximately 265 lb (120 kg).

(3) It is necessary to do the task "Prepare for the Removal" before you do this task.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1905	Sling - MLG Side Brace Sling Part #: J32002**ECD NOV2018** Supplier: 81205 Part #: J32002-98 Supplier: 81205 Opt Part #: J32002-73 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Procedure

SUBTASK 32-11-10-840-013

(1) Do this task: Prepare for the Removal, TASK 32-11-10-910-801.

SUBTASK 32-11-10-480-017

(2) Disconnect the sensors [11] and the clamps [9] from the upper lock link [3A].

SUBTASK 32-11-10-480-018

(3) Remove the bolt [38] to disconnect the actuator rod [37] for the drag brace door [8] from the fitting [36] mounted on the upper drag brace [2].

NOTE: Do not change the length of the actuator rod [37].

SUBTASK 32-11-10-480-019

(4) Install the MLG side brace sling, SPL-1905, on the upper drag brace [2] and the lock link assembly [3] (Figure 403).

SUBTASK 32-11-10-480-020

(5) Connect the hoist, SPL-1556, to the MLG side brace sling, SPL-1905.

SUBTASK 32-11-10-020-037

(6) To disconnect the lock link assembly [3] from the spindle fitting [43], do the steps that follow:

(a) Disconnect the four hydraulic lines from the trunnion swivel mount [53A].

(b) Install caps on the trunnion swivel mount [53A] and plugs in the hydraulic lines.

(c) Remove the bolt [53], washers [52], nut [51], and the trunnion swivel mount [53A] from the lock link spindle [5].

(d) Use the wrench kit, SPL-4133, to remove the castellated nut [50] (Figure 402).

(e) Remove the washer [56].

NOTE: The thread protector from wrench kit, SPL-4133, can be installed on the lock link spindle [5] before its removal.

SUBTASK 32-11-10-480-021

(7) Use the MLG side brace sling, SPL-1905, to lift the weight of the drag brace assembly [101].

SUBTASK 32-11-10-020-027

(8) Disconnect the lower drag brace [7] from the lower spindle [6].

(a) Remove the nuts [75], washers [74] and bolt [73].

(b) Use the wrench kit, SPL-4133, to remove the nut [72], washer [71] (Figure 402).

(c) Remove the pin [70].

NOTE: The thread protector from wrench kit, SPL-4133, can be installed on the pin [70] before its removal.

SUBTASK 32-11-10-020-028

(9) Disconnect the upper drag brace [2] from the upper spindle [1].

(a) Remove the washers [17], nuts [16], bolts [18].

(b) Use the wrench kit, SPL-4133 to remove the nut [15], washer [21] (Figure 402).

(c) Remove the pin [14].

NOTE: The thread protector from wrench kit, SPL-4133, can be installed on the pin [14] before its removal.

SUBTASK 32-11-10-020-029

(10) Remove the drag brace assembly [101].

——— END OF TASK ———

TASK 32-11-10-000-801

4. Upper Drag Brace Removal

(Figure 401)

A. General

(1) It is necessary to do the task "Prepare for the Removal" before you do this task.

B. References

Reference	Title
32-32-07-000-803	Main Landing Gear Drag Brace Lock Spring Removal (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1905	Sling - MLG Side Brace Sling Part #: J32002**ECD NOV2018** Supplier: 81205 Part #: J32002-98 Supplier: 81205 Opt Part #: J32002-73 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

E. **Procedure**

SUBTASK 32-11-10-840-001

(1) Do this task: Prepare for the Removal, TASK 32-11-10-910-801.

SUBTASK 32-11-10-480-002

(2) Remove the bolt [38], washer [39], washer [40], nut [41] to disconnect the actuator rod [37] for the drag brace door [8] from the fitting [36] mounted on the upper drag brace [2].

NOTE: Do not change the length of the actuator rod [37].

SUBTASK 32-11-10-480-003

(3) Install the MLG side brace sling, SPL-1905, on the upper drag brace [2] (Figure 401, Figure 403).

SUBTASK 32-11-10-480-028

(4) Connect the hoist, SPL-1556 to the MLG side brace sling, SPL-1905.

SUBTASK 32-11-10-020-001

(5) If the lock link springs are connected to the lower drag brace, do this task: Main Landing Gear Drag Brace Lock Spring Removal, TASK 32-32-07-000-803.

SUBTASK 32-11-10-480-004

(6) Support the lock link assembly [3] and the lower drag brace [7] with a rope.

SUBTASK 32-11-10-020-002

(7) Disconnect the upper drag brace [2] from the lower drag brace [7] and the lock link assembly [3].

(a) Remove the bolts [61], washers [60], nuts [59].

(b) Use the wrench kit, SPL-4133, to remove the nut [58], washer [57] (Figure 402).

(c) Remove the apex pin [64].

NOTE: The thread protector from wrench kit, SPL-4133, can be installed on the pin [64] before its removal.

SUBTASK 32-11-10-420-001

(8) Install the apex pin [64] to hold the lower drag brace [7] and the lock link assembly [3] in their position.

SUBTASK 32-11-10-020-003

(9) Disconnect the upper drag brace [2] from the upper spindle [1].

(a) Remove the bolts [18], washers [17], nuts [16].

(b) Use the wrench kit, SPL-4133, to remove the nut [15], washer [21] Figure 402.

(c) Remove the pin [14].

NOTE: The thread protector from wrench kit, SPL-4133, can be installed on the pin [14] before its removal.

SUBTASK 32-11-10-020-004

(10) Remove the upper drag brace [2].

——— END OF TASK ———

TASK 32-11-10-000-802

5. Lower Drag Brace Removal

(Figure 401)

A. General

(1) It is necessary to do the task "Prepare for the Removal" before you do this task.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1905	Sling - MLG Side Brace Sling Part #: J32002**ECD NOV2018** Supplier: 81205 Part #: J32002-98 Supplier: 81205 Opt Part #: J32002-73 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

C. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Procedure

SUBTASK 32-11-10-840-002

(1) Do this task: Prepare for the Removal, TASK 32-11-10-910-801.

SUBTASK 32-11-10-480-005

(2) Install the MLG side brace sling, SPL-1905, on the lower drag brace [7] (Figure 401, Figure 403).

SUBTASK 32-11-10-480-029

(3) Connect the hoist, SPL-1556, to the MLG side brace sling, SPL-1905.

SUBTASK 32-11-10-480-006

(4) Support the lock link assembly [3] and the upper drag brace [2] with a rope.

SUBTASK 32-11-10-020-006

(5) Disconnect the lower drag brace [7] from the upper drag brace [2] and the lock link assembly [3].

(a) Remove the bolts [61], washers [60], nuts [59].

(b) Use the wrench kit, SPL-4133 to remove the nut [58], washer [57] (Figure 402).

(c) Remove the apex pin [64].

NOTE: The thread protector from wrench kit, SPL-4133 can be installed on the pin [64] before removal.

SUBTASK 32-11-10-420-002

(6) Install the apex pin [64] to hold the upper drag brace [2] and the lock link assembly [3] in their position.

SUBTASK 32-11-10-020-007

(7) Disconnect the lower drag brace [7] from the lower spindle [6].

(a) Remove the bolts [73], nuts [75], washers [74].

(b) Use the wrench kit, SPL-4133, to remove the nut [72] (Figure 402).

(c) Remove the pin [70], washer [71].

NOTE: The thread protector from wrench kit, SPL-4133 can be installed on the pin [70] before removal.

SUBTASK 32-11-10-020-008

(8) Remove the lower drag brace [7].

END OF TASK

TASK 32-11-10-000-803

6. Drag Brace Lock Link Assembly Removal

(Figure 401 or Figure 402)

A. General

(1) It is necessary to do the task "Prepare for the Removal" before you do this task.

(2) This task provides instructions to remove the lock link assembly [3]. The lock link assembly [3] consists of the upper lock link [3A], the lower lock link [3B], the springs [10] and the lock link spindle [5].

B. References

Reference	Title
32-32-05-020-808-002	Main Landing Gear Drag Brace Downlock Actuator Hydraulic Swivel Removal (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1905	Sling - MLG Side Brace Sling Part #: J32002**ECD NOV2018** Supplier: 81205 Part #: J32002-98 Supplier: 81205 Opt Part #: J32002-73 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Procedure

SUBTASK 32-11-10-840-003

(1) Do this task: Prepare for the Removal, TASK 32-11-10-910-801.

SUBTASK 32-11-10-020-030

(2) Disconnect the clamps [9] and the sensors [11] from the upper lock link [3A].

SUBTASK 32-11-10-480-007

(3) Install the MLG side brace sling, SPL-1905, on the lock link assembly [3].

SUBTASK 32-11-10-480-030

(4) Connect the hoist, SPL-1556, to the MLG side brace sling, SPL-1905.

SUBTASK 32-11-10-020-049

(5) Do this task: Main Landing Gear Drag Brace Downlock Actuator Hydraulic Swivel Removal, TASK 32-32-05-020-808-002.

SUBTASK 32-11-10-020-046

(6) To disconnect the lock link assembly [3] from the spindle fitting [43], do the steps that follow:

(a) Disconnect the four hydraulic lines from the trunnion swivel mount [53A] from the lock link spindle [5].

(b) Install caps on the trunnion swivel mount [53A] and plugs in the hydraulic lines.

(c) Remove the bolt [53], washers [52], nut [51], and trunnion swivel mount [53A].

(d) Use the wrench kit, SPL-4133, to remove the castellated nut [50] (Figure 402).

(e) Remove washer [56] from the lock link spindle [5].

NOTE: The thread protector from wrench kit, SPL-4133 can be installed on the lock link spindle [5] before removal.

SUBTASK 32-11-10-480-008

(7) Support the upper drag brace [2] with a rope.

SUBTASK 32-11-10-020-010

(8) Disconnect the lock link assembly [3] from the upper drag brace [2] and the lower drag brace [7].

(a) Remove the bolts [61], washers [60], nuts [59].

(b) Use the wrench kit, SPL-4133, to remove the nut [58], washer [57] (Figure 402).

(c) Remove the apex pin [64].

NOTE: The thread protector from wrench kit, SPL-4133, can be installed on the pin [64] before removal.

SUBTASK 32-11-10-420-003

(9) Install the apex pin [64] to hold the upper drag brace [2] and the lower drag brace [7] in their position.

SUBTASK 32-11-10-020-012

(10) Remove the lock link assembly [3].

——— END OF TASK ———

TASK 32-11-10-000-804

7. Upper Spindle Removal

(Figure 401 or Figure 402)

A. General

(1) It is necessary to do the task "Prepare for the Removal" before you do this task.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Procedure

SUBTASK 32-11-10-840-004

(1) Do this task: Prepare for the Removal, TASK 32-11-10-910-801.

SUBTASK 32-11-10-480-009

(2) Remove the bolt [38], washer [39], washer [40], nut [41] to disconnect the actuator rod [37] for the drag brace door [8] from the fitting [36] mounted on the upper drag brace [2].

NOTE: Do not change the length of the actuator rod [37].

SUBTASK 32-11-10-480-010

(3) Support the upper drag brace [2] with a rope.

SUBTASK 32-11-10-020-013

(4) Disconnect the upper drag brace [2] from the upper spindle [1].

(a) Remove the bolts [18], washers [17], nuts [16].

(b) Use the wrench kit, SPL-4133, to remove the nut [15], washer [21] (Figure 402).

(c) Remove the pin [14].

NOTE: The thread protector from wrench kit, SPL-4133, can be installed on the pin [14] before removal.

SUBTASK 32-11-10-020-014

(5) Disconnect the upper spindle [1] from the spindle fitting [12] on the main landing gear beam.

(a) Disconnect the actuator rod [76] from washer assembly [22].

(b) Remove the bolts [24], washers [25], nuts [26].

(c) Use the wrench kit, SPL-4133, to remove the nut [23], washer assembly [22] (Figure 402).

NOTE: The thread protector from wrench kit, SPL-4133, can be installed on the upper spindle [1] before it is removed.

SUBTASK 32-11-10-020-015

(6) Remove the upper spindle [1] from the spindle fitting [12].

SUBTASK 32-11-10-220-001

(7) Measure the inner diameters of the bushing [27] and bushing [28].

(a) Compare the dimensions you measured with the permitted dimensions that follow:

ITEM NUMBER	NOMENCLATURE	DIMENSION	DESIGN DIMENSION	
			MIN	MAX
[27]	Bushing	I.D.	4.9175 in. (124.9045 mm)	4.9185 in. (124.9299 mm)
[28]	Bushing	I.D.	4.2805 in. (108.7247 mm)	4.2815 in. (108.7501 mm)

(b) If the parts are not in the tolerance, replace or repair the part as required.

——— END OF TASK ———

TASK 32-11-10-000-805

8. Lower Spindle Removal

(Figure 401 or Figure 402)

A. General

(1) It is necessary to do the task "Prepare for the Removal" before you do this task.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

C. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Procedure

SUBTASK 32-11-10-840-005

(1) Do this task: Prepare for the Removal, TASK 32-11-10-910-801.

SUBTASK 32-11-10-480-011

(2) Support the lower drag brace [7] with a rope.

SUBTASK 32-11-10-020-017

(3) Remove the bolts [61], washers [60], nuts [59] the nut [58], and the apex pin [64] to disconnect the lower drag brace [7] from the lower spindle [6].

SUBTASK 32-11-10-020-018

(4) Disconnect the lower spindle [6] from the spindle fitting [13] on the main landing gear.

(a) Remove the bolts [29], washers [30], nuts [31].

(b) Use the wrench kit, SPL-4133, to remove the nut [34] (Figure 402).

(c) Remove the washer [35].

NOTE: The thread protector from wrench kit, SPL-4133 can be installed on thelower spindle [6] before it is removed.

SUBTASK 32-11-10-020-019

(5) Remove the lower spindle [6] from the spindle fitting [13].

END OF TASK

TASK 32-11-10-000-806

9. Lock Link Spindle Removal

(Figure 401)

A. General

(1) It is necessary to do the task "Prepare for the Removal" before you do this task.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

C. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Procedure

SUBTASK 32-11-10-840-006

(1) Do this task: Prepare for the Removal, TASK 32-11-10-910-801.

SUBTASK 32-11-10-480-022

(2) Disconnect the sensors [11] and the clamps [9] from the upper lock link [3A].

SUBTASK 32-11-10-480-012

(3) Support the lock link assembly [3] with a rope.

SUBTASK 32-11-10-020-021

(4) Remove the cotter pin [48], nut [47], washer [46], bolt [44], caps [49], and the pin [45].

(a) Disconnect the upper lock link [3A] from the lock link spindle [5].

SUBTASK 32-11-10-020-047

(5) To disconnect the lock link spindle [5] from the spindle fitting [43], do the steps that follow:

(a) Disconnect the four hydraulic lines from the trunnion swivel mount [53A].

(b) Install caps on the trunnion swivel mount [53A] and plugs in the hydraulic lines.

(c) Remove the bolt [53], washers [52], nut [51], and the trunnion swivel mount [53A] from the lock link spindle [5].

(d) Use the wrench kit, SPL-4133, to remove nut [50] (Figure 402).

(e) Remove the washer [56], nut [50].

NOTE: The thread protector from the wrench kit, SPL-4133 can be installed on the lock link spindle [5] before it is removed.

SUBTASK 32-11-10-020-023

(6) Remove the lock link spindle [5] from the spindle fitting [43].

——— END OF TASK ———

TASK 32-11-10-400-807

10. Drag Brace Assembly Installation

(Figure 401)

A. General

(1) This task provides instructions to install the drag brace as one complete assembly. The drag brace assembly [101] consists of the upper drag brace [2], the lock link assembly [3], and the lower drag brace [7]. The lock link assembly [3] consists of the upper lock link [3A], lower lock link [3B], springs [10] and the lock link spindle [5].

(2) The drag brace assembly [101] weighs approximately 265 lb (120 kg).

B. References

Reference	Title
32-11-03-820-801-002	Eccentric Adjustment Procedure (P/B 401)
32-32-05-420-804-002	Main Landing Gear Drag Brace Downlock Actuator Installation (P/B 401)
32-61-01-400-801	Proximity Sensors for the Main Landing Gear Installation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205

(Continued)

Reference	Description
SPL-1905	Sling - MLG Side Brace Sling Part #: J32002**ECD NOV2018** Supplier: 81205 Part #: J32002-98 Supplier: 81205 Opt Part #: J32002-73 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. **Consumable Materials**

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38

E. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Upper drag brace	32-11-10-01D-700	ARO ALL

F. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

G. **Procedure**

SUBTASK 32-11-10-480-023

(1) Install the MLG side brace sling, SPL-1905, on the upper drag brace [2], lock link assembly [3], and the lower drag brace [7] (Figure 403).

SUBTASK 32-11-10-480-031

(2) Connect the hoist, SPL-1556, to the MLG side brace sling, SPL-1905.

SUBTASK 32-11-10-640-007

(3) Apply a thin layer of grease, D00633, to the chrome surface of the pin [14] and install the pin to connect the upper drag brace [2] to the upper spindle [1].

SUBTASK 32-11-10-640-002

(4) Apply corrosion inhibiting material, G50136, to these parts:

(a) threads of the pin [14]

NOTE: After the corrosion inhibiting material, G50136, is applied, the thread protector from the wrench kit, SPL-4133, can be reinstalled on the pin [14].

(b) washer [21]

(c) nut [15]

(d) bolt [18]

(e) washer [17]

(f) nut [16]

SUBTASK 32-11-10-420-055

(5) Install these parts on the pin [14]:

(a) washer [21]

(b) nut [15]

1) Use the wrench kit, SPL-4133, to tighten the nut [15] to 80 ft-lb (108 N·m) - 100 ft-lb (136 N·m) (Figure 402).

2) If is necessary, loosen the nut [15] to the nearest castellation to align the holes for the bolt [18].

(c) bolts [18]

(d) washers [17]

(e) nuts [16]

SUBTASK 32-11-10-160-001

(6) Remove excess corrosion inhibiting material, G50136

SUBTASK 32-11-10-640-008

(7) Apply a thin layer of grease, D00633, to the chrome surface of the pin [70] and install the pin to connect the lower drag brace [7] to the lower spindle [6].

SUBTASK 32-11-10-420-031

(8) Apply corrosion inhibiting material, G50136, to these parts:

(a) threads of the pin [70]

NOTE: After the corrosion inhibiting material, G50136, is applied, the thread protector from the wrench kit, SPL-4133, can be reinstalled on the pin [70].

(b) washer [71]

(c) nut [72]

(d) bolt [73]

(e) washer [74]

(f) nut [75]

SUBTASK 32-11-10-420-061

(9) Install these parts on the pin [70]:

(a) washer [71]

(b) nut [72]

1) Use the wrench kit, SPL-4133, to tighten the nut [72] to 80 ft-lb (108 N·m) - 100 ft-lb (136 N·m) (Figure 402).

2) If it is necessary, loosen the nut [72] to the nearest castellation to align the holes for the bolt [73].

(c) bolt [73]

(d) washer [74]

(e) nut [75]

SUBTASK 32-11-10-160-007

(10) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-10-080-005

(11) Remove the MLG side brace sling, SPL-1905, (2000 lb (907 kg) from the drag brace assembly [101].

SUBTASK 32-11-10-420-070

(12) Apply a thin layer of grease, D00633, to the shank of the lock link spindle [5].

SUBTASK 32-11-10-420-032

(13) Put the lock link spindle [5] of the lock link assembly [3] in position on the spindle fitting [43].

SUBTASK 32-11-10-420-071

(14) Apply corrosion inhibiting material, G50136, to these parts:

- (a) washer [56]
- (b) threads of the nut [50]
- (c) bolt [53]
- (d) washer [52]
- (e) nut [51]

SUBTASK 32-11-10-420-072

(15) Install these parts to connect the lock link spindle [5] to the spindle fitting [43] on the main landing gear:

- (a) washer [56]
- (b) nut [50]
  - 1) Use the wrench kit, SPL-4133, to tighten the nut [50] to 50 ft-lb (68 N·m) - 75 ft-lb (102 N·m) (Figure 402).
- (c) trunnion swivel mount [53A]
- (d) bolt [53]

  NOTE: You can loosen the nut [50] if it is necessary to install the bolt [53].
- (e) washer [52]
- (f) nut [51]

SUBTASK 32-11-10-820-001

(16) To adjust the eccentrics and complete the installations for the upper side brace to the upper spindle assembly and the lower side brace to the lower spindle assembly, do this task: Eccentric Adjustment Procedure, TASK 32-11-03-820-801-002.

SUBTASK 32-11-10-020-040

(17) If removed, install the lock link actuator, do this task: Main Landing Gear Drag Brace Downlock Actuator Installation, TASK 32-32-05-420-804-002.

SUBTASK 32-11-10-020-041

(18) If you disconnected the hydraulic lines from the lock link actuator, connect the hydraulic lines, (TASK 32-32-05-420-804-002).

SUBTASK 32-11-10-420-038

(19) Install these parts to connect the actuator rod [37] for the drag brace door [8] to the fitting [36] attached to the upper drag brace [2]:

- (a) bolt [38]
- (b) washer [39]
- (c) bushing [42]
  - 1) Lubricate the outer diameter of the bushing [42] with grease, D00633.
- (d) washer [40]
- (e) nut [41]
  - 1) Tighten the nut [41] to 370 in-lb (41.8 N·m) - 690 in-lb (78 N·m).

SUBTASK 32-11-10-420-039

(20) Do this task: Proximity Sensors for the Main Landing Gear Installation, TASK 32-61-01-400-801.

NOTE: Make sure that critical flag markers are correctly positioned in their clamps and that some of these clamps are pointed in the correct direction for down-lock indication proximity sensor wire bundles.

SUBTASK 32-11-10-840-014

(21) Do this task: Put the Airplane Back to Its Usual Condition, TASK 32-11-10-910-802.

——— END OF TASK ———

TASK 32-11-10-400-801

11. Upper Drag Brace Installation

(Figure 401)

A. General

(1) It is necessary to do the task "Put the Airplane Back to Its Usual Condition" after you complete this task.

B. References

Reference	Title
32-11-03-820-801-002	Eccentric Adjustment Procedure (P/B 401)
32-32-07-400-803	Main Landing Gear Drag Brace Lock Spring Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1905	Sling - MLG Side Brace Sling Part #: J32002**ECD NOV2018** Supplier: 81205 Part #: J32002-98 Supplier: 81205 Opt Part #: J32002-73 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38

E. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Upper drag brace	32-11-10-01D-700	ARO ALL

F. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

G. **Procedure**

SUBTASK 32-11-10-400-001

(1) It may be necessary to install fitting [36] to upper drag brace [2] prior to installation.

(a) Apply a light coat of grease, D00633, to the bolts [38], washers [39], washers [40] and nuts [41].

(b) Locate the fitting [36] and install fasteners.

NOTE: Aft most fastener location is not used.

SUBTASK 32-11-10-480-013

(2) Install the MLG side brace sling, SPL-1905, on the upper drag brace [2] (Figure 401, Figure 403).

SUBTASK 32-11-10-480-033

(3) Connect the hoist, SPL-1556, to the MLG side brace sling, SPL-1905.

SUBTASK 32-11-10-420-069

(4) Put the upper drag brace [2] in its position.

SUBTASK 32-11-10-020-054

(5) Remove the apex pin [64] that holds the lower drag brace [7] and the lock link assembly [3] in their position.

SUBTASK 32-11-10-420-040

(6) Lubricate the chrome surface of the apex pin [64] with grease, D00013 or grease, D00633.

SUBTASK 32-11-10-420-041

(7) Install the apex pin [64] to connect the upper drag brace [2] to the lower drag brace [7] and the lock link assembly [3].

SUBTASK 32-11-10-640-003

(8) Apply corrosion inhibiting material, G50136, to these parts:

(a) threads of the apex pin [64]

NOTE: After the corrosion inhibiting material, G50136, is applied, the thread protector from the wrench kit, SPL-4133, can be reinstalled on the pin [64].

(b) washer [57]

(c) nut [58]

(d) bolts [61]

(e) washers [60]

(f) nuts [59]

SUBTASK 32-11-10-420-056

(9) Install these parts on the apex pin [64]:

(a) washer [57]

(b) nut [58]

1) Use the wrench kit, SPL-4133, to tighten the nut [58] to 115 ±5 ft-lb (156 ±7 N·m) (Figure 402).

2) If it is necessary, loosen the nut [58] to the nearest castellation to align the holes for the bolts [61].

(c) bolts [61]

(d) washers [60]

(e) nuts [59]

1) Tighten the nuts [59] to 50 in-lb (6 N·m)-75 in-lb (8 N·m).

SUBTASK 32-11-10-160-018

(10) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-10-640-009

(11) Apply a thin layer of grease, D00633, to the chrome surface of the pin [14] and install the pin to connect the upper drag brace [2] to the upper spindle [1].

SUBTASK 32-11-10-640-004

(12) Apply corrosion inhibiting material, G50136, to these parts:

(a) threads of the pin [14]

NOTE: After the corrosion inhibiting material, G50136, is applied, the thread protector from the wrench kit, SPL-4133, can be reinstalled on the pin [14].

(b) washer [21]

(c) nut [15]

(d) bolts [18]

(e) washers [17]

(f) nuts [16]

SUBTASK 32-11-10-420-057

(13) Install these parts on the pin [14]:

(a) pin [14]

(b) washer [21]

(c) nut [15]

1) Use the wrench kit, SPL-4133, to tighten the nut [15] to 90 ±10 ft-lb (122 ±14 N·m) (Figure 402).

2) If it is necessary, loosen the nut [15] to the nearest castellation to align the holes for the bolts [18].

(d) bolts [18]

(e) washers [17]

(f) nuts [16]

SUBTASK 32-11-10-160-003

(14) Remove the excess grease, D00633.

SUBTASK 32-11-10-160-017

(15) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-10-080-001

(16) Remove the MLG side brace sling, SPL-1905, from the upper drag brace [2].

SUBTASK 32-11-10-420-006

(17) If you disconnected the lock link springs, do this task: Main Landing Gear Drag Brace Lock Spring Installation, TASK 32-32-07-400-803.

SUBTASK 32-11-10-820-007

(18) To adjust the eccentrics and complete the installations for the upper side brace to the upper spindle assembly and the lower side brace to the lower spindle assembly (TASK 32-11-03-820-801-002).

SUBTASK 32-11-10-420-007

(19) Install these parts to connect the actuator rod [37] for the drag brace door [8] to the fitting [36] attached to the upper drag brace [2]:

(a) bolt [38]

(b) washer [39]

(c) bushing [42]

1) Lubricate the outer diameter of the bushing [42] with grease, D00633.

(d) washer [40]

(e) nut [41]

1) Tighten the nut [41] to 370 in-lb (42 N·m) - 690 in-lb (78 N·m).

SUBTASK 32-11-10-840-007

(20) Do this task: Put the Airplane Back to Its Usual Condition, TASK 32-11-10-910-802.

END OF TASK

TASK 32-11-10-400-802

12. Lower Drag Brace Installation

(Figure 401, Figure 402, Figure 403)

A. General

(1) It is necessary to do the task "Put the Airplane Back to Its Usual Condition" after you complete this task.

B. References

Reference	Title
32-11-03-820-801-002	Eccentric Adjustment Procedure (P/B 401)
32-32-07-400-803	Main Landing Gear Drag Brace Lock Spring Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1905	Sling - MLG Side Brace Sling Part #: J32002**ECD NOV2018** Supplier: 81205 Part #: J32002-98 Supplier: 81205 Opt Part #: J32002-73 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. **Consumable Materials**

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38

E. **Location Zones**

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

F. **Procedure**

SUBTASK 32-11-10-480-014

(1) Install the MLG side brace sling, SPL-1905, on the lower drag brace [7] (Figure 403).

SUBTASK 32-11-10-480-034

(2) Connect the hoist, SPL-1556, to the MLG side brace sling, SPL-1905.

SUBTASK 32-11-10-640-010

(3) Apply a thin layer of grease, D00633, to the chrome surface of the pin [70] and install the pin to connect the lower drag brace [7] to the lower spindle [6].

SUBTASK 32-11-10-420-009

(4) Apply corrosion inhibiting material, G50136, to these parts:

(a) threads of the pin [70]

NOTE: After the corrosion inhibiting material, G50136, is applied, the thread protector from the wrench kit, SPL-4133, can be reinstalled on the pin [70].

(b) washer [71]

(c) nut [72]

(d) bolts [73]

(e) washers [74]

(f) nuts [75]

SUBTASK 32-11-10-420-063

(5) Install these parts on the pin [70]:

(a) washer [71]

(b) nut [72]

1) Use the wrench kit, SPL-4133, to tighten the nut [72] to 90 ±10 ft-lb (122 ±14 N·m) (Figure 402).

2) If it is necessary, loosen the nut [72] to the nearest castellation to align the holes for the bolts [73].

(c) bolts [73]

(d) washers [74]

(e) nuts [75]

SUBTASK 32-11-10-160-004

(6) Remove the excess grease, D00633.

SUBTASK 32-11-10-160-016

(7) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-10-010-002

(8) Remove the apex pin [64] that holds the upper drag brace [2] and the lock link assembly [3] in their position.

SUBTASK 32-11-10-420-043

(9) Apply a thin layer of grease, D00633, to the chrome surface of the apex pin [64].

SUBTASK 32-11-10-420-010

(10) Install the apex pin [64] to connect the lower drag brace [7] to the upper drag brace [2] and the lock link assembly [3].

SUBTASK 32-11-10-640-005

(11) Apply a thin layer of corrosion inhibiting material, G50136, to these parts :

(a) threads of the apex pin [64]

NOTE: After the corrosion inhibiting material, G50136, is applied, the thread protector from the wrench kit, SPL-4133, can be reinstalled on the pin [64].

(b) washer [57]

(c) nut [58]

(d) bolts [61]

(e) washers [60]

(f) nuts [59]

SUBTASK 32-11-10-420-058

(12) Install these parts on the apex pin [64]:

(a) washer [57]

(b) nut [58]

1) Use the wrench kit, SPL-4133, to tighten the nut [58] to 115 ±5 ft-lb (156 ±7 N·m) (Figure 402).

2) If it is necessary, loosen the nut [58] to the nearest castellation to align the holes for the bolt [61].

(c) bolts [61]

(d) washers [60]

(e) nuts [59]

1) Tighten the nuts [59] to 50 in-lb (5.6 N·m) - 75 in-lb (8.5 N·m).

SUBTASK 32-11-10-160-008

(13) Remove the excess grease, D00633.

SUBTASK 32-11-10-160-015

(14) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-10-080-002

(15) Remove the MLG side brace sling, SPL-1905, from the lower drag brace [7].

SUBTASK 32-11-10-420-012

(16) If you disconnected the lock link springs, do this task: Main Landing Gear Drag Brace Lock Spring Installation, TASK 32-32-07-400-803.

SUBTASK 32-11-10-820-006

(17) To adjust the eccentrics and complete the installations for the upper side brace to the upper spindle assembly and the lower side brace to the lower spindle assembly, do this task: Eccentric Adjustment Procedure, TASK 32-11-03-820-801-002.

SUBTASK 32-11-10-840-008

(18) Do this task: Put the Airplane Back to Its Usual Condition, TASK 32-11-10-910-802.

——— END OF TASK ———

TASK 32-11-10-400-803

13. Drag Brace Lock Link Assembly Installation

(Figure 401)

A. General

(1) It is necessary to do the task "Put the Airplane Back to Its Usual Condition" after you complete this task.

B. References

Reference	Title
32-11-03-820-801-002	Eccentric Adjustment Procedure (P/B 401)
32-32-05-420-804-002	Main Landing Gear Drag Brace Downlock Actuator Installation (P/B 401)
32-32-05-420-808-002	Main Landing Gear Drag Brace Downlock Actuator Hydraulic Swivel Installation (P/B 401)
32-32-07-400-803	Main Landing Gear Drag Brace Lock Spring Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1905	Sling - MLG Side Brace Sling Part #: J32002**ECD NOV2018** Supplier: 81205 Part #: J32002-98 Supplier: 81205 Opt Part #: J32002-73 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38

E. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Procedure

SUBTASK 32-11-10-480-015

(1) Install the MLG side brace sling, SPL-1905, on the lock link assembly [3].

SUBTASK 32-11-10-480-035

(2) Connect the hoist, SPL-1556, to the MLG side brace sling, SPL-1905.

SUBTASK 32-11-10-420-073

(3) Apply a thin layer of grease, D00633, to the shank of the lock link spindle [5].

SUBTASK 32-11-10-420-013

(4) Put the lock link assembly [3] in position on the spindle fitting [43].

SUBTASK 32-11-10-420-074

(5) Install the washer [56] and nut [50], finger tight, to hold the lock link assembly [3] in position on the spindle fitting.

SUBTASK 32-11-10-020-034

(6) Remove the apex pin [64] that holds the upper drag brace [2] and the lower drag brace [7] in their position.

SUBTASK 32-11-10-420-075

(7) Apply a thin layer of grease, D00633, to the chrome surface of the apex pin [64].

SUBTASK 32-11-10-420-015

(8) Install the apex pin [64] to connect the lower drag brace [7] to the upper drag brace [2] and the lock link assembly [3].

SUBTASK 32-11-10-420-016

(9) Apply corrosion inhibiting material, G50136, to these parts:

- (a) threads of the apex pin [64]

  NOTE: After the corrosion inhibiting material, G50136, is applied, the thread protector from the wrench kit, SPL-4133, can be reinstalled on the pin [64].

- (b) washer [57]
- (c) nut [58]
- (d) bolts [61]
- (e) washers [60]
- (f) nuts [59]

SUBTASK 32-11-10-420-064

(10) Install these parts on the apex pin [64]:

- (a) washer [57]

(b) nut [58]

1) Use the wrench kit, SPL-4133, to tighten the nut [58] to 115 ±5 ft-lb (156 ±7 N·m) (Figure 402).

2) If it is necessary, loosen the nut [58] to the nearest castellation to align the holes for the bolts [61].

(c) bolts [61]

(d) washers [60]

(e) nuts [59]

1) Tighten the nut [59] to 50 in-lb (5.6 N·m)-75 in-lb (8.5 N·m).

SUBTASK 32-11-10-160-014

(11) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-10-080-003

(12) Remove the MLG side brace sling, SPL-1905, from the lock link assembly [3].

SUBTASK 32-11-10-820-005

(13) To adjust the eccentrics and complete the installations for the upper side brace to the upper spindle assembly and the lower side brace to the lower spindle assembly (TASK 32-11-03-820-801-002).

SUBTASK 32-11-10-020-043

(14) If you disconnected the lock link actuator, do this task: Main Landing Gear Drag Brace Downlock Actuator Installation, TASK 32-32-05-420-804-002.

SUBTASK 32-11-10-420-077

(15) Do this task: Main Landing Gear Drag Brace Downlock Actuator Hydraulic Swivel Installation, TASK 32-32-05-420-808-002.

SUBTASK 32-11-10-020-044

(16) If you disconnected the hydraulic lines from the lock link actuator, connect the hydraulic lines (TASK 32-32-05-420-804-002).

SUBTASK 32-11-10-420-019

(17) Do this task: Main Landing Gear Drag Brace Lock Spring Installation, TASK 32-32-07-400-803.

SUBTASK 32-11-10-420-020

(18) Connect the clamps [9] and the sensors [11] on the upper lock link [3A].

SUBTASK 32-11-10-840-009

(19) Do this task: Put the Airplane Back to Its Usual Condition, TASK 32-11-10-910-802.

——— END OF TASK ———

TASK 32-11-10-400-804

14. Upper Spindle Installation

(Figure 401, Figure 402)

A. General

(1) It is necessary to do the task "Put the Airplane Back to Its Usual Condition" after you complete this task.

B. References

Reference	Title
32-11-03-820-801-002	Eccentric Adjustment Procedure (P/B 401)

(Continued)

Reference	Title
32-32-13-420-801	Sequence Valve Mechanism Installation (P/B 401)

C. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. **Consumable Materials**

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38

E. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Upper spindle	32-11-01-10D-095	ARO ALL
2	Upper drag brace	32-11-10-01D-700	ARO ALL

F. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

G. **Procedure**

SUBTASK 32-11-10-420-047

(1) Apply corrosion inhibiting material, G50136, to the splines and threads of the upper spindle [1].

NOTE: After the corrosion inhibiting material, G50136, is applied, the thread protector from the wrench kit, SPL-4133, can be reinstalled on the upper spindle [1].

SUBTASK 32-11-10-420-048

(2) Install the upper spindle [1] in its position in the spindle fitting [12] on the main landing gear beam.

SUBTASK 32-11-10-420-021

(3) Apply corrosion inhibiting material, G50136, to these parts:

(a) washer assembly [22]

(b) nut [23]

(c) bolts [24]

(d) washers [25]

(e) nuts [26]

SUBTASK 32-11-10-420-066

(4) Install these parts to connect the upper spindle [1] to the spindle fitting [12] on the main landing gear beam:

(a) washer assembly [22]

NOTE: Make sure that the actuator rod [76] for the Drag Brace Operated Sequence Valve, located by the spindle fitting [12], is connected to the washer assembly [22]. The nut of the actuator rod can be tightened before the upper spindle [1] is connected to the spindle fitting [12] on the main landing gear beam. Make sure the washer is aligned correctly with the spindle shaft.

1) Install the actuator rod [76] to the washer assembly [22] (TASK 32-32-13-420-801).

(b) nut [23]

1) Use the wrench kit, SPL-4133, to tighten the nut [23] to 275 ±25 ft-lb (373 ±34 N·m) (Figure 402).

2) Loosen the nut [23] until you can insert a 0.0050 in. (0.127 mm) gauge between the washer assembly [22] and the nut [23].

3) Tighten the nut [23] to 5 ft-lb (6.8 N·m) - 10 ft-lb (13.6 N·m) against the 0.0050 in. (0.127 mm) gauge.

(c) bolt [24]

NOTE: You can remove the 0.0050 in. (0.127 mm) gauge and loosen the nut [23] if it is necessary to install the bolt [24].

(d) washers [25]

(e) nuts [26]

SUBTASK 32-11-10-160-013

(5) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-10-640-011

(6) Apply a thin layer of grease, D00633, to the chrome surface of the pin [14] and install the pin to connect the upper drag brace [2] to the upper spindle [1].

SUBTASK 32-11-10-640-006

(7) Apply corrosion inhibiting material, G50136, to these parts:

(a) threads of the pin [14]

NOTE: After the corrosion inhibiting material, G50136, is applied, the thread protector from the wrench kit, SPL-4133, can be reinstalled on the pin [14].

(b) washer [21]

(c) nut [15]

(d) bolts [18]

(e) washers [17]

(f) nuts [16]

SUBTASK 32-11-10-420-059

(8) Install these parts on the pin [14]:

(a) washer [21]

(b) nut [15]

1) Use the wrench kit, SPL-4133, to tighten the nut [15] to 90 ±10 ft-lb (122 ±14 N·m) (Figure 402).

2) If it is necessary, loosen the nut [15] to the nearest castellation to align the holes for the bolt [18].

(c) bolts [18]

(d) washers [17]

(e) nuts [16]

SUBTASK 32-11-10-160-005

(9) Remove the excess grease, D00633.

SUBTASK 32-11-10-160-012

(10) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-10-420-023

(11) Install these parts to connect the actuator rod [37] for the drag brace door [8] to the fitting [36] attached to the upper drag brace [2]:

(a) bolt [38]

(b) washer [39]

(c) bushing [42]

1) Apply a thin layer of grease, D00633, to the outer diameter of the bushing [42].

(d) washer [40]

(e) nut [41]

1) Tighten the nut [41] to 370 in-lb (41.8 N·m) - 690 in-lb (78.0 N·m).

SUBTASK 32-11-10-820-004

(12) To adjust the eccentrics and complete the installations for the upper side brace to the upper spindle assembly and the lower side brace to the lower spindle assembly (TASK 32-11-03-820-801-002).

SUBTASK 32-11-10-840-010

(13) Do this task: Put the Airplane Back to Its Usual Condition, TASK 32-11-10-910-802.

END OF TASK

TASK 32-11-10-400-805

15. Lower Spindle Installation

(Figure 401, or Figure 402)

A. General

(1) It is necessary to do the task "Put the Airplane Back to Its Usual Condition" after you complete this task.

B. References

Reference	Title
32-11-03-820-801-002	Eccentric Adjustment Procedure (P/B 401)
32-32-07-400-803	Main Landing Gear Drag Brace Lock Spring Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38

E. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Procedure

SUBTASK 32-11-10-420-024

(1) Lubricate the lower spindle [6] with grease, D00013, or grease, D00633.

SUBTASK 32-11-10-420-049

(2) Lubricate the bearing surfaces of the lower spindle [6] with grease, D00013, or grease, D00633.

SUBTASK 32-11-10-420-050

(3) Install the lower spindle [6] in its position in the spindle fitting [13] on the main landing gear.

SUBTASK 32-11-10-420-025

(4) Apply corrosion inhibiting material, G50136, to these parts:

(a) threads of the lower spindle [6]

NOTE: After the corrosion inhibiting material, G50136, is applied, the thread protector from the wrench kit, SPL-4133, can be reinstalled on the lower spindle [6].

(b) washer [35]

(c) nut [34]

(d) bolts [29]

(e) washers [30]

(f) nuts [31]

SUBTASK 32-11-10-420-067

(5) Install these parts to connect the lower spindle [6] to the spindle fitting [13] on the main landing gear:

(a) washer [35]

(b) nut [34]

1) Use the wrench kit, SPL-4133, to tighten the nut [34] to 275 ±25 ft-lb (373 ±34 N·m) (Figure 402).

2) Loosen the nut [34] until you can insert a 0.0030 in. (0.076 mm) - 0.0050 in. (0.127 mm) gauge between the washer [35] and the nut [34].

(c) bolts [29]

NOTE: You can remove the gauge and loosen the nut [34] if necessary to install the bolts [29].

(d) washers [30]

(e) nuts [31]

SUBTASK 32-11-10-160-010

(6) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-10-640-012

(7) Apply a thin layer of grease, D00633, to the chrome surface of the pin [70] and install the pin to connect the lower drag brace [7] to the lower spindle [6].

SUBTASK 32-11-10-620-001

(8) Apply corrosion inhibiting material, G50136, to these parts:

(a) threads of the pin [70]

NOTE: After the corrosion inhibiting material, G50136, is applied, the thread protector from the wrench kit, SPL-4133, can be reinstalled on the pin [70].

(b) washer [71]

(c) nut [72]

(d) bolts [73]

(e) washers [74]

(f) nuts [75]

SUBTASK 32-11-10-420-060

(9) Install these parts on the pin [70]:

(a) washer [71]

(b) nut [72]

1) Use the wrench kit, SPL-4133, to tighten the nut [72] to 90 ±10 ft-lb (122 ±14 N·m) (Figure 402).

2) If it is necessary, loosen the nut [72] to the nearest castellation to align the holes for the bolt [73].

(c) bolts [73]

(d) washers [74]

(e) nuts [75]

SUBTASK 32-11-10-160-006

(10) Remove the excess grease, D00633.

SUBTASK 32-11-10-160-011

(11) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-10-420-027

(12) If you disconnected the lock link springs, do this task: Main Landing Gear Drag Brace Lock Spring Installation, TASK 32-32-07-400-803.

SUBTASK 32-11-10-820-003

(13) To adjust the eccentrics and complete the installations for the upper side brace to the upper spindle assembly and the lower side brace to the lower spindle assembly (TASK 32-11-03-820-801-002).

SUBTASK 32-11-10-840-011

(14) Do this task: Put the Airplane Back to Its Usual Condition, TASK 32-11-10-910-802.

END OF TASK

TASK 32-11-10-400-806

16. Lock Link Spindle Installation

(Figure 401, or Figure 402)

A. General

(1) It is necessary to do the task "Put the Airplane Back to Its Usual Condition" after you complete this task.

B. References

Reference	Title
32-11-03-820-801-002	Eccentric Adjustment Procedure (P/B 401)
32-32-07-400-803	Main Landing Gear Drag Brace Lock Spring Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
5	Lock link spindle	32-11-10-01D-080	ARO ALL

F. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

G. Procedure

SUBTASK 32-11-10-420-051

(1) Apply a thin layer of grease, D00633, to the shank of the lock link spindle [5].

SUBTASK 32-11-10-420-052

(2) Install the lock link spindle [5] in its position in the spindle fitting [43] on the main landing gear.

SUBTASK 32-11-10-420-053

(3) Apply corrosion inhibiting material, G50136, to these parts:

(a) washer [56]

(b) nut [50]

(c) bolt [53]

(d) washers [52]

(e) nut [51]

SUBTASK 32-11-10-420-068

(4) Install these parts to connect the lock link spindle [5] to the spindle fitting [43] on the main landing gear:

(a) washer [56]

(b) nut [50]

1) Use the wrench kit, SPL-4133, to tighten the nut [50] to 50 ft-lb (68 N·m) - 75 ft-lb (102 N·m) (Figure 402).

(c) Put the trunnion swivel mount [53A] in position in the lock link spindle [5].

(d) Install these parts to connect the swivel mount [53A] to the lock link spindle [5].

1) bolt [53]

NOTE: You can loosen the nut [50] if it is necessary to install bolt [53].

2) washers [52]

3) nuts [51]

SUBTASK 32-11-10-160-009

(5) Remove the excess corrosion inhibiting material, G50136.

SUBTASK 32-11-10-420-054

(6) Lubricate the pin [45] and the cap [49] with grease, D00633.

SUBTASK 32-11-10-420-028

(7) Install these parts to connect the lock link assembly [3] to the lock link spindle [5]:

(a) pin [45]

(b) cap [49]

(c) bolt [44]

(d) washer [46]

(e) nut [47]

1) Tighten the nut [47] to 50 in-lb (5.6 N·m) - 75 in-lb (8.5 N·m).

2) If it is necessary loosen the nut [47] to the nearest castellation to align the holes for the cotter pin [48].

(f) cotter pin [48]

SUBTASK 32-11-10-420-029

(8) If you disconnected the lock link springs, do this task: Main Landing Gear Drag Brace Lock Spring Installation, TASK 32-32-07-400-803.

SUBTASK 32-11-10-820-002

(9) To adjust the eccentrics and complete the installations for the upper side brace to the upper spindle assembly and the lower side brace to the lower spindle assembly (TASK 32-11-03-820-801-002).

SUBTASK 32-11-10-840-012

(10) Do this task: Put the Airplane Back to Its Usual Condition, TASK 32-11-10-910-802.

END OF TASK

TASK 32-11-10-910-802

17. Put the Airplane Back to Its Usual Condition

(Figure 401)

A. General

(1) It is necessary to do this task after you do an installation procedure for any of the drag brace components.

B. References

Reference	Title
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-21-14-640-805-002	Upper Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-30-01-720-801	Main Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks) (P/B 501)
32-35-00-710-801	Landing Gear Alternate Extension System - Operational Test (Airplane on the Ground) (P/B 501)

C. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Procedure

SUBTASK 32-11-10-710-001

(1) Remove all ropes or straps that you used.

SUBTASK 32-11-10-710-002

(2) Do the extension and retraction operational test for the main landing gear (TASK 32-30-01-720-801).

SUBTASK 32-11-10-710-003

(3) Do this task: Landing Gear Alternate Extension System - Operational Test (Airplane on the Ground), TASK 32-35-00-710-801.

SUBTASK 32-11-10-080-004

(4) To lower the airplane and remove the jacks, do this task: Lower the Airplane Off of the Jacks, TASK 07-11-01-580-805.

SUBTASK 32-11-10-640-001

(5) Lubricate the drag brace assembly at the grease fittings. To to this, do this task: Upper Main Landing Gear and Actuating Mechanisms Lubrication, TASK 12-21-14-640-805-002.

SUBTASK 32-11-10-410-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

MAIN LANDING GEAR TRUCK ASSEMBLY - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the main landing gear truck assembly

(2) An installation of the main landing gear truck assembly.

TASK 32-11-18-960-801

2. Main Landing Gear Truck Assembly Removal

(Figure 401)

A. General

(1) This task removes the main landing gear truck assembly. This task will remove most of the major equipment from all of the axles and the truck before the truck is disconnected.

NOTE: If the truck is being disconnected for shock strut spare seal replacement, it is only necessary to remove the center axle and the center axle equipment to disconnect the truck.

B. References

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-11-20-000-801	Main Landing Gear Brake Rod Removal (P/B 401)
32-11-26-000-802	Main Landing Gear Center Axle Removal (P/B 401)
32-32-25-020-801	Main Landing Gear (SLG) Hydraulic Strut Removal (P/B 401)
32-42-05-020-801	In-Axle Assembly Removal (P/B 401)
32-45-07-000-801	Main Landing Gear Brake Removal (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1853	Retainer Equipment, MLG/NLG Torsion Link Part #: J32054-91 Supplier: 81205 Part #: J32054-92 Supplier: 81205

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for the Removal

SUBTASK 32-11-18-490-001

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-18-490-002

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-18-860-001

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-11-18-860-002

(4) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR
M	19	C32617	LG TIRE PRESSURE INDICATOR
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1
N	27	C32619	LG MAIN GEAR STEERING
N	28	C32618	LG BRAKE TEMP MONITOR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

SUBTASK 32-11-18-040-001

(5) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Right Power Management Panel, P210

Row	Col	Number	Name
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

SUBTASK 32-11-18-020-001

WARNING DO NOT REMOVE THE VALVE BODY UNTIL YOU DEFLATE THE SHOCK STRUT FULLY. THE AIR PRESSURE CAN BLOW THE VALVE BODY OUT AND CAUSE INJURIES TO PERSONNEL.

(6) Deflate the shock strut [1] for the main landing gear:

(a) Remove the cap [3] for the air valve [2].

(b) Loosen the air valve swivel nut [4] a maximum of two turns.

1) Deflate the shock strut slowly to prevent the leakage of the fluid through the air valve.

NOTE: Fluid in the shock strut will have bubbles when you release the pressure.

(c) Loosen the air valve swivel nut [4] fully when all of the pressure in the shock strut [1] is released.

SUBTASK 32-11-18-480-002

(7) Install the retainer equipment, SPL-1853, to hold the shock strut [1] in its compressed position.

SUBTASK 32-11-18-020-002

(8) To lift the airplane until the wheels are above the ground, do this task: Lift the Airplane with Jacks, TASK 07-11-01-580-804.

F. Main Landing Gear Truck Assembly Removal

SUBTASK 32-11-18-020-003

(1) For all of the axles, do this task: Main Landing Gear Brake Removal, TASK 32-45-07-000-801.

NOTE: This procedure will also remove all of the wheel and tire assemblies.

SUBTASK 32-11-18-020-017

(2) Disconnect the lower end of the hydraulic line [24A].

SUBTASK 32-11-18-020-004

(3) For all of the brake rods, do this task: Main Landing Gear Brake Rod Removal, TASK 32-11-20-000-801.

SUBTASK 32-11-18-020-005

(4) If the in-axle assemblies are installed, do this task for all axles: In-Axle Assembly Removal, TASK 32-42-05-020-801.

SUBTASK 32-11-18-020-006

(5) Remove the brake sleeve [10] from all of the axles.

(a) Use the brake sleeve puller to remove the brake sleeve [10] if they are difficult to remove.

SUBTASK 32-11-18-020-019

(6) Remove the cotter pin [13], nut [14], bolt [16], washer [15], washer [39], washer [39A], and washer [17] to disconnect the position sensor links [6] from the inner cylinder [12] (View B-B, Figure 401):

SUBTASK 32-11-18-020-020

(7) Remove the cotter pin [13], nut [14], washer [15], bolt [16A], washer [17], and hydraulic bracket [38] to disconnect the position sensor links [6] from the inner cylinder [12] (View C-C, Figure 401):

SUBTASK 32-11-18-480-008

(8) To remove the forward end of the hydraulic strut, do this task: Main Landing Gear (SLG) Hydraulic Strut Removal, TASK 32-32-25-020-801.

(a) Use a rope to hold the hydraulic strut out of the work area.

SUBTASK 32-11-18-480-005

(9) Disconnect the steering actuator hydraulic line [8] at the steering actuator [7].

SUBTASK 32-11-18-020-007

(10) Remove the bolt [18], washer [20], nut [22], and cotter pin [21] to disconnect the hydraulic aft support arm [5] from the truck [19].

SUBTASK 32-11-18-020-008

(11) Use a rope to support the hydraulic aft support arm [5] out of the work area.

SUBTASK 32-11-18-020-009

(12) Disconnect the electrical conduits [26] from the junction box [25] below the truck [19].

SUBTASK 32-11-18-020-010

(13) Disconnect the clamps on the truck [19] that hold the electrical conduit [26]:

(a) On the top of the truck [19] remove the nuts [28], clamps [27], and clamps [35].

(b) Remove the screws [30], washers [31], nuts [32], and clamp [29].

(c) Remove the screws [30], washers [31], nuts [32], and clamps [34].

SUBTASK 32-11-18-020-011

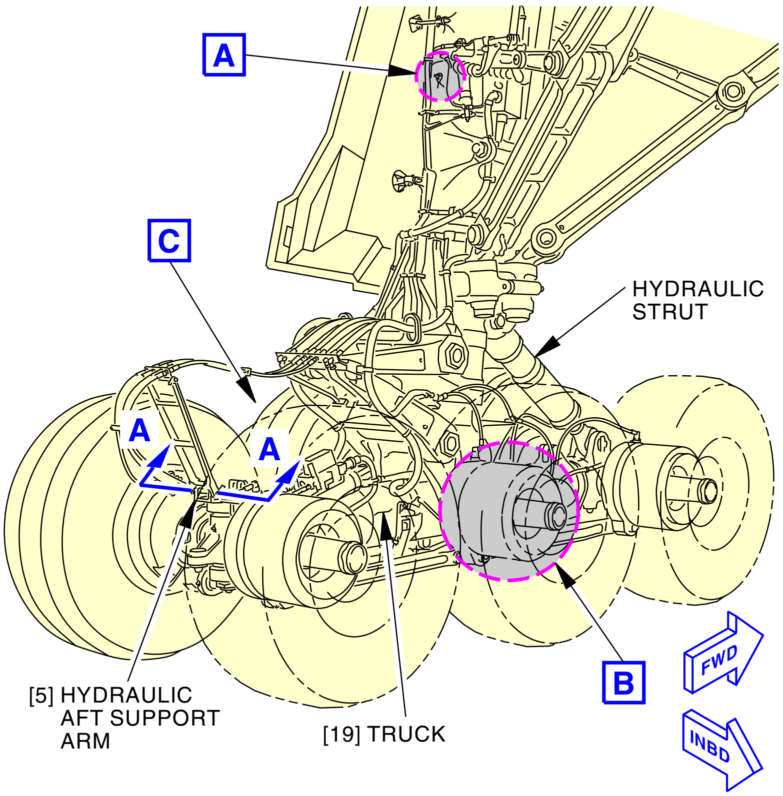
(14) Do this task: Main Landing Gear Center Axle Removal, TASK 32-11-26-000-802.

NOTE: This procedure will lift the truck with axle jacks to remove the center axle.

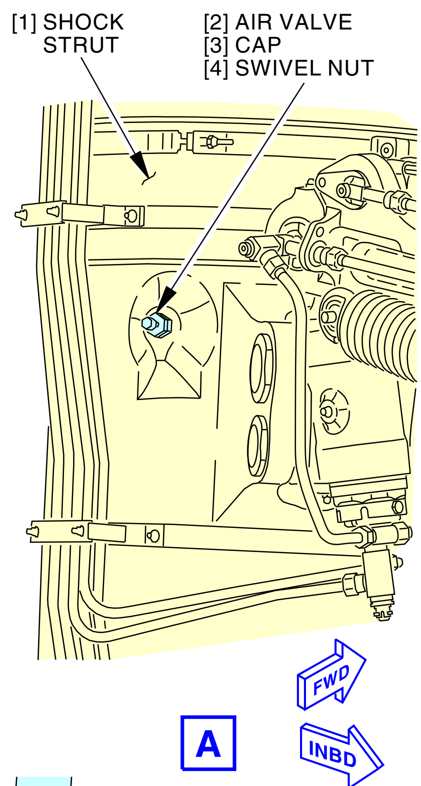
SUBTASK 32-11-18-020-012

(15) Lower the truck [19] on a support dolly such that it can be removed from the work area.

END OF TASK



LEFT MAIN LANDING GEAR
(RIGHT MAIN LANDING GEAR IS EQUIVALENT)



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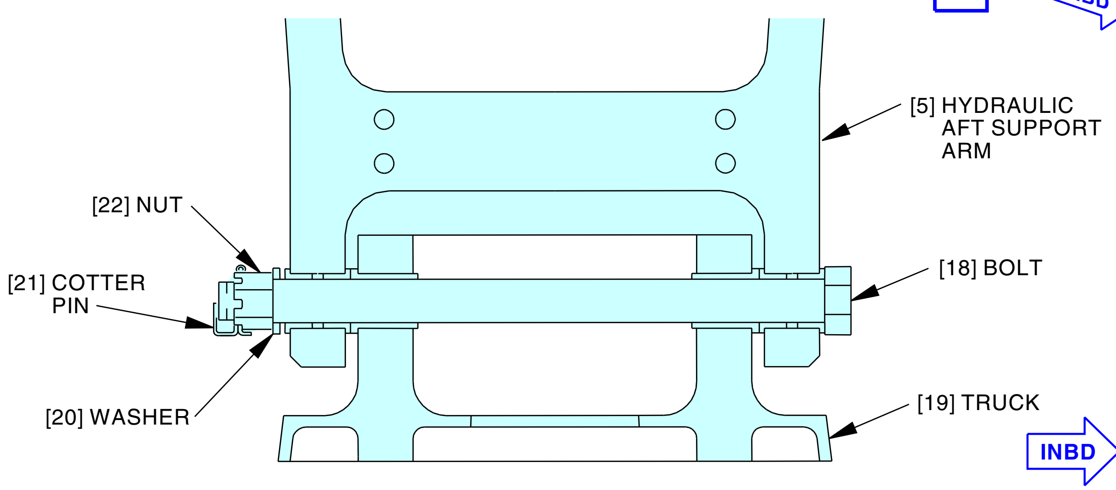
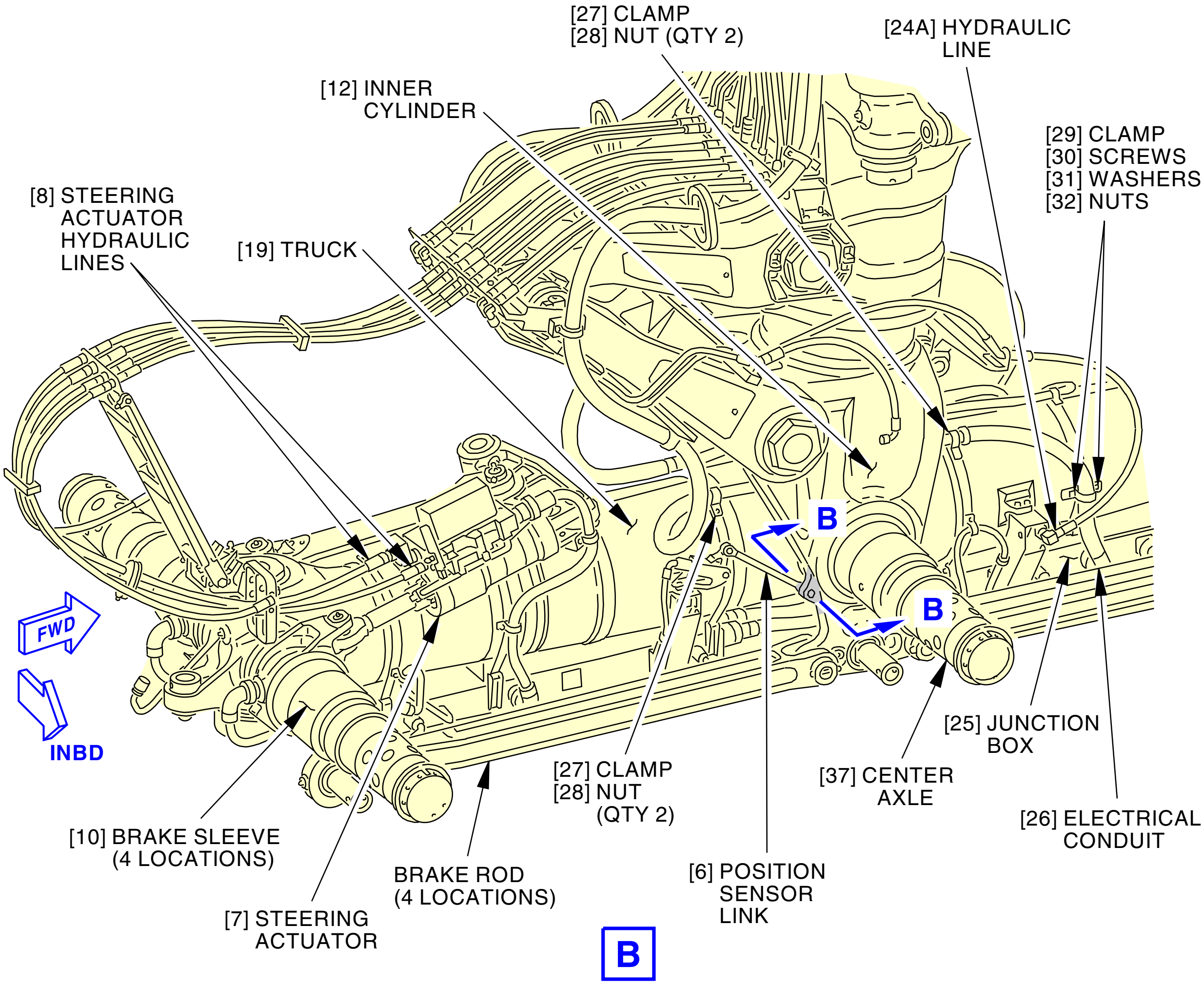
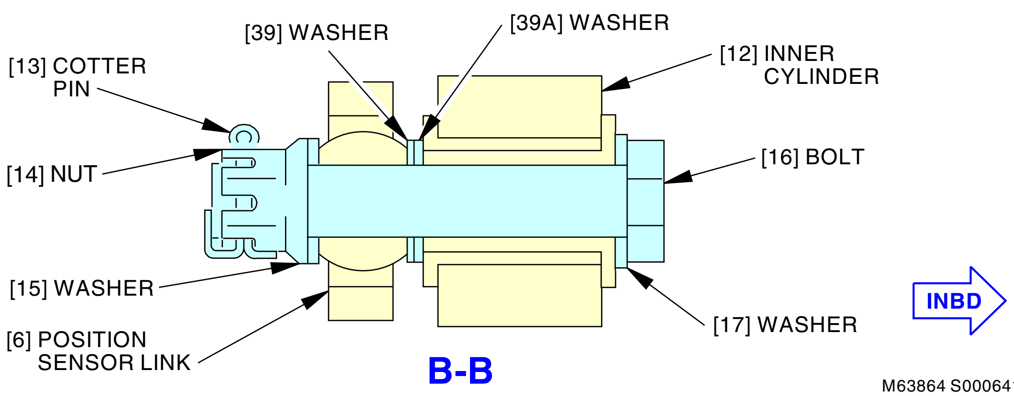


A-A

M63541 S0006417987_V2

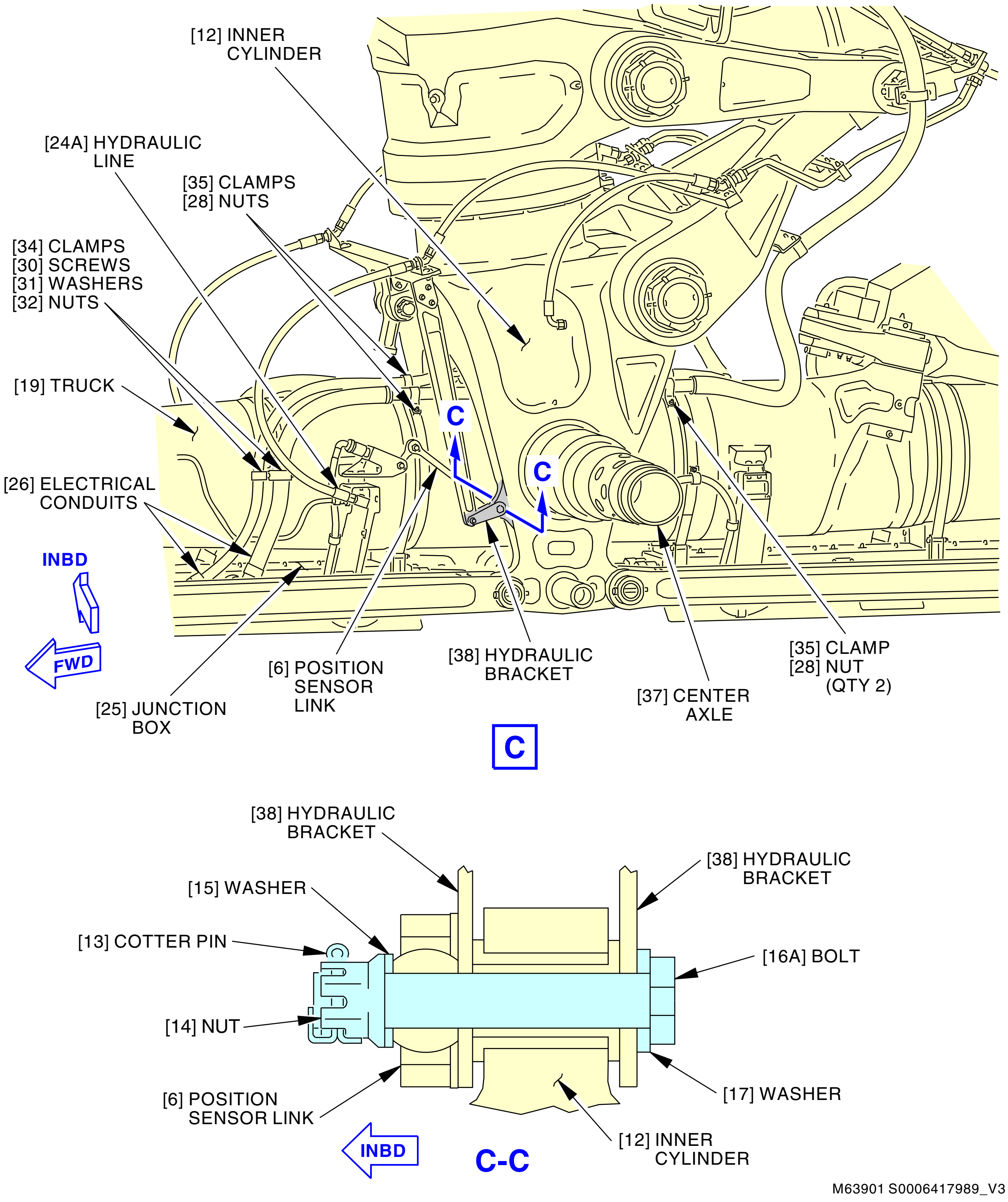
Main Landing Gear Truck Assembly Installation
Figure 401/32-11-18-990-803 (Sheet 1 of 3)





M63864 S0006417988_V3

Main Landing Gear Truck Assembly Installation
Figure 401/32-11-18-990-803 (Sheet 2 of 3)



Main Landing Gear Truck Assembly Installation
Figure 401/32-11-18-990-803 (Sheet 3 of 3)

TASK 32-11-18-400-801

3. Main Landing Gear Truck Assembly Installation

(Figure 401)

A. References

Reference	Title
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-15-01-610-810	Main Landing Gear Shock Strut Servicing (P/B 301)
12-21-14-640-806-002	Lower Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
20-10-10-400-802	Protective Lacing - Installation (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-09-03-820-801	WOW Load Sensor Calibration (P/B 201)
32-11-20-400-801	Main Landing Gear Brake Rod Installation (P/B 401)
32-11-26-400-802	Main Landing Gear Center Axle Installation (P/B 401)
32-32-25-420-801	Main Landing Gear (SLG) Hydraulic Strut Installation (P/B 401)
32-41-00 P/B 201	BRAKE HYDRO-MECHANICAL CONTROL SYSTEM - MAINTENANCE PRACTICES
32-42-05-400-801	In-Axle Assembly Installation (P/B 401)
32-42-05-480-801	In-Axle Assembly Component Operational Test (P/B 401)
32-45-07-400-801	Main Landing Gear Brake Installation (P/B 401)
32-46-00-710-801	Brake Temperature Monitoring System (BTMS) - Operational Test (P/B 501)
32-53-03-400-801	Main Landing Gear Steering/Locking Power Control Actuator Installation (P/B 401)
32-61-00-700-801	Landing Gear Position Indicating and Warning System - System Test (P/B 501)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1846	Turnbuckle - MLG Truck Position Actuator Part #: J32034-1 Supplier: 81205
SPL-1853	Retainer Equipment, MLG/NLG Torsion Link Part #: J32054-91 Supplier: 81205 Part #: J32054-92 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33

D. Location Zones

Zone	Area
731	Left Main Landing Gear

(Continued)

Zone	Area
741	Right Main Landing Gear

E. Main Landing Gear truck assembly Axle Installation

SUBTASK 32-11-18-420-001

(1) Move the truck [19] to its position below the inner cylinder [12].

SUBTASK 32-11-18-420-002

(2) Do this task: Main Landing Gear Center Axle Installation, TASK 32-11-26-400-802.

SUBTASK 32-11-18-420-003

(3) Install the clamps on the truck [19] to hold the electrical conduit [26]:

(a) On the top of the truck [19], install the clamps [27], clamps [35], and nuts [28].

(b) Install the clamp [29] and the screws [30], washers [31] and nuts [32].

(c) Install the clamps [34] and the screws [30], washers [31] and nuts [32].

SUBTASK 32-11-18-420-004

(4) Connect the electrical conduits [26] to the junction box [25] below the truck [19].

SUBTASK 32-11-18-420-013

(5) If removed, put protective lacing on the wire bundles for a length of 2.0 in. (50.80 mm) to 3.0 in. (76.20 mm) per Protective Lacing - Installation, TASK 20-10-10-400-802.

SUBTASK 32-11-18-420-005

(6) Install the bolt [18], washer [20], nut [22], and cotter pin [21] to connect the hydraulic aft support arm [5] to the truck [19].

SUBTASK 32-11-18-420-006

(7) Connect the steering actuator hydraulic lines [8] at the steering actuator [7].

(a) Install steering actuator hydraulic line [8] in the PRESSURE PORT of the steering actuator [7].

1) Tighten the B-nut on the steering actuator hydraulic line [8] to 270 ±14 in-lb (31 ±2 N·m).

(b) Install steering actuator hydraulic line [8] in the RETURN port of the steering actuator [7].

1) Tighten the B-nut on the steering actuator hydraulic line [8] to 500 ±25 in-lb (56 ±3 N·m).

SUBTASK 32-11-18-480-009

(8) To connect the forward end of the hydraulic strut, do this task: Main Landing Gear (SLG) Hydraulic Strut Installation, TASK 32-32-25-420-801.

(a) If you will connect the truck [19] to the inner cylinder [12] when the shock strut [1] is not attached to the airplane, install the MLG truck position actuator turnbuckle, SPL-1846, instead of the hydraulic strut.

SUBTASK 32-11-18-420-011

(9) Install the bolt [16], washer [17], washer [39A], washer [39], washer [15], nut [14], and cotter pin [13] to connect the position sensor links [6] to the inner cylinder [12] (View B-B, Figure 401):

(a) Lubricate the bolt [16], washer [17], washer [39A], washer [39], washer [15], nut [14], and cotter pin [13] with grease, D00013, or grease, D00633, before installation.

SUBTASK 32-11-18-420-012

(10) Install the bolt [16A], washer [17], hydraulic bracket [38], washer [15], nut [14], and cotter pin [13] to connect the position sensor links [6] to the inner cylinder [12] (View C-C, Figure 401):

(a) Lubricate the bolt [16A], washer [17], hydraulic bracket [38], washer [15], nut [14], and cotter pin [13] with grease, D00013, or grease, D00633, before installation.

SUBTASK 32-11-18-420-010

(11) Connect the lower end of the hydraulic line [24A].

(a) Tighten the B-nut on the hydraulic line [24A] to 270 ±14 in-lb (31 ±2 N·m).

SUBTASK 32-11-18-640-001

(12) Lubricate the inner diameter of the brake sleeve [10] with grease, D00013, or grease, D00633.

SUBTASK 32-11-18-420-008

(13) Install the brake sleeves [10] on all of the axles.

SUBTASK 32-11-18-020-013

(14) For all the axles, do this task: In-Axle Assembly Installation, TASK 32-42-05-400-801.

(15) For all the axles, do this task: In-Axle Assembly Component Operational Test, TASK 32-42-05-480-801.

SUBTASK 32-11-18-020-014

(16) For all of the axles, do this task: Main Landing Gear Brake Installation, TASK 32-45-07-400-801.

NOTE: This procedure will also install all of the wheel and tire assemblies.

SUBTASK 32-11-18-020-015

(17) For all of the brake rods, do this task: Main Landing Gear Brake Rod Installation, TASK 32-11-20-400-801.

SUBTASK 32-11-18-080-001

(18) Remove the axle jacks.

SUBTASK 32-11-18-020-016

(19) Lower the airplane and remove the jacks (TASK 07-11-01-580-805).

SUBTASK 32-11-18-480-007

(20) Remove the retainer equipment, SPL-1853, for the shock strut [1].

SUBTASK 32-11-18-870-001

(21) Bleed the main gear wheel brake system (PAGEBLOCK 32-41-00/201).

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-11-18-600-001

(1) Do this task: Main Landing Gear Shock Strut Servicing, TASK 12-15-01-610-810.

SUBTASK 32-11-18-600-003

(2) Make sure the cap [3] is installed.

SUBTASK 32-11-18-600-002

(3) To lubricate the truck assembly at the grease fittings, do this task: Lower Main Landing Gear and Actuating Mechanisms Lubrication, TASK 12-21-14-640-806-002.

SUBTASK 32-11-18-860-003

(4) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR
M	19	C32617	LG TIRE PRESSURE INDICATOR
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1
N	27	C32619	LG MAIN GEAR STEERING
N	28	C32618	LG BRAKE TEMP MONITOR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

SUBTASK 32-11-18-040-002

(5) Close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Right Power Management Panel, P210

Row	Col	Number	Name
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

SUBTASK 32-11-18-710-001

(6) Do this task: Main Landing Gear Steering/Locking Power Control Actuator Installation, TASK 32-53-03-400-801.

SUBTASK 32-11-18-710-002

(7) Do this task: Brake Temperature Monitoring System (BTMS) - Operational Test, TASK 32-46-00-710-801.

SUBTASK 32-11-18-710-003

(8) Do this task: Landing Gear Position Indicating and Warning System - System Test, TASK 32-61-00-700-801.

SUBTASK 32-11-18-820-001

(9) Do this task: WOW Load Sensor Calibration, TASK 32-09-03-820-801.

SUBTASK 32-11-18-090-001

> **WARNING**
> OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(10) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

MAIN LANDING GEAR TRUCK ASSEMBLY - INSPECTION/CHECK

1. General

A. This procedure only has illustrations and wear limit tables which show the data for wear limits. There are no procedures for access, removal, or installation of the parts. Refer to MAIN LANDING GEAR TRUCK ASSEMBLY - REMOVAL/INSTALLATION, PAGEBLOCK 32-11-18/401 for procedures to do these tasks.

TASK 32-11-18-200-801

2. Main Landing Gear Truck Assembly - Inspection/Check

(Figure 601)

A. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

B. General

SUBTASK 32-11-18-210-001

(1) This procedure only has illustrations and wear limit tables which show the data for wear limits. There are no procedures for access, removal, or installation of the parts. Refer to Figure 601 for procedures to do these tasks.

SUBTASK 32-11-18-220-001

(2) Use the following table to see the permitted quantity of wear:

Main Landing Gear Truck Assembly Wear Limits

INDEX NO.	PART NAME	DIM.	DESIGN LIMITS DIAMETER inches (millimeters)		WEAR LIMITS inches (millimeters)		REPAIR
			MIN	MAX	ALLOWED WEAR DIM.	MAX CLEARANCE	
1	Bushing	ID	6.7500 (171.4500)	6.7515 (171.4881)	6.7577 (171.6456)	0.0087 (0.2210)	
	Axle	OD	6.7480 (171.3992)	6.7490 (171.4246)	6.7428 (171.2671)		
2	Bushing	ID	6.7500 (171.4500)	6.7515 (171.4881)	6.7577 (171.6456)	0.0087 (0.2210)	
	Axle	OD	6.7480 (171.3992)	6.7490 (171.4246)	6.7428 (171.2671)		

Main Landing Gear Truck Assembly Wear Limits (Continued)

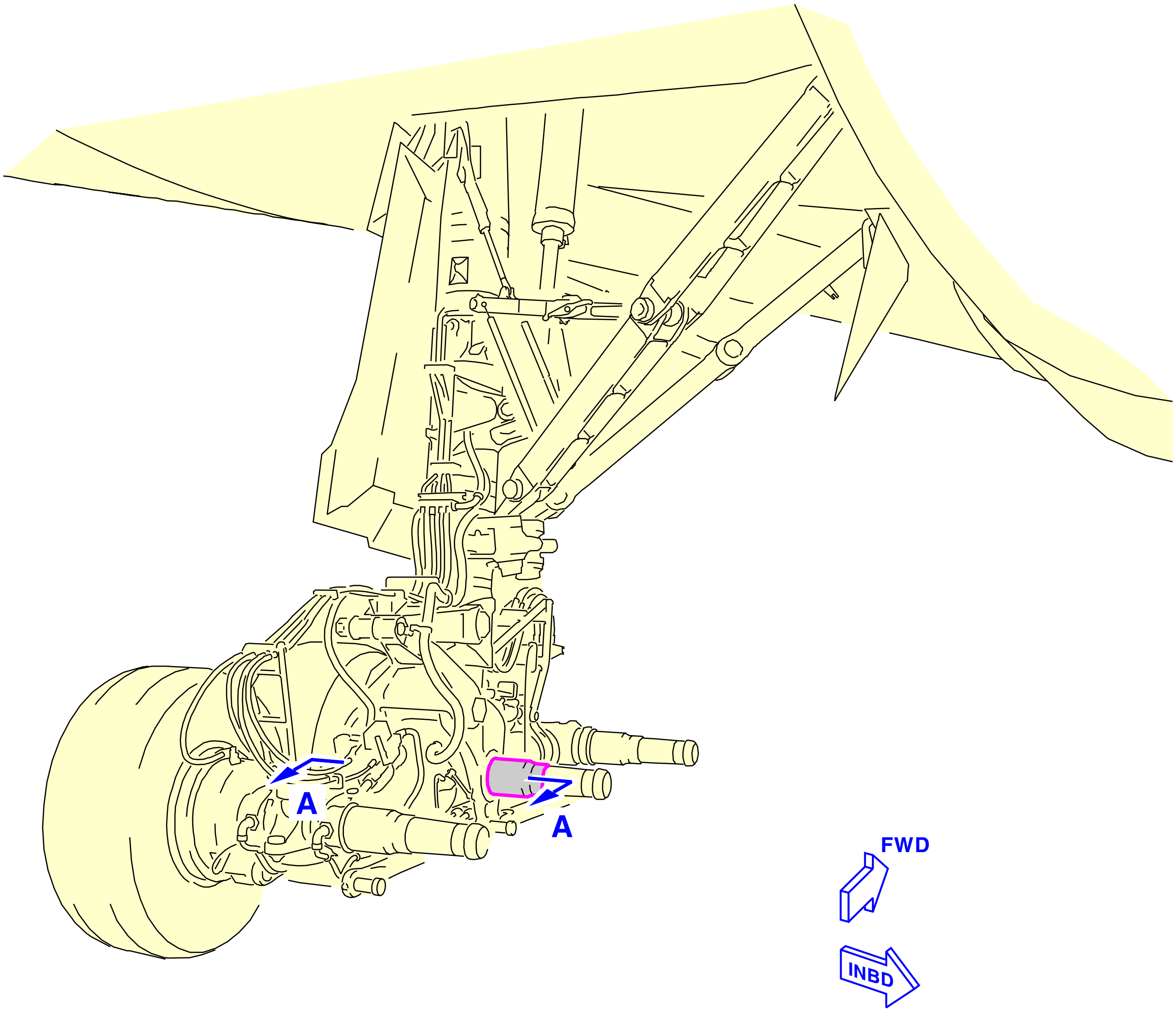
INDEX NO.	PART NAME	DIM.	DESIGN LIMITS DIAMETER inches (millimeters)		WEAR LIMITS inches (millimeters)		REPAIR
			MIN	MAX	ALLOWED WEAR DIM.	MAX CLEARANCE	
3	Inner Bushing	*[1]	15.2376 (387.0350)	15.2490 (387.3246)	15.2376 (387.0350)	0.0308 (0.7823) *[2]	
	Inner Bushing						
4	Outer Bushing	*[3]	15.2490 (387.3246)	15.2584 (387.5634)	15.2684 (387.8174)		
	Outer Bushing						

*[1] Dimension is between outer most face of the inner bushings

*[2] Max clearance is between the faces of the inner and outer bushing

*[3] Dimension is between inner most face of the outer bushings

END OF TASK



LEFT MAIN LANDING GEAR
(RIGHT MAIN LANDING GEAR IS EQUIVALENT)

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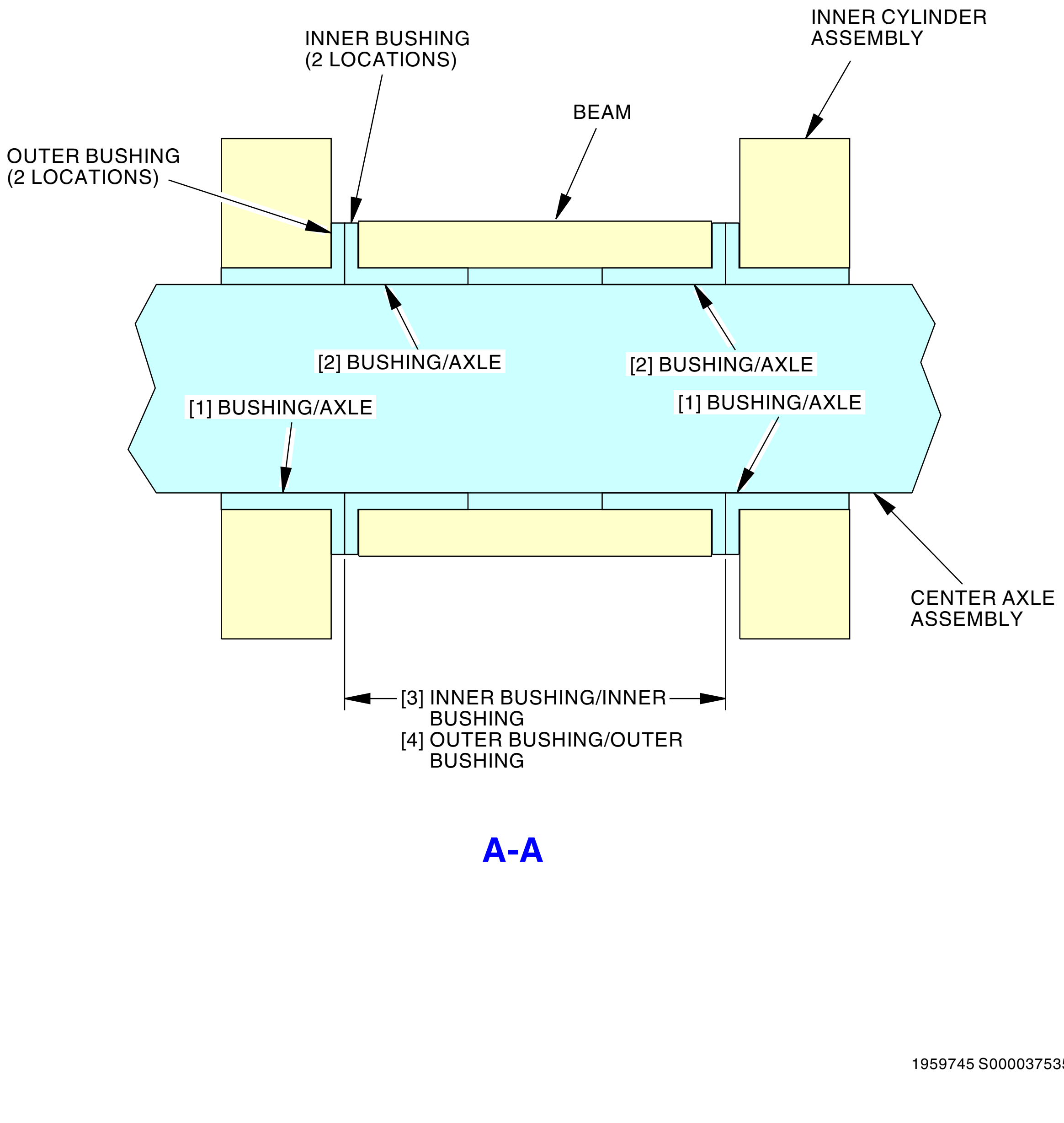
Main Landing Gear Truck Assembly Wear Limits
Figure 601/32-11-18-990-805 (Sheet 1 of 2)



Main Landing Gear Truck Assembly Wear Limits
Figure 601/32-11-18-990-805 (Sheet 2 of 2)

MAIN LANDING GEAR BRAKE RODS - REMOVAL/INSTALLATION

1. **General**
   A. This procedure has these tasks:
      (1) A removal of the main landing gear brake rods
      (2) An installation of the main landing gear brake rods.
   B. In this procedure the aft brake rods are called aft brake rod [1], and forward brake rods are called forward brake rod [2].

TASK 32-11-20-000-801

2. **Main Landing Gear Brake Rod Removal**
   (Figure 401)

   A. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   B. Tools/Equipment

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1845	Equipment - Puller, Main Landing Gear Brake System Pins Part #: J32008**ECD OCT2018** Supplier: 81205 Part #: J32008-31 Supplier: 81205 Opt Part #: J32008-1 Supplier: 81205

   C. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

   D. Prepare for the Removal

   SUBTASK 32-11-20-490-001

   WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

   (1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

   SUBTASK 32-11-20-490-002

   WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

   (2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-20-860-001

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

E. Main Landing Gear Brake Rod Removal

SUBTASK 32-11-20-020-001

(1) Disconnect the aft brake rod [1] or forward brake rod [2] from the brake [8] on the forward or aft axles:

NOTE: If you will jack the axles of the airplane, you must remove the brake pin [9] before you jack the axles to avoid interference from the axle jack.

(a) Remove the cotter pin [5], the nut [4], the washer [3], the bolt [7], the collar [6], and the brake pin [9].

1) If it is not easy to remove, you can use the main landing gear brake system pins puller equipment, SPL-1845, to help you remove the brake pin [9].

(b) Lower the aft brake rod [1] or the forward brake rod [2] from the brake [8].

SUBTASK 32-11-20-020-004

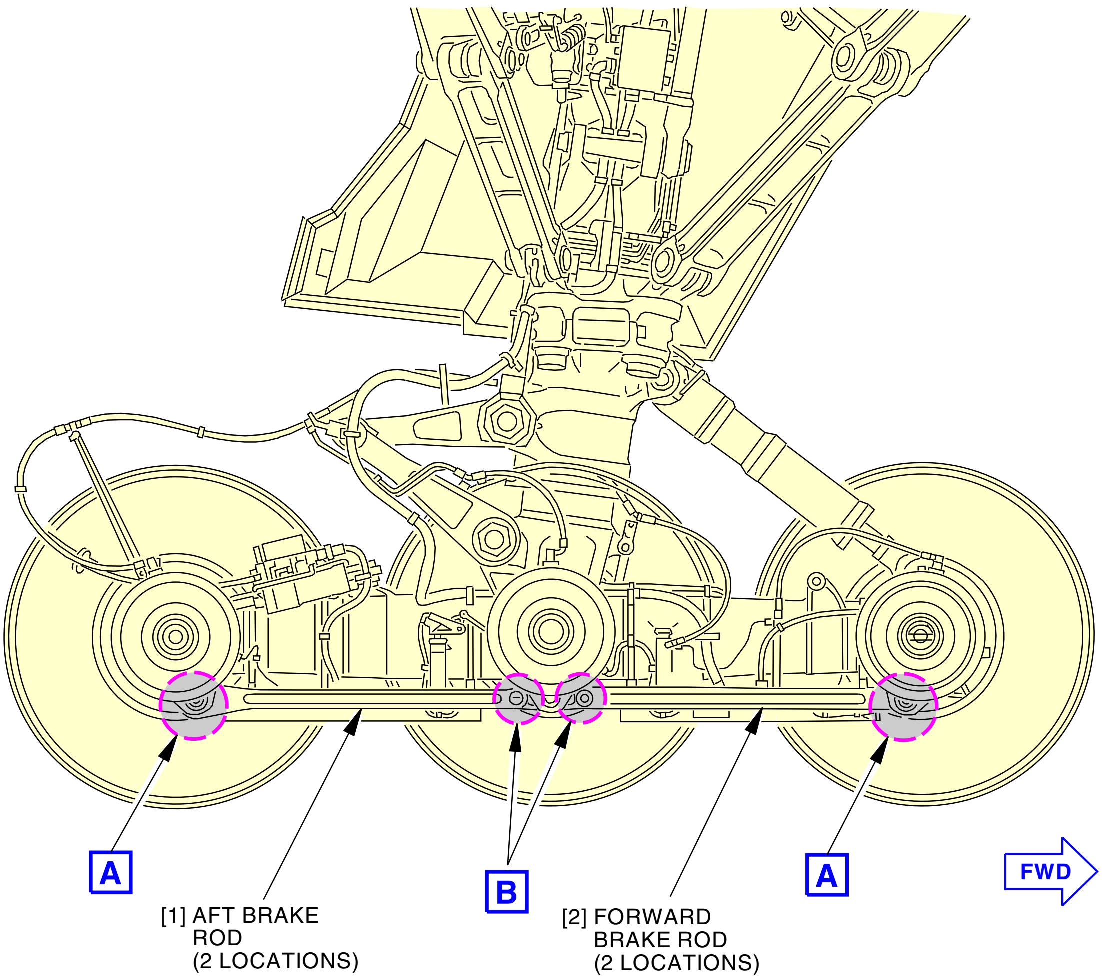
(2) Disconnect the aft brake rod [1] or the forward brake rod [2] from the torque arm on the inner cylinder:

(a) Remove the cotter pin [12], the nut [11], the washer [10], the bolt [14], the collar [13], and the brake pin [15].

1) If it is not easy to remove, you can use the main landing gear brake system pins puller equipment, SPL-1845, to help you remove the brake pin [15].

(b) Remove the aft brake rod [1] or the forward brake rod [2].

END OF TASK



LEFT MAIN LANDING GEAR
(RIGHT MAIN LANDING GEAR IS EQUIVALENT)

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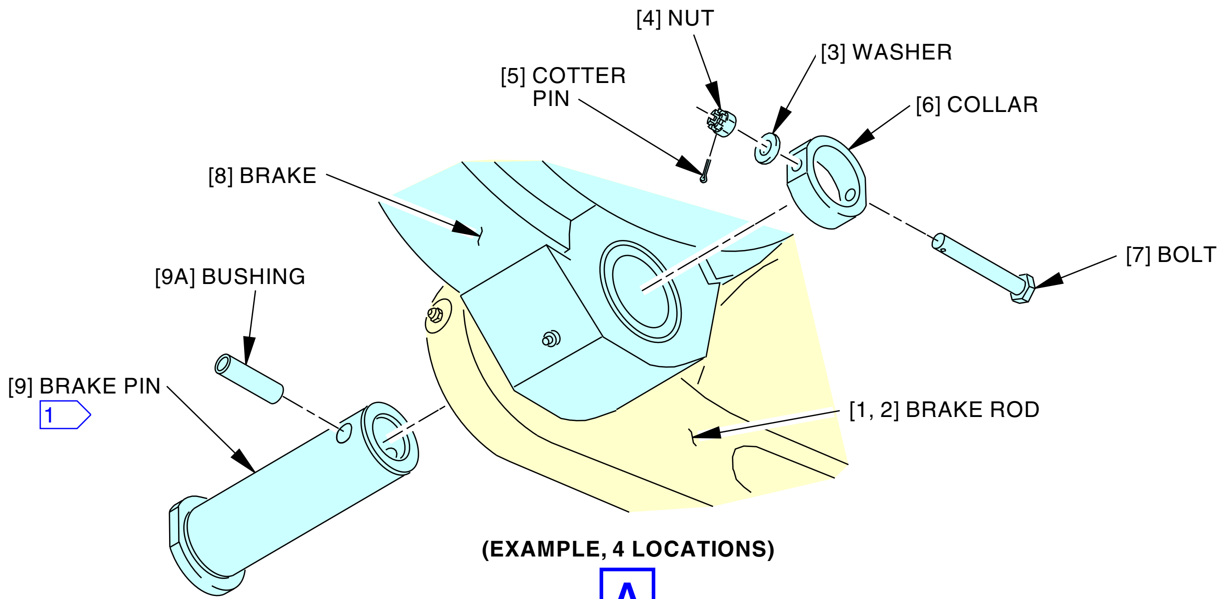
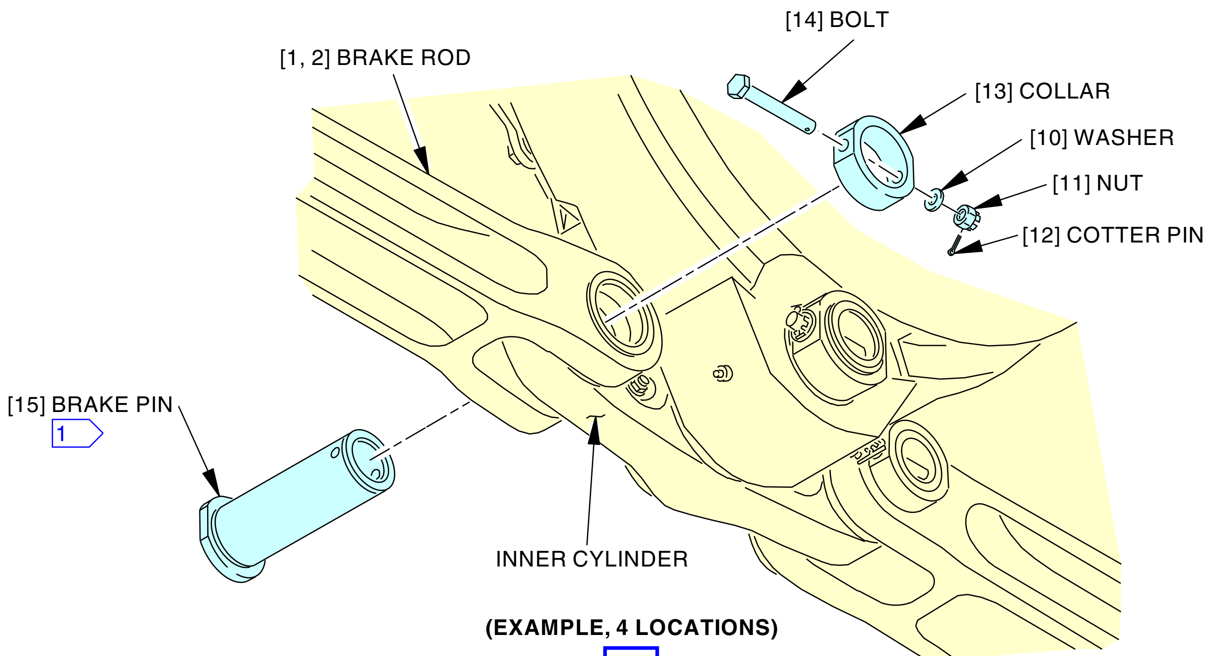
Main Landing Gear Brake Rod Installation
Figure 401/32-11-20-990-802 (Sheet 1 of 2)



(EXAMPLE, 4 LOCATIONS)

A



(EXAMPLE, 4 LOCATIONS)

B

1 THE HEAD OF ALL BRAKE PINS FACE TO THE INSIDE OF THE TRUCK.

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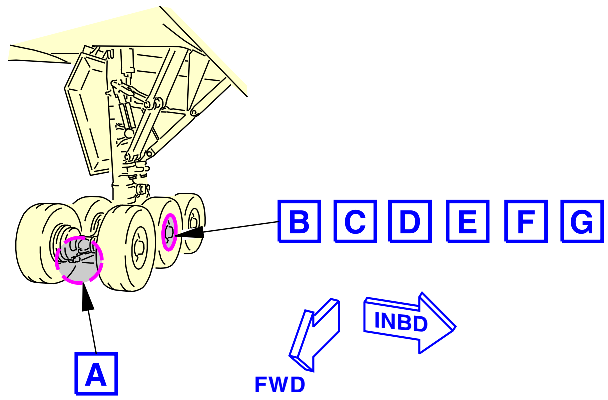
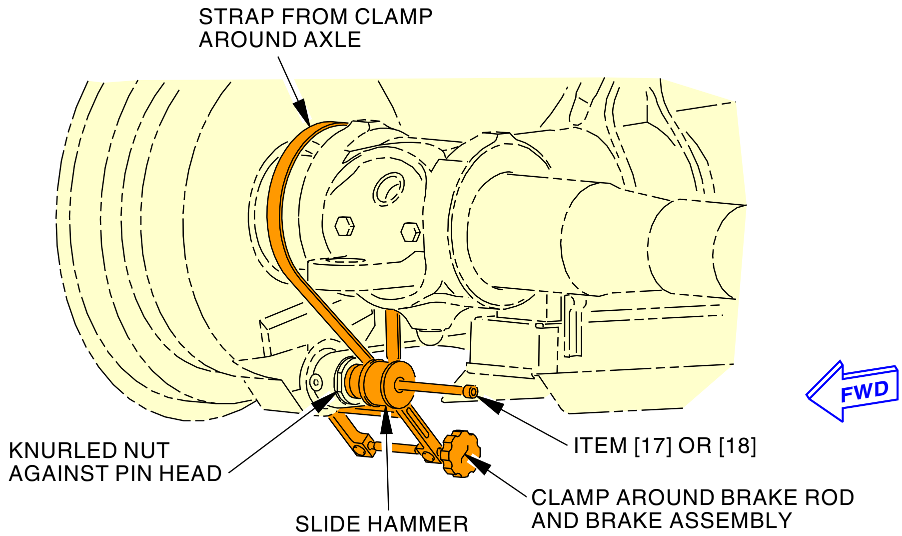
**Main Landing Gear Brake Rod Installation
Figure 401/32-11-20-990-802 (Sheet 2 of 2)**



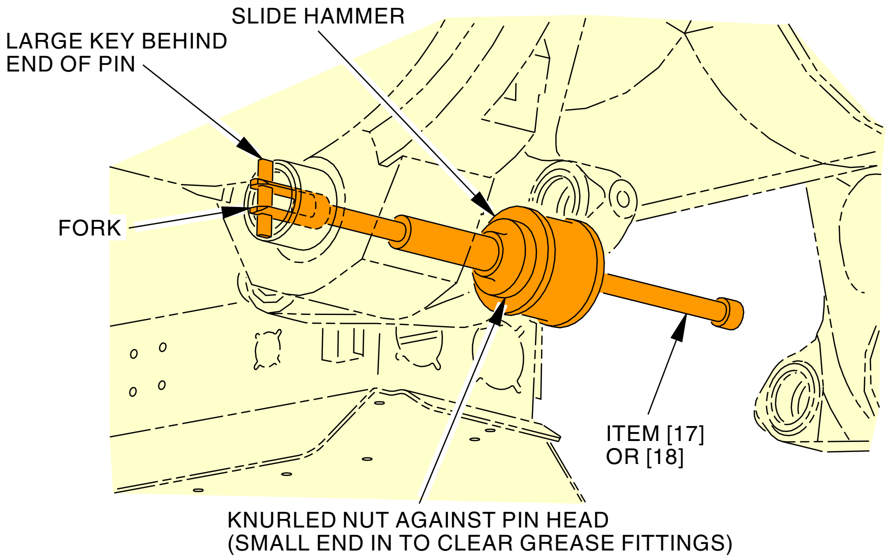


**REMOVAL OF PIN CONNECTING BRAKE ROD
TO FORWARD OR AFT BRAKE ASSEMBLY
J32008-1**

A

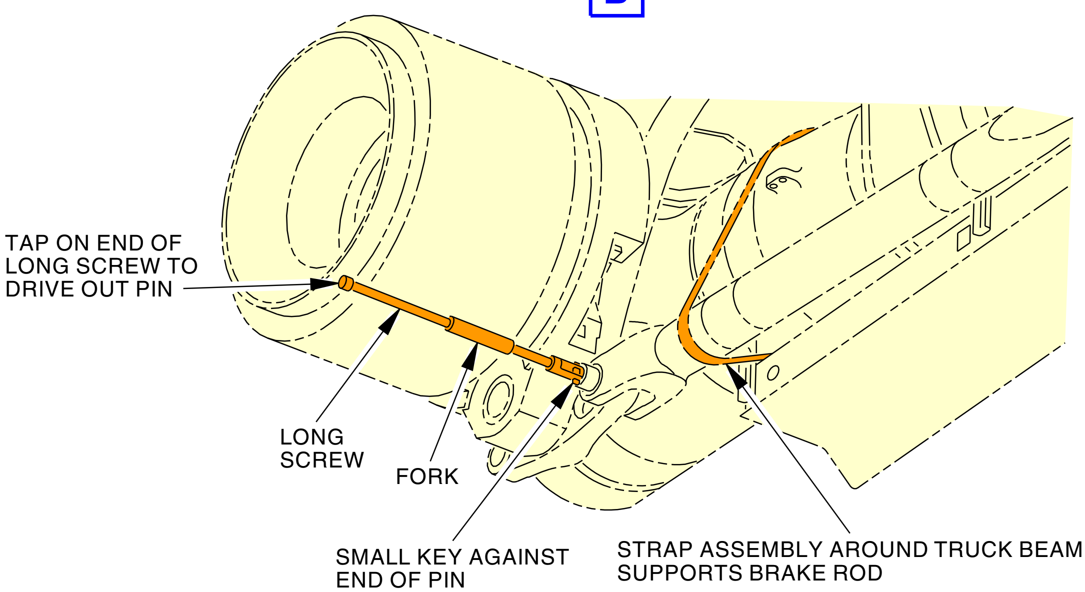
U56752 S0000207347_V3

**Main Landing Gear Brake System Pins Puller Equipment
Figure 402/32-11-20-990-803 (Sheet 1 of 5)**



REMOVAL OF PIN CONNECTING INNER CYLINDER YOKE TO CENTER BRAKE ASSEMBLY
J32008-1

B

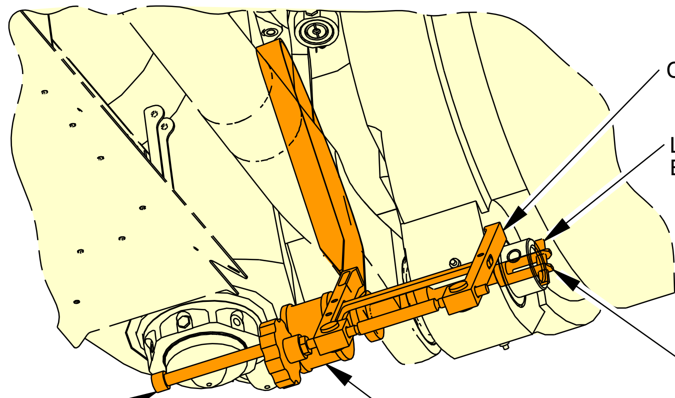


REMOVAL OF PIN CONNECTING INNER CYLINDER TO BRAKE ROD
J32008-1

C

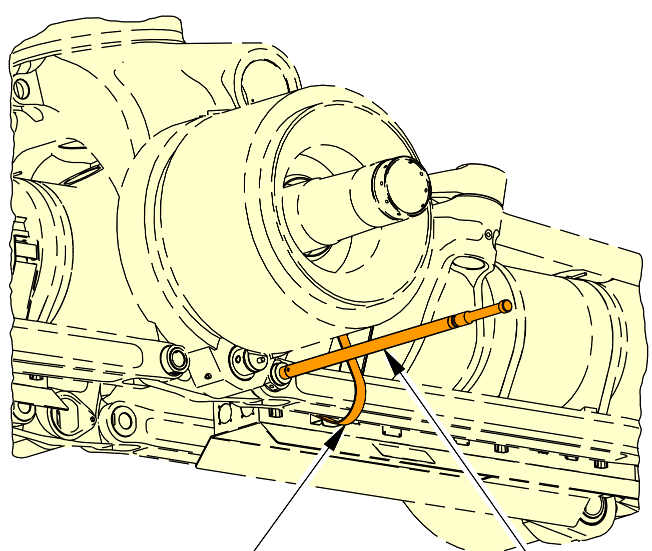
U56763 S0000207348_V2

Main Landing Gear Brake System Pins Puller Equipment
Figure 402/32-11-20-990-803 (Sheet 2 of 5)



REMOVAL OF PIN CONNECTING BRAKE ROD TO FORWARD OR AFT BRAKE ASSEMBLY
J32008-1

D

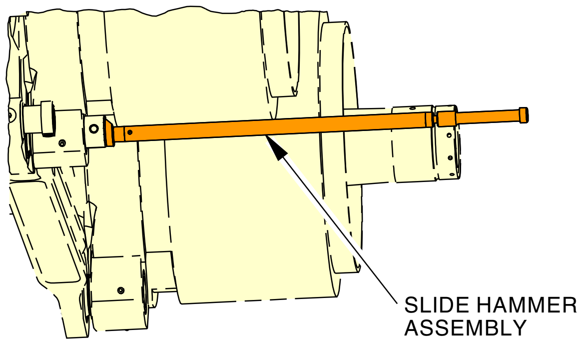


J32008-31

E

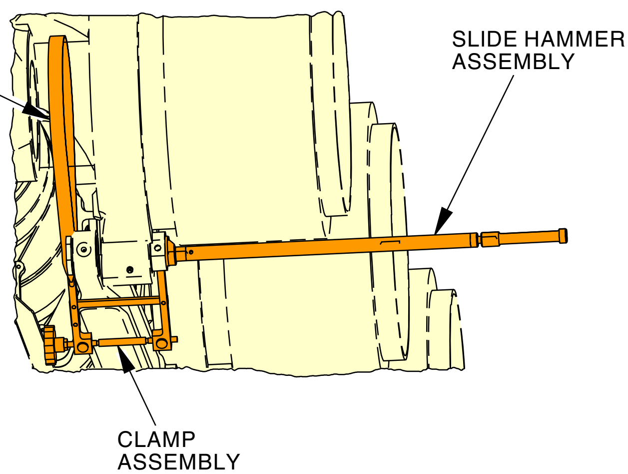
U56765 S0000207350_V2

Main Landing Gear Brake System Pins Puller Equipment
Figure 402/32-11-20-990-803 (Sheet 3 of 5)



J32008-31

F

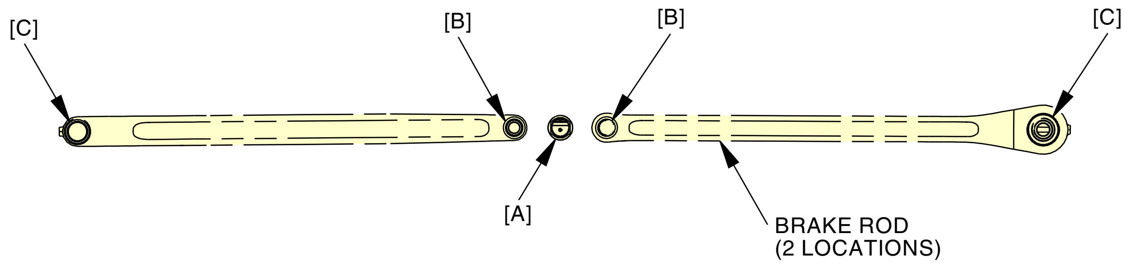


J32008-31

G

U56929 S0000207351_V2

Main Landing Gear Brake System Pins Puller Equipment
Figure 402/32-11-20-990-803 (Sheet 4 of 5)



J32008-31

PART NUMBER	LOCATION USED	COMPONENT PART NUMBER
J32008-41	[B]	161W2188-1
J32008-42	[B]	161W1188-2
J32008-43	[B]	161W1188-1
J32008-44	[A]	161W1179-3
	[C]	161W1178-1
J32008-45	[A]	161W1179-1
J32008-46	[C]	161W2178-1

REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
[17]	-12	LONG SCREW	
[18]	-13	SHORT SCREW	

U56934 S0000207352_V2

Main Landing Gear Brake System Pins Puller Equipment
Figure 402/32-11-20-990-803 (Sheet 5 of 5)

TASK 32-11-20-400-801

3. Main Landing Gear Brake Rod Installation

(Figure 401)

A. References

Reference	Title
12-21-14-640-806-002	Lower Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00528	Grease - Aircraft - Royco 11MS	
D50255	Grease - Aircraft And Instrument	MIL-PRF-32014

C. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Main Landing Gear Brake Rod Installation

SUBTASK 32-11-20-020-002

(1) Connect the aft brake rod [1] or the forward brake rod [2] to the torque arm on the inner cylinder:

(a) Apply a layer of grease, D50255 (preferred) or Royco 11MS grease, D00528 (optional) to the cotter pin [12], the nut [11], the washer [10], the bolt [14], the collar [13], and the brake pin [15].

(b) Put the aft brake rod [1] or the forward brake rod [2] in its position on the torque arm of the inner cylinder.

(c) Install the brake pin [15], the collar [13], the washer [10], the bolt [14], the nut [11], and the cotter pin [12].

SUBTASK 32-11-20-020-003

(2) Connect the aft brake rod [1] or the forward brake rod [2] to the brake [8] on the forward or aft axles:

(a) Apply a layer of grease, D50255 (preferred) or Royco 11MS grease, D00528 (optional) to the cotter pin [5], the nut [4], the washer [3], the bolt [7], the collar [6], and the brake pin [9].

(b) Lift the aft brake rod [1] or the forward brake rod [2] up to the brake [8].

(c) Install the brake pin [9], the collar [6], the bolt [7], the washer [3], the nut [4], and the cotter pin [5].

1) Install the brake pin [9] through the aft brake rod [1] or the forward brake rod [2] first and then through the brake [8].

E. Put the Airplane Back to Its Usual Condition

SUBTASK 32-11-20-640-001

(1) Lubricate the aft brake rod [1], the forward brake rod [2], brake pin [9], the brake pin [15], and the grease fittings on the brake [8] as applicable, (TASK 12-21-14-640-806-002).

SUBTASK 32-11-20-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

MAIN LANDING GEAR SPARES KIT - ASSEMBLY/INSTALLATION

1. **General**

   A. This procedure has this task:

      (1) The assembly of the main landing gear spares kit.

TASK 32-11-21-020-801

2. **Main Landing Gear Spares Kit Assembly**
   (Figure 401)

   A. General

   (1) This task supplies instructions to remove the main landing gear components from the spares boxes and assemble them such that the gear is ready to be installed on the airplane.

   B. References

Reference	Title
12-21-14-640-806-002	Lower Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
32-11-01-420-801	Main Landing Gear Installation (P/B 401)
32-45-03-700-802	Wheels Inspection (Wheel Removed from the Airplane) (P/B 601)
32-45-04-700-801	Tires Inspection (P/B 601)
32-45-07-700-803	Main Landing Gear Brake Inspection (Wheel Removed from the Airplane) (P/B 601)
32-61-04-400-802	Sensor Target Bracket Assembly Installation (P/B 401)

   C. Tools/Equipment

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1816	Sling - Hot Brake, 6 Foot Mesh Length, 6 Inch Mesh Width Part #: 6T212X6 Supplier: 23755 Part #: SLG35-6X72-002-01 Supplier: 10380 Opt Part #: G-35 Supplier: 10380 Opt Part #: G-59 Supplier: 10380
COM-1818	Dolly - Wheel/Brake Change Part #: 175M Supplier: 94861 Part #: 175S-2 Supplier: 94861 Part #: 9092-016 Supplier: 00994 Part #: IA3201A-500 Supplier: 3D5B2 Part #: MH12-004 Supplier: D2029 Part #: MH12-005 Supplier: D2029 Opt Part #: 175 Supplier: 94861 Opt Part #: 8436-012 Supplier: 00994 Opt Part #: 9092-010 Supplier: 00994 Opt Part #: 9092-015 Supplier: 00994 Opt Part #: MH12-003 Supplier: D2029 Opt Part #: PF32-002-1 Supplier: 3D5B2

(Continued)

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1815	Wrench Eqpt - wheel retention nut Part #: J32032-22 Supplier: 81205 Opt Part #: MIT65B01202-1 Supplier: 81205
SPL-1853	Retainer Equipment, MLG/NLG Torsion Link Part #: J32054-91 Supplier: 81205 Part #: J32054-92 Supplier: 81205
SPL-1854	Equipment - Protector, Main Landing Gear Part #: J32031-12 Supplier: 81205
SPL-4685	Turnbuckle Eqpt, MLG Shock Strut Part #: J32087-1 Supplier: 81205

D. **Consumable Materials**

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00016	Grease - Aircraft, General Purpose, Wide Temperature Range	MIL-PRF-81322
D00233	Grease - Aircraft, General Purpose, Wide Temperature - Mobil 28	MIL-PRF-81322
D00378	Grease - Aircraft, General Purpose, Wide Temperature - Aeroshell 22	MIL-PRF-81322
D00528	Grease - Aircraft - Royco 11MS	
D50005	Grease - Wheel Bearing - Mobil Aviation Grease SHC 100	
D50255	Grease - Aircraft And Instrument	MIL-PRF-32014
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

E. **References**

SUBTASK 32-11-21-800-001

(1) These are the tasks that are referenced:

(a) AMM TASK 32-11-01-420-801 p401, Main Landing Gear Installation.

(b) AMM Task 32-11-22-400-802 p401, Main Landing Gear Torsion Link Connection.

(c) AMM Task 32-45-03-700-802 p601, Wheels Inspection (Wheel Removed from the Aircraft).

(d) AMM Task 32-45-04-700-801 p601, Tires Inspection.

(e) AMM Task 32-45-07-700-803 p601, Main Landing Gear Brake Inspection (Wheel Removed form the Airplane).

F. Procedure to Assemble the Main Landing Gear Spares Kit

SUBTASK 32-11-21-420-001

(1) Put the main landing truck assembly in its positions for assembly:

(a) Open the main landing gear truck assembly box.

(b) Remove all restraining hardware that holds the main landing gear truck to the assembly box.

CAUTION	MAKE SURE WHEN YOU INSTALL THE LIFTING STRAPS THAT THEY ARE BETWEEN THE TRUCK AND ELECTRICAL CONDUITS. DAMAGE TO THE CONDUITS CAN RESULT IF THE TRUCK IS LIFTED WITH THE STRAPS AROUND THE ELECTRICAL CONDUITS.

(c) Install a lifting strap around the main landing gear truck assembly just aft of the hole for the center axle.

(d) Install a lifting strap around the main landing truck assembly just aft of the attach fitting for the main landing gear truck position actuator.

(e) Connect the overhead lifting equipment to the lifting strap just aft of the hole for the center axle and lift the truck out of the assembly box.

NOTE: The overhead lifting equipment must have a 15,000 pounds (6800 Kg) capacity.

(f) Set the aft axle of the main landing gear truck assembly on the forward saddle support of the truck assembly box.

(g) Position the tripod support under the forward axle jacking ball, located on the bottom side of the main landing truck assembly.

CAUTION	MAKE SURE WHEN YOU SET THE FORWARD AXLE ON THE TRIPOD SUPPORT THAT THE FORWARD AXLE JACKING BALL IS SEATED IN THE CUTOUT ON TOP OF THE TRIPOD SUPPORT. DAMAGE TO THE MAIN LANDING TRUCK CAN RESULT IF JACKING BALL IS NOT SEATED IN TRIPOD CUTOUT.

(h) Set the forward axle of the main landing gear truck assembly on the tripod support.

SUBTASK 32-11-21-420-002

(2) Do these steps to install the brake assemblies [52] on the forward axle of the main landing gear truck assembly.

(a) If the brakes are not new, do this task: Main Landing Gear Brake Inspection (Wheel Removed from the Airplane), TASK 32-45-07-700-803.

WARNING	APPLY THIN LAYER OF GREASE TO THE INTERFACE SURFACES OF THE BRAKE AND AXLE SLEEVES ONLY. DO NOT APPLY GREASE IN THE SPACE BETWEEN THE AXLE BUSHINGS ON THE BRAKE. IF YOU APPLY TOO MUCH GREASE, A FIRE CAN OCCUR WHEN THE BRAKE BECOMES HOT.

(b) Apply a thin layer of grease, D50255 or Royco 11MS grease, D00528, to the brake sleeves on the forward axle and bushing [54] on the brake assembly [52].

NOTE: This will allow the brake assembly [52] to slide easily onto the axle.

(c) Install the grease seal [53] in the brake assembly [52]:

1) Apply a thin layer of grease, D00016 to the new grease seal [53].

NOTE: Use enough grease to hold the grease seal [53] in its position during brake installation.

2) Install the new grease seal [53] in its groove next to the brake bushing [54].

(d) Install main landing gear protector equipment, SPL-1854, on the axle threads of the forward axle.

CAUTION	BE VERY CAREFUL WITH CARBON BRAKES. CARBON DISCS WITH NICKS AND CRACKS ARE NOT SERVICEABLE AND CANNOT BE REPAIRED. DO NOT PUT FORCE ON THE HEAT SHIELDS WHEN YOU REMOVE OR INSTALL THE BRAKE. BENT HEAT SHIELDS FREQUENTLY CANNOT BE REPAIRED. A BRAKE WITH A BENT HEAT SHIELD WILL CAUSE SCORING ON THE WHEEL INNER SURFACE WHEN THE WHEEL TURNS.

(e) Use hot brake sling, COM-1816 and wheel/brake changer dolly, COM-1818 to put the brake assembly [52] in its position on the forward axle.

NOTE: If you use hot brake sling, COM-1816 or equivalent, you must also use wheel/brake changer dolly, COM-1818 or equivalent.

SUBTASK 32-11-21-420-003

(3) Install the main gear wheel and tire assembly [87] on the forward axle do these steps:

(a) If the main gear wheel and tire assembly [87] is not new, inspect the bearings, seals, and other parts of the wheel and tire assembly [87], Wheels Inspection (Wheel Removed from the Airplane), TASK 32-45-03-700-802.

(b) If the tire is not new, do this task: Tires Inspection, TASK 32-45-04-700-801.

CAUTION	DO NOT PUT FORCE ON THE HEAT SHIELDS OF THE BRAKE OR WHEEL ASSEMBLIES WHEN YOU MOVE THE WHEEL AND TIRE ASSEMBLY. BENT HEAT SHIELDS FREQUENTLY CANNOT BE REPAIRED. A BENT HEAT SHIELD CAN CAUSE DAMAGE TO THE WHEEL WHEN THE WHEEL MOVES.

(c) Install the wheel and tire assembly [87]:

CAUTION	DO NOT APPLY GREASE TO THE AREA BETWEEN THE AXLE BEARINGS. HIGH TEMPERATURES IN THIS AREA DURING A LANDING CAN CAUSE ALL GREASE IN THIS AREA TO BURN. THIS CAN CAUSE DAMAGE TO WHEELS, TIRES, AND BRAKES.

1) Apply a thin layer grease, D00016 on the inner diameter surface of the inner and outer wheel bearings where they will touch the forward axle.

CAUTION	DO NOT APPLY GREASE TO THE AREA BETWEEN THE AXLE BEARINGS. HIGH TEMPERATURES IN THIS AREA DURING A LANDING CAN CAUSE ALL GREASE IN THIS AREA TO BURN. THIS CAN CAUSE DAMAGE TO WHEELS, TIRES, AND BRAKES.

2) Apply a thin layer of Aeroshell 22 grease, D00378, Mobil Aviation Grease SHC 100 grease, D50005, or Mobil 28 grease, D00233, on the forward axle where the axle will touch the wheel bearings.

CAUTION: MAKE SURE THE BRAKE ROTORS ARE ALIGNED. DAMAGE TO THE ROTORS CAN OCCUR IF THE DRIVE KEYS ON THE WHEEL HIT THE ROTORS DURING INSTALLATION.

3) Align the brake disks.
4) Use the wheel/brake changer dolly, COM-1818 to install the wheel and tire assembly [87].
5) Remove the main landing gear protector equipment, SPL-1854 from the forward axle threads.
6) Apply a thin layer of Aeroshell 22 grease, D00378, Mobil Aviation Grease SHC 100 grease, D50005, or Mobil 28 grease, D00233, to the faces of the washer [88] and the nut [89], and to the forward axle threads.
7) Install washer [88] and nut [89].
8) Do these steps to tighten the nut [89] with the wheel retaining nut wrench adapter, SPL-1815:
   a) While you turn the wheel, tighten the nut [89] to 500 ft-lb (677.9 N·m)-550 ft-lb (745.7 N·m).
   b) Stop the wheel.
   c) Loosen the nut [89] to 10 ft-lb (13.6 N·m)-100 ft-lb (135.6 N·m).
   d) While you turn the wheel, tighten the nut [89] to 200 ft-lb (271.2 N·m).
   e) If the holes for the bolts [76] do not align, continue to tighten the nut [89], up to 6 degrees more, to align the holes.
9) Do these steps to install the bolts [76]:
   a) Install the bolts [76] with the head to the inner side of the in axle assembly [51].

      NOTE: You can turn the wheel interface unit [77] for access to the bolt holes.
   b) Install the washer [75] and nut [74].

SUBTASK 32-11-21-940-001

(4) Do these steps to put the main landing gear truck assembly in the position to install the wheels, tires and brakes on the aft axle:
   (a) Connect the overhead lifting equipment to the lifting strap just aft of the forward axle.
   (b) Using the overhead lifting equipment, lift the forward axle of the main landing gear truck assembly high enough so you can remove the tripod support assembly from under the forward axle.
   (c) Lower the forward axle of the main landing gear truck assembly until the forward axle is sitting on the wheels and tires.
   (d) Install wheel chocks at one of the wheel and tires of the forward axle.

      NOTE: This will prevent the main landing gear truck assembly from trying to roll when the aft axle of the main landing truck is lifted.
   (e) Connect the overhead lifting equipment to the lifting sling just aft of the center axle hole on the main landing gear truck assembly.
   (f) Using the overhead lifting equipment, lift the aft axle of the main landing gear truck assembly high enough so you can remove the truck assembly box.
      1) Remove the truck assembly box.

(g) Position the tripod support assembly under the aft axle jacking ball, located on the bottom side of the main landing gear truck assembly.

1) Set the aft axle of the main landing gear truck assembly on the tripod support assembly.

SUBTASK 32-11-21-420-004

(5) Do these steps to install the brake assemblies [52] on the aft axle of the main landing gear truck assembly.

(a) If the brake assemblies [52] are not new, do this task: Main Landing Gear Brake Inspection (Wheel Removed from the Airplane), TASK 32-45-07-700-803.

WARNING	APPLY THIN LAYER OF GREASE TO THE INTERFACE SURFACES OF THE BRAKE AND AXLE SLEEVES ONLY. DO NOT APPLY GREASE IN THE SPACE BETWEEN THE AXLE BUSHINGS ON THE BRAKE. IF YOU APPLY TOO MUCH GREASE, A FIRE CAN OCCUR WHEN THE BRAKE BECOMES HOT.

(b) Apply a thin layer of grease, D50255 or Royco 11MS grease, D00528, to the brake sleeves on the aft axle and bushing [54] on the brake assembly [52].

NOTE: This will allow the brake assembly [52] to slide easily onto the axle.

(c) Install the grease seal [53] in the brake assembly [52]:

1) Apply a thin layer of grease, D00016 to the new grease seal [53].

NOTE: Use enough grease to hold the grease seal [53] in its position during brake installation.

2) Install the new grease seal [53] in its groove next to the brake bushing [54].

(d) Install main landing gear protector equipment, SPL-1854, on the aft axle threads.

CAUTION	BE VERY CAREFUL WITH CARBON BRAKES. CARBON DISCS WITH NICKS AND CRACKS ARE NOT SERVICEABLE AND CANNOT BE REPAIRED. DO NOT PUT FORCE ON THE HEAT SHIELDS WHEN YOU REMOVE OR INSTALL THE BRAKE. BENT HEAT SHIELDS FREQUENTLY CANNOT BE REPAIRED. A BRAKE WITH A BENT HEAT SHIELD WILL CAUSE SCORING ON THE WHEEL INNER SURFACE WHEN THE WHEEL TURNS.

(e) Use hot brake sling, COM-1816 and wheel/brake changer dolly, COM-1818 to put the brake assembly [52] in its position on the aft axle.

NOTE: If you use hot brake sling, COM-1816 or equivalent, you must also use wheel/brake changer dolly, COM-1818 or equivalent.

SUBTASK 32-11-21-420-005

(6) Install the main gear wheel and tire assemblies [87] on the aft axle do these steps:

(a) If the wheel assembly is not new, inspect the bearings, seals, and other parts of the wheel, do this task: Wheels Inspection (Wheel Removed from the Airplane), TASK 32-45-03-700-802.

(b) If the tire is not new, do this task: Tires Inspection, TASK 32-45-04-700-801.

CAUTION DO NOT PUT FORCE ON THE HEAT SHIELDS OF THE BRAKE OR WHEEL ASSEMBLIES WHEN YOU MOVE THE WHEEL AND TIRE ASSEMBLY. BENT HEAT SHIELDS FREQUENTLY CANNOT BE REPAIRED. A BENT HEAT SHIELD CAN CAUSE DAMAGE TO THE WHEEL WHEN THE WHEEL MOVES.

(c) Do these steps to install the wheel and tire assembly [87]:

CAUTION DO NOT APPLY GREASE TO THE AREA BETWEEN THE AXLE BEARINGS. HIGH TEMPERATURES IN THIS AREA DURING A LANDING CAN CAUSE ALL GREASE IN THIS AREA TO BURN. THIS CAN CAUSE DAMAGE TO WHEELS, TIRES, AND BRAKES.

1) Apply a thin layer grease, D00016 on the inner diameter surface of the inner and outer wheel bearings where they will touch the aft axle.

CAUTION DO NOT APPLY GREASE TO THE AREA BETWEEN THE AXLE BEARINGS. HIGH TEMPERATURES IN THIS AREA DURING A LANDING CAN CAUSE ALL GREASE IN THIS AREA TO BURN. THIS CAN CAUSE DAMAGE TO WHEELS, TIRES, AND BRAKES.

2) Apply a thin layer of Aeroshell 22 grease, D00378, Mobil Aviation Grease SHC 100 grease, D50005, or Mobil 28 grease, D00233, on the aft axle where the axle will touch the wheel bearings.

CAUTION MAKE SURE THE BRAKE ROTORS ARE ALIGNED. DAMAGE TO THE ROTORS CAN OCCUR IF THE DRIVE KEYS ON THE WHEEL HIT THE ROTORS DURING INSTALLATION.

3) Align the brake disks.

4) Use the wheel/brake changer dolly, COM-1818 to install the wheel and tire assembly [87].

5) Remove main landing gear protector equipment, SPL-1854 from the aft axle threads.

6) Apply a thin layer of Aeroshell 22 grease, D00378, Mobil Aviation Grease SHC 100 grease, D50005, or Mobil 28 grease, D00233, to the faces of the washer [88] and the nut [89], and to the aft axle threads.

7) Install washer [88] and nut [89].

8) Do these steps to tighten the nut [89] with the wheel retaining nut wrench adapter, SPL-1815:

   a) While you turn the wheel, tighten the nut [89] to 500 ft-lb (677.9 N·m)-550 ft-lb (745.7 N·m).

   b) Stop the wheel.

   c) Loosen the nut [89] to 10 ft-lb (13.6 N·m)-100 ft-lb (135.6 N·m).

   d) While you turn the wheel, tighten the nut [89] to 200 ft-lb (271.2 N·m).

   e) If the holes for the bolt [76] do not align, continue to tighten the nut [89], up to 6 degrees more, to align the holes.

9) Do these steps to install the bolt [76]:

a) Install the bolt [76] with the head to the inner side of the in axle assembly [51].

NOTE: You can turn the wheel interface unit [77] for access to the bolt holes.

b) Install the washer [75] and nut [74].

SUBTASK 32-11-21-940-002

(7) Using the overhead lifting equipment, lift the aft axle of the main landing gear truck assembly high enough so you can remove the tripod support assembly from under the aft axle.

(a) Remove the tripod support assembly from under the aft axle of the main landing gear truck.

SUBTASK 32-11-21-940-003

(8) Lower the aft axle of the main landing gear truck until it is sitting on the wheels and tires.

SUBTASK 32-11-21-940-004

(9) Disconnect the overhead lifting equipment and remove the lifting straps from the main landing gear truck.

SUBTASK 32-11-21-940-005

(10) Put an axle jack under the forward axle jacking ball and aft axle jacking ball of the main landing gear truck assembly.

SUBTASK 32-11-21-940-006

(11) Using the axle jacks raise the forward and aft axles of the main landing gear truck assembly until the tire and wheels are just off the ground.

NOTE: This will allow the main landing gear truck assembly to pivot from side to side when installing the shock strut. This will help prevent the shock strut from binding when connecting the shock strut to the main landing gear truck.

SUBTASK 32-11-21-420-006

(12) Open the box for the main landing gear shock strut assembly.

(a) Remove all restraining hardware that holds the shock strut assembly to the assembly box.

(b) Install the retainer equipment, SPL-1853 to hold the shock strut in its compressed position.

(c) Connect the overhead lifting equipment to the Main Landing Gear Lift Lug Assembly.

(d) Lift the shock strut with the overhead lifting equipment and move it into position over the main landing gear truck assembly.

SUBTASK 32-11-21-420-031

(13) Install the center axle [14] for the main landing gear:

(a) Install a lifting strap around center axle [14] just aft of the hole for the center axle pin.

(b) Connect the lifting strap to the hoist, SPL-1556 and lift the center axle high enough to clear the supports of the assembly box.

(c) Lubricate the center axle [14] with grease, D50255 to make installation of the axle easier.

(d) Lower the shock strut component assembly to align the center axle hole in the inner cylinder [34] with the center axle hole in the main landing gear truck assembly.

NOTE: To prevent the shock strut and truck from binding as the shock strut is lowered, it may be necessary to pivot the truck slightly from side to side as you lower the shock strut.

(e) Move the center axle [14] into position for installation.

(f) Push the center axle [14] into the truck and inner cylinder until it is in its correct position.

NOTE: Once the center axle [14] is approximately half way in you can disconnect the hoist, SPL-1556 and remove the lifting sling.

NOTE: Make sure the key slots in the center axle [14] are pointed up and the wiring hole in the center axle [14] aligns with the wiring hole in the truck [16].

(g) Lower and remove the axle jacks from under the front and aft axles.

SUBTASK 32-11-21-420-008

(14) Connect the main landing truck [16] to the center axle [14]:

NOTE: To help with the installation of the center axle pin [17], you can angle the shock strut forward using the overhead lifting equipment.

(a) Lubricate the mating surfaces of the center axle pin [17] with grease, D00013.

(b) Install the center axle pin [17] to connect the main landing truck [16] to the center axle [14].

(c) Lubricate the mating surfaces of the pin lock bolt [18] with grease, D00013.

(d) Install the pin lock bolt [18] to connect the center axle pin [17] to the truck.

(e) Tighten the pin lock bolt [18] to 10 ft-lb (14 N·m)-20 ft-lb (27 N·m).

(f) Install the lockwire on the pin lock bolt [18].

SUBTASK 32-11-21-610-002

(15) Lubricate the center axle, with grease, D50255, at the lube point on the fork of the inner cylinder (Lower Main Landing Gear and Actuating Mechanisms Lubrication, TASK 12-21-14-640-806-002).

NOTE: Lubricate the joint until all of the grease, grease, D00013, has been forced out.

SUBTASK 32-11-21-420-009

(16) Install the center axle wiring assembly:

NOTE: To help with installation of center axle wiring assembly, you can angle the shock aft with the overhead lifting equipment.

(a) Push the wiring for the center axle [14] through the hole in the center axle pin [17].

CAUTION: MAKE SURE THAT THE WIRING FOR THE IN-AXLE ASSEMBLIES IS ROUTED TO THE CORRECT SIDE OF THE CENTER AXLE. IF THE WIRING IS NOT ROUTED CORRECTLY THE BRAKES AND TPIS WILL NOT WORK CORRECTLY.

(b) Push the wiring for the in axle assemblies [51] out to each end of the center axle [14].

(c) Install the electrical connector [15] on the center axle pin [17].

(d) Tighten the electrical connector [15] to 185 in-lb (21 N·m)-215 in-lb (24 N·m).

SUBTASK 32-11-21-420-010

(17) Connect the hydraulic support link [27] to the main landing gear shock strut outer cylinder:

NOTE: You will need to support the lower link of the hydraulic support link [27] and forward hydraulic lines, until you install the truck position actuator turnbuckle [23].

(a) Move the upper link of the hydraulic support link [27] and the attached hydraulic lines to its position on the shock strut outer cylinder.

(b) Install the bolt [19], washer [22], nut [21] and cotter pin [20] to connect the hydraulic support link to the outer cylinder.

SUBTASK 32-11-21-420-032

(18) Install turnbuckle equipment, SPL-4685 [23].

NOTE: The turnbuckle for the main landing truck position actuator will be removed and the truck position actuator installed when the main landing gear is installed in the airplane. These steps are part of the main landing gear installation.

(a) Connect the turnbuckle [23] to the fitting for the truck position actuator on the forward side of the main landing gear shock strut inner cylinder [34].

(b) Connect the turnbuckle [23] to the fitting for the truck position actuator on the main landing gear truck [16].

SUBTASK 32-11-21-420-011

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(19) Install the side brace lower spindle on the main landing gear shock strut:

(a) Lubricate the bearing surfaces of the side brace lower spindle [13] with grease, D00013.

(b) Install the side brace lower spindle [13] in the side brace lower spindle fitting on the main landing gear shock strut.

(c) Apply Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237 to the side brace lower spindle [13] threads, washer [11], nut [10], bolt [9], washer [7] and nut [8].

(d) Install washer [11] and nut [10]:

1) Tighten the nut [10] to 250 ft-lb (339.0 N·m)-300 ft-lb (406.7 N·m).

2) Loosen the nut [10] until you can insert a 0.0030 in. (0.08 mm)-0.0050 in. (0.127 mm) between the washer [11]and the nut [10].

3) Remove the gauge. If it is necessary, loosen the nut [10] to the nearest castellation to align the holes for the bolt [9].

4) Install the bolt [9], washer [7], and nut [8].

SUBTASK 32-11-21-420-012

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(WARNING PRECEDES)

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(20) Install the drag brace lower spindle on the main landing gear shock strut:

(a) Lubricate the bearing surfaces of the drag brace lower spindle [2] with grease, D00013.

(b) Install the drag brace lower spindle [2] in the drag brace lower spindle fitting on the main landing gear shock strut.

(c) Apply Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237 to the drag brace lower spindle [2] threads, washer [4], nut [5], bolt [6], washer [7] and nut [8].

(d) Install washer [4] and nut [5]:

(e) Tighten nut [5] to 250 ft-lb (339.0 N·m)-300 ft-lb (406.7 N·m).

(f) Loosen the nut [5] until you can insert a 0.0030 in. (0.08 mm)-0.0050 in. (0.127 mm) between the washer [4] and nut [5].

(g) Remove the gauge. If it is necessary, loosen the nut [5] to the nearest castellation to align the holes for the bolts [6].

(h) Install bolts [6], washer [7] and nut [8].

SUBTASK 32-11-21-420-013

(21) To install the electrical conduit brackets, hydraulic bracket and the wiring and hydraulic guide on the main landing gear torsion links do this task: Main Landing Gear Torsion Link Connection (AMM TASK 32-11-22-400-802 p401).

SUBTASK 32-11-21-420-014

(22) Connect the hydraulic aft support arm [24] to the main landing gear truck [16]:

(a) Install bolt [19], washer [22], nut [21], and cotter pin [20].

SUBTASK 32-11-21-420-015

(23) Connect the hydraulic lines to the fittings on the hydraulic bracket on the torsion link of the main landing gear.

SUBTASK 32-11-21-420-016

(24) Connect the steering actuator hydraulic lines to the steering actuator.

(a) Install steering actuator hydraulic line in the PRESSURE PORT of the steering actuator.

1) Tighten the B-nut on the steering actuator hydraulic line to 270 ±14 in-lb (31 ±2 N·m).

(b) Install steering actuator hydraulic line in the RETURN port of the steering actuator.

1) Tighten the B-nut on the steering actuator hydraulic line to 500 ±25 in-lb (56 ±3 N·m).

SUBTASK 32-11-21-420-017

(25) Install the main landing gear truck position sensor links [41] to the main landing gear shock strut inner cylinder [34]:

(a) Make sure the position sensor link sensor-end bolt is above the centerline of the sensor bracket pivot bolt centerline.

NOTE: See Figure 401 and Sensor Target Bracket Assembly Installation, TASK 32-61-04-400-802 for the correct sensor link installation.

(b) Lubricate the bolts [35], washers [36], spacers [37], and nuts [39] with grease, D00013.

(c) Install the bolt [35], washer [36], spacers [37], washer [40], nut [39], and cotter pin [38] to connect each position sensor link [41] to the shock strut inner cylinder [34].

SUBTASK 32-11-21-420-018

(26) Install the clamps for the main landing gear truck to hold the electrical conduits [29]:

(a) Install the clamps [25] and nuts [26].

(b) Install the clamps [30], screws [31], washers [32] and nuts [33].

(c) Connect the electrical conduits [29] to the junction box [28] below the main landing truck.

SUBTASK 32-11-21-420-019

(27) Do these steps to install the in axle assemblies [51] in the center axle [14]:

(a) Connect electrical connector [49] and electrical connector [50] to the back of the in axle assemblies [51].

CAUTION	DO NOT PULL OR TWIST THE WIRE HARNESS WHEN YOU INSTALL THE IN-AXLE ASSEMBLY IN THE AXLE. YOU CAN CAUSE DAMAGE TO THE WIRES AND THE ANTI-SKID TRANSDUCER.

(b) Install the in axle assemblies [51] in the center axle [14].

SUBTASK 32-11-21-420-020

(28) Lubricate the inner diameter of the brakes sleeves for the center axle [14] with grease, D00013.

SUBTASK 32-11-21-420-021

(29) Install the brake sleeves on the center axle [14].

SUBTASK 32-11-21-420-022

(30) Do these steps to install the brake assemblies [52] on the center axle [14].

(a) If the brakes are not new, do this task: Main Landing Gear Brake Inspection (Wheel Removed from the Airplane), TASK 32-45-07-700-803.

WARNING	APPLY THIN LAYER OF GREASE TO THE INTERFACE SURFACES OF THE BRAKE AND AXLE SLEEVES ONLY. DO NOT APPLY GREASE IN THE SPACE BETWEEN THE AXLE BUSHINGS ON THE BRAKE. IF YOU APPLY TOO MUCH GREASE, A FIRE CAN OCCUR WHEN THE BRAKE BECOMES HOT.

(b) Apply a thin layer of grease, D50255 or Royco 11MS grease, D00528, to the brake sleeve and bushing [54] on the brake assembly [52].

NOTE: This will allow the brake assembly [52] to slide easily onto the axle.

(c) Install the grease seal [53] in the brake assembly [52]:

1) Apply a thin layer of grease, D00016 to the new grease seal [53].

NOTE: Use enough grease to hold the grease seal in its position during brake installation.

2) Install the new grease seal [53] in its groove next to the brake bushing [54].

(d) Install Thread Protector, Main Landing Gear, main landing gear protector equipment, SPL-1854, on the center axle threads.

CAUTION	BE VERY CAREFUL WITH CARBON BRAKES. CARBON DISCS WITH NICKS AND CRACKS ARE NOT SERVICEABLE AND CANNOT BE REPAIRED. DO NOT PUT FORCE ON THE HEAT SHIELDS WHEN YOU REMOVE OR INSTALL THE BRAKE. BENT HEAT SHIELDS FREQUENTLY CANNOT BE REPAIRED. A BRAKE WITH A BENT HEAT SHIELD WILL CAUSE SCORING ON THE WHEEL INNER SURFACE WHEN THE WHEEL TURNS.

(e) Use hot brake sling, COM-1816 and wheel/brake changer dolly, COM-1818 to put the brake assembly [52] in its position on the center axle.

NOTE: If you use hot brake sling, COM-1816 or equivalent, you must also use wheel/brake changer dolly, COM-1818 or equivalent.

SUBTASK 32-11-21-420-023

(31) For the brake assembly [52] on the center axle [14] do these steps:

(a) Apply a thin layer of grease, D00016 to the collar [46], bolt [47], washer [45], nut [43], and pin assembly [48].

(b) Install the pin assembly [48].

(c) Install the collar [46], bolt [47], washer [45], nut [43], and cotter pin [44].

SUBTASK 32-11-21-420-024

(32) Install the brake rods for the forward and aft axles:

(a) Connect the forward brake rod [72] or aft brake rod [66] to the torque arm on the inner cylinder [34].

1) Apply a thin layer of grease, D00016 to the pin [73], bolt [71], collar [70], washer [69] and nut [68].

2) Put the forward brake rod [72] or aft brake rod [66] in its position on the torque arm of the inner cylinder.

3) Install the pin [73], collar [70], bolt [71], washer [69], nut [68] and cotter pin [67].

(b) Connect the forward brake rod [72] or aft brake rod [66] to the brake assembly [52] on the forward or aft axles:

1) Apply a thin layer of grease, D00016 to the pin [59], bolt [64], collar [63], washer [62] and nut [61].

2) Lift the forward brake rod [72] or aft brake rod [66] up to the brake assembly [52].

3) Install the pin [59], collar [63], bolt [64], washer [62], nut [61] and cotter pin [60].

NOTE: Install the pin [59] through the brake rod first and then through the brake assembly [52].

SUBTASK 32-11-21-420-025

(33) Connect the brake hoses [55] to the brake assemblies [52] at the brake disconnect [56]:

(a) Install the hose half of the brake disconnect [56] on the brake half of the brake disconnect:

1) Turn the hose half of the brake disconnect [56] until the internal tangs align with the slots inside the brake half of the brake disconnect and you can push the hose half down.

2) Push down the barrel [57] and turn it clockwise to engage the threads.

3) Turn the barrel [57] clockwise until the slots in the bottom of the barrel snap into place on the external tangs on the brake half of the brake disconnect.

(b) Do a visual check to make sure the slots on the barrel [57] are fully and correctly engaged with the tangs on the brake half of the brake disconnect.

SUBTASK 32-11-21-420-026

(34) Connect the electrical connectors for the brake temperature sensors to the brake assembly [52].

SUBTASK 32-11-21-420-027

(35) Install the main gear wheel and tire assembly [87] on the center axle do these steps:

(a) If the wheel assembly is not new, inspect the bearings, seals, and other parts of the wheel, do this task: Wheels Inspection (Wheel Removed from the Airplane), TASK 32-45-03-700-802.

(b) If the tire is not new, Do this task: Tires Inspection, TASK 32-45-04-700-801.

CAUTION: DO NOT PUT FORCE ON THE HEAT SHIELDS OF THE BRAKE OR WHEEL ASSEMBLIES WHEN YOU MOVE THE WHEEL AND TIRE ASSEMBLY. BENT HEAT SHIELDS FREQUENTLY CANNOT BE REPAIRED. A BENT HEAT SHIELD CAN CAUSE DAMAGE TO THE WHEEL WHEN THE WHEEL MOVES.

(c) Do these steps to install the wheel and tire assembly [87]:

CAUTION: DO NOT APPLY GREASE TO THE AREA BETWEEN THE AXLE BEARINGS. HIGH TEMPERATURES IN THIS AREA DURING A LANDING CAN CAUSE ALL GREASE IN THIS AREA TO BURN. THIS CAN CAUSE DAMAGE TO WHEELS, TIRES, AND BRAKES.

1) Apply a thin layer grease, D00016 on the inner diameter surface of the inner and outer wheel bearings where they will touch the center axle.

CAUTION: DO NOT APPLY GREASE TO THE AREA BETWEEN THE AXLE BEARINGS. HIGH TEMPERATURES IN THIS AREA DURING A LANDING CAN CAUSE ALL GREASE IN THIS AREA TO BURN. THIS CAN CAUSE DAMAGE TO WHEELS, TIRES, AND BRAKES.

2) Apply a thin layer of Aeroshell 22 grease, D00378, Mobil Aviation Grease SHC 100 grease, D50005, or Mobil 28 grease, D00233, on the center axle where the axle will touch the wheel bearings.

CAUTION: MAKE SURE THE BRAKE ROTORS ARE ALIGNED. DAMAGE TO THE ROTORS CAN OCCUR IF THE DRIVE KEYS ON THE WHEEL HIT THE ROTORS DURING INSTALLATION.

3) Align the brake disks.

4) Use the hot brake sling, COM-1816 to install the wheel and tire assembly [87].

5) Remove main landing gear protector equipment, SPL-1854 from the center axle threads.

6) Apply a thin layer of Aeroshell 22 grease, D00378, Mobil Aviation Grease SHC 100 grease, D50005, or Mobil 28 grease, D00233, to the faces of the washer [88] and the nut [89], and to the aft axle threads.

7) Install washer [88] and nut [89].

8) Do these steps to tighten the nut [89] with the wheel retaining nut wrench adapter, SPL-1815:

a) While you turn the wheel, tighten the nut [89] to 500 ft-lb (677.9 N·m)-550 ft-lb (745.7 N·m).

b) Stop the wheel.

c) Loosen the nut [89] to 10 ft-lb (13.6 N·m)-100 ft-lb (135.6 N·m).

d) While you turn the wheel, tighten the nut [89] to 200 ft-lb (271.2 N·m).

e) If the holes for the bolt [76] do not align, continue to tighten the nut [89], up to 6 degrees more, to align the holes.

9) Do these steps to install the bolt [76]:

a) Install the bolt [76] with the head to the inner side of the in axle assembly [51].

NOTE: You can turn the wheel interface unit [77] for access to the bolt holes.

b) Install the washers [75] and nuts [74].

SUBTASK 32-11-21-420-028

(36) Install the tire pressure sensors [84] on the wheel and tire assemblies [87]:

(a) Make sure that the two sides of the electrical connector [80] for the tire pressure sensor [84] are free from grease and dirt.

(b) Connect the electrical connector [80] for the tire pressure sensor [84] to the wheel interface unit [77].

(c) Use a dry, lint free cloth to remove all grease and carbon from the tire pressure sensor [84].

CAUTION CONNECT THE TIRE PRESSURE SENSOR IMMEDIATELY AFTER YOU REMOVE THE SEAL CAP. WITHOUT THE TIRE PRESSURE SENSOR OR THE SEAL CAP INSTALLED, TIRE PRESSURE WILL DECREASE AT APPROXIMATELY 4 PSI PER MINUTE. DAMAGE TO THE TIRE CAN OCCUR IF IT IS OPERATED WITH LOW TIRE PRESSURE.

(d) Remove the nut [81] from the tire pressure sensor holder [85].

(e) Remove the seal cap from the tire pressure sensor holder [85].

(f) Make sure the packings [86] are serviceable.

(g) If it is necessary, install new packings [86].

(h) Immediately apply a thin layer of grease, D00016, Mobil Aviation Grease SHC 100 grease, D50005, or grease, D00016 to the packings [86] on the tire pressure sensor holder [85].

(i) Install the tire pressure sensor [84] on the tire pressure sensor holder [85].

NOTE: Make sure the tire pressure cable will not bend or bind too much when you install the hubcap [78] assembly.

(j) Install the nut [81] on the tire pressure sensor holder [85].

(k) Tighten the nut [81] to 50 in-lb (5.6 N·m)-75 in-lb (8.5 N·m).

(l) Install a lockwire on the nut [81].

SUBTASK 32-11-21-420-029

(37) Install the hubcap [78] assemblies on the wheel and tire assembly [87]:

(a) Put the clamp [79] in its position on the wheel, such that the attaching hardware of the clamps is at the top of the clamp rim and the nut of the attaching hardware points aft; do not tighten clamp.

(b) Turn the hubcap [78] until you can install the grommet [83] into the slot on the hubcap [78].

(c) Put the spacer [82] below the grommet [83] and push it in the slot on the hubcap [78] assembly.

(d) Move the clamp [79] over the edge of the hubcap [78] assembly.

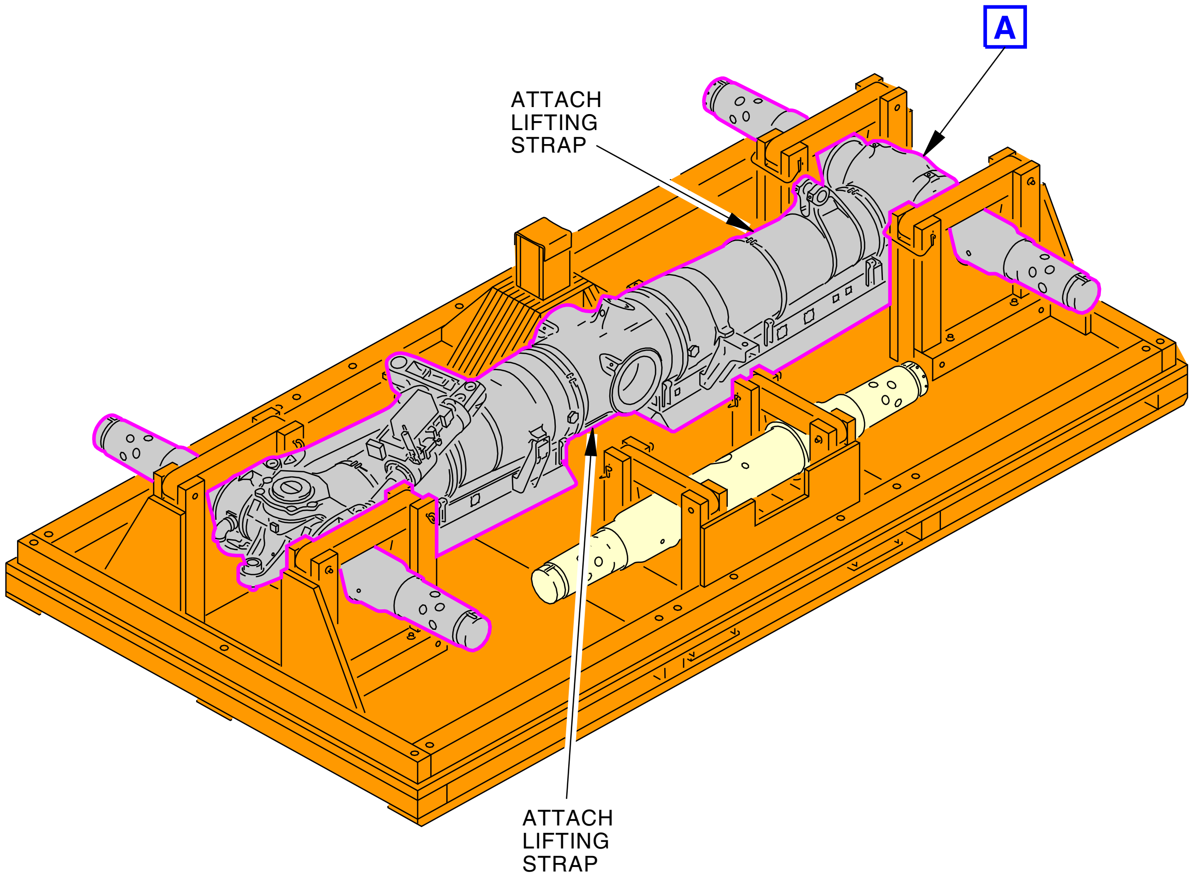
(e) For titanium clamps, tighten the clamp [79] to 60 in-lb (6.8 N·m)-75 in-lb (8.5 N·m).

(f) For steel clamps, tighten the clamp [79] to 35 in-lb (4.0 N·m)-40 in-lb (4.5 N·m).

SUBTASK 32-11-21-420-030

(38) To install the main landing gear assembly in the airplane do this task: Main Landing Gear Installation, TASK 32-11-01-420-801.

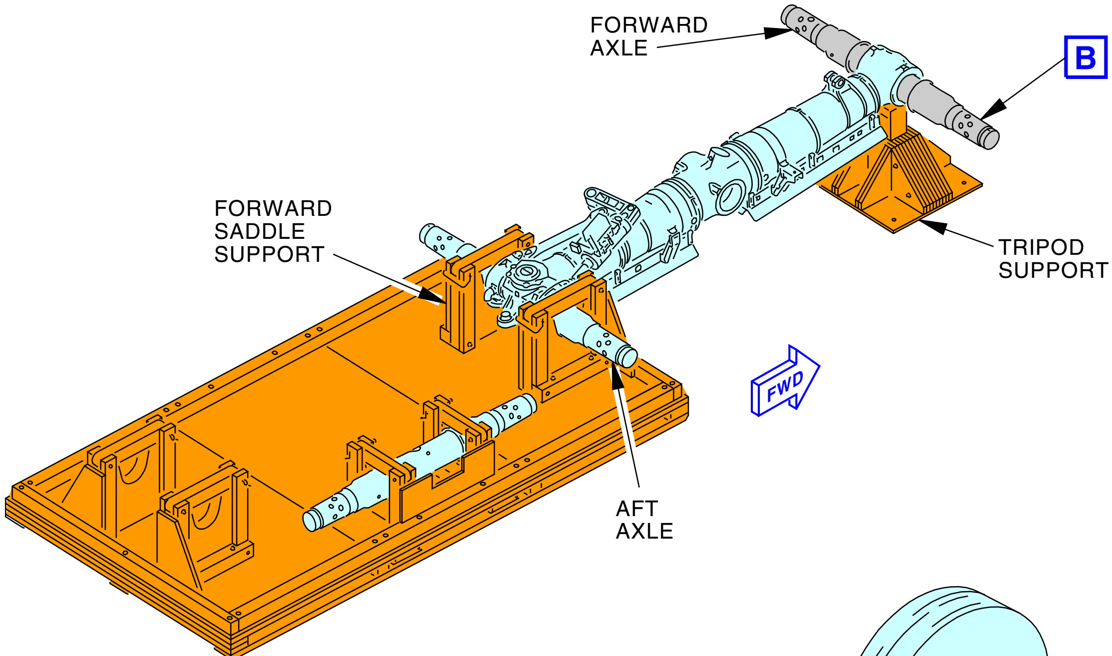
——— END OF TASK ———



MAIN LANDING GEAR TRUCK ASSEMBLY

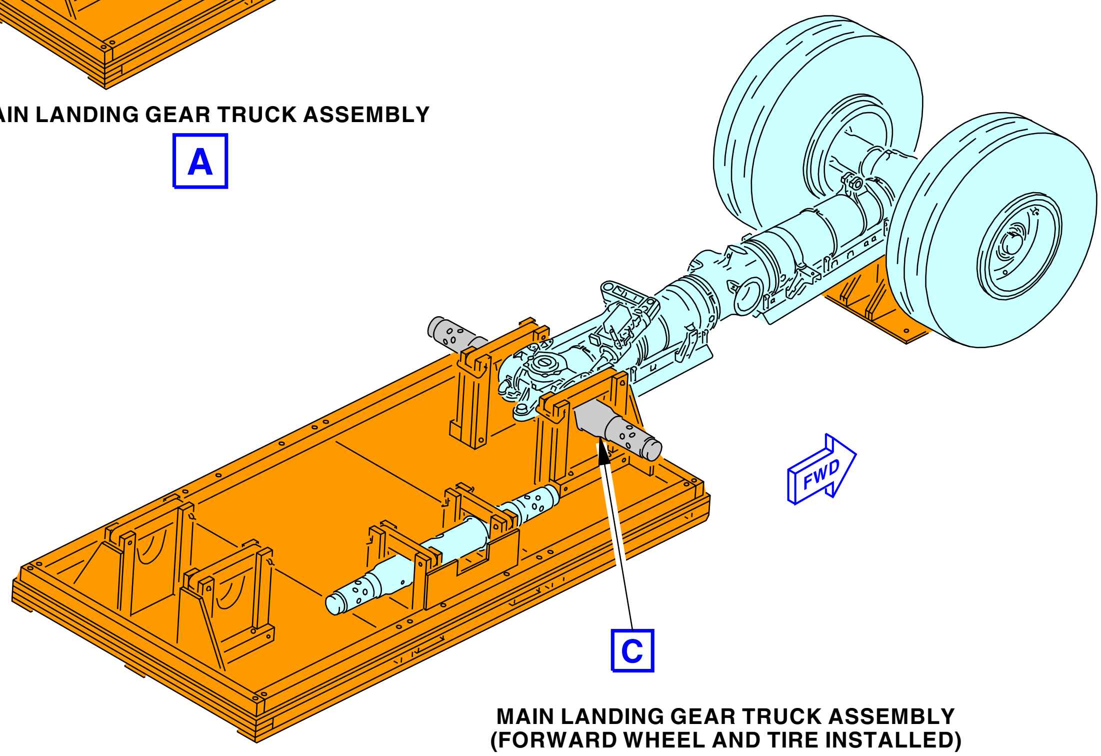
L13840 S0006418002_V2

Main Landing Gear Buildup
Figure 401/32-11-21-990-801 (Sheet 1 of 12)



MAIN LANDING GEAR TRUCK ASSEMBLY

A



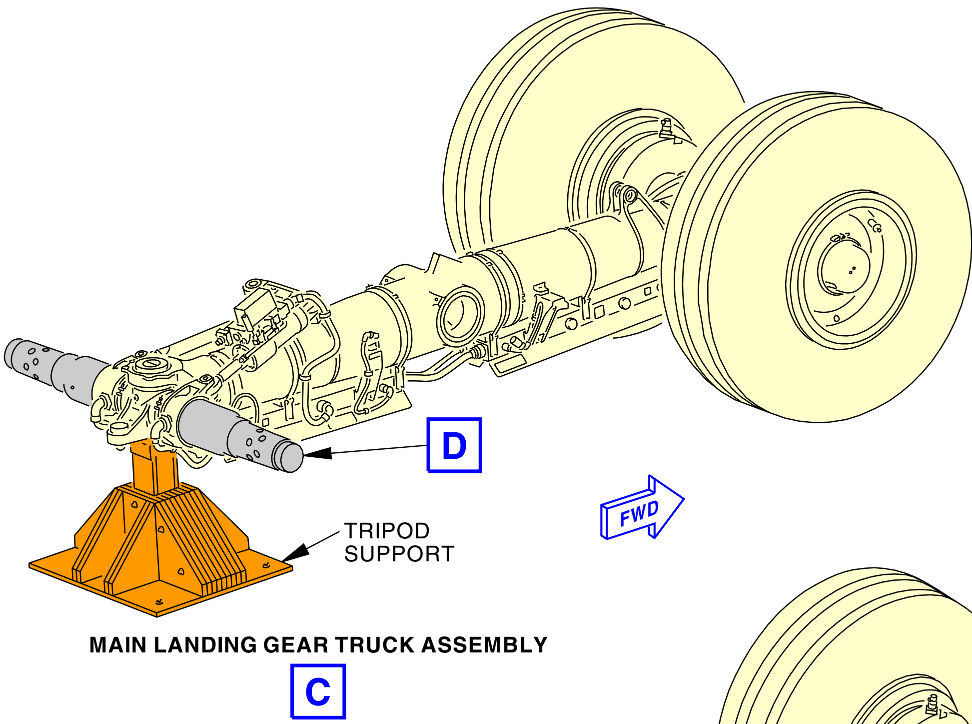
MAIN LANDING GEAR TRUCK ASSEMBLY
(FORWARD WHEEL AND TIRE INSTALLED)

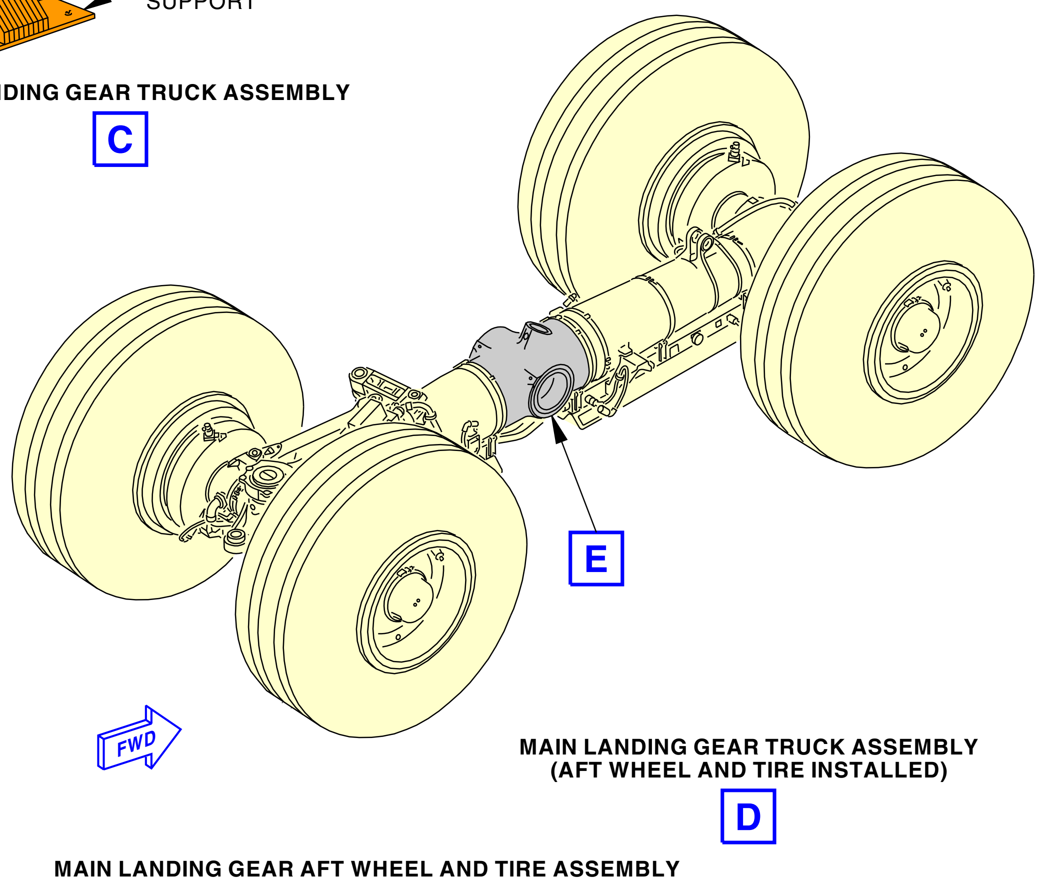
B

MAIN LANDING GEAR FORWARD WHEEL AND TIRE ASSEMBLY

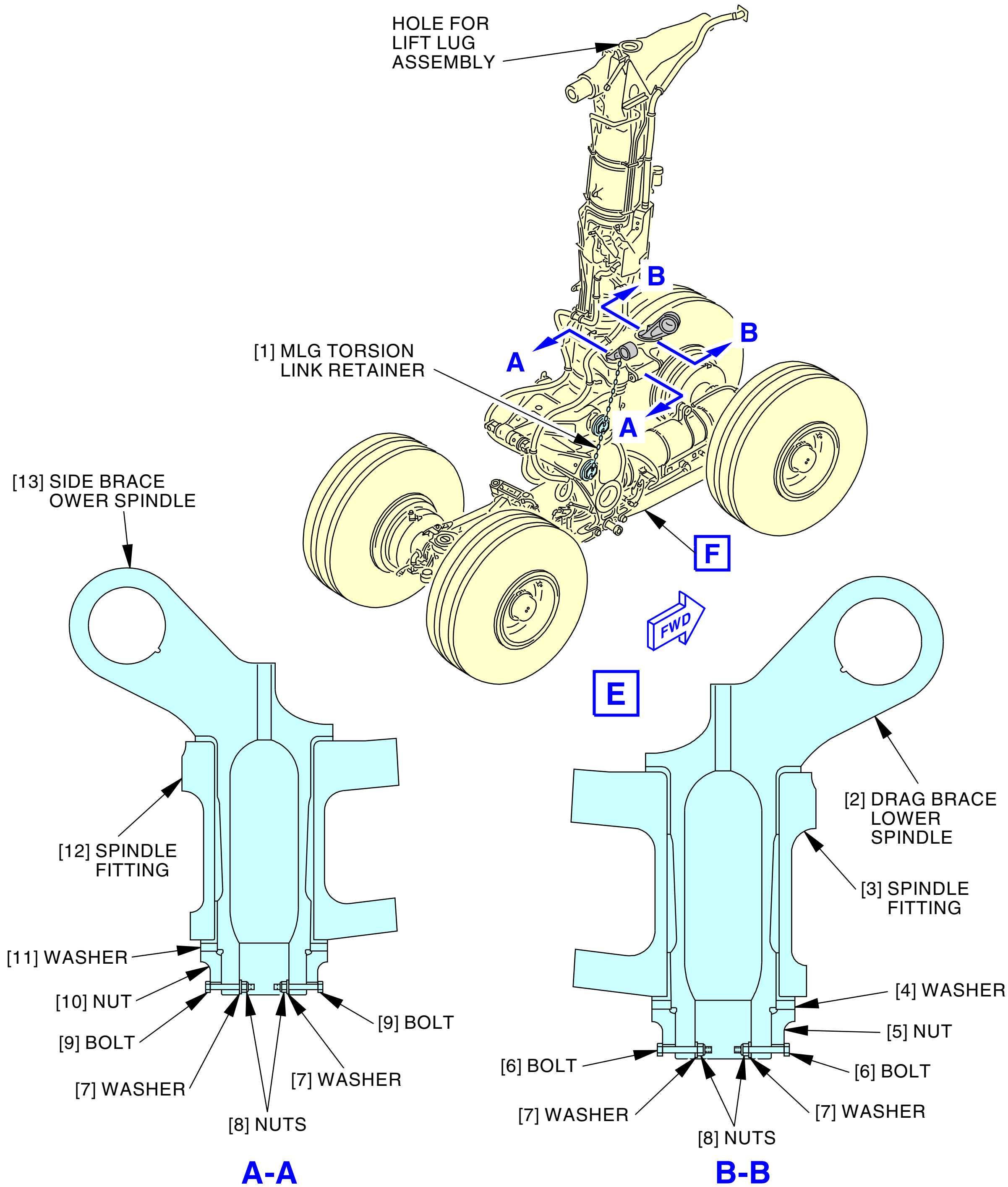
L16286 S0006418003_V2

Main Landing Gear Buildup
Figure 401/32-11-21-990-801 (Sheet 2 of 12)





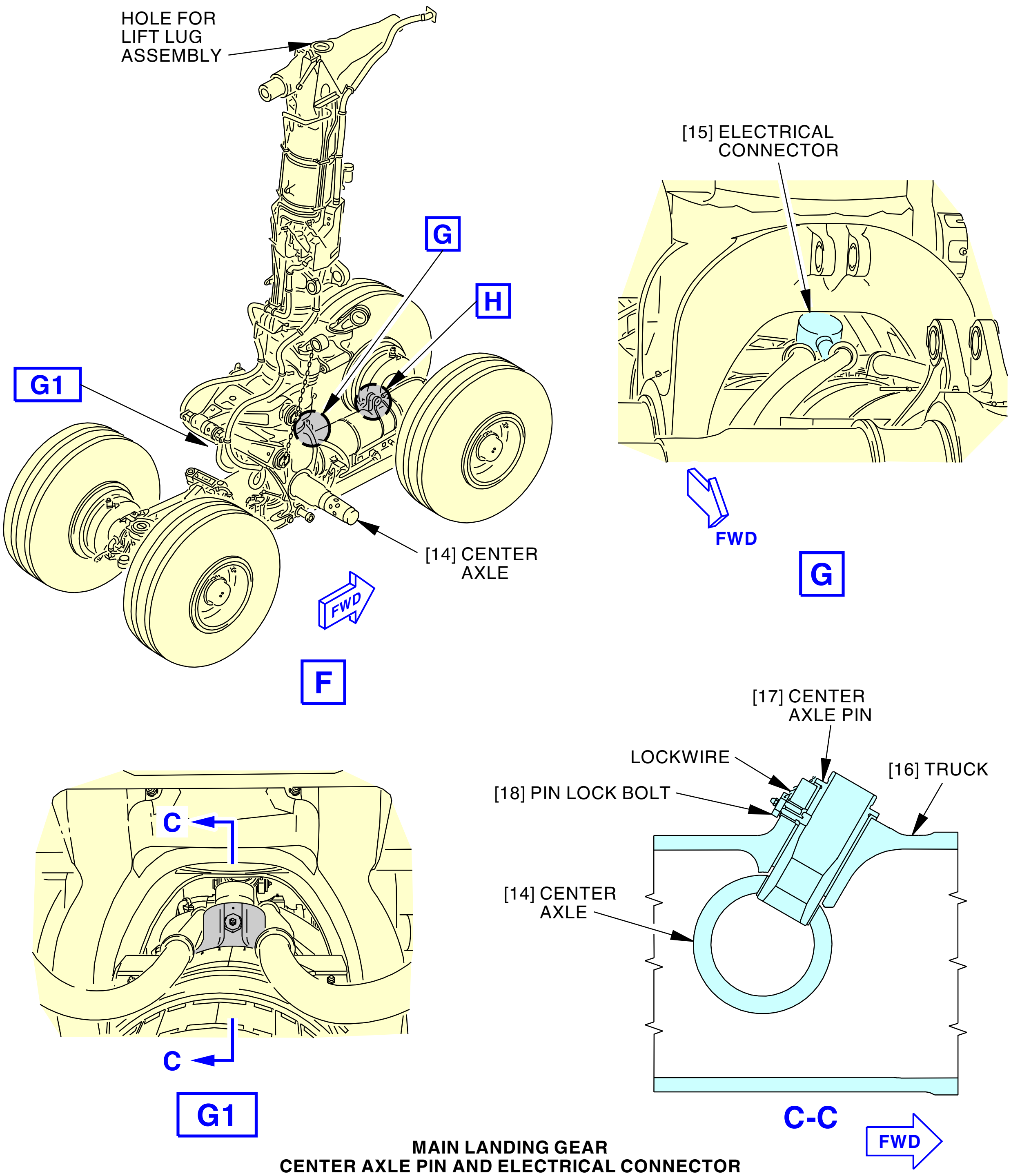
Main Landing Gear Buildup
Figure 401/32-11-21-990-801 (Sheet 3 of 12)



MAIN LANDING GEAR SIDE BRACE AND DRAG BRACE SPINDLES

L13845 S0006418005_V2

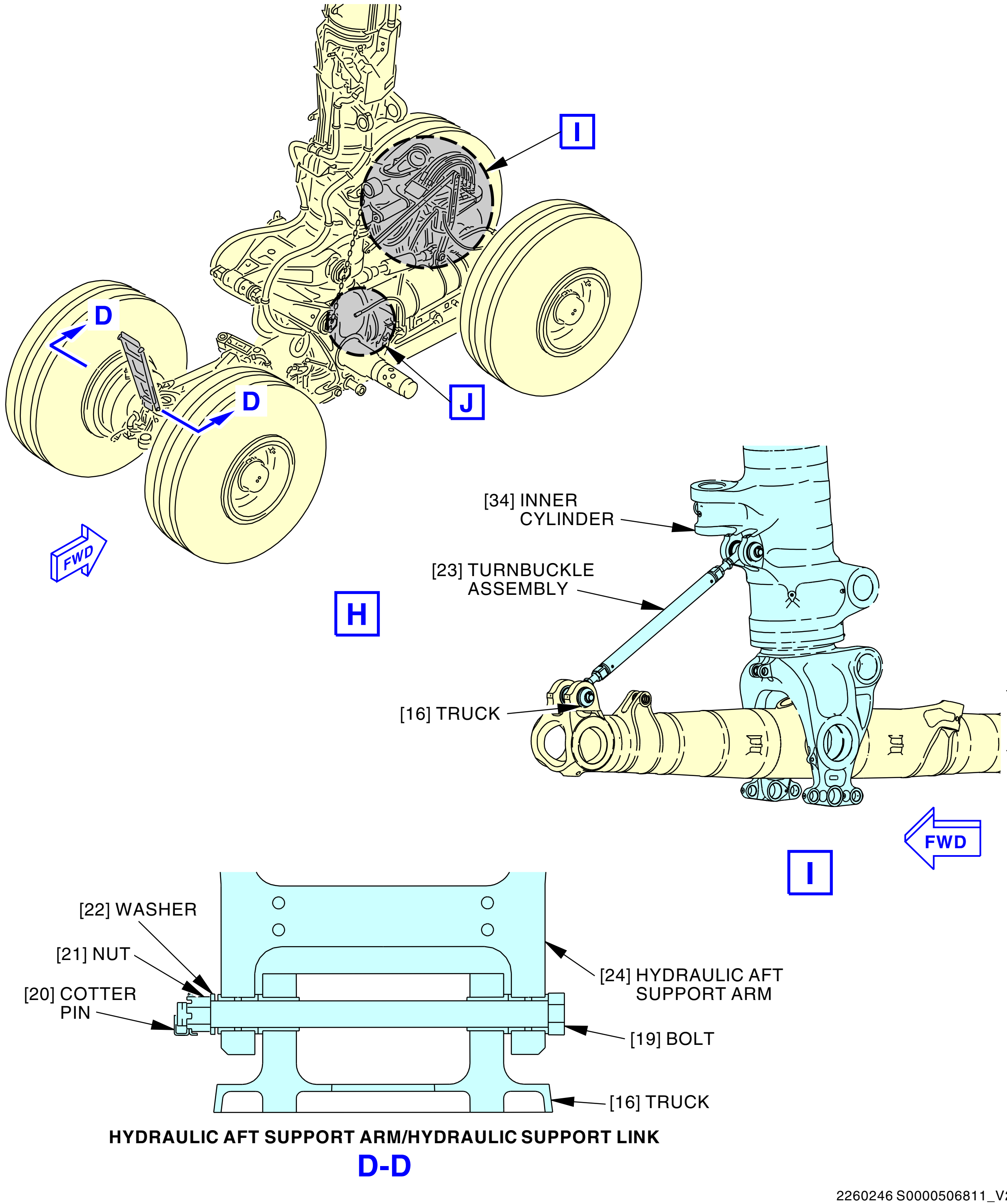
Main Landing Gear Buildup
Figure 401/32-11-21-990-801 (Sheet 4 of 12)



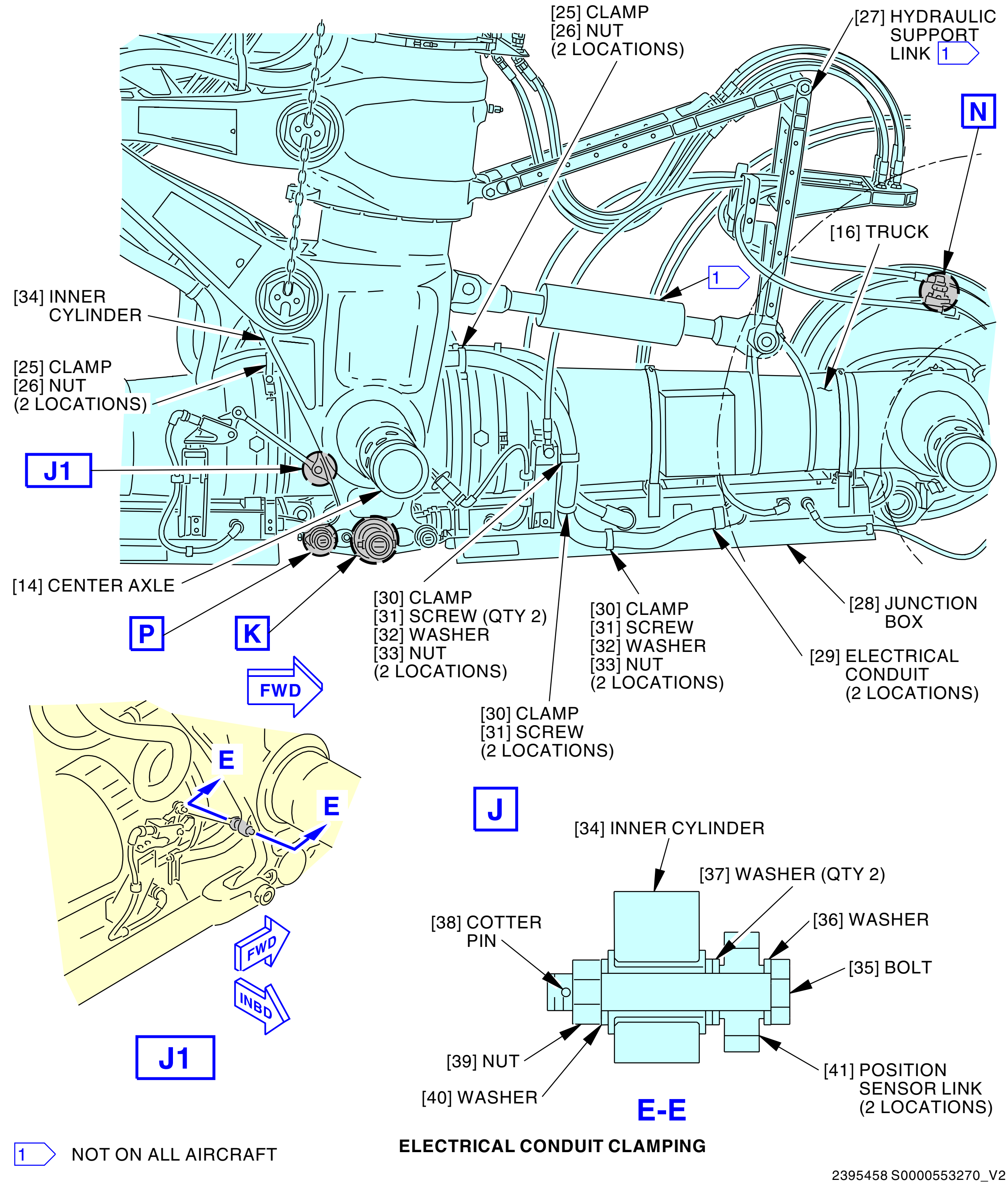
MAIN LANDING GEAR
CENTER AXLE PIN AND ELECTRICAL CONNECTOR

L13846 S0006418006_V2

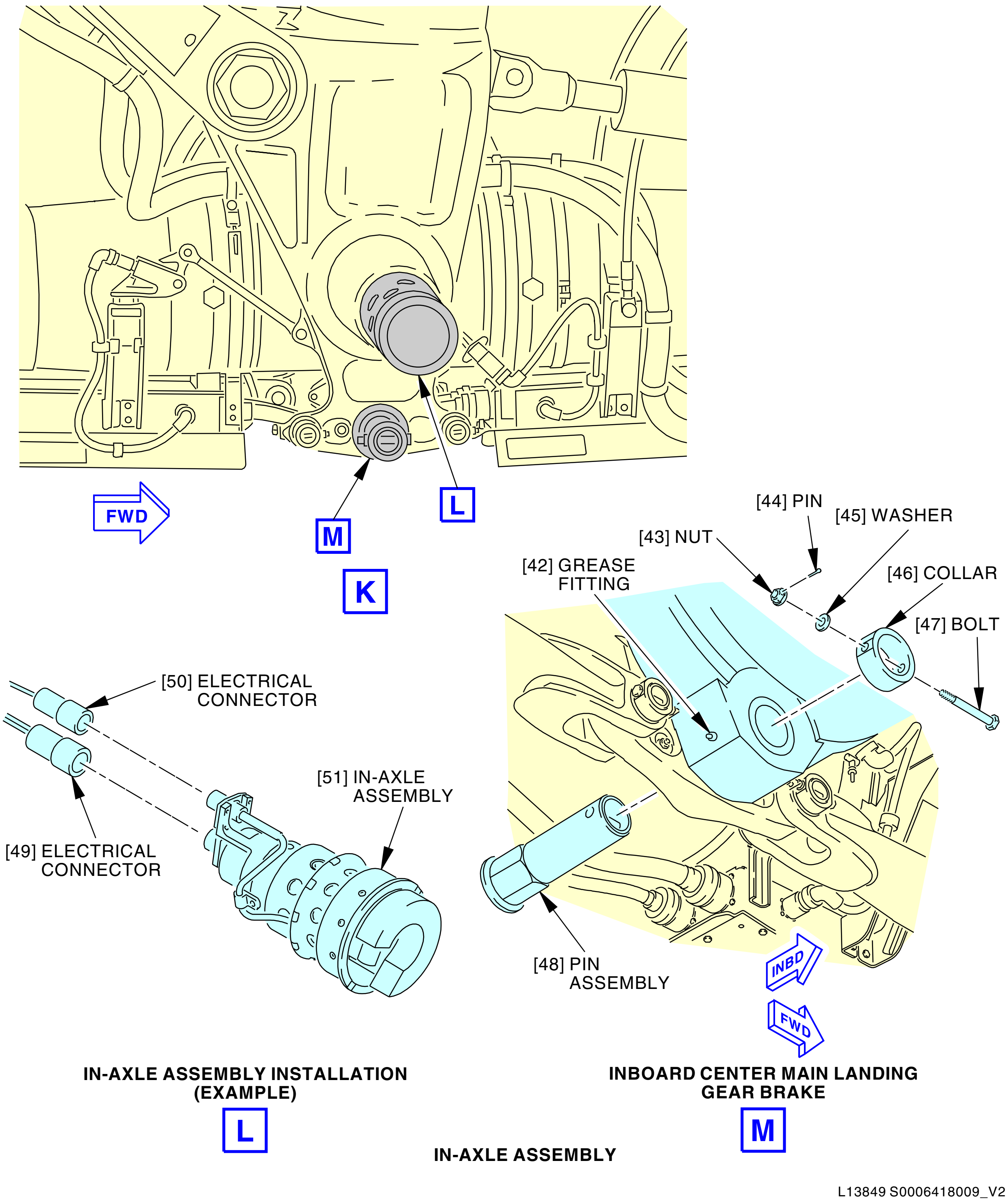
Main Landing Gear Buildup
Figure 401/32-11-21-990-801 (Sheet 5 of 12)



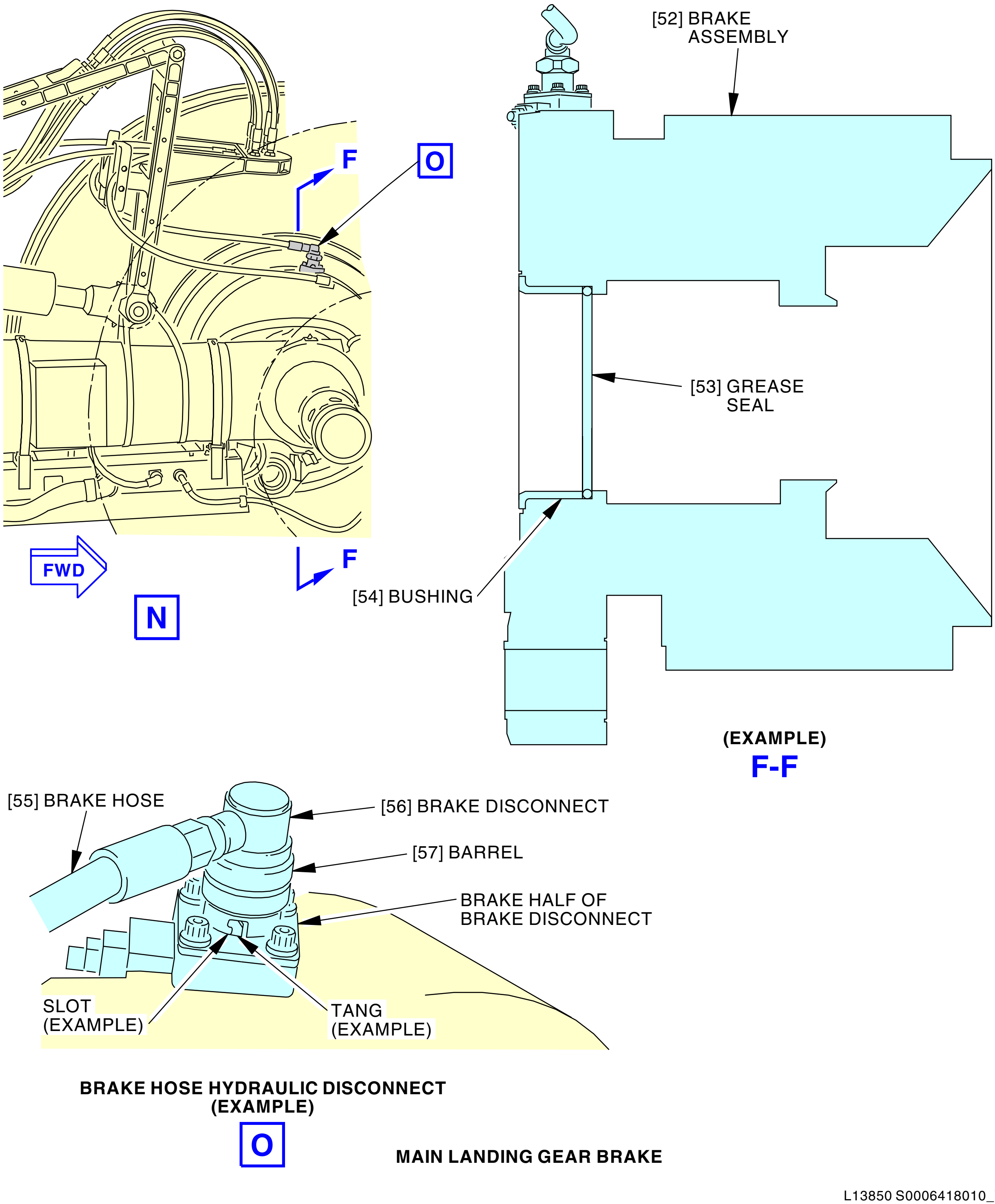
Main Landing Gear Buildup
Figure 401/32-11-21-990-801 (Sheet 6 of 12)



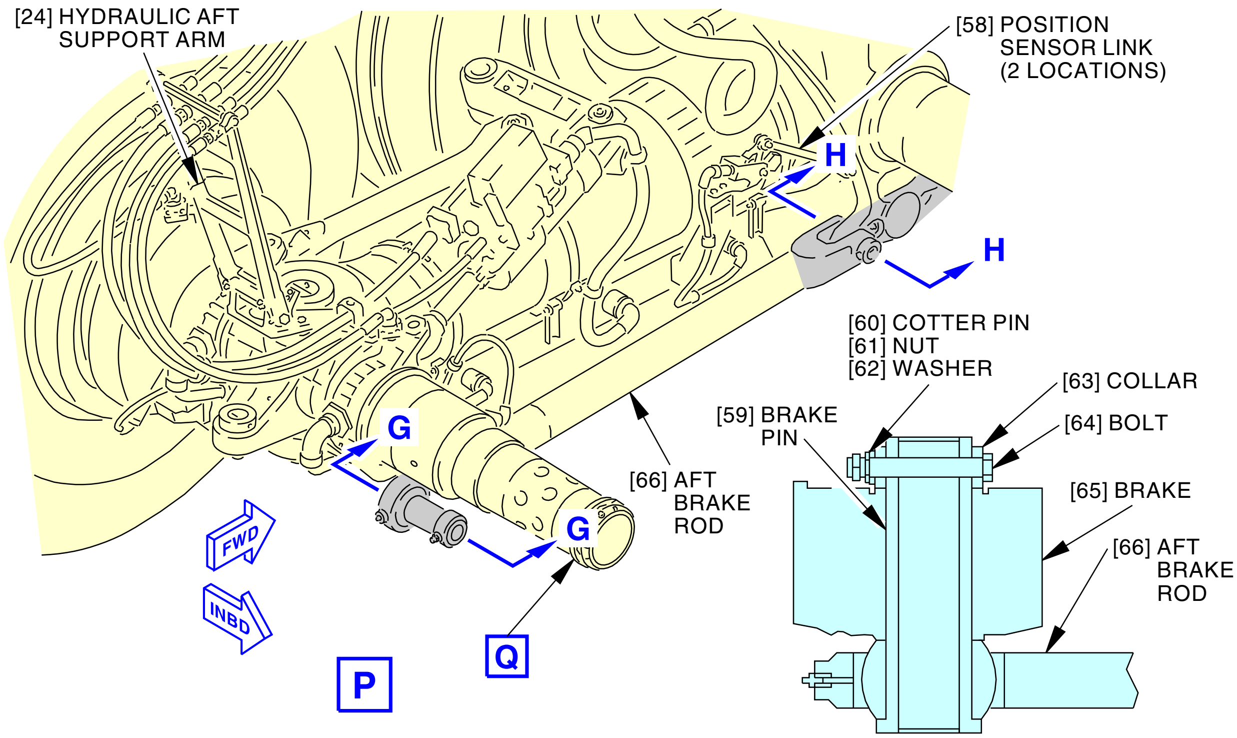
Main Landing Gear Buildup
Figure 401/32-11-21-990-801 (Sheet 7 of 12)

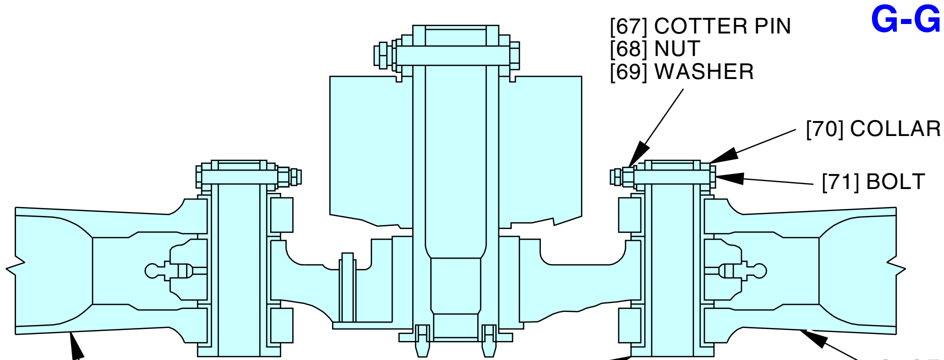


Main Landing Gear Buildup
Figure 401/32-11-21-990-801 (Sheet 8 of 12)

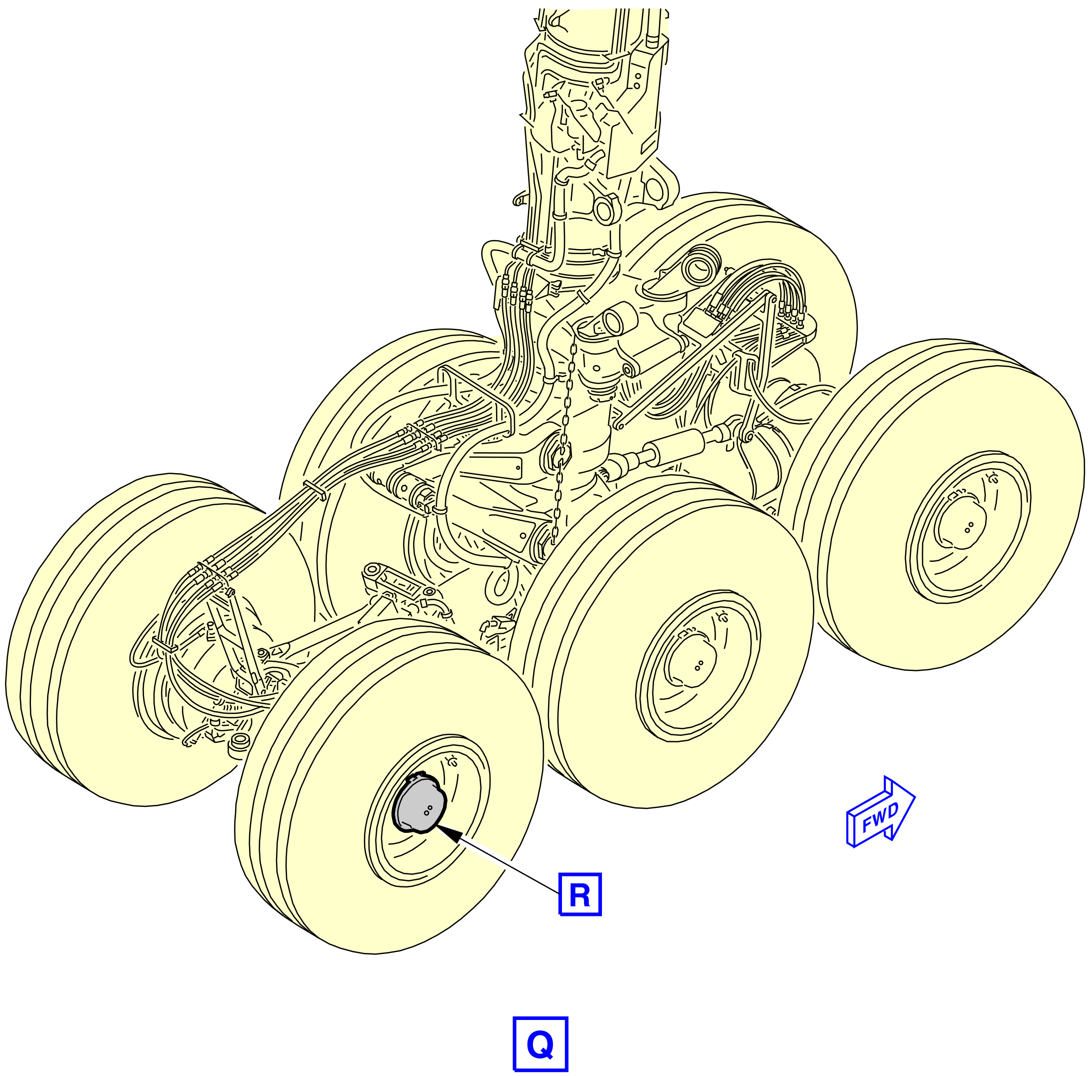


Main Landing Gear Buildup
Figure 401/32-11-21-990-801 (Sheet 9 of 12)





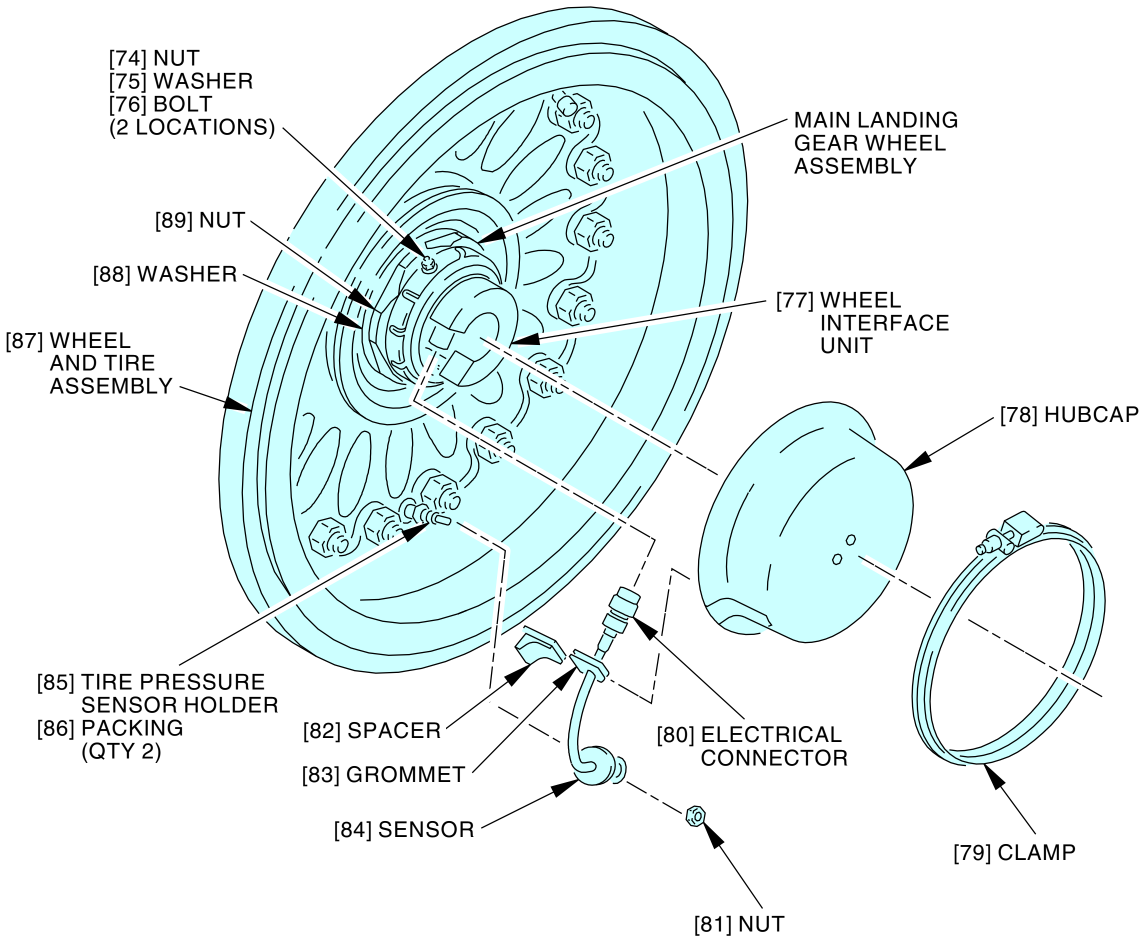
Main Landing Gear Buildup
Figure 401/32-11-21-990-801 (Sheet 10 of 12)



MAIN LANDING GEAR CENTER WHEEL AND TIRE ASSEMBLY

L33119 S0006418012_V2

Main Landing Gear Buildup
Figure 401/32-11-21-990-801 (Sheet 11 of 12)



MAIN LANDING GEAR WHEEL AND TIRE
(EXAMPLE, 6 LOCATIONS)

R

MAIN LANDING GEAR WHEEL AND TIRE ASSEMBLY

L13963 S0006418013_V2

Main Landing Gear Buildup
Figure 401/32-11-21-990-801 (Sheet 12 of 12)

MAIN LANDING GEAR TORSION LINKS - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the upper torsion link from the main landing gear

(2) A removal of the lower torsion link from the main landing gear

(3) The disconnection of the torsion links for the main landing gear.

(4) An installation of the upper torsion link for the main landing gear.

(5) An installation of the lower torsion link for the main landing gear.

(6) The connection of the torsion links for the main landing gear.

TASK 32-11-22-000-805-002

2. Main Landing Gear Upper Torsion Link Removal

(Figure 403)

A. General

(1) This procedure provides instructions to remove the upper torsion link.

B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1851	Equipment - Handling, MLG Torsion Links Part #: J32048-53 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for the Removal

SUBTASK 32-11-22-490-005-002

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-22-490-006-002

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-22-860-005-002

(3) For the center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

F. Main Gear Upper Torsion Link Removal

SUBTASK 32-11-22-030-002-002

(1) Remove the bolts [21], washers [22], washers [23], nuts [24] and bushings [25] to disconnect the wiring guide [4] from the upper torsion link [1].

SUBTASK 32-11-22-030-019-002

(2) Remove the clamps [18A], clamps [20] then use a rope to hold the electrical conduit forward and away from the upper torsion link [1] and lower torsion link [2].

SUBTASK 32-11-22-030-020-002

(3) Remove the bolts [14], washers [15], washers [16] and nuts [17] to disconnect the hydraulic brackets [19] from the hydraulic brackets [39].

SUBTASK 32-11-22-030-021-002

(4) Remove the bolts [5], washer [6], washer [7], and nuts [8] to disconnect the hydraulic bracket [3] from the hydraulic bracket [43].

SUBTASK 32-11-22-030-022-002

(5) Remove the bolts [26], washers [27], washers [28], and nuts [29] to disconnect the hydraulic bracket [30] from the lower torsion link [2].

SUBTASK 32-11-22-030-001-002

(6) Remove the bolts [33], washers [34], washers [35], nuts [36] and cotter pins [37] to disconnect the hydraulic bracket [3] from the apex pin [32].

(a) Keep the hydraulic lines connected to the hydraulic bracket [3].

SUBTASK 32-11-22-030-013-002

(7) Remove the bolts [10], washer [11], washer [12] and nuts [13] to disconnect the hydraulic brackets [9] from the upper torsion link [1].

SUBTASK 32-11-22-980-002-002

(8) Do these steps to move the hydraulic hoses away from the upper torsion link [1]:

(a) Move the hydraulic bracket [3], a small amount, in the aft direction.

(b) Rotate the hydraulic bracket [3], in the clockwise direction, until the hydraulic bracket [19] can move under the lower torsion link [2].

(c) Move the hydraulic bracket [3] and hoses, in the outboard direction, away from the upper torsion link [1] until you have sufficient clearance to install the MLG torsion links handling equipment, SPL-1851.

SUBTASK 32-11-22-490-012-002

(9) Install the MLG torsion links handling equipment, SPL-1851 on the upper torsion link [1] and lower torsion link [2].

SUBTASK 32-11-22-490-013-002

(10) Attach a sling to the MLG torsion links handling equipment, SPL-1851 on the upper torsion link [1] to hold the upper torsion link [1] in position.

SUBTASK 32-11-22-030-003-002

(11) Disconnect the upper torsion link [1] and the lower torsion link [2].

(a) Use the wrench kit, SPL-4133 to remove the nut [41] (Figure 401).

(b) Remove the washer [40] from the apex pin [32] for the upper torsion link [1] and the lower torsion link [2].

WARNING REMOVE THE APEX PIN THAT HOLDS THE TORSION LINKS CAREFULLY. EACH TORSION LINK WEIGHS APPROXIMATELY 140 POUNDS. THE TORSION LINK CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT

(c) Remove the apex pin [32], hydraulic bracket [43] and spacer [42] to disconnect the upper torsion link [1] from the lower torsion link [2].

NOTE: The thread protector from the wrench kit, SPL-4133 can be installed on the apex pin [32] before it is removed.

SUBTASK 32-11-22-030-004-002

(12) Disconnect the upper torsion link [1] from the outer cylinder [57].

(a) Remove the bolts [45], washers [46] and nuts [47] from the nut [49] for the torsion link pin [44].

(b) Remove the nut [49], with the , and the washer [48] for the torsion link pin [44] (Figure 401).

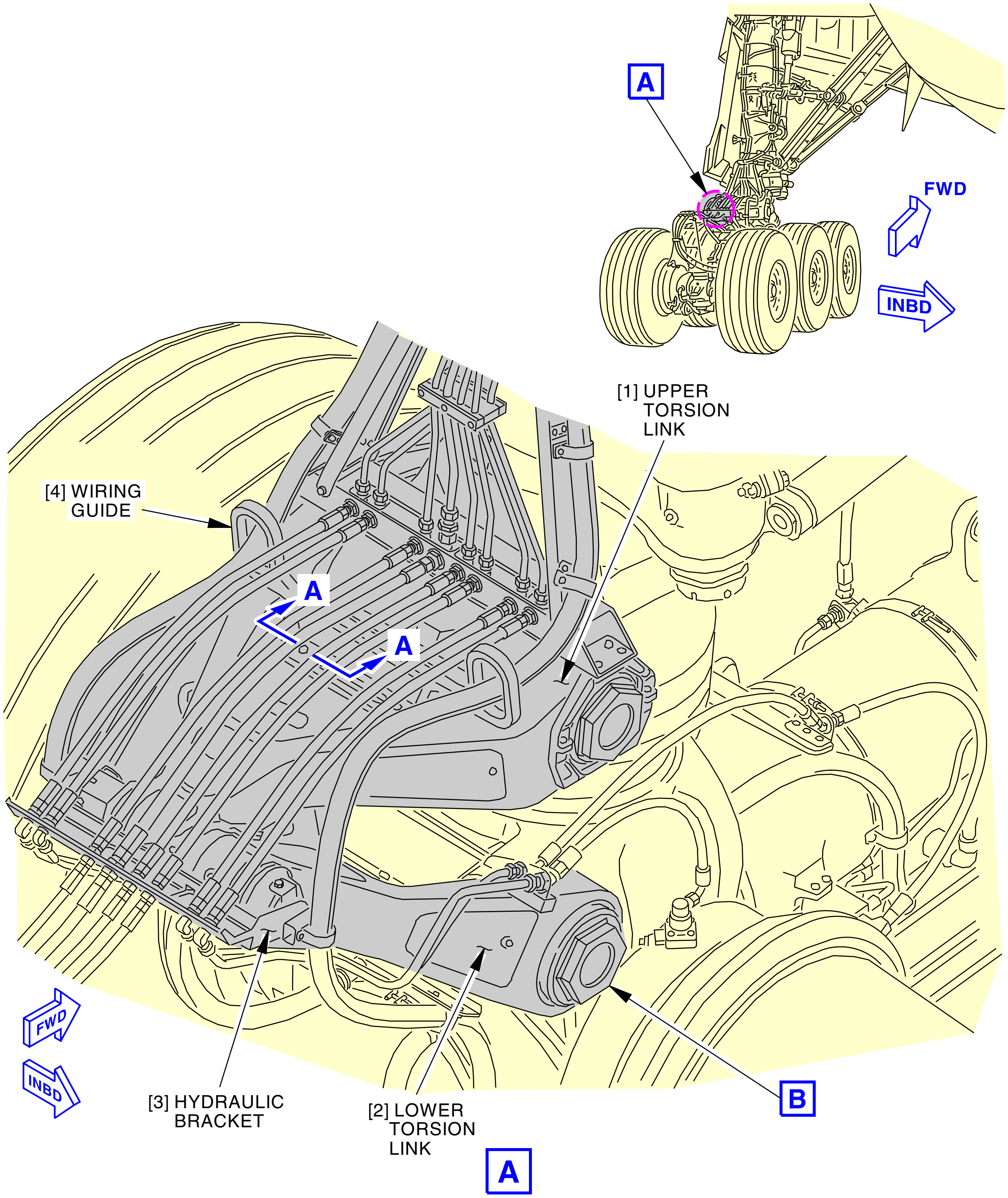
(c) Hold the upper torsion link [1] and remove the torsion link pin [44] to disconnect the upper torsion link [1] from the outer cylinder [57].

NOTE: The thread protector from the wrench kit, SPL-4133 can be installed on the torsion link pin [44] before it is removed.

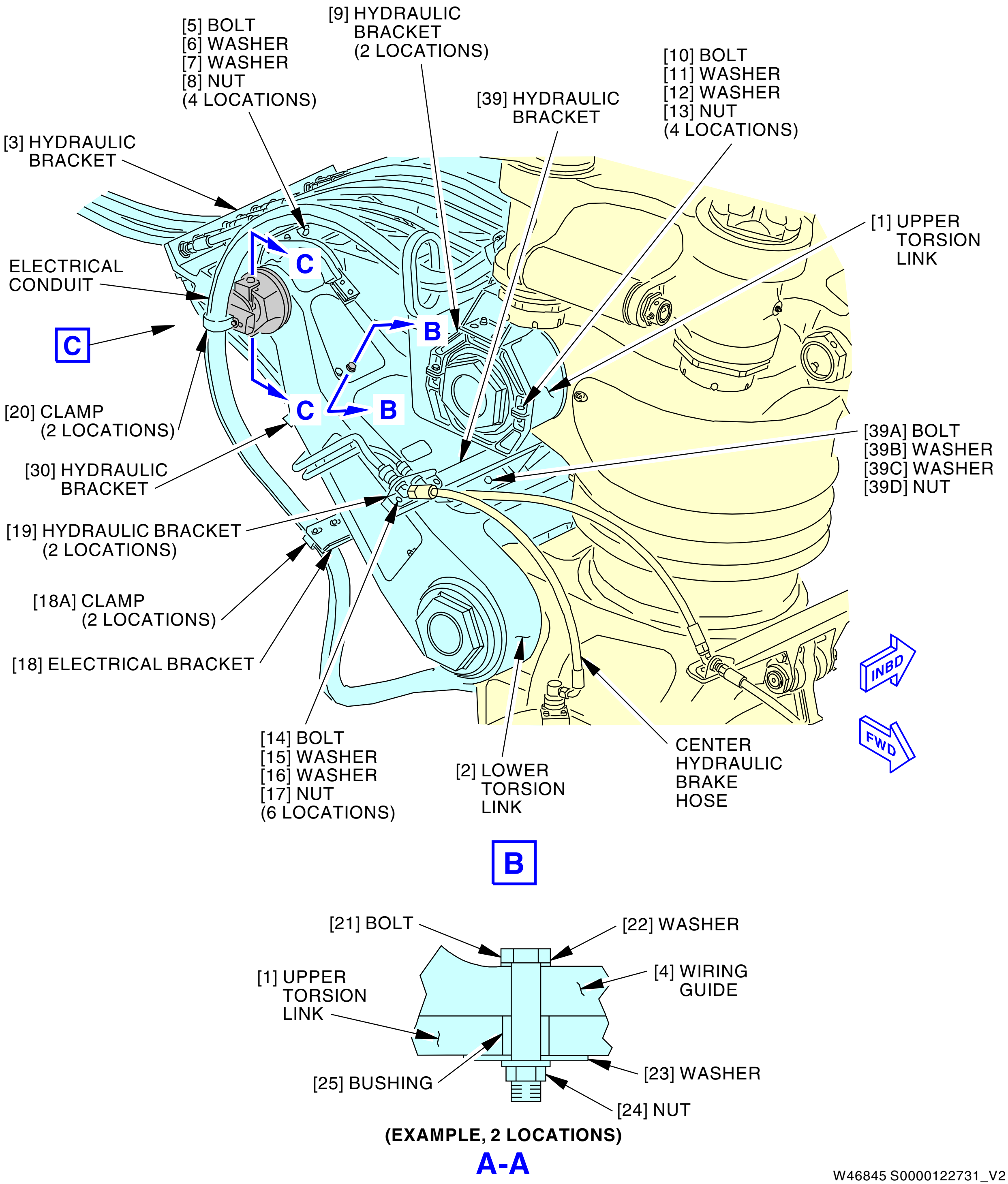
SUBTASK 32-11-22-980-001-002

(13) Use the sling to move the upper torsion link [1] away from the work area.

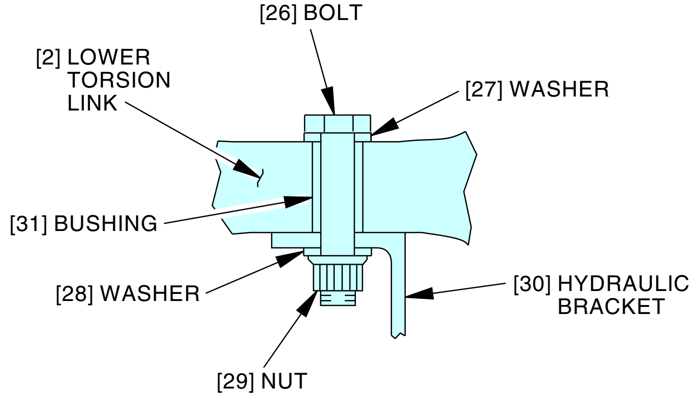
END OF TASK



Main Landing Gear Torsion Links Installation
Figure 401/32-11-22-990-804-002 (Sheet 1 of 5)

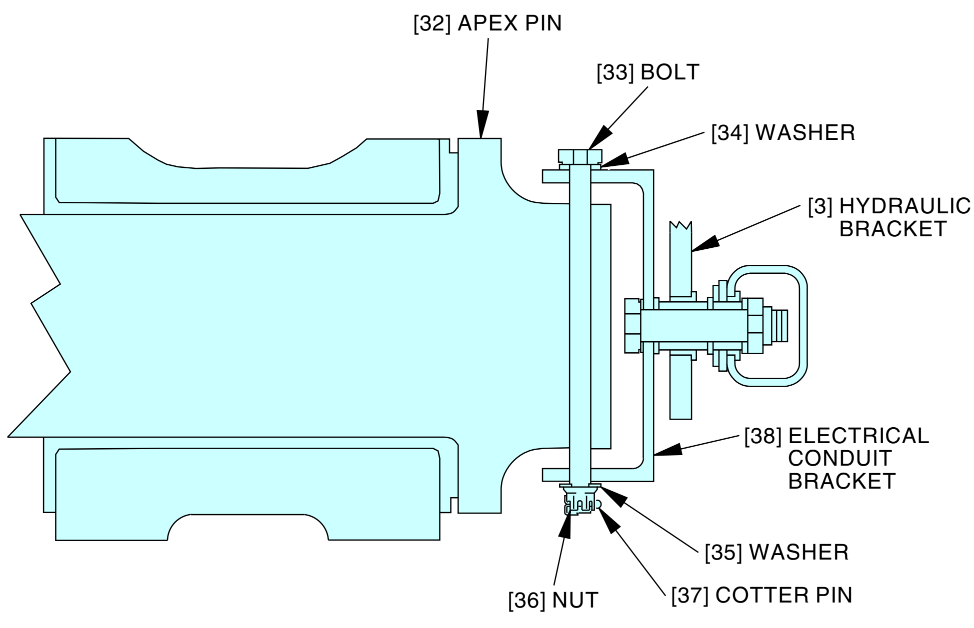


Main Landing Gear Torsion Links Installation
Figure 401/32-11-22-990-804-002 (Sheet 2 of 5)



(EXAMPLE, 2 LOCATIONS)

B-B

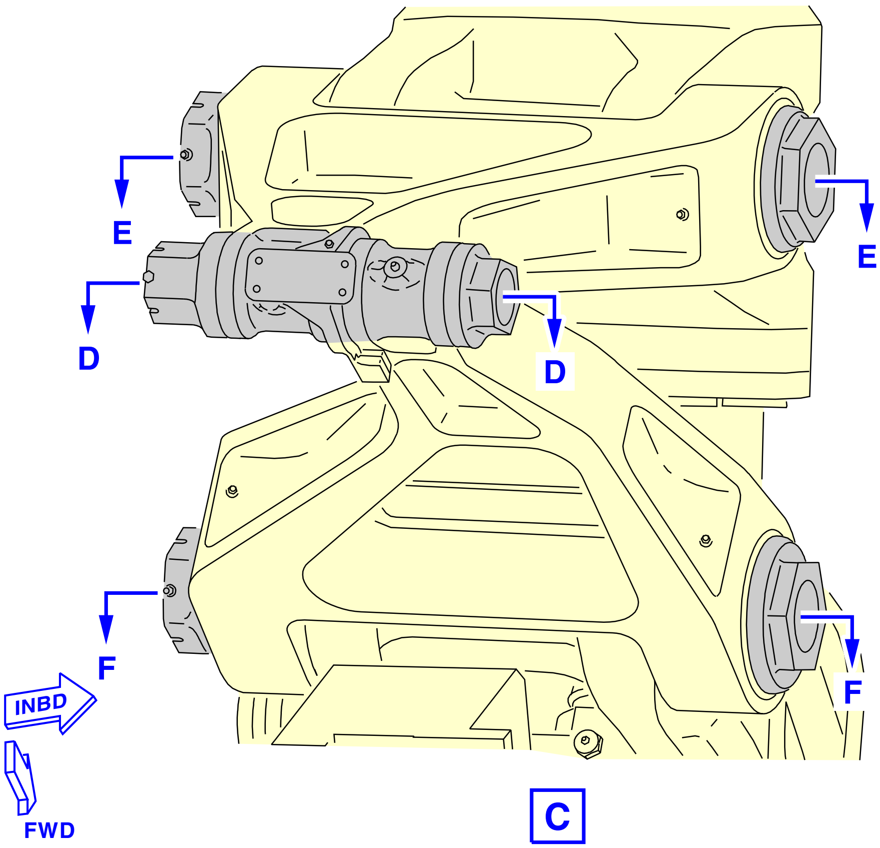


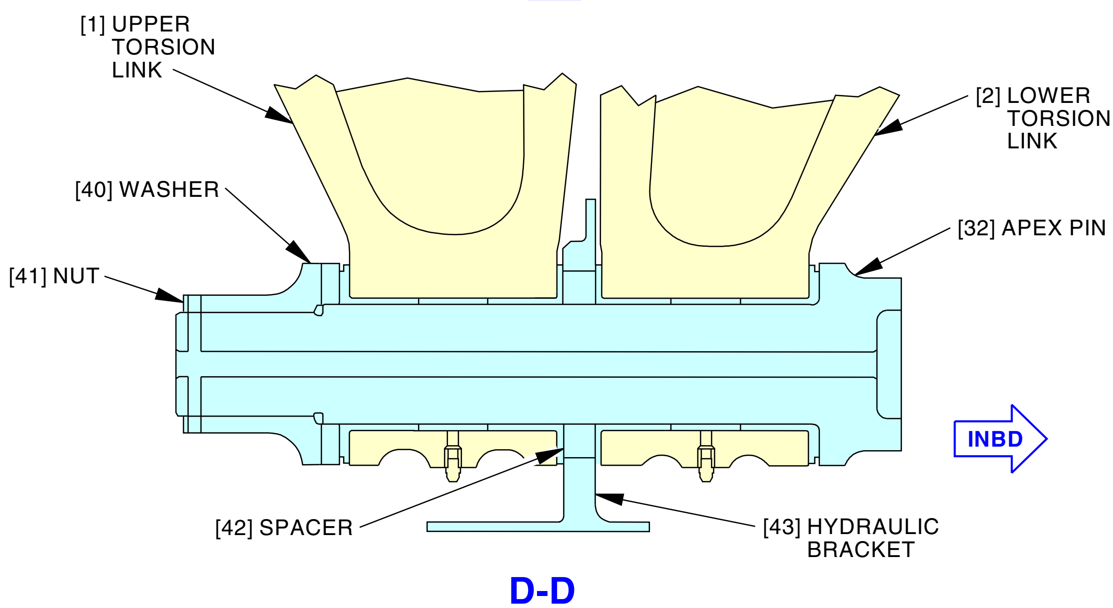
(EXAMPLE, 2 LOCATIONS)

C-C

W46849 S0000122732_V2

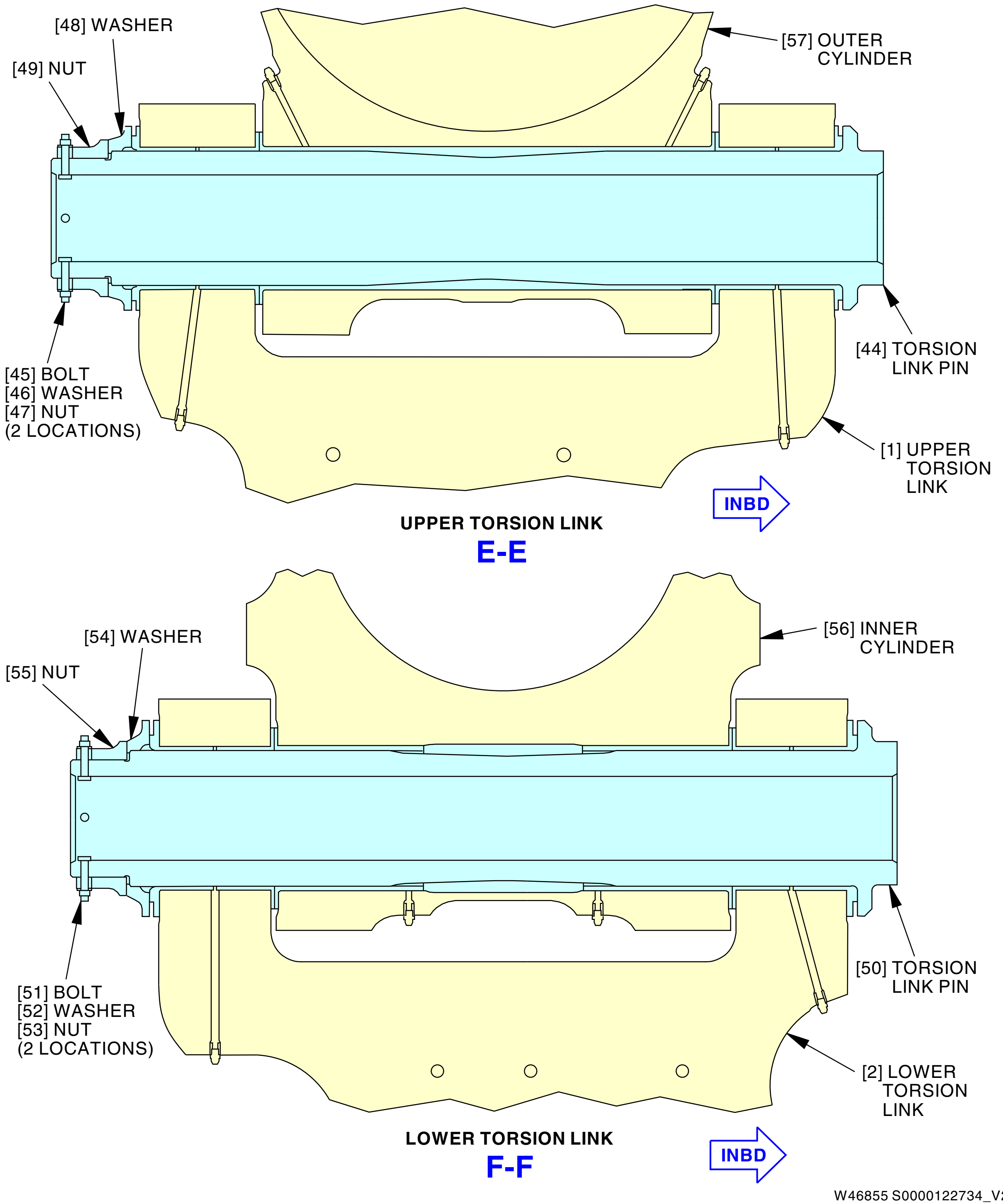
Main Landing Gear Torsion Links Installation
Figure 401/32-11-22-990-804-002 (Sheet 3 of 5)



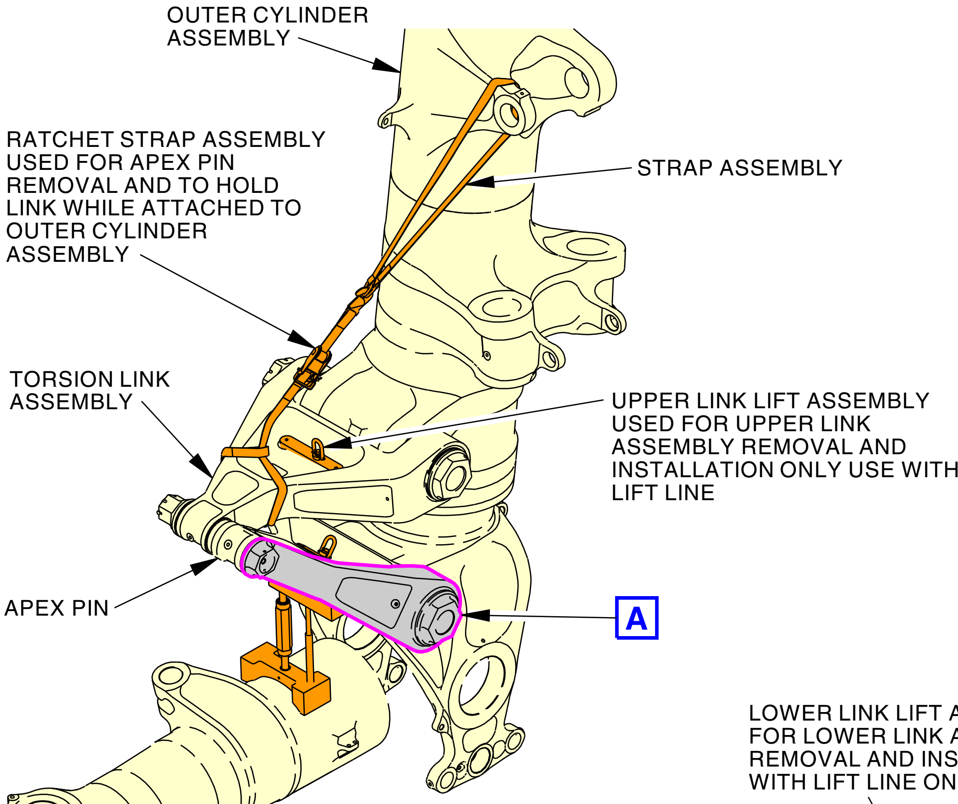


W46852 S0000122733_V3

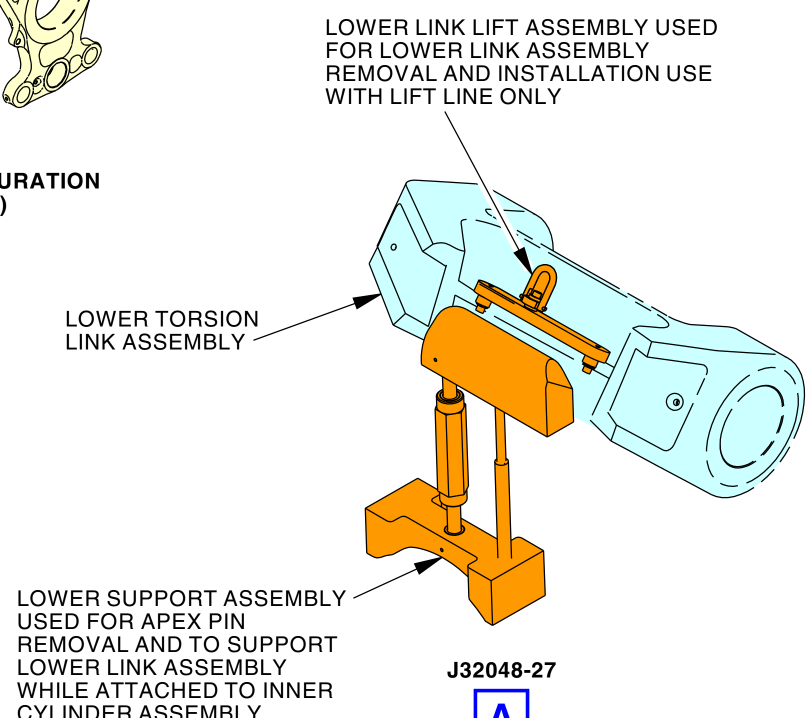
Main Landing Gear Torsion Links Installation
Figure 401/32-11-22-990-804-002 (Sheet 4 of 5)



Main Landing Gear Torsion Links Installation
Figure 401/32-11-22-990-804-002 (Sheet 5 of 5)



MAIN LANDING GEAR CONFIGURATION
(LEFT SIDE IS SHOWN)

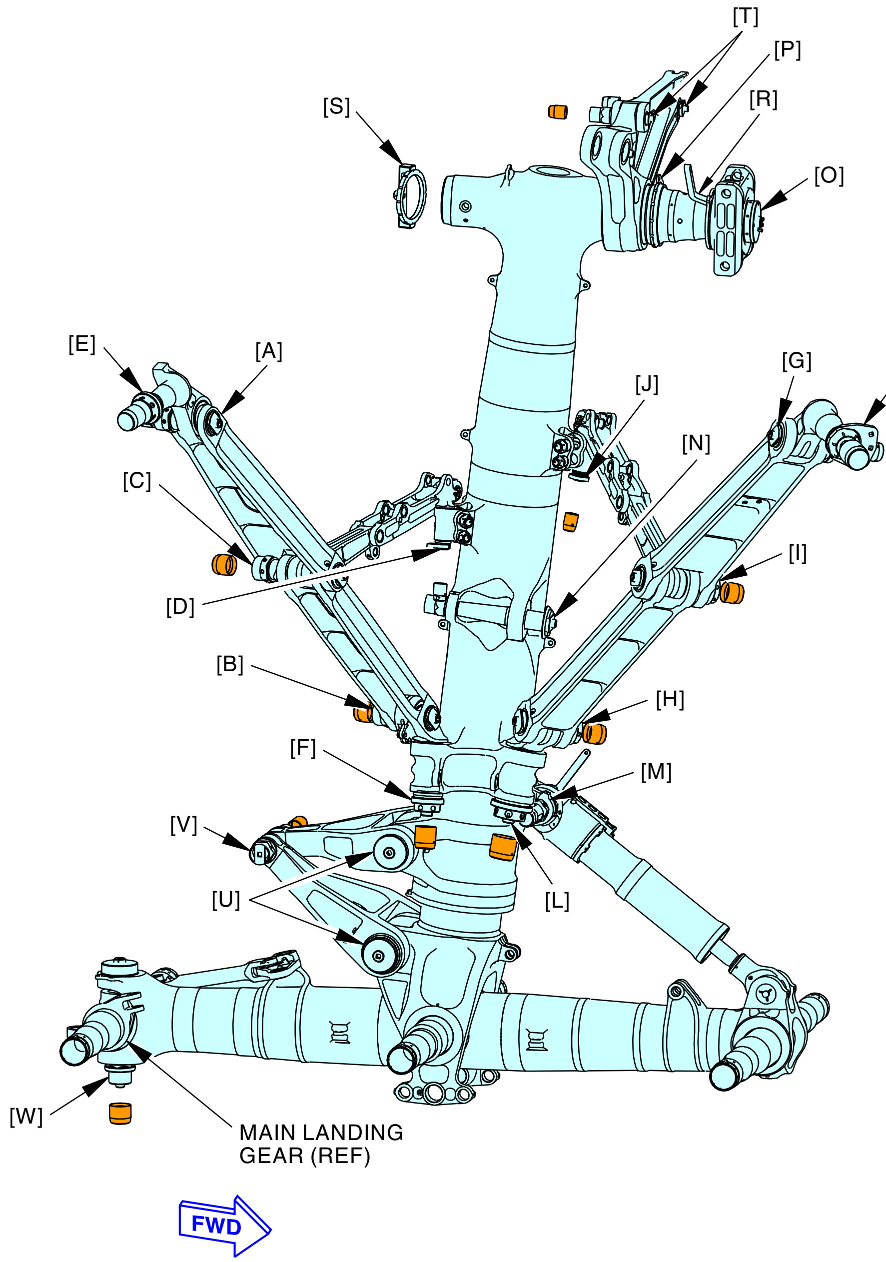


J32048-27

A

U56977 S0000182405_V2

Main Landing Gear Torsion Links Handling Equipment
Figure 402/32-11-22-990-805



Special Tools for Main Landing Gear Installation
Figure 403/32-11-22-990-806-002 (Sheet 1 of 4)

MAIN LANDING GEAR, SIDE STRUT					
COMPONENT	WRENCH OR SOCKET (FOR NUT)	THREAD PROTECTOR	WRENCH (FOR PIN RETENTION)	USED ON AIRCRAFT PART	USAGE LOCATION
SIDE STRUT, UPPER STRUT LINK ATTACH	J32085-36	J32085-17	J32085-12	161W3217 (NUT) 161W0260 (PIN)	[A]
SIDE STRUT, LOWER STRUT LINK ATTACH	J32085-36	J32085-17	J32085-12	161W3217 (NUT) 161W0260 (PIN)	[B]
SIDE STRUT, APEX	J32085-36	J32085-17	J32085-12	161W3217 (NUT) 161W3216 (PIN)	[C]
SIDE STRUT, LOCK LINK SPINDLE	J32085-7	J32085-15	NOT REQUIRED	161W1811 (NUT) 161W3211 (SPINDLE ASSEMBLY)	[D]
SIDE STRUT, UPPER ATTACH SPINDLE	J32085-26	J32085-18	NOT REQUIRED	161W0103 (NUT) 161W0200 (SPINDLE ASSEMBLY)	[E]
SIDE STRUT, LOWER ATTACH SPINDLE	J32085-27	J32085-19	NOT REQUIRED	161W2315 (NUT) 161W2310 (SPINDLE ASSEMBLY)	[F]

J91002 S0000185041_V2

Special Tools for Main Landing Gear Installation
Figure 403/32-11-22-990-806-002 (Sheet 2 of 4)

MAIN LANDING GEAR, DRAG STRUT					
COMPONENT	WRENCH OR SOCKET (FOR NUT)	THREAD PROTECTOR	WRENCH (FOR PIN RETENTION)	USED ON AIRCRAFT PART	USAGE LOCATION
DRAG STRUT, UPPER STRUT LINK ATTACH	J32085-24	J32085-16	J32085-10	161W0266 (NUT) 161W0265 (PIN)	[G]
DRAG STRUT, LOWER STRUT LINK ATTACH	J32085-25	J32085-68	J32085-13	161W4217 (NUT) 161W0264 (PIN)	[H]
DRAG STRUT, APEX	J32085-25	J32085-68	J32085-11	161W4217 (NUT) 161W4215 (PIN)	[I]
DRAG STRUT, LOCK LINK SPINDLE	J32085-7	J32085-15	NOT REQUIRED	161W1811 (NUT) 161W3211 (SPINDLE ASSEMBLY)	[J]
DRAG STRUT, UPPER ATTACH SPINDLE	J32085-8	J32085-14	NOT REQUIRED	161W0209 (NUT) 161W0206 (SPINDLE ASSEMBLY)	[K]
DRAG STRUT, LOWER ATTACH SPINDLE	J32085-28	J32085-20	NOT REQUIRED	161W2317 (NUT) 161W2312 (SPINDLE ASSEMBLY)	[L]
HYDRAULIC STRUT ATTACH, UPPER	J32085-34	J32085-23	J32085-30	161W0251 (NUT) 161W0250 (PIN)	[M]
RETRACT ACTUATOR, LOWER ATTACH	1923	J32085-69	J32085-64	161W1022 (NUT) 161W2020 (PIN)	[N]

J91016 S0000185955_V2

Special Tools for Main Landing Gear Installation
Figure 403/32-11-22-990-806-002 (Sheet 3 of 4)

MAIN LANDING GEAR, UPPER TRUNNION					
COMPONENT	WRENCH OR SOCKET (FOR NUT)	THREAD PROTECTOR	WRENCH (FOR PIN RETENTION)	USED ON AIRCRAFT PART	USAGE LOCATION
UPPER TRUNNION, NUT-RETAINING, FORWARD TRUNNION BEARING	J32085-6	NOT REQUIRED	NOT REQUIRED	161W1323 (NUT)	[O]
UPPER TRUNNION, NUT-RETAINING, RETRACT ARM	J32085-3	NOT REQUIRED	NOT REQUIRED	161W2306 (NUT)	[P]
UPPER TRUNNION, NUT-RETAINING, FORWARD TRUNNION BEARING	J32085-5	NOT REQUIRED	NOT REQUIRED	161W0216 (NUT)	[R]
UPPER TRUNNION, NUT-RETAINING, AFT TRUNNION BEARING ASSEMBLY	J32085-2	NOT REQUIRED	NOT REQUIRED	161W1504 (NUT)	[S]
UPPER TRUNNION, NUT-RETAINING, RETRACT ARM	1920	J32085-21	J32085-9	NASM21025 (NUT) 161W0081 (PIN)	[T]
TORSION LINK UPPER ATTACH	J32085-33	J32085-39	J32085-29	161W2147 (NUT) 161W2145 (PIN)	[U]
TORSION LINK LOWER ATTACH	J32085-33	J32085-39	J32085-29	161W2147 (NUT) 161W2146 (PIN)	[U]
TORSION LINK, APEX	J32085-35	J32085-37	J32085-34	161W2149 (NUT) 161W2144 (PIN)	[V]
AFT AXLE, PIVOT-TRUCK BEAM	J32085-32	J32085-38	J32085-31	161W1217 (NUT) 161W2209 (PIN)	[W]

J91021 S0000185956_V2

Special Tools for Main Landing Gear Installation
Figure 403/32-11-22-990-806-002 (Sheet 4 of 4)

TASK 32-11-22-000-806-002

3. Main Landing Gear Lower Torsion Link Removal

(Figure 401)

A. General

(1) This procedure provides instructions to remove the lower torsion link.

B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-45-01-000-801	Main Landing Gear Wheel and Tire Assembly Removal (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1851	Equipment - Handling, MLG Torsion Links Part #: J32048-53 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for the Removal

SUBTASK 32-11-22-490-007-002

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-22-490-008-002

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-22-860-006-002

(3) For the center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-11-22-030-029-002

(4) For the outboard center wheel and tire of the main landing gear, do this task: Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-01-000-801.

F. Main Gear Lower Torsion Link Removal

SUBTASK 32-11-22-030-014-002

(1) Remove the clamps [18A], clamps [20], then use a rope to hold the electrical conduit forward and away from the upper torsion link [1] and lower torsion link [2].

SUBTASK 32-11-22-030-015-002

(2) Remove the bolts [14], washers [15], washers [16] and nuts [17] to disconnect the hydraulic brackets [19] from the hydraulic bracket [39].

SUBTASK 32-11-22-030-016-002

(3) Remove the bolts [5], washers [6], washers [7] and nuts [8] to disconnect the hydraulic bracket [3] from the hydraulic bracket [43].

SUBTASK 32-11-22-030-017-002

(4) Remove the bolts [26], washers [27], washers [28] and nuts [29] to disconnect the hydraulic brackets [30] from the lower torsion link [2].

SUBTASK 32-11-22-030-018-002

(5) Remove the bolts [33], washers [34], washers [35], nuts [36] and cotter pins [37] to disconnect the hydraulic bracket [3] from the apex pin [32].

(a) Keep the hydraulic lines connected to the hydraulic bracket [3].

SUBTASK 32-11-22-980-003-002

(6) Do these steps to move the hydraulic hoses away from the lower torsion link [2]:

(a) Move the hydraulic bracket [3], a small amount, in the aft direction.

(b) Rotate the hydraulic bracket [3], in the clockwise direction, until the hydraulic brackets [19] can move under the lower torsion link [2]

(c) Move the hydraulic bracket [3] and hoses, in the inboard direction, away from the lower torsion link [2] until you have sufficient clearance to install the MLG torsion links handling equipment, SPL-1851.

SUBTASK 32-11-22-490-014-002

(7) Install the MLG torsion links handling equipment, SPL-1851 on the upper torsion link [1] and the lower torsion link [2].

SUBTASK 32-11-22-490-015-002

(8) Attach a sling to the MLG torsion links handling equipment, SPL-1851 on the lower torsion link [2].

SUBTASK 32-11-22-030-023-002

(9) Disconnect the upper torsion link [1] and the lower torsion link [2].

(a) Use the wrench kit, SPL-4133 to remove the nut [41] for the apex pin [32] for the upper torsion link [1] and the lower torsion link [2] (Figure 403).

(b) Remove the washer [40] for the apex pin [32].

WARNING	REMOVE THE APEX PIN THAT HOLDS THE TORSION LINKS CAREFULLY. EACH TORSION LINK WEIGHS APPROXIMATELY 140 POUNDS. THE TORSION LINK CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT

(c) Remove the apex pin [32], hydraulic bracket [43] and spacer [42] to disconnect the upper torsion link [1] from the lower torsion link [2].

NOTE: The thread protector from the wrench kit, SPL-4133 can be installed on the apex pin [32] before it is removed.

SUBTASK 32-11-22-030-024-002

(10) Disconnect the lower torsion link [2] from the inner cylinder [56].

(a) Remove the bolts [51], washers [52] and nuts [53] from the nut [55] from the lower torsion link pin [50].

(b) Remove the nut [55], with the , and the washer [54] for the lower torsion link pin [50] (Figure 401).

(c) Hold the lower torsion link [2] and remove the torsion link pin [50] to disconnect the lower torsion link [2] from the inner cylinder [56].

NOTE: The thread protector from the wrench kit, SPL-4133 can be installed on the torsion link pin [50] before it is removed.

SUBTASK 32-11-22-030-030

(11) If you will replace the lower torsion link [2] with a new one, then remove the electrical bracket [18] and the hydraulic bracket [39].

NOTE: The electrical bracket [18], hydraulic bracket [39] and their bolts, washers and nuts will be installed on the new lower torsion link.

SUBTASK 32-11-22-020-015-002

(12) Use the sling to move the lower torsion link [2] away from the work area.

END OF TASK

TASK 32-11-22-030-802-002

4. Main Landing Gear Torsion Link Disconnection

(Figure 401)

A. General

(1) This procedure provides instructions to remove the upper torsion link.

B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1851	Equipment - Handling, MLG Torsion Links Part #: J32048-53 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for the Removal

SUBTASK 32-11-22-490-009-002

> **WARNING** MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-22-490-010-002

> **WARNING** OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-22-860-007-002

(3) For the center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

F. Main Gear Torsion Link Disconnection

SUBTASK 32-11-22-030-025-002

(1) Remove the clamps [18A], clamps [20], then use a rope to hold the electrical conduit forward and away from the upper torsion link [1] and lower torsion link [2].

SUBTASK 32-11-22-030-026-002

(2) Remove the bolts [5], washers [6], washers [7] and nuts [8] to disconnect the hydraulic bracket [3] from the hydraulic bracket [43].

SUBTASK 32-11-22-030-027-002

(3) Remove the bolts [33], washers [34], washers [35], nuts [36] and cotter pins [37] to disconnect the hydraulic bracket [3] from the apex pin [32].

(a) Keep the hydraulic lines connected to the hydraulic bracket [3].

SUBTASK 32-11-22-490-016-002

(4) Install the MLG torsion links handling equipment, SPL-1851 on the upper torsion link [1] and lower torsion link [2].

SUBTASK 32-11-22-030-028-002

(5) Disconnect the upper torsion link [1] and the lower torsion link [2].

(a) Use the wrench kit, SPL-4133 to remove the nut [41] from the apex pin [32] for the upper torsion link [1] and the lower torsion link [2] (Figure 401).

(b) Remove the washer [40] from the apex pin [32].

WARNING: REMOVE THE APEX PIN THAT HOLDS THE TORSION LINKS CAREFULLY. EACH TORSION LINK WEIGHS APPROXIMATELY 140 POUNDS. THE TORSION LINK CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT

(c) Remove the apex pin [32], hydraulic bracket [43] and spacer [42] to disconnect the upper torsion link [1] from the lower torsion link [2].

NOTE: The thread protector from the wrench kit, SPL-4133 can be installed on the apex pin [32] before it is removed.

——— END OF TASK ———

TASK 32-11-22-400-806-002

5. Main Landing Gear Upper Torsion Link Installation

(Figure 401)

A. General

(1) This procedure provides instructions to install the upper torsion link.

B. References

Reference	Title
12-21-14-640-806-002	Lower Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
20-11-00-910-801	Standard Torque Values (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1851	Equipment - Handling, MLG Torsion Links Part #: J32048-53 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
A00226	Compound - Tamper-Proof Putty	BMS8-45
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
37	Cotter pin	32-41-00-08-125	ARO ALL

F. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

G. Main Gear Upper Torsion Link Installation

SUBTASK 32-11-22-430-001-002

WARNING: USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(1) Do these steps to install the upper torsion link [1] on the outer cylinder [57]:

(a) Lubricate the chrome plated surfaces of the torsion link pin [44] with grease, D00013 or grease, D00633.

(b) Put the upper torsion link [1] in its position on the outer cylinder [57].

(c) Install the torsion link pin [44] that attaches the upper torsion link [1] to the outer cylinder [57].

(d) Apply a thin layer of Cor-Ban 27L Compound, G50237 to the threads of the torsion link pin [44] and nut [49], and fay surfaces of the washer [48].

(e) Install the washer [48] and the nut [49] on the torsion link pin [44].

(f) Tighten the nut [49], with , to 180 ft-lb (244 N·m) - 200 ft-lb (271 N·m).

1) Loosen the nut [49] to align the nearest slot in the nut [49] with the bolt hole in the torsion link pin [44] (Figure 401).

NOTE: Loosen the nut even if the a slot and the bolt hole align after you have tightened it.

(g) Apply a thin layer of Cor-Ban 27L Compound, G50237 to the threads of the bolts [45] and nuts [47] and fay surfaces of the washers [46].

(h) Install the bolts [45], the washers [46], and the nuts [47] in the holes in the torsion link pin [44] and the slots in the nut [49] (TASK 20-11-00-910-801).

1) Make sure you install the nuts [47] on the outside of the nut [49] for the torsion link pin [44].

(i) Apply compound, A00226, to the nuts [47].

1) Make sure the seal must break if the nuts are loosened.

SUBTASK 32-11-22-430-016-002

WARNING: USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(2) Connect the upper torsion link [1] and the lower torsion link [2].

(a) Lubricate the chrome plated surfaces of the apex pin [32] and the spacer [42] with grease, D00013 or grease, D00633.

(b) Align the apex holes in the upper torsion link [1] and the lower torsion link [2].

WARNING INSTALL THE APEX PIN THAT HOLDS THE TORSION LINKS CAREFULLY. EACH TORSION LINK WEIGHS APPROXIMATELY 140 POUNDS. THE TORSION LINK CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(c) Install the apex pin [32], spacer [42] and hydraulic bracket [43] to connect the upper torsion link [1] and the lower torsion link [2].

(d) Apply a thin layer of Cor-Ban 27L Compound, G50237 to the threads of the apex pin [32] and nut [41] and to the fay surfaces of the washer [40].

(e) Install the washer [40] and the nut [41] on the apex pin [32].

(f) Use the wrench kit, SPL-4133 to tighten the nut [41] to 180 ft-lb (244 N·m) - 200 ft-lb (271 N·m).

1) Loosen the nut [41] to align the nearest slot in the nut with the bolt hole in the apex pin [32] (Figure 401).

NOTE: Loosen the nut [41] even if a slot and the bolt hole align after you have tightened it.

SUBTASK 32-11-22-090-009-002

(3) Remove the MLG torsion links handling equipment, SPL-1851 from the upper torsion link [1].

SUBTASK 32-11-22-430-017-002

WARNING USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(4) Connect hydraulic bracket [3] to the upper torsion link [1] and the lower torsion link [2].

(a) Apply a thin layer of Cor-Ban 27L Compound, G50237 to the bolts [33], washers [34], washers [35] and nuts [36].

(b) Install the bolts [33], washers [34], washers [35] and nuts [36] to connect the hydraulic bracket [3] to the apex pin [32] (TASK 20-11-00-910-801).

(c) Install the new cotter pins [37].

(d) Apply a thin layer of Cor-Ban 27L Compound, G50237 on the fay surfaces of the hydraulic bracket [3] and the hydraulic bracket [43].

(e) Install the bolts [5], washers [6], washers [7] and nuts [8] to connect the hydraulic bracket [3] to the hydraulic bracket [43].

(f) Apply compound, A00226 to the nut [41].

1) Make sure the seal must break if a nut is loosened.

SUBTASK 32-11-22-430-022-002

(5) Connect hydraulic bracket [30] to the lower torsion link [2].

(a) Apply a thin layer of sealant, A00247 on the fay surfaces of the hydraulic bracket [30] and the lower torsion link [2].

(b) Install the bushings [31], bolts [26], washers [27], washers [28] and nuts [29] to connect the hydraulic bracket [30] to the lower torsion link [2].

SUBTASK 32-11-22-090-010-002

(6) Remove the MLG torsion links handling equipment, SPL-1851 from the lower torsion link [2].

SUBTASK 32-11-22-430-018-002

(7) Install the clamps [18A], clamps [20] and the electrical conduit.

SUBTASK 32-11-22-430-005-002

(8) Install the bushings [25], bolts [21], washers [22], washers [23] and nuts [24] to connect the wiring guide [4] to the upper torsion link [1].

H. Put the airplane back to its usual condition

SUBTASK 32-11-22-640-004-002

(1) For the grease fittings on the upper torsion link [1] and the lower torsion link [2] (TASK 12-21-14-640-806-002).

SUBTASK 32-11-22-090-003-002

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

——— END OF TASK ———

TASK 32-11-22-400-807-002

6. Main Landing Gear Lower Torsion Link Installation

(Figure 401)

A. General

(1) This procedure provides instructions to install the lower torsion link.

B. References

Reference	Title
12-21-14-640-805-002	Upper Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
20-11-00-910-801	Standard Torque Values (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-45-01-400-801	Main Landing Gear Wheel and Tire Assembly Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1851	Equipment - Handling, MLG Torsion Links Part #: J32048-53 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. **Consumable Materials**

Reference	Description	Specification
A00226	Compound - Tamper-Proof Putty	BMS8-45
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

E. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
37	Cotter pin	32-41-00-08-125	ARO ALL

F. **Location Zones**

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

G. **Main Gear Lower Torsion Link Installation**

SUBTASK 32-11-22-430-024

(1) If needed, do these steps to install the hydraulic bracket [39] and electrical bracket [18] on the lower torsion link [2]:

(a) Apply a thin layer of sealant, A00247 on the fay surfaces of the hydraulic bracket [39], electrical bracket [18] and the lower torsion link [2].

(b) Position the hydraulic bracket [39] on the lower torsion link [2] and install the lower bolts [39A], washers [39B], washers [39C] and nuts [39D].

NOTE: The upper bolts, washers and nuts are used to install both hydraulic bracket [39] and electrical bracket [18].

(c) Position the electrical bracket [18] on the lower torsion link [2] and install the upper bolts [39A], washers [39B], washers [39C] and nuts [39D].

SUBTASK 32-11-22-430-006-002

WARNING USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

CAUTION INSTALL THE LOWER TORSION LINK WITH THE STIFFENING WEB AT THE TOP END IN THE FORWARD DIRECTION. THE INCORRECT INSTALLATION WILL CAUSE DAMAGE TO THE AIRCRAFT.

(2) Do these steps to install the lower torsion link [2] on the inner cylinder [56]:

(a) Lubricate the chrome plated surfaces of the torsion link pin [50] with grease, D00013 or grease, D00633.

(b) Put the lower torsion link [2] in its position on the inner cylinder [56].

(c) Install the torsion link pin [50] to connect the lower torsion link [2] to the inner cylinder [56].

(d) Apply a thin layer of Cor-Ban 27L Compound, G50237 to the threads of the torsion link pin [50] and nut [55] and fay surfaces of the washer [54].

(e) Install the washer [54] and the nut [55] on the torsion link pin [50].

(f) Use the to tighten the nut [55] to 180 ft-lb (244 N·m) - 200 ft-lb (271 N·m).

1) Loosen the nut [55] to align the nearest slot in the nut [55] with the bolt hole in the torsion link pin [50] (Figure 401).

NOTE: Loosen the nut even if the a slot and the bolt hole align after you have tightened it.

(g) Apply a thin layer of Cor-Ban 27L Compound, G50237 to the threads of the bolts [51] and nuts [53] and fay surfaces of the washers [52].

(h) Install the bolts [51], washers [52] and nuts [53] to lock the nut [55] (TASK 20-11-00-910-801).

1) Make sure you install the nuts [53] on the outside of the nut [55].

(i) Apply compound, A00226, to the nuts [53].

1) Make sure the seal must break if the nut is loosened.

SUBTASK 32-11-22-430-019-002

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(3) Connect the upper torsion link [1] and the lower torsion link [2].

(a) Lubricate the chrome plated surfaces of the apex pin [32] and the spacer [42] with grease, D00013 or grease, D00633.

(b) Align the apex holes in the upper torsion link [1] and the lower torsion link [2].

WARNING	INSTALL THE APEX PIN THAT HOLDS THE TORSION LINKS CAREFULLY. EACH TORSION LINK WEIGHS APPROXIMATELY 140 POUNDS. THE TORSION LINK CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(c) Install the apex pin [32], spacer [42] and hydraulic bracket [43] to connect the upper torsion link [1] and the lower torsion link [2].

(d) Apply a thin layer of Cor-Ban 27L Compound, G50237 to the washer [40] and the nut [41].

(e) Install the washer [40] and the nut [41] on the apex pin [32].

(f) Use the wrench kit, SPL-4133 to tighten the nut [41] to 180 ft-lb (244 N·m) - 200 ft-lb (271 N·m).

1) Loosen the nut [41] to align the nearest slot in the nut with the bolt hole in the apex pin [32] (Figure 401).

NOTE: Loosen the nut [41] even if a slot and the bolt hole align after you have tightened it.

SUBTASK 32-11-22-090-011-002

(4) Remove the MLG torsion links handling equipment, SPL-1851 from the upper torsion link [1].

SUBTASK 32-11-22-430-020-002

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(5) Connect the hydraulic bracket [3] to the upper torsion link [1] and the lower torsion link [2].

(a) Apply a thin layer of Cor-Ban 27L Compound, G50237 to the bolts [33], washers [34], washers [35] and nuts [36].

(b) Apply a thin layer of Cor-Ban 27L Compound, G50237 on the fay surfaces of the hydraulic bracket [3] and the hydraulic bracket [43].

(c) Install the bolts [33], washers [34], washers [35] and nuts [36] to connect the hydraulic bracket [3] to the apex pin [32] (TASK 20-11-00-910-801).

(d) Install the new cotter pins [37].

(e) Install the bolts [5], washers [6], washers [7] and nuts [8] to connect the hydraulic bracket [3] to the hydraulic bracket [43].

(f) Apply compound, A00226, to the nut [41].

1) Make sure the seal must break if a nut is loosened.

SUBTASK 32-11-22-430-023-002

(6) Connect hydraulic bracket [30] to the lower torsion link [2].

(a) Apply a thin layer of sealant, A00247 on the fay surfaces of the hydraulic bracket [30] and the lower torsion link [2].

(b) Install the bushings [31], bolts [26], washers [27], washers [28] and nuts [29] to connect the hydraulic bracket [30] to the lower torsion link [2].

SUBTASK 32-11-22-090-012-002

(7) Remove the MLG torsion links handling equipment, SPL-1851 from the lower torsion link [2].

SUBTASK 32-11-22-430-021-002

(8) Install the clamps [18A], clamps [20] and the electrical conduit.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-11-22-430-011-002

(1) For the wheel for the main landing gear, do this task: Main Landing Gear Wheel and Tire Assembly Installation, TASK 32-45-01-400-801.

SUBTASK 32-11-22-640-005-002

(2) For the grease fittings on the upper torsion link [1] and the lower torsion link [2], do the applicable task: (Upper Main Landing Gear and Actuating Mechanisms Lubrication, TASK 12-21-14-640-805-002).

SUBTASK 32-11-22-090-005-002

WARNING

OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

——— END OF TASK ———

TASK 32-11-22-430-802-002

7. Main Landing Gear Torsion Link Connection

(Figure 401)

A. General

(1) This procedure provides instructions to connect the torsion links.

B. References

Reference	Title
12-21-14-640-805-002	Upper Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
20-11-00-910-801	Standard Torque Values (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1851	Equipment - Handling, MLG Torsion Links Part #: J32048-53 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
A00226	Compound - Tamper-Proof Putty	BMS8-45
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
37	Cotter pin	32-41-00-08-125	ARO ALL

F. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

G. Main Gear Torsion Link Connection

SUBTASK 32-11-22-430-012-002

> **WARNING**
> USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(1) Connect the upper torsion link [1] and the lower torsion link [2].

(a) Lubricate the chrome plated surfaces of the apex pin [32] and the spacer [42] with grease, D00013 or grease, D00633.

(b) Align the apex holes in the upper torsion link [1] and the lower torsion link [2].

> **WARNING**
> INSTALL THE APEX PIN THAT HOLDS THE TORSION LINKS CAREFULLY. EACH TORSION LINK WEIGHS APPROXIMATELY 140 POUNDS. THE TORSION LINK CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(c) Install the apex pin [32], spacer [42] and hydraulic bracket [43] to connect the upper torsion link [1] and the lower torsion link [2].

(d) Apply a thin layer of Cor-Ban 27L Compound, G50237 to the washer [40] and the nut [41].

(e) Install the washer [40] and the nut [41] on the apex pin [32].

(f) Use the wrench kit, SPL-4133 to tighten the nut [41] to 180 ft-lb (244 N·m) - 200 ft-lb (271 N·m).

1) Loosen the nut [41] to align the nearest slot in the nut with the bolt hole in the apex pin [32] (Figure 401).

NOTE: Loosen the nut [41] even if a slot and the bolt hole align after you have tightened it.

SUBTASK 32-11-22-090-006-002

(2) Remove the MLG torsion links handling equipment, SPL-1851 from the upper torsion link [1].

SUBTASK 32-11-22-430-013-002

> **WARNING**
> USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(3) Connect hydraulic bracket [3] to the upper torsion link [1] and the lower torsion link [2].

(a) Apply a thin layer of Cor-Ban 27L Compound, G50237 to the bolts [33], washers [34], washers [35] and nuts [36].

(b) Apply a thin layer of Cor-Ban 27L Compound, G50237 on the fay surfaces of the hydraulic bracket [3] and the hydraulic bracket [43].

(c) Install the bolts [33], washers [34], washers [35] and nuts [36] to connect the hydraulic bracket [3] to the apex pin [32] (TASK 20-11-00-910-801).

(d) Install the new cotter pins [37].

(e) Install the bolts [5], washers [6], washers [7] and nuts [8] to connect the hydraulic bracket [3] to the hydraulic bracket [43].

(f) Apply compound, A00226, to the nut [41].

1) Make sure the seal must break if a nut is loosened.

SUBTASK 32-11-22-090-008-002

(4) Remove the MLG torsion links handling equipment, SPL-1851 from the lower torsion link [2].

SUBTASK 32-11-22-430-015-002

(5) Install the clamps [18A], clamps [20] and the electrical conduit.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-11-22-640-006-002

(1) For the grease fittings on the upper torsion link [1] and the lower torsion link [2] (TASK 12-21-14-640-805-002).

SUBTASK 32-11-22-090-007-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

MAIN LANDING GEAR SHOCK STRUT INNER CYLINDER WITH TRUCK ASSEMBLY - REMOVAL/INSTALLATION

1. General

A. This procedure provides instructions to do these tasks:

(1) Removal of the MLG Shock Strut Inner Cylinder and Truck Assembly.

(2) Installation of the MLG Shock Strut Inner Cylinder and Truck Assembly.

TASK 32-11-24-020-801

2. Main Landing Gear Shock Strut Inner Cylinder with Truck Assembly Removal

A. General

(1) This task supplies instructions to remove the shock strut inner cylinder and truck from the main landing gear.

B. References

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-10-100-802	Landing Gear Inner Cylinder Chrome Cleaning (P/B 701)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-11-22-030-802-002	Main Landing Gear Torsion Link Disconnection (P/B 401)
32-21-11-000-803	Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage (P/B 201)
32-32-25-020-801	Main Landing Gear (SLG) Hydraulic Strut Removal (P/B 401)
32-45-01-000-801	Main Landing Gear Wheel and Tire Assembly Removal (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1829	Valve - Drain, Landing Gear Shock Strut Oil Part #: J32060-1 Supplier: 81205 Opt Part #: A32066-1 Supplier: 81205
SPL-1844	Replacement Equipment, MLG Lower Bearing Seals Part #: J32082 **ECD JAN2019** Supplier: 81205 Part #: J32082-73 Supplier: 81205
SPL-1846	Turnbuckle - MLG Truck Position Actuator Part #: J32034-1 Supplier: 81205
SPL-1851	Equipment - Handling, MLG Torsion Links Part #: J32048-53 Supplier: 81205
SPL-2557	Sling Eqpt, MLG Removal and Installation Part #: J32043-124 Supplier: 81205 Part #: J32043-125 Supplier: 81205

(Continued)

Reference	Description
SPL-4250	Wrench - Support, MLG Gland Nut Part #: A32045-110 Supplier: 81205
SPL-8264	Transportation Equipment - Tower Jack, Main Landing Gear Part #: J32062-1 Supplier: 81205
STD-1110	Container - Hydraulic Fluid Resistant, 5 Gallon (19 Liter)
STD-1140	Hose - Flexible, 1/2 Inch ID, BMS 3-11 Resistant, 10 Foot

D. **Location Zones**

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. **Prepare for the Removal**

(Figure 402, Figure 403)

SUBTASK 32-11-24-490-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-24-490-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-24-860-001

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-11-24-480-002

(4) Lift the airplane a small amount to set the jacks properly and to keep the airplane level when the shock strut is deflated, (TASK 07-11-01-580-804).

SUBTASK 32-11-24-020-001

WARNING DO NOT REMOVE THE VALVE BODY UNTIL YOU DEFLATE THE SHOCK STRUT FULLY. THE AIR PRESSURE CAN BLOW THE VALVE BODY OUT AND CAUSE INJURIES TO PERSONNEL.

(5) Deflate the shock strut [1] for the main landing gear:

(a) Remove the cap [3] for the air valve [2].

(b) Loosen the air valve swivel nut [4] a maximum of two turns.

(c) Loosen the air valve swivel nut [4] fully when all of the pressure in the shock strut [1] is released.

SUBTASK 32-11-24-680-001

(6) Drain the oil from the shock strut [1] for the main landing gear:

(a) Remove the cap [5] from the oil check valve [6].

(b) Put a 5 gallon (19 liter) hydraulic fluid resistant container, STD-1110 (19 liters) in a position to catch the shock strut fluid when the oil check valve [6] is opened.

(c) Install the drain equipment on the oil check valve [6]:

1) Install the tool, landing gear shock strut drain valve, SPL-1829, on the oil check valve [6] to drain the shock strut.

2) If you wish to drain the shock strut [1] with a quicker method, do the steps that follow:

a) Cut a length of plastic ten foot hose (1/2 inch ID), STD-1140, long enough to reach the container on the floor.

b) Insert a small allen wrench in the end of the length of tubing, such that the end of the long part of the allen wrench is flush with the end of the tube and the short part penetrates the side wall of the tube.

c) Install the ten foot hose (1/2 inch ID), STD-1140 on the oil check valve [6] such that the allen wrench goes into the check valve and holds it open to drain the hydraulic fluid.

(d) Remove the drain equipment when you have removed all of the shock strut oil.

SUBTASK 32-11-24-020-002

(7) Remove all wheel and tire assemblies to get better access to the inner and outer cylinders, do this task: Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-01-000-801.

NOTE: The brake assembly can stay on the axle.

SUBTASK 32-11-24-020-003

(8) Do this task: Main Landing Gear Torsion Link Disconnection, TASK 32-11-22-030-802-002 or Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage, TASK 32-21-11-000-803.

SUBTASK 32-11-24-480-003

(9) Use the MLG torsion links handling equipment, SPL-1851 to support the lower torsion link [86] and hold the upper torsion link [81] out of the work area.

SUBTASK 32-11-24-480-004

(10) Lift the airplane approximately 26 in. (660 mm) so you can install the puller assembly, seal replacement equipment, SPL-1844, on the inner cylinder [7], (TASK 07-11-01-580-804).

SUBTASK 32-11-24-020-004

(11) Disconnect the gland nut [17] from the outer cylinder:

(a) Make sure the scraper ring [16] does not come out of the gland nut [17].

NOTE: If the gland nut moves down the inner cylinder without the retainer around it, the scraper ring can come out of the gland nut. If you do not have a split scraper available, you will need to cut the scraper to re-install it or completely disconnect the inner cylinder.

(b) Remove the bolts [20], washers [21], and nuts [22] for the lockplate [24] to release the gland nut [17].

(c) Use the MLG gland nut spanner wrench, SPL-4250 to disconnect the gland nut [17] from the outer cylinder [8].

1) Keep the gland nut [17] in its position against the outer cylinder [8] after you have disconnected it from the outer cylinder [8].

(d) Lift the airplane until you can install the gland nut retainer on the gland nut [17].

NOTE: This will make sure the scraper ring [16] for the gland nut [17] does not come out of its groove.

(e) Install the gland nut protector, from seal replacement equipment, SPL-1844, around the gland nut [17].

NOTE: The protector will keep the scraper ring [16] in the gland nut.

1) If the scraper ring [16] came out of the gland nut [17], you can replace it with a split scraper ring (if one is available), or you can try to push it back in the gland nut [17].

2) You can use the two piece seal inserter, from seal replacement equipment, SPL-1844, to try to compress and push the scraper in to the gland nut [17].

3) If it is impossible to re-install the scraper ring [16], you can cut it to make it fit.

NOTE: This is a temporary fix only. The damaged scraper ring should be replaced with a split or solid scraper ring at the earliest opportunity.

4) If you will operate the aircraft with a damaged scraper ring, before each flight and until a new scraper ring is installed, do this task: Landing Gear Inner Cylinder Chrome Cleaning, TASK 32-00-10-100-802.

(f) Move the gland nut [17] down the inner cylinder [7].

SUBTASK 32-11-24-020-005

(12) To remove the lower bearing carrier [11] with the seal replacement equipment, SPL-1844, do the steps that follow:

(a) Loosely install the puller assembly, seal replacement equipment, SPL-1844, around the inner cylinder [7].

(b) Install the three bolts through the holes in the bottom of the puller assembly and in the lower bearing carrier [11].

(c) Tighten the puller assembly on the inner cylinder [7].

(d) Install the straps for the puller assembly around the center axle and connect the ends to the rings on the puller assembly.

(e) Lift the airplane until the lower bearing carrier [11] is completely out of the outer cylinder [8].

(f) Push the lower bearing carrier [11] down the inner cylinder [7] until it rests on the gland nut [17].

(g) Let the spacer [10] move down the inner cylinder [7] with the lower bearing carrier [11].

F. Remove the MLG Shock Strut Inner Cylinder

(Figure 404)

SUBTASK 32-11-24-420-001

(1) Install the thread protector/retainer assembly [44].

(a) Put the thread protector/retainer assembly [44] in the outer cylinder [8].

(b) Connect the forward end to the hydraulic bracket on the outer cylinder [8] with the pin.

(c) Install the bolts to connect the aft end of the thread protector/retainer assembly [44] to lock plate tab on the outer cylinder [8].

SUBTASK 32-11-24-480-006

WARNING OBEY THE INSTRUCTIONS TO HOLD THE INNER CYLINDER IN ITS POSITION WHEN YOU REMOVE IT FROM THE OUTER CYLINDER. FAILURE TO HOLD THE INNER CYLINDER IN ITS POSITION CAN CAUSE DAMAGE TO EQUIPMENT AND INJURY TO PERSONS.

(2) To hold the inner cylinder in the installed position, do the steps that follow:

(a) Disconnect the lower end of the hydraulic strut [63] from the forward lug on the truck, do this task: Main Landing Gear (SLG) Hydraulic Strut Removal, TASK 32-32-25-020-801.

(b) Remove the kickstand [7A] and bracket from the inner cylinder [7].

(c) Install the MLG truck position actuator turnbuckle, SPL-1846 [84] on the inner cylinder and the lug aft of the hydraulic strut lug.

1) Adjust the length of the MLG truck position actuator turnbuckle, SPL-1846 [84] to fit.

2) Install the tool pins to connect the MLG truck position actuator turnbuckle, SPL-1846 [84] to the truck and the inner cylinder.

SUBTASK 32-11-24-020-006

(3) Disconnect the parts that follow:

(a) The aft hydraulic line [85] at their connections on the upper torsion link [81].

(b) The clamps and the connector for the electrical conduit [87] from the landing gear shock strut [1] and truck.

SUBTASK 32-11-24-020-007

(4) Install the shock strut separation tools, sling equipment, SPL-2557:

(a) To remove the wheel and tire assemblies on the outboard side of the center axle and on the inboard side of the forward and aft axles, do this task: Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-01-000-801.

NOTE: The brake assemblies can stay on the axles.

(b) Put a plate beneath each axle where the tool will be placed:

1) Attach a plumb line from the tow lug on the front of the main landing gear truck to locate point A1 or B1.

2) Attach a plumb line from the jack point on the aft of the main landing gear truck to locate point the center line of the truck beam.

3) Put the forward plate in its position beneath the forward axle with the point A1 or B1 under the plumb line for the tow lug.

a) Use the alignment point A1 or B1 that is forward.

4) Align the forward plate, forward to aft, in relation to the main landing gear beam with the two plumb lines.

5) Put the center plate in its position beneath the center axle with its forward alignment point in-line with the forward plate's alignment point.

6) Put the aft plate in its position beneath the aft axle with its forward alignment point in-line with the center plate's aft alignment point.

7) Use tape to mark the location of the plates on the ground.

(c) Set the mylar sheets on top of each plate.

NOTE: The mylar sheets are used to decrease the tool sliding friction.

(d) Install the tool's axle protectors on the three axles.

(e) Use the transportation equipment, SPL-8264 to move each tool, sling equipment, SPL-2557, into its position on the main landing gear axles.

(f) Install the tool's dummy axle nuts to secure the tools to the axles.

(g) Apply the spray lubricant on the mylar sheets at the base of three pads for each tool.

(h) Install the hoists on the sling equipment, SPL-2557.

NOTE: You can either use chain hoists or air powered hoists, the steps given are for air powered hoist but the steps can also be used for chain hoists.

(i) Connect each tool's power lines to the control box.

SUBTASK 32-11-24-020-008

(5) Disconnect the chain host from the link on the shock strut separation tools.

SUBTASK 32-11-24-020-009

(6) Move the chain hoist together such that it is in its shortest condition with the excess chain in the chain bag.

SUBTASK 32-11-24-020-010

(7) Lift the truck with the separation tools until each lifting tool records approximately 400 lb (181.4 kg) of weight.

SUBTASK 32-11-24-020-011

(8) To minimize the airplane jacking height, do the steps that follow:

(a) Remove all the wheel and tire assemblies, do this task: Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-01-000-801.

NOTE: Use the separation tools as an alternative to the floor jacks when you remove the tire assemblies.

(b) Lower the truck, with the separation tools, until the lower surface of the shock strut inner cylinder fork is approximately 1.5 in. (38.1 mm)-2 in. (51 mm) above the ground.

SUBTASK 32-11-24-020-012

(9) Lift the airplane until the inner cylinder [7] is separated from the outer cylinder, (TASK 07-11-01-580-804).

NOTE: As you lift the airplane you will need to move the truck and separation tools in the aft direction, the truck and inner cylinder will have to move aft approximately 6-8 inches to fully separate from the outer cylinder.

SUBTASK 32-11-24-000-001

(10) Move the landing gear truck and inner cylinder until you have clearance above the inner cylinder to remove the upper bearing components.

SUBTASK 32-11-24-020-013

(11) Remove the upper bearing carrier [9] from the top of the inner cylinder [7]:

(a) Remove the two upper bearings from the upper bearing carrier [9].

1) Check the condition of the bearing surface that contacts the outer cylinder chrome:

a) The appearance of approximately 10 percent of the bronze exposed on the bearing surface, that contacts the inner cylinder chrome, indicates normal bearing wear.

b) When 40 - 50 percent of the bronze is exposed, the bearing approaches its half life.

c) If 75 percent of the bronze is visible on the bearing surface, a measurement of the wall thickness is recommended.

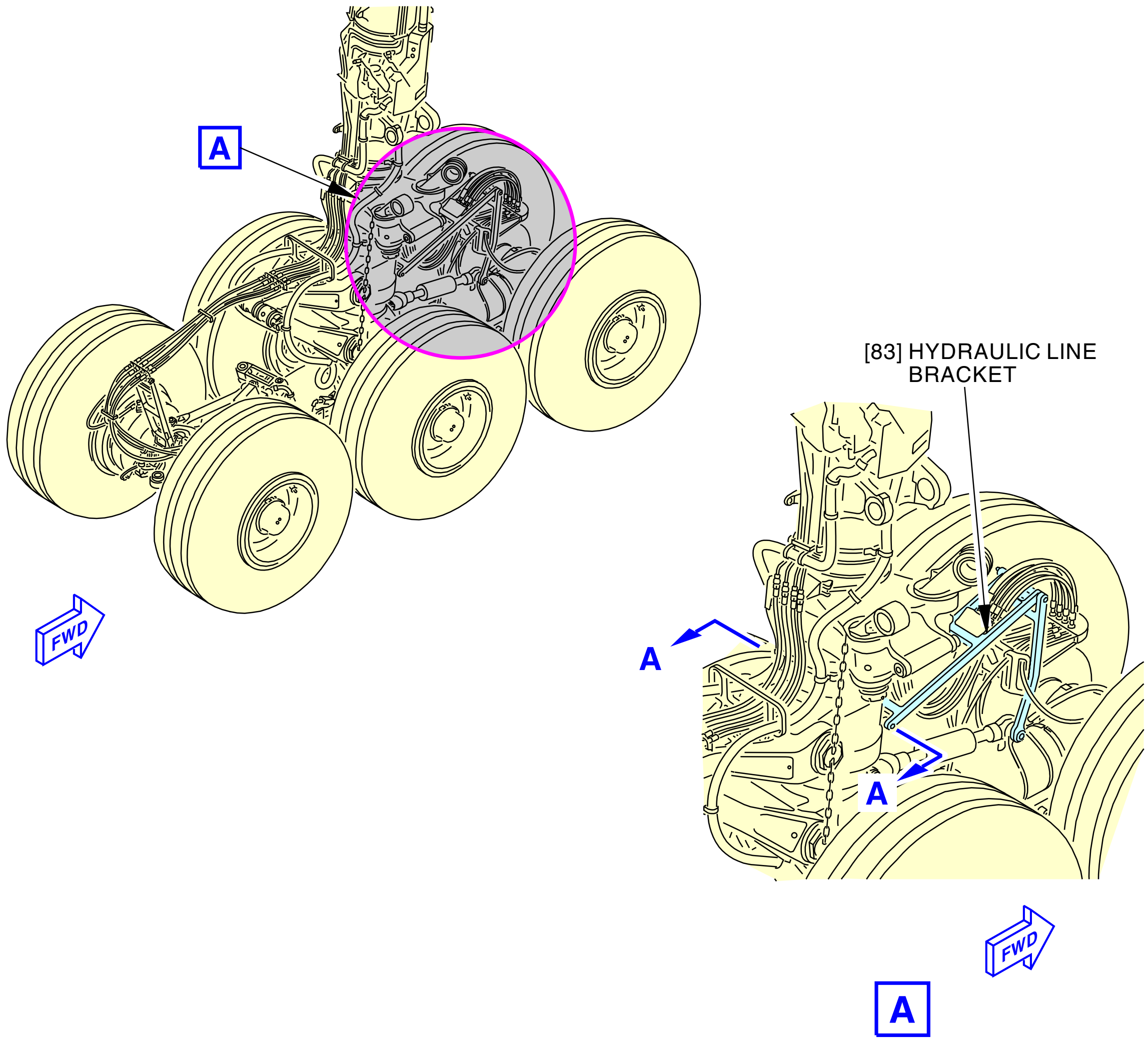
d) The bearing should be replaced when the wall thickness measures 0.116 in. (2.9 mm) or less.

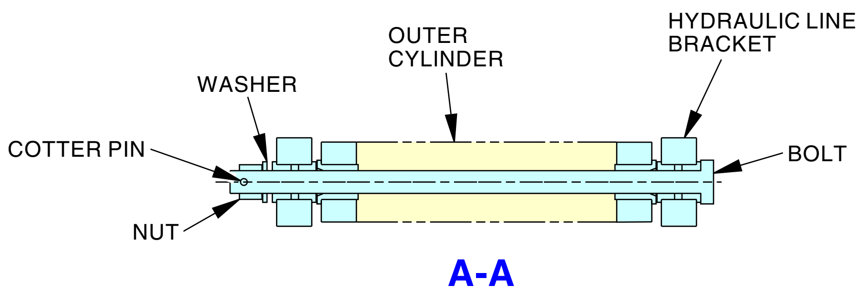
(b) Remove the piston ring from the upper bearing carrier [9].

(c) Remove the upper bearing carrier [9] halves from the inner cylinder [7].

(d) Remove the recoil valve from the inner cylinder [7].

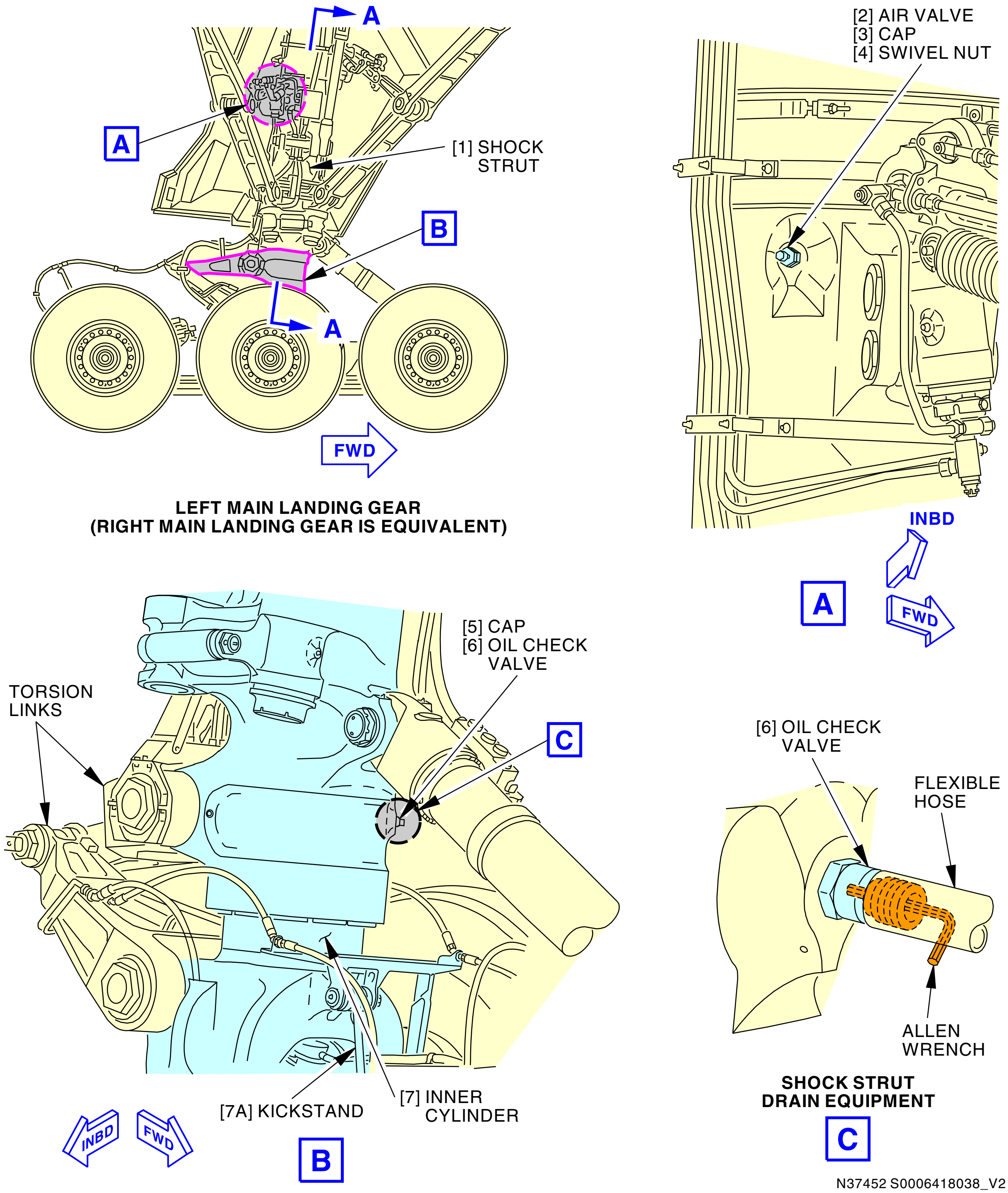
END OF TASK



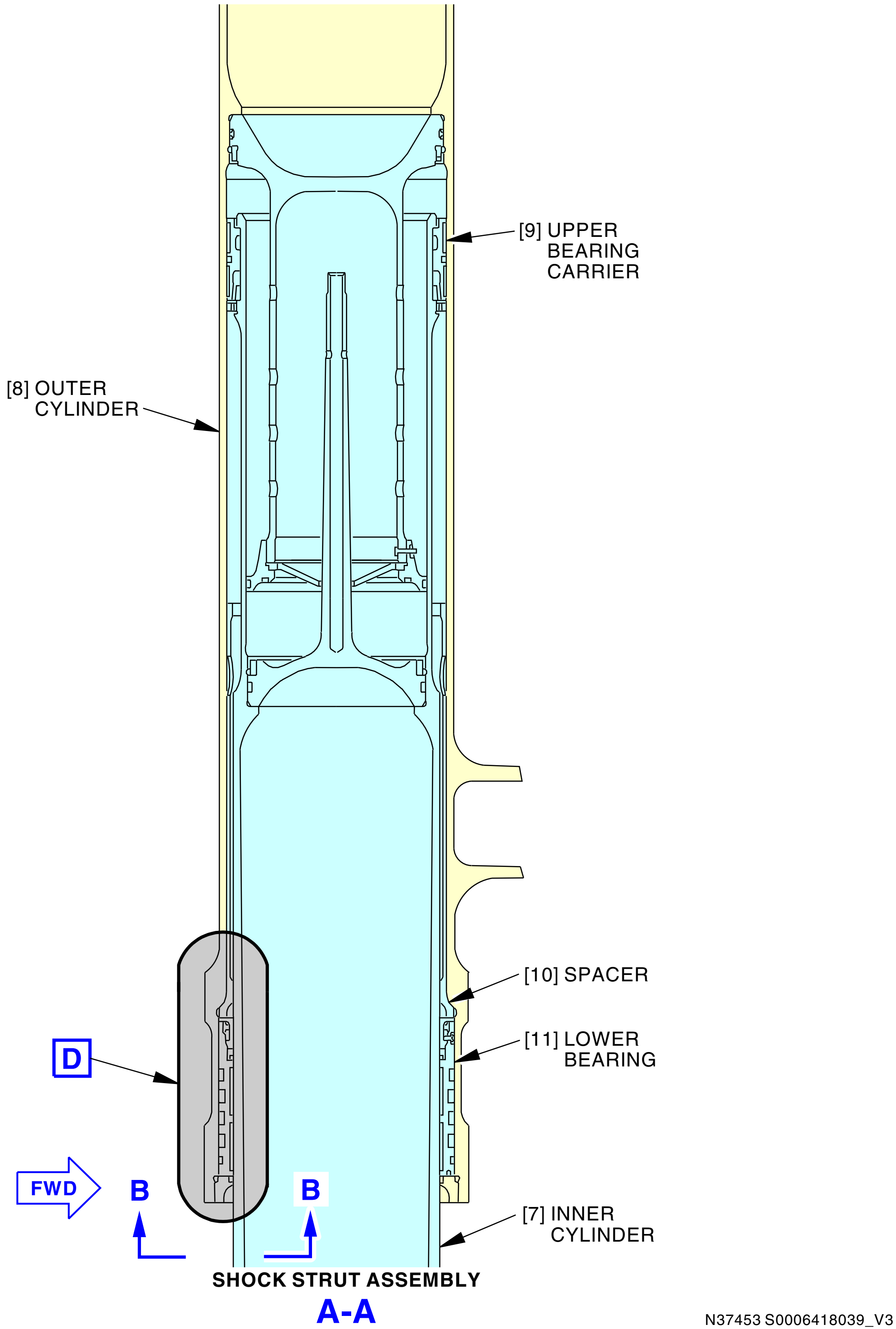


2029948 S0000405231_V3

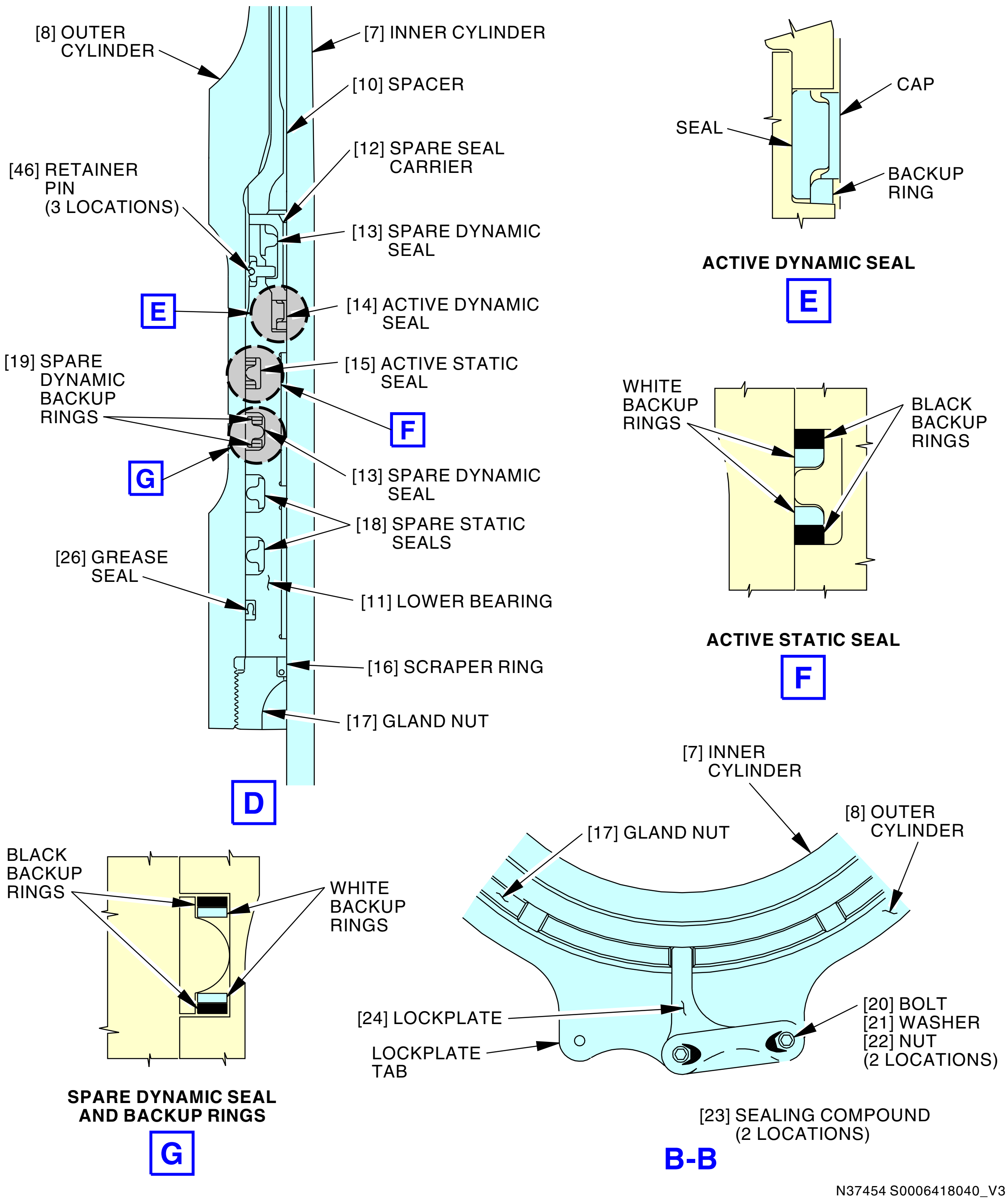
Hydraulic Support Link
Figure 401/32-11-24-990-807



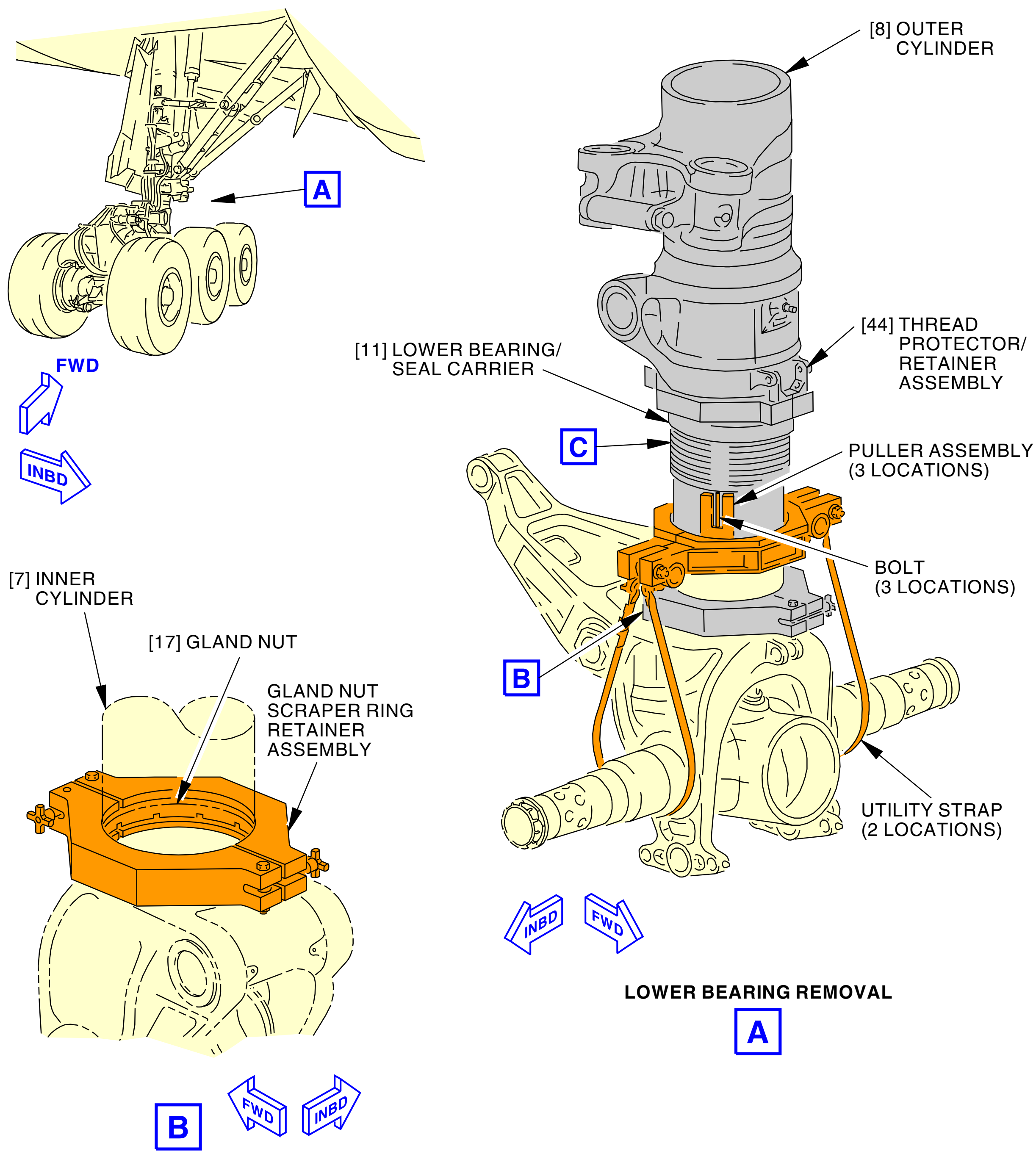
MLG Shock Strut Inner Cylinder Installation
Figure 402/32-11-24-990-802 (Sheet 1 of 3)



MLG Shock Strut Inner Cylinder Installation
Figure 402/32-11-24-990-802 (Sheet 2 of 3)



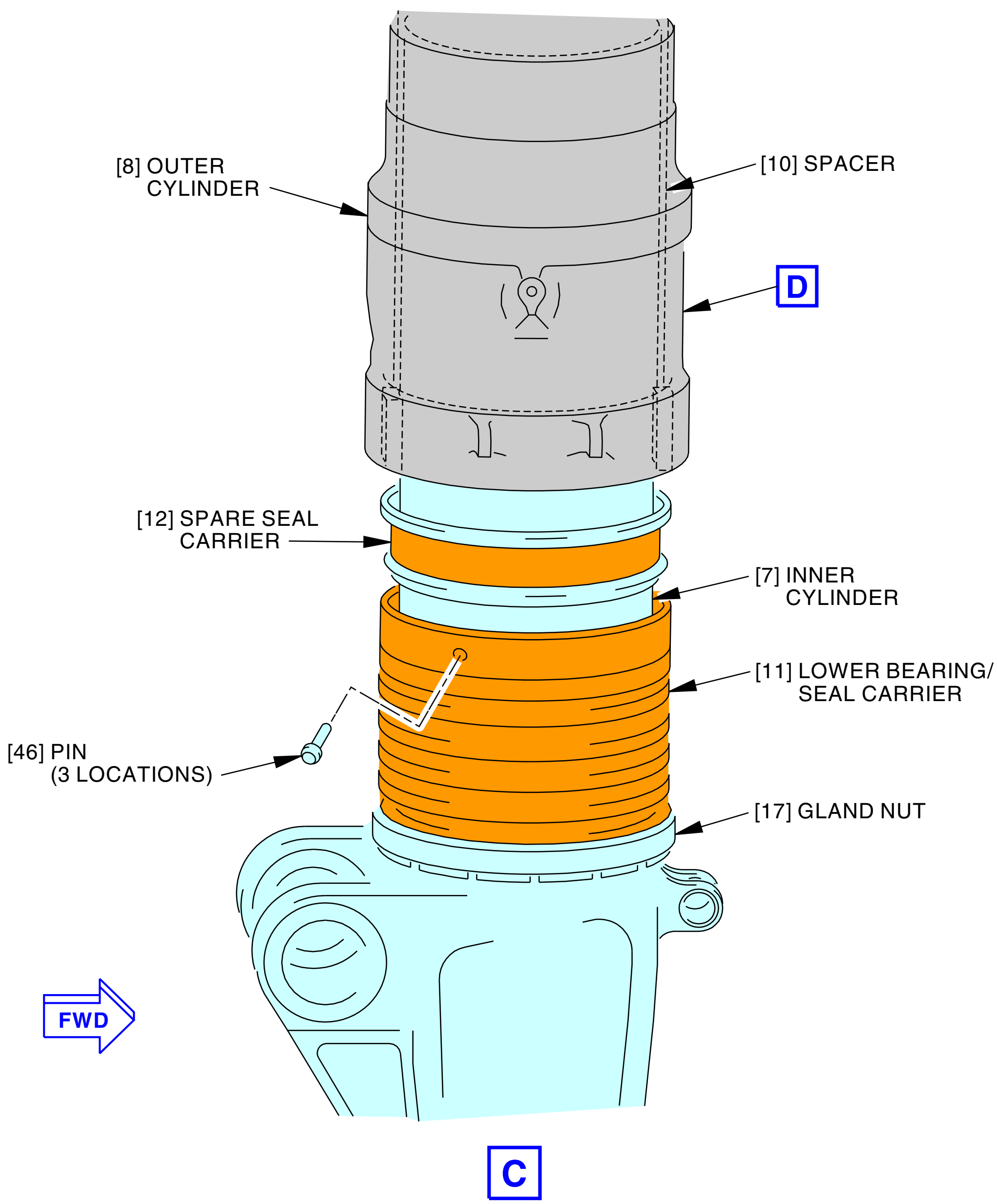
MLG Shock Strut Inner Cylinder Installation
Figure 402/32-11-24-990-802 (Sheet 3 of 3)



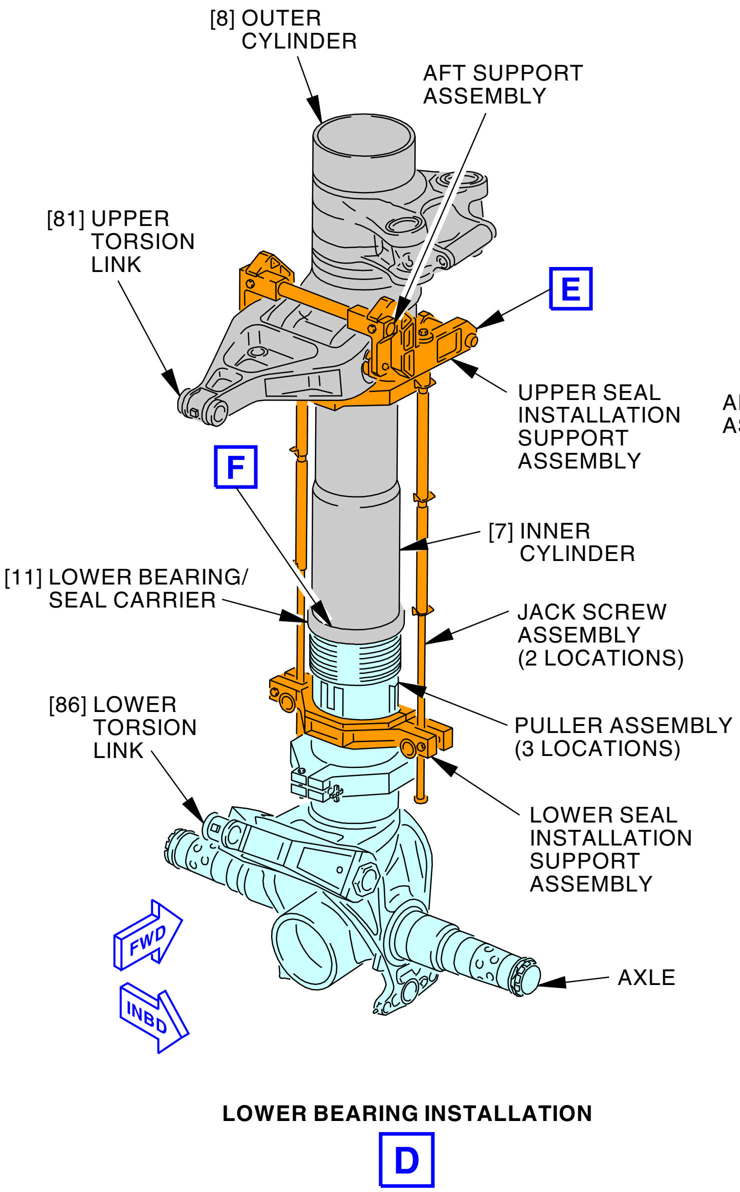
1 INSERTED THROUGH BOTTOM OF RING ASSEMBLY INTO BEARING CARRIER

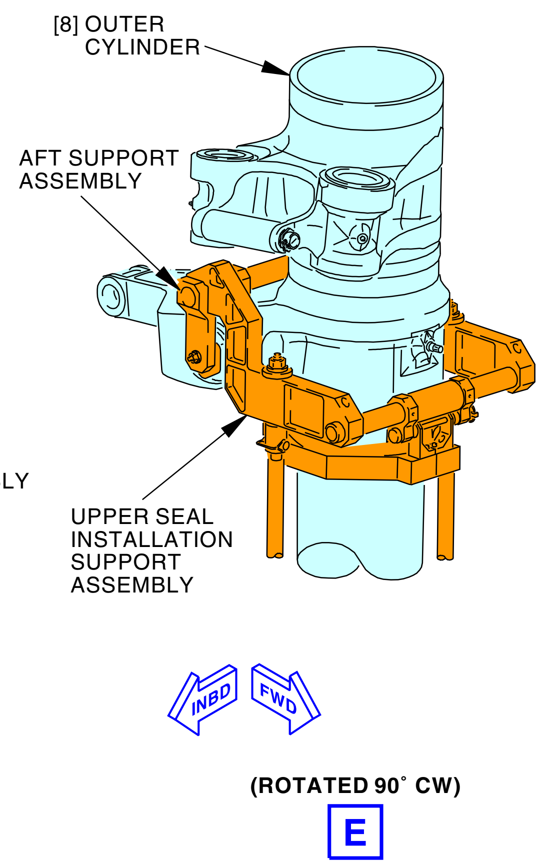
N37462 S0006418041_V2

MLG Lower Bearing Puller Equipment
Figure 403/32-11-24-990-803 (Sheet 1 of 4)



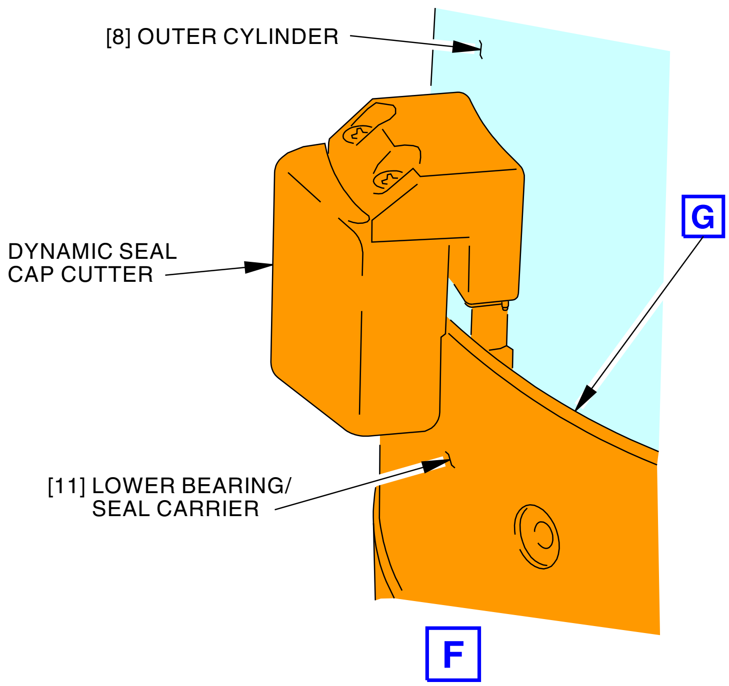
MLG Lower Bearing Puller Equipment
Figure 403/32-11-24-990-803 (Sheet 2 of 4)

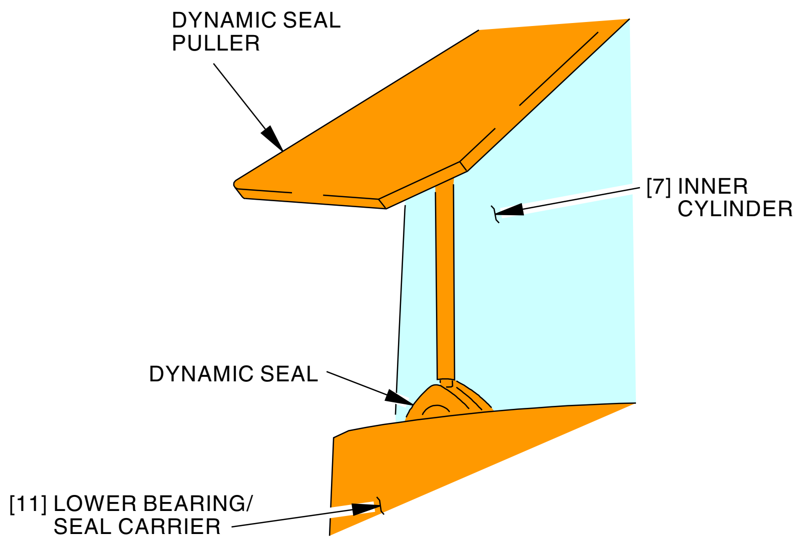




N37464 S0006418043_V2

MLG Lower Bearing Puller Equipment
Figure 403/32-11-24-990-803 (Sheet 3 of 4)



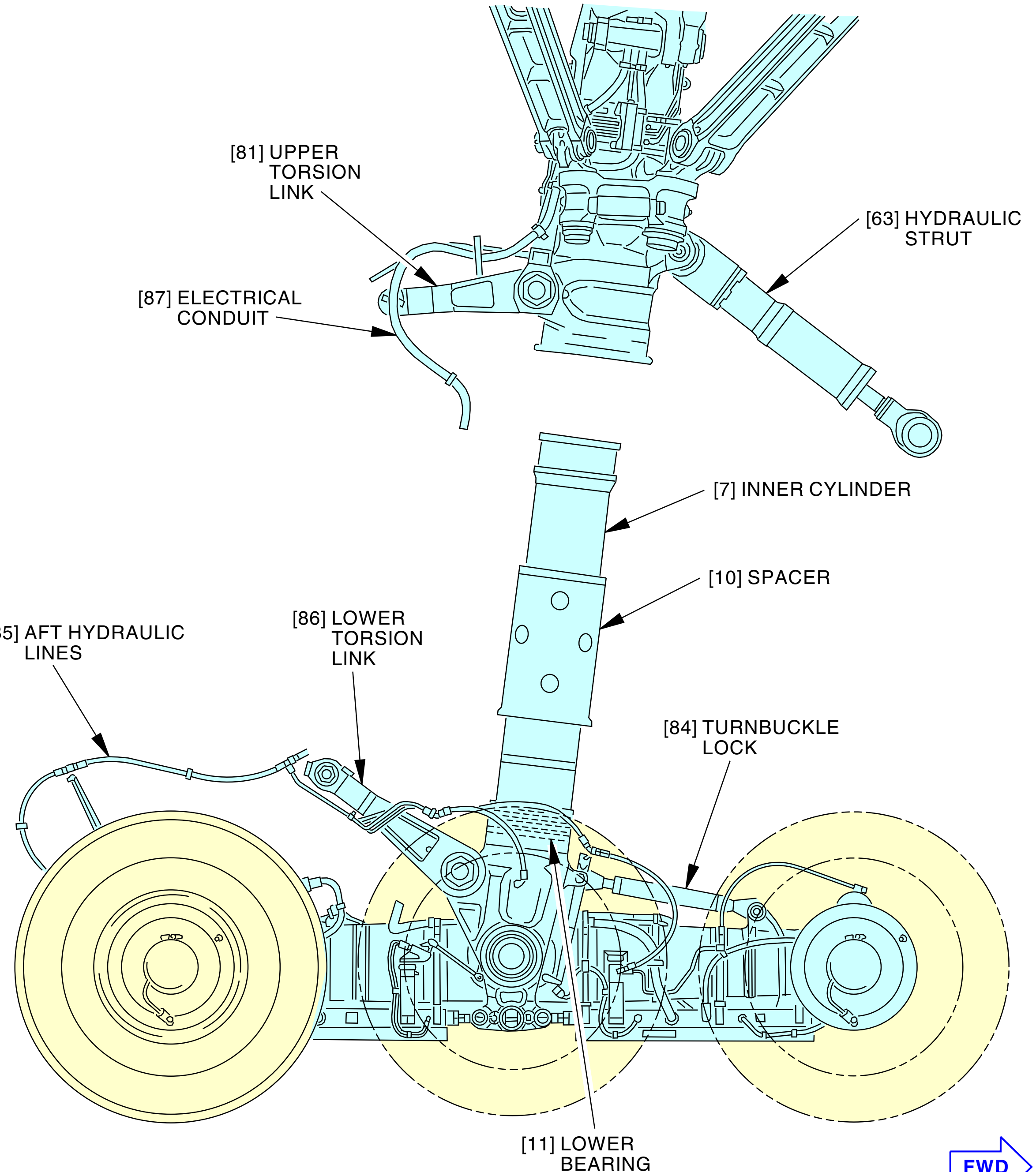


DYNAMIC SEAL BEING PULLED FROM THE CARRIER

G

H40790 S0006418080_V2

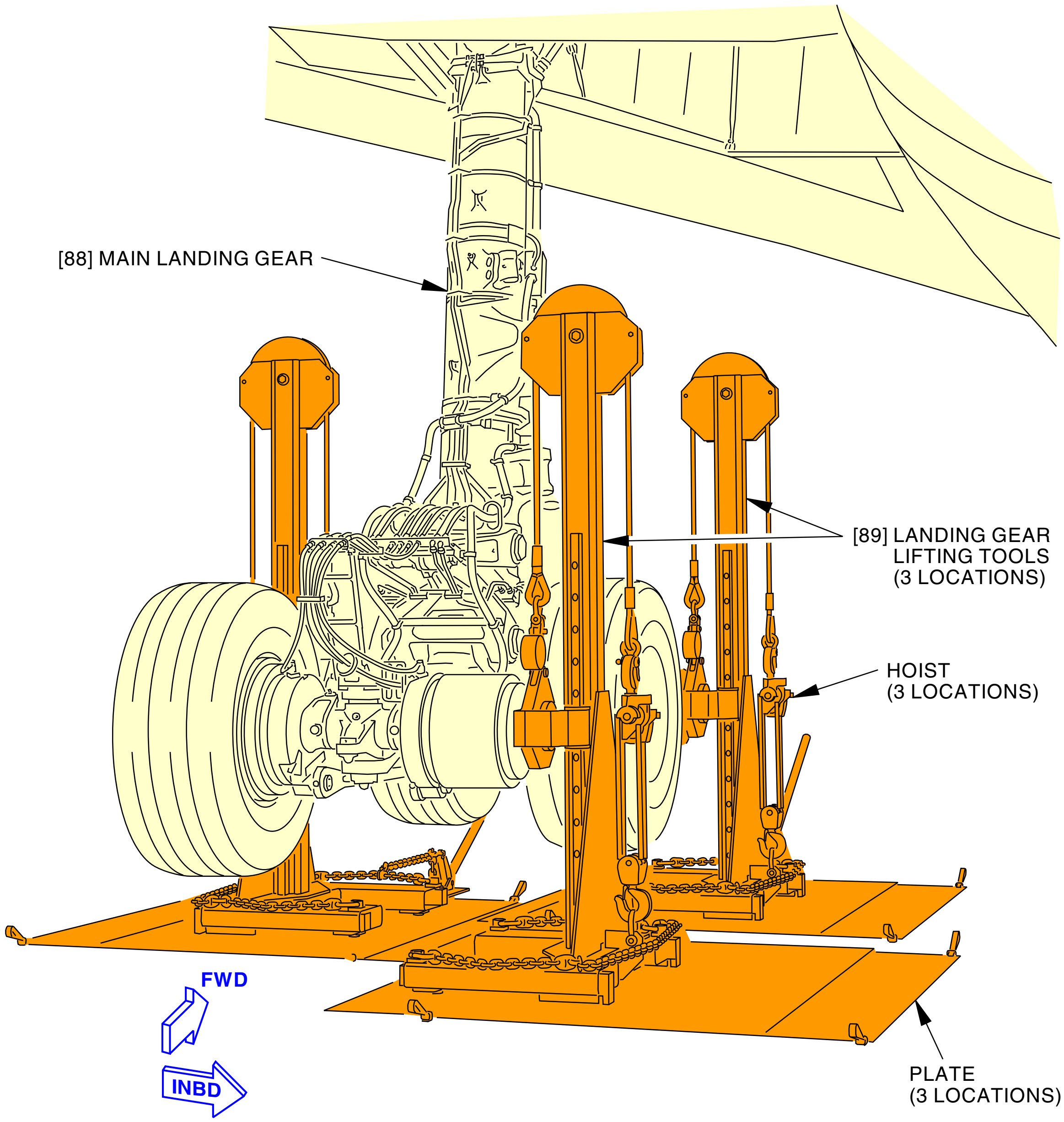
MLG Lower Bearing Puller Equipment
Figure 403/32-11-24-990-803 (Sheet 4 of 4)



LEFT MAIN LANDING GEAR
(RIGHT MAIN LANDING GEAR IS EQUIVALENT)

N37457 S0006418046_V2

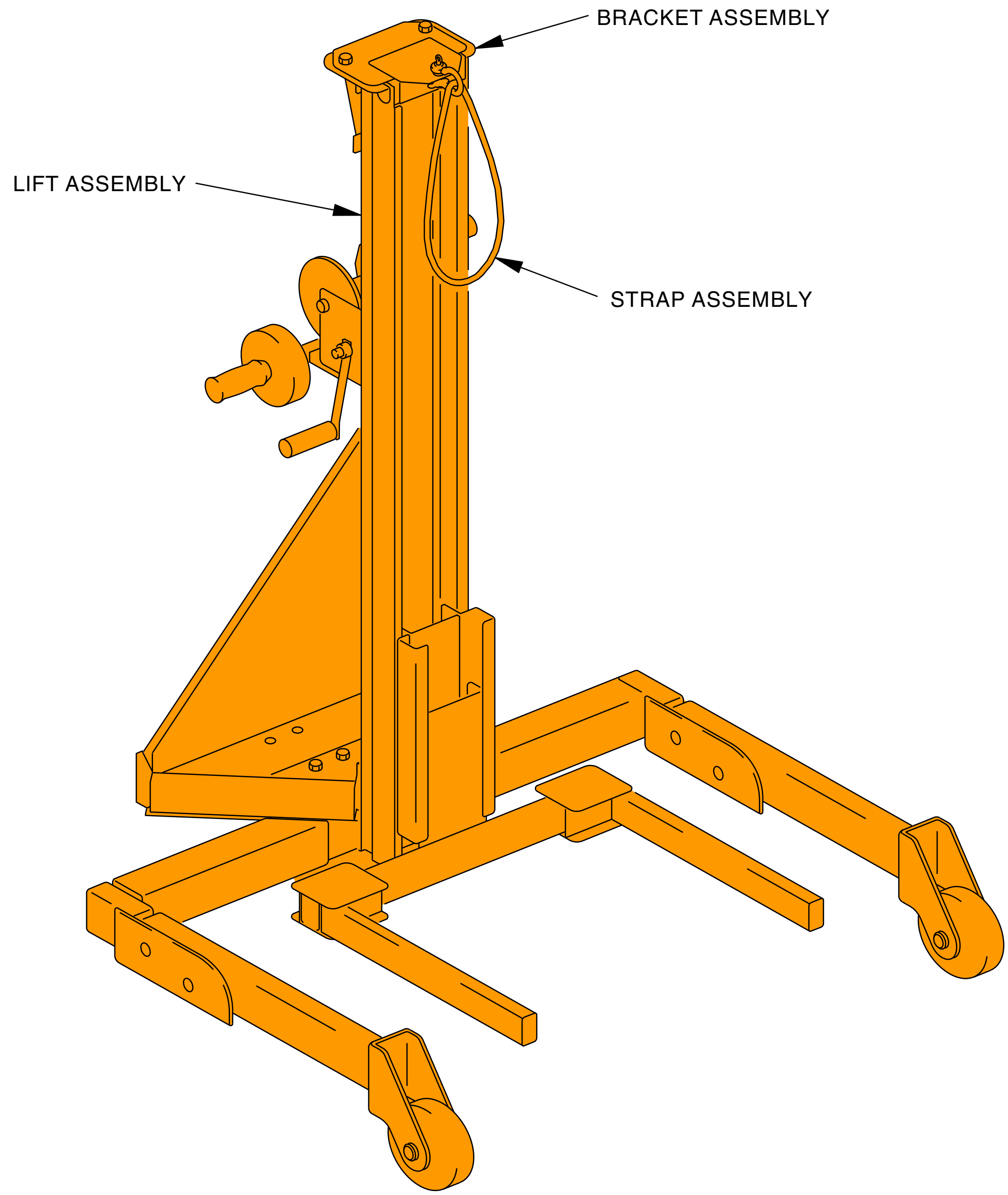
Active Dynamic Seal Replacement
Figure 404/32-11-24-990-805 (Sheet 1 of 2)



LEFT MAIN LANDING GEAR
(RIGHT MAIN LANDING GEAR IS EQUIVALENT)

N37458 S0006418047_V2

Active Dynamic Seal Replacement
Figure 404/32-11-24-990-805 (Sheet 2 of 2)



1368965 S0000246372_V2

Main Landing Gear Tower Jack Transporter Equipment
Figure 405/32-11-24-990-806

TASK 32-11-24-420-801

3. Main Landing Gear Shock Strut Inner Cylinder with Truck Assembly Installation

A. General

(1) This task supplies instructions to install the inner cylinder and truck into the MLG outer cylinder.

B. References

Reference	Title
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-15-01-610-810	Main Landing Gear Shock Strut Servicing (P/B 301)
20-11-00-910-801	Standard Torque Values (P/B 201)
32-11-22-430-802-002	Main Landing Gear Torsion Link Connection (P/B 401)
32-11-25-200-802	Main Landing Gear Shock Strut Seal Leakage Check (P/B 601)
32-30-01-720-801	Main Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks) (P/B 501)
32-32-25-420-801	Main Landing Gear (SLG) Hydraulic Strut Installation (P/B 401)
32-45-01-000-801	Main Landing Gear Wheel and Tire Assembly Removal (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1844	Replacement Equipment, MLG Lower Bearing Seals Part #: J32082 **ECD JAN2019** Supplier: 81205 Part #: J32082-73 Supplier: 81205
SPL-1851	Equipment - Handling, MLG Torsion Links Part #: J32048-53 Supplier: 81205
SPL-2557	Sling Eqpt, MLG Removal and Installation Part #: J32043-124 Supplier: 81205 Part #: J32043-125 Supplier: 81205
SPL-4250	Wrench - Support, MLG Gland Nut Part #: A32045-110 Supplier: 81205
SPL-8264	Transportation Equipment - Tower Jack, Main Landing Gear Part #: J32062-1 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
A00226	Compound - Tamper-Proof Putty	BMS8-45
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

E. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

F. **Prepare for the Installation**

(Figure 404)

SUBTASK 32-11-24-420-002

(1) Install the centering pins [46] from seal replacement equipment, SPL-1844, on the thread protector/retainer assembly [44].

SUBTASK 32-11-24-220-001

(2) Examine the upper bearing carrier [9] for wear or damage.

SUBTASK 32-11-24-212-001

(3) Examine the two upper bearings for wear or damage.

(a) Check the condition of the bearing surface that contacts the outer cylinder chrome:

1) The appearance of approximately 10 percent of the bronze exposed on the bearing surface, that contacts the inner cylinder chrome, indicates normal bearing wear.

2) When 40 - 50 percent of the bronze is exposed, the bearing approaches its half life.

3) If 75 percent of the bronze is visible on the bearing surface, a measurement of the wall thickness is recommended.

4) The bearing should be replaced when the wall thickness measures 0.116 in. (2.946 mm) or less.

SUBTASK 32-11-24-420-003

(4) Install the upper bearing carrier [9] on the top of the inner cylinder [7]:

(a) Install the recoil valve on the inner cylinder [7].

(b) Make sure the recoil valve can move freely.

(c) Install the upper bearing carrier [9] halves on the inner cylinder [7].

(d) Install the piston ring on the upper bearing carrier [9].

(e) Use your hands to overlap the ends of each upper bearing (1 in. (25 mm) - 2 in. (51 mm), approx), then roll the bearing on a flat surface until the bearing is round.

NOTE: This step will give the upper bearings a tight fit around the bearing carrier when installed.

(f) Install the two upper bearings on the upper bearing carrier [9].

SUBTASK 32-11-24-000-002

(5) Move the truck assembly and inner cylinder [7] with the separation tools, sling equipment, SPL-2557, such that the inner cylinder [7] is in position below the shock strut outer cylinder [8].

SUBTASK 32-11-24-420-004

CAUTION	MAKE SURE THAT YOU PUT THE INNER AND OUTER CYLINDER TOGETHER CAREFULLY. THE NEW SEALS CAN CATCH ON THE OUTER CYLINDER, OR THE INNER AND OUTER CYLINDERS CATCH WHEN YOU ASSEMBLE THEM. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

(6) Lower the airplane such that the inner cylinder [7] goes into the outer cylinder [8] and slowly move the separation tools forward as the inner cylinder [7] goes into the outer cylinder [8].

NOTE:

(a) Leave enough chrome visible on the inner cylinder [7] such that you can install the seal replacement equipment, SPL-1844.

(b) Install the wheel and tire assemblies on the inboard side of the center axle and on the outboard side of the forward and aft axles, do this task: Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-01-000-801.

1) Use the separation tools, sling equipment, SPL-2557, to adjust the height of the axles when you install the wheel and tire assemblies.

2) Make sure the lower bearing carrier [11] assembly does not enter or contact the outer cylinder [8], raise the airplane as needed.

SUBTASK 32-11-24-080-001

(7) Remove the separation tools, sling equipment, SPL-2557, with the transportation equipment, SPL-8264.

SUBTASK 32-11-24-420-006

(8) Connect the lower end of the hydraulic strut [63] to the forward lug of the truck (TASK 32-32-25-420-801).

SUBTASK 32-11-24-420-007

(9) Connect the clamps and the electrical connector for the electrical conduit [87] to the landing gear shock strut [1] and truck.

SUBTASK 32-11-24-420-008

(10) Connect the aft hydraulic line [85] at their connections on the upper torsion link [81].

SUBTASK 32-11-24-410-006

(11) Install the wheel and tire assemblies on the inboard side of the forward and aft axles, do this task: Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-01-000-801.

SUBTASK 32-11-24-420-009

(12) Raise the airplane until you have enough chrome visible on the inner cylinder [7] such that you can install the seal replacement equipment, SPL-1844.

G. Install the MLG Shock Strut Inner Cylinder

(Figure 402, Figure 403)

SUBTASK 32-11-24-420-010

(1) Move the lower bearing carrier [11] and the spacer [10] up the inner cylinder [7] into the outer cylinder [8]:

(a) Install the upper part of the carrier installation tool, from seal replacement equipment, SPL-1844, on the outer cylinder [8].

(b) Install the lower support of the carrier installation tool below the lower bearing carrier [11].

(c) Install the jack screw assemblies on the upper support and the lower support.

(d) Turn the two jack screw assemblies at the same time to pull the lower bearing carrier [11] into the outer cylinder [8].

(e) Make sure the static seals stay in their position as the lower bearing carrier [11] is installed.

(f) Remove the bearing carrier installation seal replacement equipment, SPL-1844.

SUBTASK 32-11-24-020-015

(2) Remove the thread protector/retainer assembly [44].

SUBTASK 32-11-24-640-001

(3) Remove the gland nut protector from around the gland nut [17].

SUBTASK 32-11-24-640-002

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(4) Apply a thin layer of Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237 to the threads of the gland nut [17].

SUBTASK 32-11-24-420-011

(5) Remove the MLG torsion links handling equipment, SPL-1851.

SUBTASK 32-11-24-420-012

(6) Install the gland nut [17]:

(a) Move the gland nut [17] up to the outer cylinder [8] and engage the gland nut [17] threads.

(b) Use the MLG gland nut spanner wrench, SPL-4250 to tighten the gland nut [17] to 230 ft-lb (312 N·m) - 260 ft-lb (353 N·m).

SUBTASK 32-11-24-410-003

(7) Install the lockplate [24] for the gland nut [17]:

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(a) Apply a thin layer of Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237 to the shank and threads of bolt [20], and to washer [21].

(b) Install the lockplate [24] in the holes which will put the tab of the lockplate [24] as close to a slot in the gland nut [17] as possible.

NOTE: If it is necessary, loosen the gland nut [17] a small amount to help with the alignment.

(c) Install the bolts [20], washers [21] and nuts [22] refer to Standard Torque Values, TASK 20-11-00-910-801.

(d) Apply compound, A00226 (View B-B, Figure 402).

NOTE: Apply it to make sure the seal made by the compound, A00226, must break if the bolt [20] are loosened.

SUBTASK 32-11-24-420-013

(8) Do this task: Main Landing Gear Torsion Link Connection, TASK 32-11-22-430-802-002.

H. Put the Airplane Back to Its Usual Condition.

SUBTASK 32-11-24-580-001

(1) Lower the airplane until the shock strut [1] is fully compressed, but leave the jacks in place (TASK 07-11-01-580-805).

SUBTASK 32-11-24-410-004

(2) Install the wheel and tire assemblies on the center axle, do this task: Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-01-000-801.

SUBTASK 32-11-24-420-014

(3) Install the oil check valve cap [5] loosely.

SUBTASK 32-11-24-600-001

(4) Do this task: Main Landing Gear Shock Strut Servicing, TASK 12-15-01-610-810.

SUBTASK 32-11-24-720-001

(5) If you removed the inner cylinder [7] from the shock strut outer cylinder [8], do the steps that follow:

(a) Do the system test that follows on the Maintenance Access Terminal:

NOTE: This will check the electrical connections to the truck.

1) Make these selections on the MAT:

a) ONBOARD MAINTENANCE

b) LINE MAINTENANCE

c) GROUND TESTS

d) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM

e) SYSTEM TEST

f) SYSTEM INTERFACE

g) CONTINUE.

2) Do the test preparation instructions that show on the MAT.

3) Start the test.

4) Do the test instructions that show on the MAT.

5) When the test is completed, make sure that PASSED shows adjacent to TEST CONDITION on the MAT.

6) If FAILED shows, refer to the applicable Maintenance Message Index in the FIM to find the fault isolation task for each maintenance message that shows on the MAT.

(b) Check for leaks at the hydraulic connections that you disconnected.

(c) Do this task: Main Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks), TASK 32-30-01-720-801.

SUBTASK 32-11-24-790-001

(6) Do this task: Main Landing Gear Shock Strut Seal Leakage Check, TASK 32-11-25-200-802.

SUBTASK 32-11-24-080-002

(7) Remove the jacks.

——— END OF TASK ———

MAIN LANDING GEAR SHOCK STRUT SEALS - MAINTENANCE PRACTICES

1. **General**
   A. This procedure provides instructions to do these tasks:
      (1) Replace the active static and dynamic seals with the spare seals on the lower bearing carrier.
      (2) Install new spare static and dynamic seals. The truck is disconnected from the strut and the seals are stretched over the strut fork.
      (3) Install new dynamic seals, new static seals, and new spare seals. The inner and outer cylinder are separated and the seals go over the top of the inner cylinder.
   B. Make sure all working areas, tools, and your hands are clean when you handle the elastomer seals. Some greases can cause the elastomer seals to swell too much. This can cause the seals to leak.

TASK 32-11-25-960-805-002

2. **Replace the Active Seals with the Spare Seals**
   (Figure 201)

   A. **General**
      (1) This task replaces the static seal and the dynamic seal with the spare seals on the main landing gear lower bearing carrier.
      (2) For this task you will pull the lower bearing carrier out of the outer cylinder and replace the active seals with the spare seals that are already installed.

   B. **References**

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-11-24-020-801	Main Landing Gear Shock Strut Inner Cylinder with Truck Assembly Removal (P/B 401)
32-11-24-420-801	Main Landing Gear Shock Strut Inner Cylinder with Truck Assembly Installation (P/B 401)

   C. **Tools/Equipment**

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1887	Installation Tool, MLG Seal Part #: 4769-0940-0180 Supplier: 26303
SPL-1844	Replacement Equipment, MLG Lower Bearing Seals Part #: J32082 **ECD JAN2019** Supplier: 81205 Part #: J32082-73 Supplier: 81205
SPL-1875	Inserter - O-Ring Part #: T-92321 Supplier: 13002
SPL-5731	Equipment - Removal, Dynamic Seal, NLG and MLG Part #: J32072-49 Supplier: 81205

   D. **Consumable Materials**

Reference	Description	Specification
D00467	Fluid - Landing Gear Shock Strut	BMS3-32 Type II
D00589	Lubricant - Hydraulic Assembly - AFS-682	

E. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
13	Spare dynamic seal	32-11-01-01B-345	ARO ALL
19	Spare backup ring	32-11-01-01B-315	ARO ALL

F. **Location Zones**

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

G. **Prepare for the Removal**

SUBTASK 32-11-25-490-011-003

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-25-020-074-002

(2) To get access to the inner cylinder [7], do this task: Main Landing Gear Shock Strut Inner Cylinder with Truck Assembly Removal, TASK 32-11-24-020-801.

H. **Procedure**

SUBTASK 32-11-25-900-017-002

(1) Replace the active static seal with a new spare seal:

(a) Make sure your hands are clean when you handle the elastomer seals.

NOTE: Some greases can cause the elastomer seals to swell too much. It can cause the seals to leak.

(b) Remove the two backup rings from around the active static seal [15].

(c) Make sure the backup rings are serviceable.

1) Replace the old backup rings with new backup rings if there are nicks, scratches or other damage.

NOTE: It is recommended to replace all the old back-up rings with new backup rings.

a) If new backup rings are not available, use the old back-up rings only after a full inspection.

(d) Cut the active static seal [15] from its outer groove in the lower bearing [11].

(e) Move a spare static seal [18] out of the spare seal groove in the lower bearing [11].

(f) Wipe the spare static seal [18] and backup rings to remove any unwanted assembly lubricant or hydraulic fluid.

(g) Install the spare static seal [18] and the backup rings in the static seal groove on the lower bearing [11]:

1) Install the spare static seal [18].

2) Install the white backup ring on the spare static seal [18] with the rounded edge of the backup ring against the seal.

3) Install the black backup ring such that the splits of the black and the white backup rings are on opposite sides of the diameter of the carrier.

SUBTASK 32-11-25-020-075-002

(2) Remove the spare seal carrier [12]:

(a) Remove the retainer pins [46] from the spare seal carrier [12].

(b) Move the spare seal carrier [12] and the lower bearing [11] apart to get access to the spare dynamic seal [13] and the active dynamic seal [14].

SUBTASK 32-11-25-900-018-002

(3) Replace the active dynamic seal [14] with a spare dynamic seal [13]:

(a) Make sure your hands are clean when you handle the elastomer seals.

NOTE: Some greases can cause the elastomer seals to swell too much. This can cause the seals to leak.

(b) Remove the active dynamic seal [14] from the inside groove of the lower bearing [11]:

1) If there is a three piece capped seal in the dynamic location, use these steps to remove it:

a) Put the cap edge cutter, from NLG and MLG dynamic seal removal equipment, SPL-5731, on the edge of the lower bearing [11].

<1> Make sure the blade on the cutter is visible before you use it.

b) Push the cutter counter-clockwise around the edge of the lower bearing [11] to cut the edge off the dynamic seal cap.

c) Screw the extractor tool into the elastic part of the dynamic seal.

NOTE: The back up ring will protect the bearing carrier from the extractor.

d) Lift up on the extractor to pull the dynamic seal from the lower bearing [11].

2) Cut the old active dynamic seal [14] from the inner cylinder [7].

(c) Remove the backup ring and cap for the active dynamic seal [14] from the lower bearing [11].

(d) Move the spare dynamic seal [13] off of the spare seal carrier [12] and move it down onto the inner cylinder [7].

NOTE: The round sealing surface of the seal must be against the chrome on the inner cylinder.

(e) Remove the spare backup rings [19] from the spare seal carrier [12].

(f) Apply a thin layer of fluid, D00467, or AFS-682 lubricant, D00589, to the spare dynamic seal [13] and the spare backup rings [19].

NOTE: The AFS-682 lubricant, D00589, will help keep the spare backup rings [19] in their positions.

(g) Install the spare dynamic seal [13]:

NOTE: The spare seal is assembled one piece at a time in the groove for the dynamic seal.

1) Install a black spare backup rings [19] in the groove for the dynamic seal.

2) Install a white spare backup rings [19], with the split in an opposite position on the diameter of the inner cylinder [7] as the black back up ring, and with the rounded edge facing up.

3) Make sure the backup rings are tight against the inner cylinder [7].

4) Install the spare dynamic seal [13] in the groove, with the rounded edge against the inner cylinder [7].

5) Install the other white spare backup rings [19] in the groove with the rounded edge facing the spare dynamic seal [13].

6) Install the other black spare backup rings [19] in the groove, with the split in an opposite position on the diameter of the inner cylinder [7] as the white back up ring.

7) Make sure the seal assembly is together, without twists or bulges, as shown on View F, Figure 201.

a) You can use MLG seal installation tool, COM-1887, or the O-ring inserter, SPL-1875, from seal replacement equipment, SPL-1844, (or equivalent), to make sure that you installed the seal assembly correctly.

b) You can use MLG seal installation tool, COM-1887, (or equivalent), to make sure that you installed the seal assembly correctly.

SUBTASK 32-11-25-420-049-002

(4) Install the spare seal carrier [12] on the lower bearing [11]:

(a) Move the spare seal carrier [12] down on the lower bearing [11].

(b) Install the retainer pins [46] for the spare seal carrier [12] to connect the spare seal carrier to the lower bearing [11].

NOTE: The holes in the spare seal carrier [12] are for venting purposes, when you install the retainer pins [46] in the lower bearing [11]. The pins do not engage the holes in the spare seal carrier [12].

SUBTASK 32-11-25-020-076-002

WARNING MAKE SURE THAT YOU HOLD THE SPACER WHEN YOU REMOVE THE THREAD- PROTECTOR/SPACER RETENTION-ASSEMBLY. IF YOU DO NOT HOLD THE SPACER IN ITS POSITION, THE SPACER CAN MOVE DOWN THE INNER CYLINDER QUICKLY. IT CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) Move the spacer retention blocks on the thread protector assembly [44] such that you can lower the spacer [10].

SUBTASK 32-11-25-020-077-002

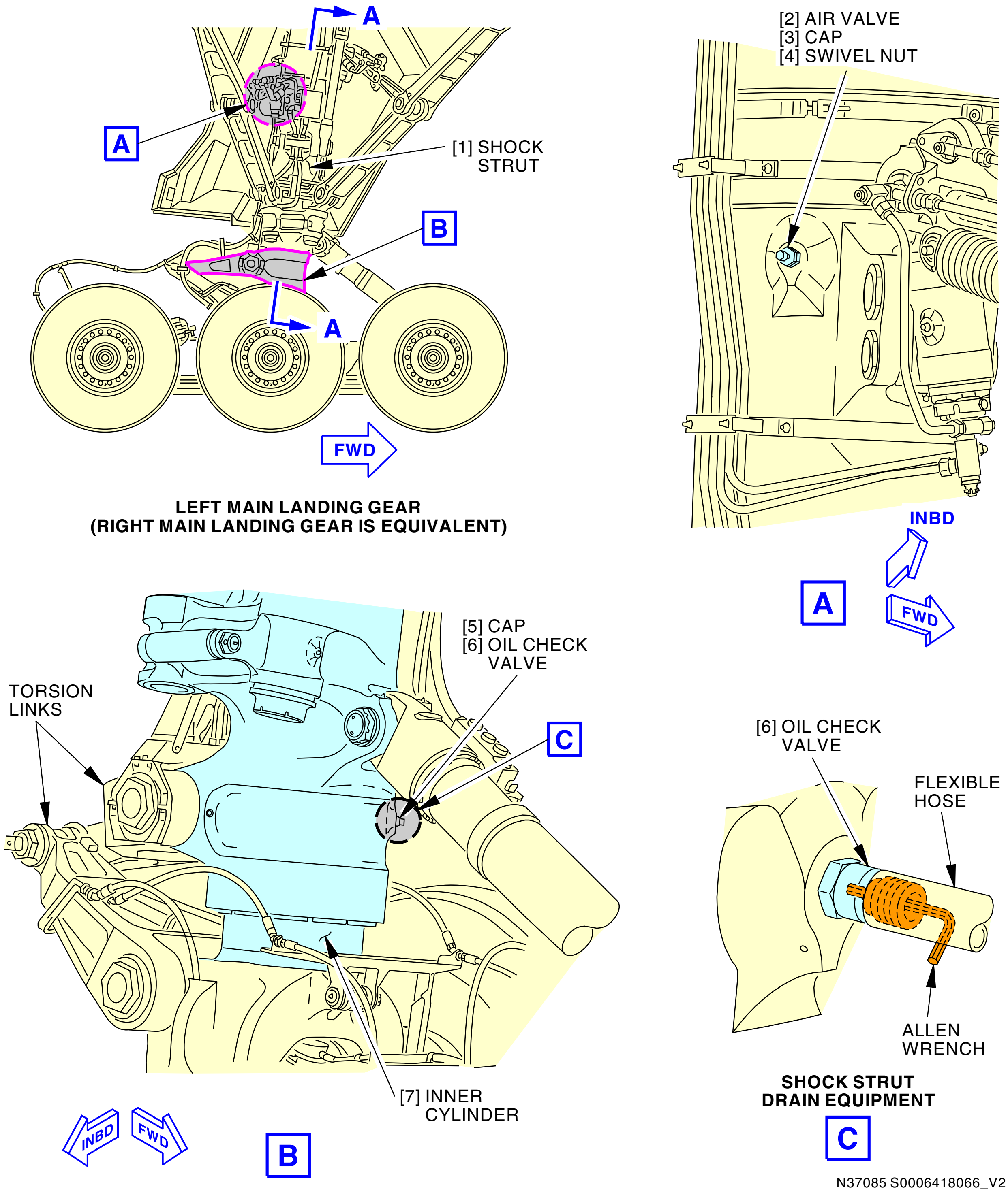
(6) Move the spacer [10] down the inner cylinder [7] and on top of the lower bearing [11].

I. Put the Airplane Back to Its Usual Condition

SUBTASK 32-11-25-420-091-002

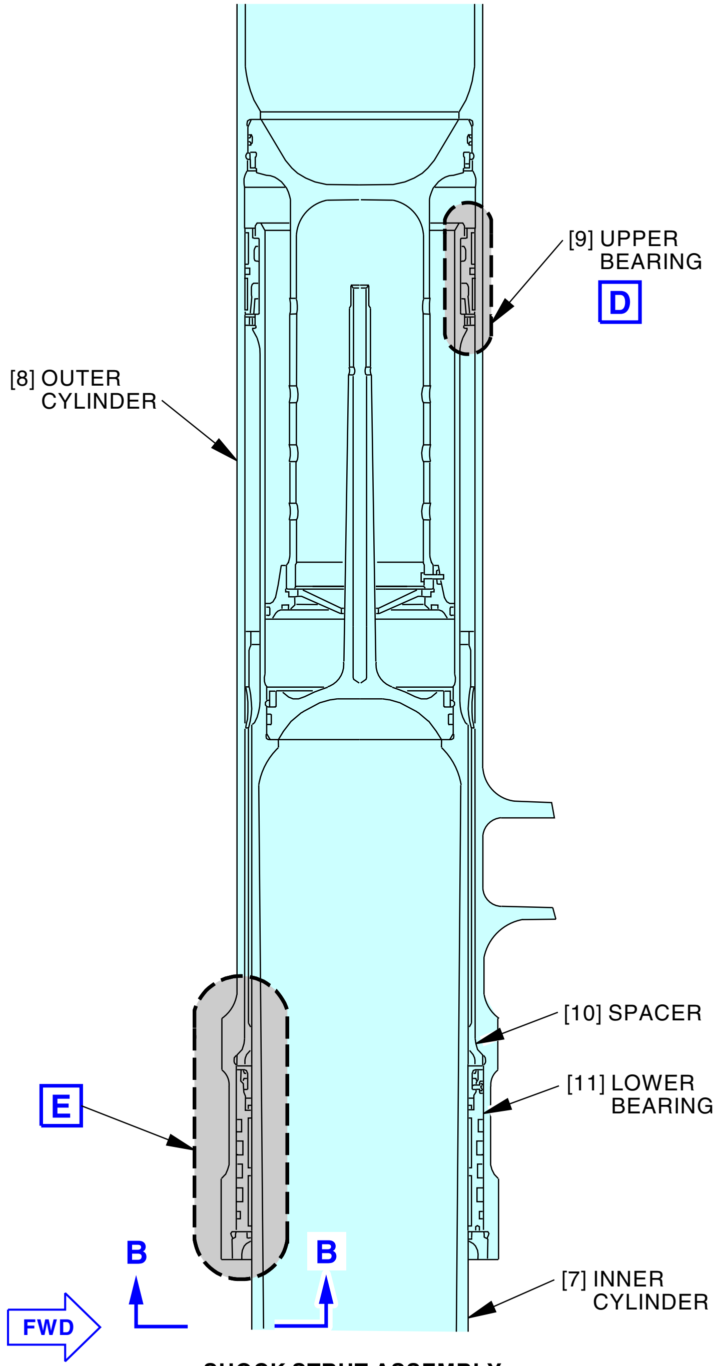
(1) Do this task: Main Landing Gear Shock Strut Inner Cylinder with Truck Assembly Installation, TASK 32-11-24-420-801.

END OF TASK

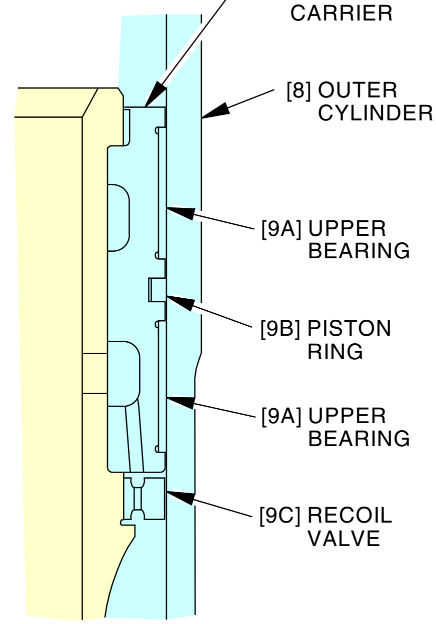


LEFT MAIN LANDING GEAR
(RIGHT MAIN LANDING GEAR IS EQUIVALENT)

Active Seal Replacement with the Spare Seals
Figure 201/32-11-25-990-805-002 (Sheet 1 of 5)



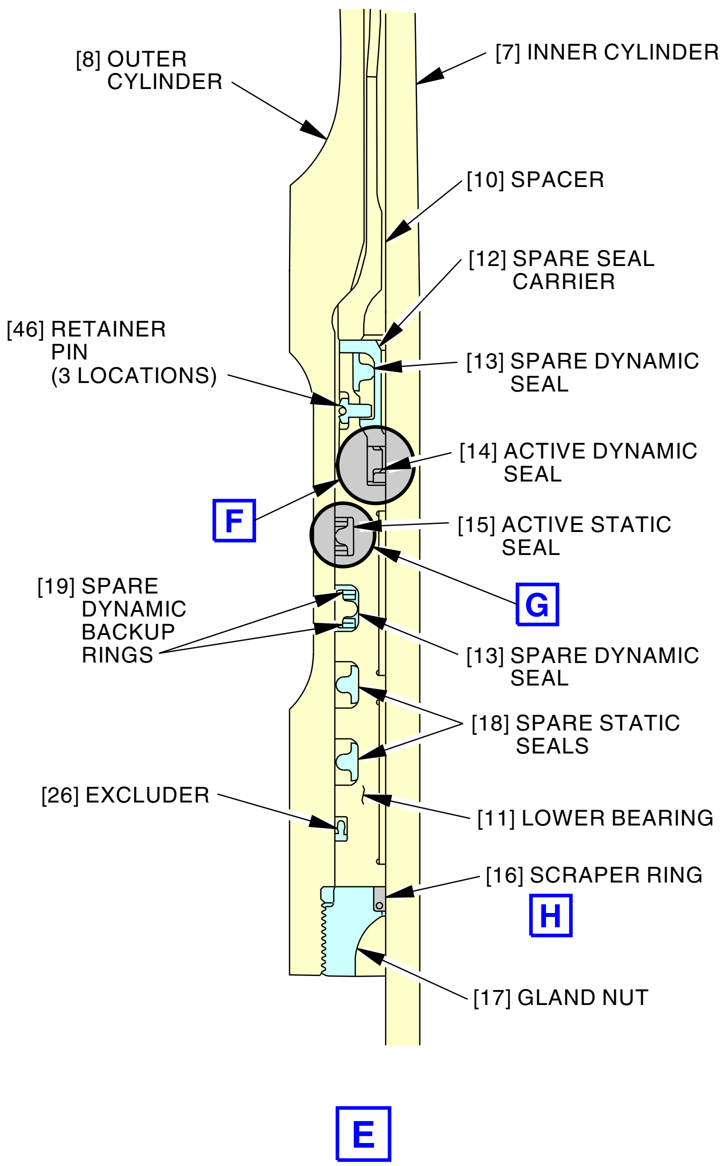
SHOCK STRUT ASSEMBLY
A-A



UPPER BEARING CARRIER
D

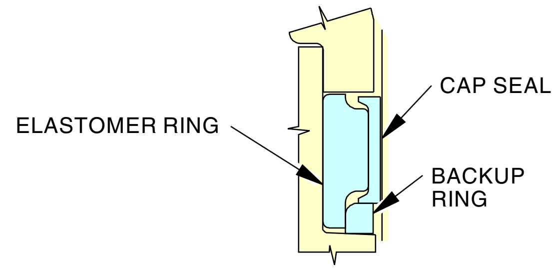
N37086 S0006418067_V3

Active Seal Replacement with the Spare Seals
Figure 201/32-11-25-990-805-002 (Sheet 2 of 5)



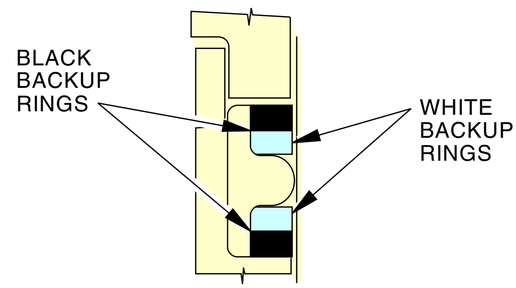
N37094 S0006418068_V6

Active Seal Replacement with the Spare Seals
Figure 201/32-11-25-990-805-002 (Sheet 3 of 5)



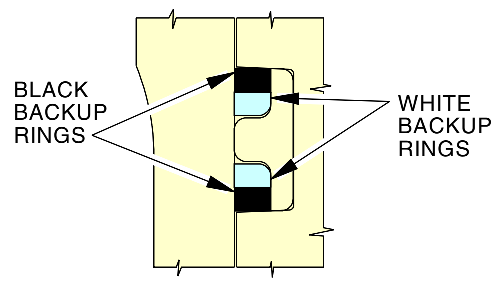
**ACTIVE DYNAMIC SEAL
(PRODUCTION)**

F



**ACTIVE DYNAMIC SEAL
(SPARE CONFIGURATION)**

F

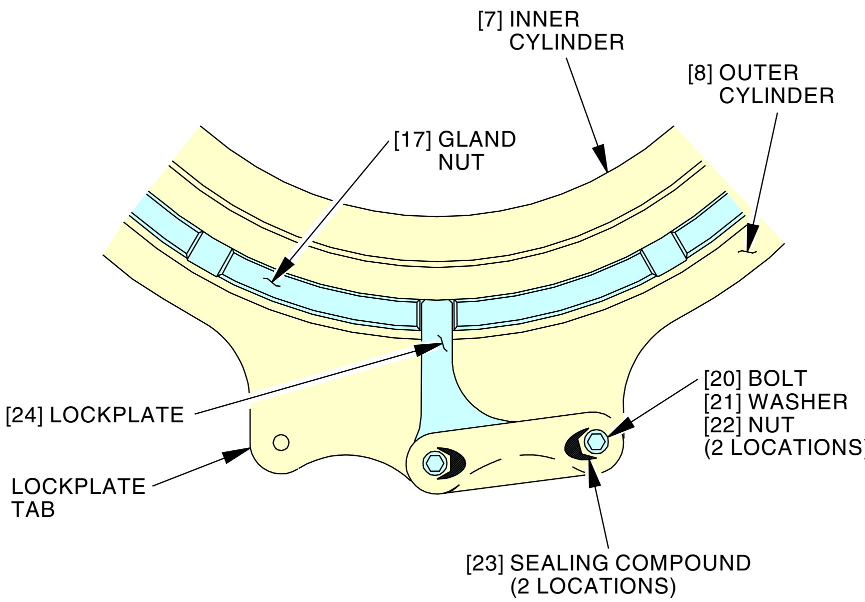


ACTIVE STATIC SEAL

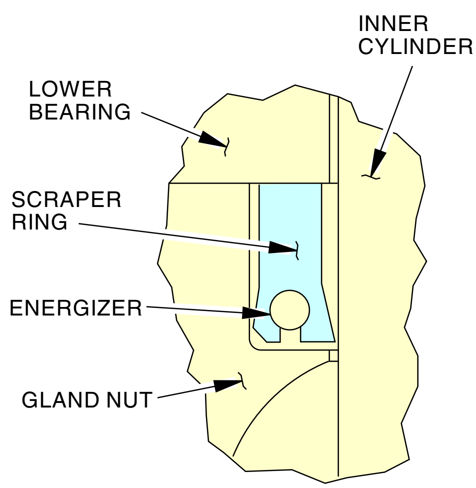
G

W71264 S0000128756_V4

**Active Seal Replacement with the Spare Seals
Figure 201/32-11-25-990-805-002 (Sheet 4 of 5)**



B-B

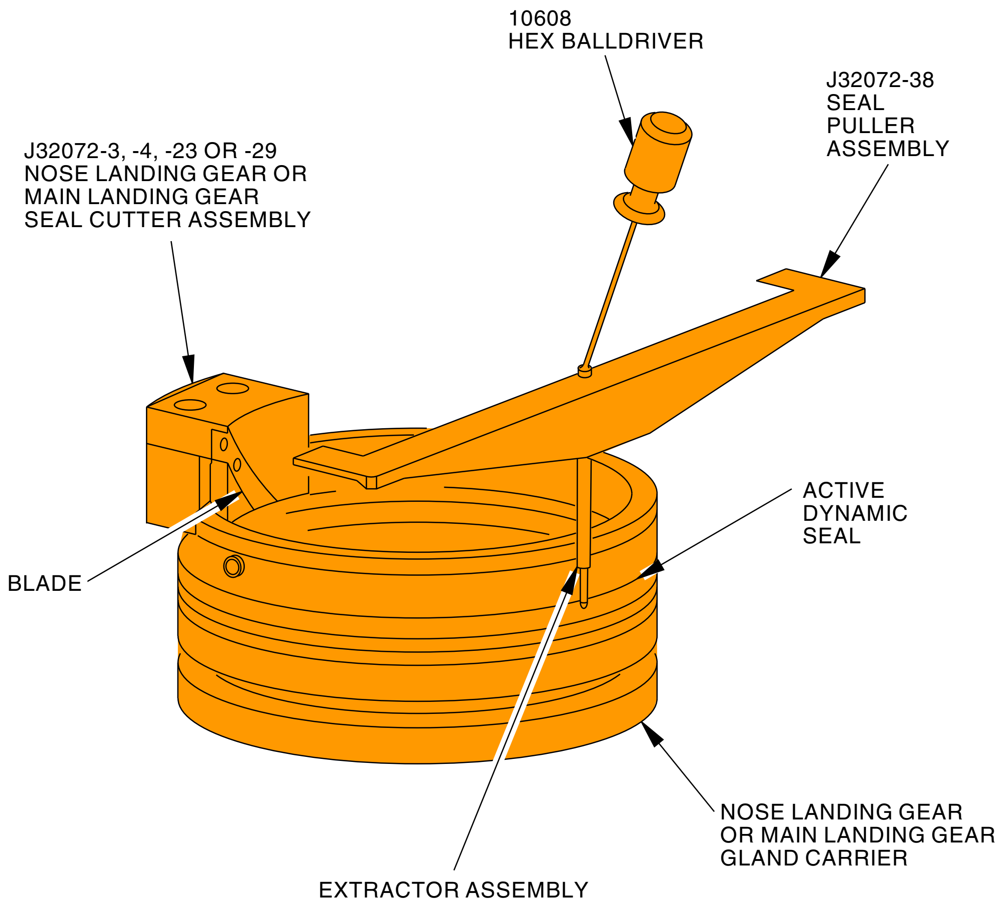


SCRAPER RING

H

W49944 S0000125326_V3

Active Seal Replacement with the Spare Seals
Figure 201/32-11-25-990-805-002 (Sheet 5 of 5)



Dynamic Seal Removal Equipment
Figure 202/32-11-25-990-814

TASK 32-11-25-960-806-002

3. Install New Spare Dynamic and Spare Static Seals

(Figure 201)

A. General

(1) This task supplies instructions to install new static and dynamic spare seals.

NOTE: Use this procedure if you do not have the jacks to lift the airplane high enough to replace seals over the top of the inner cylinder. When you use this procedure it is necessary to stretch the replacement seals over the fork on the bottom of the inner cylinder. The seals can be damaged when you do this. It can also cause a permanent deformation of the seals that will make them difficult to install in the seal carrier.

(2) Use this task when you need new spare seals and you will not install a new 3-piece active dynamic seal.

B. References

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-11-18-400-801	Main Landing Gear Truck Assembly Installation (P/B 401)
32-11-18-960-801	Main Landing Gear Truck Assembly Removal (P/B 401)
32-11-22-000-806-002	Main Landing Gear Lower Torsion Link Removal (P/B 401)
32-11-24-020-801	Main Landing Gear Shock Strut Inner Cylinder with Truck Assembly Removal (P/B 401)
32-11-24-420-801	Main Landing Gear Shock Strut Inner Cylinder with Truck Assembly Installation (P/B 401)
32-21-11-000-802	Nose Landing Gear Lower Torsion Link Removal (P/B 201)
32-32-25-020-801	Main Landing Gear (SLG) Hydraulic Strut Removal (P/B 401)
32-32-25-420-801	Main Landing Gear (SLG) Hydraulic Strut Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1887	Installation Tool, MLG Seal Part #: 4769-0940-0180 Supplier: 26303
SPL-1829	Valve - Drain, Landing Gear Shock Strut Oil Part #: J32060-1 Supplier: 81205 Opt Part #: A32066-1 Supplier: 81205
SPL-1844	Replacement Equipment, MLG Lower Bearing Seals Part #: J32082 **ECD JAN2019** Supplier: 81205 Part #: J32082-73 Supplier: 81205
SPL-1851	Equipment - Handling, MLG Torsion Links Part #: J32048-53 Supplier: 81205
SPL-1875	Inserter - O-Ring Part #: T-92321 Supplier: 13002

(Continued)

Reference	Description
STD-1110	Container - Hydraulic Fluid Resistant, 5 Gallon (19 Liter)
STD-1140	Hose - Flexible, 1/2 Inch ID, BMS 3-11 Resistant, 10 Foot

D. Consumable Materials

Reference	Description	Specification
D00467	Fluid - Landing Gear Shock Strut	BMS3-32 Type II
D00589	Lubricant - Hydraulic Assembly - AFS-682	

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
13	Spare dynamic seal	32-11-01-01B-345	ARO ALL
18	Spare static seal	32-11-01-01B-310	ARO ALL
19	Spare backup ring	32-11-01-01B-315	ARO ALL

F. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

G. Prepare for the Replacement

SUBTASK 32-11-25-490-010-003

> **WARNING**
> MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-25-860-004-002

(2) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-11-25-480-027-002

(3) Lift the airplane a small amount to set the jacks properly and to keep the airplane level when the shock strut [1] is deflated (TASK 07-11-01-580-804).

SUBTASK 32-11-25-020-078-002

> **WARNING**
> DO NOT REMOVE THE VALVE BODY UNTIL YOU DEFLATE THE SHOCK STRUT FULLY. THE AIR PRESSURE CAN BLOW THE VALVE BODY OUT AND CAUSE INJURIES TO PERSONNEL.

(4) Deflate the shock strut [1] for the main landing gear:

  (a) Remove the cap [3] from the air valve [2].

  (b) Loosen the swivel nut [4] a maximum of two turns.

  NOTE: Fluid in the shock strut will have bubbles when you release the pressure. Deflate the shock strut slowly to prevent the leakage of the fluid through the air valve.

  (c) Loosen the swivel nut [4] fully when all of the pressure in the shock strut [1] is released.

SUBTASK 32-11-25-680-007-002

(5) Drain the oil from the shock strut [1] for the main landing gear:

(a) Remove the cap [5] from the oil check valve [6].

(b) Put a 5 gallon (19 liter) hydraulic fluid resistant container, STD-1110, in a position to catch the shock strut fluid when the oil check valve [6] is opened.

(c) Install the drain equipment on the oil check valve [6]:

1) Install the tool, landing gear shock strut drain valve, SPL-1829, on the oil check valve [6] to drain the shock strut [1].

2) If you wish to drain the shock strut [1] with a quicker method, do the steps that follow:

a) Cut a length of plastic ten foot hose (1/2 inch ID), STD-1140, long enough to reach the container on the floor.

b) Insert a small allen wrench in the end of the length of tubing, such that the end of the long part of the allen wrench is flush with the end of the tube and the short part penetrates the side wall of the tube.

c) Install the ten foot hose (1/2 inch ID), STD-1140, on the oil check valve [6] such that the allen wrench goes into the check valve and holds it open to drain the hydraulic fluid.

(d) Remove the drain equipment when you have removed all of the shock strut oil.

SUBTASK 32-11-25-020-079-002

(6) Disconnect the lower end of the hydraulic strut [63] from the truck beam (TASK 32-32-25-020-801).

(a) Do not disconnect the hydraulic hoses.

(b) Use a rope to hold the hydraulic strut [63] out of the work area.

SUBTASK 32-11-25-020-080-002

(7) Do this task: Main Landing Gear Lower Torsion Link Removal, TASK 32-11-22-000-806-002 or Nose Landing Gear Lower Torsion Link Removal, TASK 32-21-11-000-802.

(a) Use the MLG torsion links handling equipment, SPL-1851, to support the upper torsion link [81] out of the work area.

SUBTASK 32-11-25-480-028-002

(8) Lift the airplane approximately 35 in. (0.89 m) until the tires of the landing gear are just about to come off of the ground and the center axle carries no load (TASK 07-11-01-580-804).

NOTE: The shock strut will reach full extension and then will start to lift the wheels off of the ground. This will remove the load from the center axle and make it easier to disconnect the truck from the shock strut [1].

SUBTASK 32-11-25-020-081-002

(9) Disconnect the main landing gear truck from the inner cylinder [7] of the shock strut [1], do this task: Main Landing Gear Truck Assembly Removal, TASK 32-11-18-960-801.

(a) Keep the truck in its position below the inner cylinder after you disconnect it.

SUBTASK 32-11-25-480-029-002

(10) Lift the airplane until there is enough room to install the new seals on the lower part of the inner cylinder [7] (TASK 07-11-01-580-804).

SUBTASK 32-11-25-640-012-002

(11) Fully clean the lower fork of the inner cylinder [7] to remove dirt and contamination.

SUBTASK 32-11-25-640-013-002

(12) Lubricate the replacement active seals and the fork of the inner cylinder [7] with fluid, D00467:

(a) Make sure your hands and work areas are clean when you handle the elastomer seals.

NOTE: Some greases can cause the elastomer seals to swell too much. This can cause the seals to leak.

(b) These are the seals that can be necessary:

NOTE: You may install more seals than are necessary. You can use these extra seals if a seal is damaged during installation. If the extra seals are not needed they can be cut to remove them from the inner cylinder. This might prevent the need to disconnect the truck again if one seal should become damaged.

1) 2 spare static seals

2) 2 spare dynamic seals

3) 1 active static seal

4) 1 spare dynamic seal

SUBTASK 32-11-25-420-050-002

(13) Install the new seals, and extra seals, on the inner cylinder fork [61] (Figure 203).

NOTE: You can wrap the fork of the inner cylinder with a thin sheet of plastic to protect the seals from edges.

(a) Move the new seals over the inner cylinder fork [61] and on to the chrome of the inner cylinder [7].

NOTE: If you put a sheet of plastic over the fork, you can pull it up from the bottom to help roll the new seals up the inner cylinder.

(b) Wrap rags around the new seals to protect them until you are ready to install them on the bearing carrier.

SUBTASK 32-11-25-480-030-002

(14) Lower the airplane so you can connect the inner cylinder [7] to the truck beam (TASK 07-11-01-580-804).

SUBTASK 32-11-25-420-051-002

(15) Connect the inner cylinder [7] to the main landing gear truck beam (TASK 32-11-18-400-801).

(a) Do not install the wheel and brake assemblies.

SUBTASK 32-11-25-480-031-002

(16) Lower the airplane until the shock strut [1] is fully deflated (TASK 07-11-01-580-804).

SUBTASK 32-11-25-020-082-002

(17) Do the "Prepare for the Removal" steps of the task (TASK 32-11-24-020-801).

SUBTASK 32-11-25-480-032-002

(18) Move the new seals up over the gland nut [17] and the lower bearing [11] onto the chrome of the inner cylinder [7].

SUBTASK 32-11-25-420-052-002

(19) Connect the lower end of the hydraulic strut [63] to the truck beam (TASK 32-32-25-420-801).

H. Procedure to install a new active static seal, new spare static seals, new spare dynamic seals, and a new active dynamic seal with spare seal.

SUBTASK 32-11-25-900-019-002

(1) Replace the active static seal [15] with a new seal:

(a) Make sure your hands are clean when you handle the elastomer seals.

NOTE: Some greases can cause the elastomer seals to swell too much. This can cause the seals to leak.

(b) Remove the two sets of backup rings from around the active static seal [15].

(c) Make sure the backup rings are serviceable.

1) Replace the old backup rings with new backup rings if there are nicks, scratches or other damage.

NOTE: It is recommended to replace all the old back-up rings with new backup rings.

a) If new backup rings are not available, use the old back-up rings only after a full inspection.

(d) Cut the active static seal [15] from its outer groove in the lower bearing [11].

(e) Apply a thin layer of fluid, D00467, or AFS-682 lubricant, D00589, to the spare static seal [18] and the backup rings.

NOTE: The AFS-682 lubricant, D00589, will help keep the backup rings in their positions.

(f) Install the spare static seal [18] and the backup rings in the static seal groove on the lower bearing carrier:

1) Install the new spare static seal [18].

2) Install the white backup rings on the spare static seal [18] with the rounded edge of the backup rings against the seal.

3) Install the black backup rings such that the splits of the black and the white backup rings are on opposite sides of the diameter of the carrier.

SUBTASK 32-11-25-900-020-002

(2) Install the new spare static seal [18] in the seal grooves on the lower bearing [11] as shown on View E, Figure 201.

SUBTASK 32-11-25-020-083-002

(3) Remove the spare seal carrier [12]:

(a) Remove the retainer pins [46] from the spare seal carrier [12].

(b) Move the spare seal carrier [12] and the lower bearing [11] apart to get access to the location for the spare dynamic seals [13] and the active dynamic seal [14].

SUBTASK 32-11-25-900-021-002

(4) Replace the active dynamic seal [14] with the spare dynamic seal [13]:

(a) Make sure your hands are clean when you handle the elastomer seals.

NOTE: Some greases can cause the elastomer seals to swell too much. This can cause the seals to leak.

(b) Remove the active dynamic seal [14] from the inside groove of the lower bearing [11]:

1) If there is a three piece capped seal in the dynamic location, do these steps to remove it:

a) Put the cap edge cutter, from seal replacement equipment, SPL-1844, on the edge of the lower bearing [11].

<1> Make sure the blade on the cutter is visible before you use it.

b) Push the cutter around the edge of the lower bearing [11] to cut the edge off the dynamic seal cap.

c) Screw the extractor tool into the elastic part of the elastomer ring on the active dynamic seal [14].

NOTE: The back up ring will protect the bearing carrier from the extractor.

d) Lift up on the extractor to pull the elastomer ring from the lower bearing [11].

2) Cut the old elastomer ring from theinner cylinder [7].

(c) Remove the backup ring and cap seal for the active dynamic seal [14] from the lower bearing [11].

(d) Apply a thin layer of hydraulic fluid to the spare dynamic seal [13] and the spare backup rings [19].

(e) Install the spare active dynamic seal:

NOTE: The spare seal is assembled one piece at a time in the groove for the dynamic seal.

1) Install a black spare backup ring [19] in the groove for the dynamic seal.

2) Install a white spare backup ring [19], with the split in an opposite position on the diameter of the inner cylinder [7] as the black back up ring, and with the rounded edge facing up.

3) Make sure the backup rings are tight against the inner cylinder [7].

4) Install the spare dynamic seal [13] in the groove, with the rounded edge against the inner cylinder [7].

5) Install the other white spare backup ring [19] in the groove with the rounded edge facing the spare dynamic seal [13].

6) Install the other black spare backup ring [19] in the groove, with the split in an opposite position on the diameter of the inner cylinder [7] as the white back up ring.

7) Make sure the seal assembly is together, without twists or bulges, as shown on View F, Figure 201.

a) You can use MLG seal installation tool, COM-1887, or the O-ring inserter, SPL-1875, from seal replacement equipment, SPL-1844, (or equivalent), to make sure that you installed the seal assembly correctly.

SUBTASK 32-11-25-900-022-002

(5) Install the new spare dynamic seals [13] and the spare backup rings [19] on the spare seal carrier [12]:

(a) Install the new spare dynamic seals [13] on the spare seal carrier [12].

(b) Install the spare backup rings [19] on the spare seal carrier [12] between the two spare dynamic seals [13] (View E, Figure 201).

SUBTASK 32-11-25-420-053-002

(6) Install the spare seal carrier [12] on the lower bearing [11]:

(a) Move the spare seal carrier [12] down on the lower bearing [11].

(b) Install the retainer pins [46] to connect the spare seal carrier [12] to the lower bearing [11].

NOTE: The holes in the spare seal carrier [12] are for venting purposes, when you install the retainer pins [46] in the lower bearing [11], the pins do not engage the holes in the spare seal carrier.

SUBTASK 32-11-25-020-084-002

(7) Move the spacer retention blocks on the thread protector assembly [44] such that you can lower the spacer [10].

I. Put the Airplane Back to Its Usual Condition.

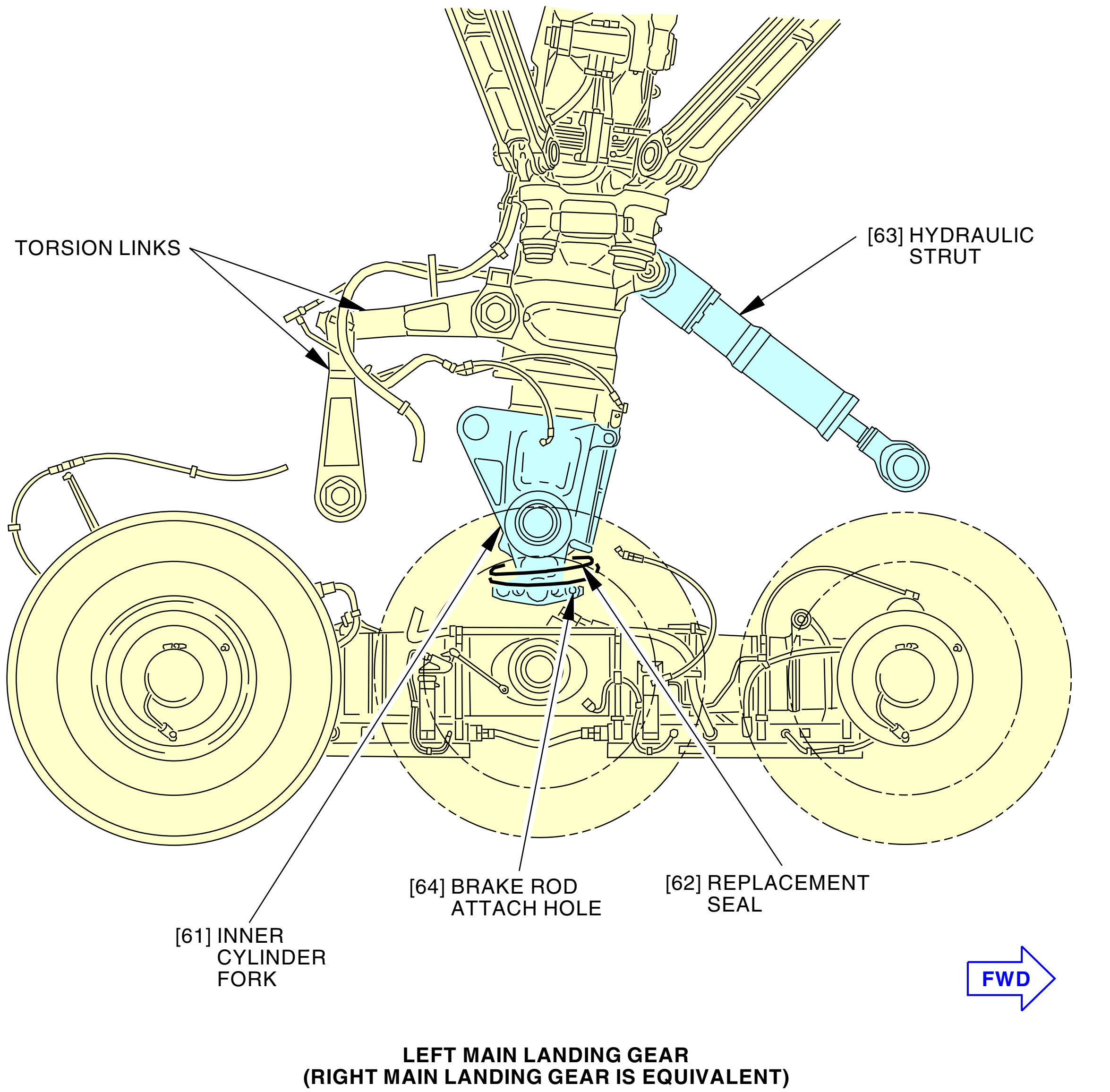
SUBTASK 32-11-25-480-033-002

(1) Remove all extra seals, that were not used, from the inner cylinder [7].

SUBTASK 32-11-25-410-003-002

(2) Do this task: Main Landing Gear Shock Strut Inner Cylinder with Truck Assembly Installation, TASK 32-11-24-420-801.

END OF TASK



Spare Seal Replacement
Figure 203/32-11-25-990-806-002

TASK 32-11-25-960-807-002

4. Replace the Active and the Spare Seals

(Figure 201)

A. General

(1) This procedure supplies instructions to install new dynamic seals, new static seals, and new spare seals.

NOTE: To do this procedure it is necessary to disassemble the inner and outer cylinder.

(2) Use this procedure when there are no spare seals available on the lower bearing carrier to replace the active seals, and you will install a new 3-piece active dynamic seal.

B. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-11-24-020-801	Main Landing Gear Shock Strut Inner Cylinder with Truck Assembly Removal (P/B 401)
32-11-24-420-801	Main Landing Gear Shock Strut Inner Cylinder with Truck Assembly Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1886	Installation Tool, MLG Seal Part #: 4769-0941-0180 Supplier: 26303
COM-1887	Installation Tool, MLG Seal Part #: 4769-0940-0180 Supplier: 26303
SPL-1844	Replacement Equipment, MLG Lower Bearing Seals Part #: J32082 **ECD JAN2019** Supplier: 81205 Part #: J32082-73 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
D00467	Fluid - Landing Gear Shock Strut	BMS3-32 Type II
D00589	Lubricant - Hydraulic Assembly - AFS-682	

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
13	Spare dynamic seal	32-11-01-01B-345	ARO ALL
14	Active dynamic seal	32-11-01-01B-320	ARO ALL
18	Spare static seal	32-11-01-01B-310	ARO ALL
19	Spare backup ring	32-11-01-01B-315	ARO ALL
26	Excluder	32-11-01-01B-305	ARO ALL

F. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

G. Prepare for the Replacement

SUBTASK 32-11-25-490-009-003

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-25-010-001-002

(2) Do this task: Main Landing Gear Shock Strut Inner Cylinder with Truck Assembly Removal, TASK 32-11-24-020-801.

SUBTASK 32-11-25-640-014-002

(3) Lubricate the replacement seals with fluid, D00467 or AFS-682 lubricant, D00589:

NOTE: Make sure your hands are clean when you handle the elastomer seals. Some greases can cause the elastomer seals to swell too much. This can cause the seals to leak.

(a) These are the seals that can be necessary:

1) 2 spare static seals

2) 2 spare dynamic seals

3) 1 active static seal

4) 1 active dynamic seal

5) 1 excluder.

(b) You can use the MLG seal installation tool, COM-1886 or MLG seal installation tool, COM-1887, to help install the seals on the carrier.

(c) You can use the seal replacement equipment, SPL-1844, to help replace the lower bearing seals.

H. Procedure to install a new active static seal, new spare static seals, new spare dynamic seals, a new active dynamic seal, a new excluder, and gland nut scraper ring.

SUBTASK 32-11-25-900-023-002

(1) Remove the lower bearing [11] from the inner cylinder [7] and move it to a work bench.

SUBTASK 32-11-25-900-024-002

(2) Install the new gland nut scraper ring [16] on the gland nut [17] if there is a sign of damage or wear:

NOTE: The gland nut scraper ring [16] prevents dirt and debris from entering the shock strut when the inner and outer cylinder compress.

(a) Remove the gland nut [17] from the inner cylinder [7].

(b) Remove the gland nut [17] from the gland nut retainer.

(c) Remove the old scraper ring [16] from its groove in the gland nut [17].

(d) Install the new scraper ring [16] in its groove in the gland nut [17].

(e) Put the gland nut [17] in the gland nut retainer.

CAUTION

MAKE SURE THAT THE CASTELLATED EDGE OF THE GLAND NUT POINTS DOWN WHEN YOU INSTALL THE GLAND NUT. IF YOU INSTALL THE GLAND NUT INCORRECTLY, THE STRUT WILL DEFLATE. A DEFLATED OR FLAT STRUT CAN CAUSE DAMAGE DURING LANDING.

(f) Install the gland nut [17] on the inner cylinder [7].

SUBTASK 32-11-25-900-025-002

(3) Install a new excluder [26] on the lower bearing [11] if there is a sign of damage or wear:

NOTE: The excluder [26] prevents grease from entering the shock strut when the gland nut [17] is lubricated at the zerk fitting.

(a) Remove the old excluder [26] from its groove in the lower bearing [11].

(b) Install the new excluder [26] in its groove in the lower bearing [11].

SUBTASK 32-11-25-900-026-002

(4) Install the new active dynamic seal [14] in the lower bearing [11]:

(a) Remove the retainer pins [46] from the spare seal carrier [12].

(b) Remove the spare seal carrier [12].

(c) Remove the old active dynamic seal [14] from the seal groove.

(d) Install the cap seal part of the new active dynamic seal [14] in its position in the bearing carrier.

(e) Install the elastomer ring part of the new active dynamic seal [14] on the cap seal.

(f) Apply a thin layer of fluid, D00467, or AFS-682 lubricant, D00589, to the active dynamic seal [14] to help keep the seal parts together.

NOTE: The AFS-682 lubricant, D00589, will help keep the seal rings in their position.

(g) Install the backup ring part of the new active dynamic seal [14] on the cap.

(h) Make sure the seal fits smoothly in its location.

1) Put the bulges on opposite side of the inside diameter of the carrier to make the installation easier.

SUBTASK 32-11-25-420-054-002

(5) Install the spare dynamic seals [13] and the spare spare backup rings [19]:

(a) Install the spare dynamic seals [13] on the spare seal carrier [12].

(b) Install the spare backup rings [19] between the spare dynamic seals [13] on the spare seal carrier [12] as shown on View E, Figure 201.

(c) Move the spare seal carrier [12] in its position in the lower bearing [11].

(d) Install the retainer pins [46] for the spare seal carrier [12] to connect the spare seal carrier [12] to the lower bearing [11].

1) Push the spare seal carrier [12] down as much as possible to make pin installation easier.

NOTE: The holes in the spare seal carrier are for venting purposes, when you install the retainer pins [46] in the lower bearing [11], the pins do not engage the holes in the spare seal carrier.

SUBTASK 32-11-25-900-027-002

(6) Replace the active static seal [15] with a new seal:

(a) Remove the two backup rings from around the active static seal [15].

(b) Make sure the backup rings are serviceable.

1) Replace the old backup rings with new backup rings if there are nicks, scratches or other damage.

NOTE: It is recommended to replace all the old back-up rings with new backup rings.

a) If new backup rings are not available, use the old back-up rings only after a full inspection.

(c) Cut the active static seal [15] from its groove in the lower bearing [11].

(d) Apply a thin layer of hydraulic fluid to the new spare static seal [18] and the backup rings.

NOTE: The AFS-682 lubricant, D00589, will help keep the backup rings in their positions.

(e) Install the spare static seal [18] and the backup rings in the static seal groove on the lower bearing carrier:

1) Wipe the spare static seal and the backup rings to remove unwanted hydraulic fluid and assembly lubricant.

2) Install the white backup rings on the spare static seal [18] with the rounded edge of the backup rings against the seal.

3) Install the black backup ring such that the splits of the black and the white backup rings are on opposite sides of the diameter of the carrier.

SUBTASK 32-11-25-900-028-002

(7) Install the new spare static seal [18] in the seal grooves on the lower bearing [11] as shown on View E, Figure 201.

SUBTASK 32-11-25-900-029-002

(8) Install the lower bearing [11]:

(a) Install the Seal Installation Mandrel, from seal replacement equipment, SPL-1844, on the inner cylinder [7], just above the chrome of the inner cylinder [7].

1) Lubricate the inner cylinder [7] and the seal installation mandrel with fluid, D00467.

CAUTION

MAKE SURE THAT THE BACKUP RINGS AND THE SEAL STAY TOGETHER WHEN YOU INSTALL THE SEAL. IF THE BACKUP RINGS AND THE SEAL MOVE APART, THEY WILL NOT INSTALL CORRECTLY. THIS CAN CAUSE DAMAGE TO THE SEAL AND THE BACKUP RINGS.

(b) Install the lower bearing [11] on the inner cylinder [7] and push it down as far as possible.

(c) Use the carrier ram, from seal replacement equipment, SPL-1844, to move the lower bearing [11] on the chrome of the inner cylinder [7].

(d) Move the lower bearing [11] down to the bottom of the inner cylinder [7].

SUBTASK 32-11-25-020-085-002

(9) Remove the seal installation mandrel from the inner cylinder [7].

SUBTASK 32-11-25-020-086-002

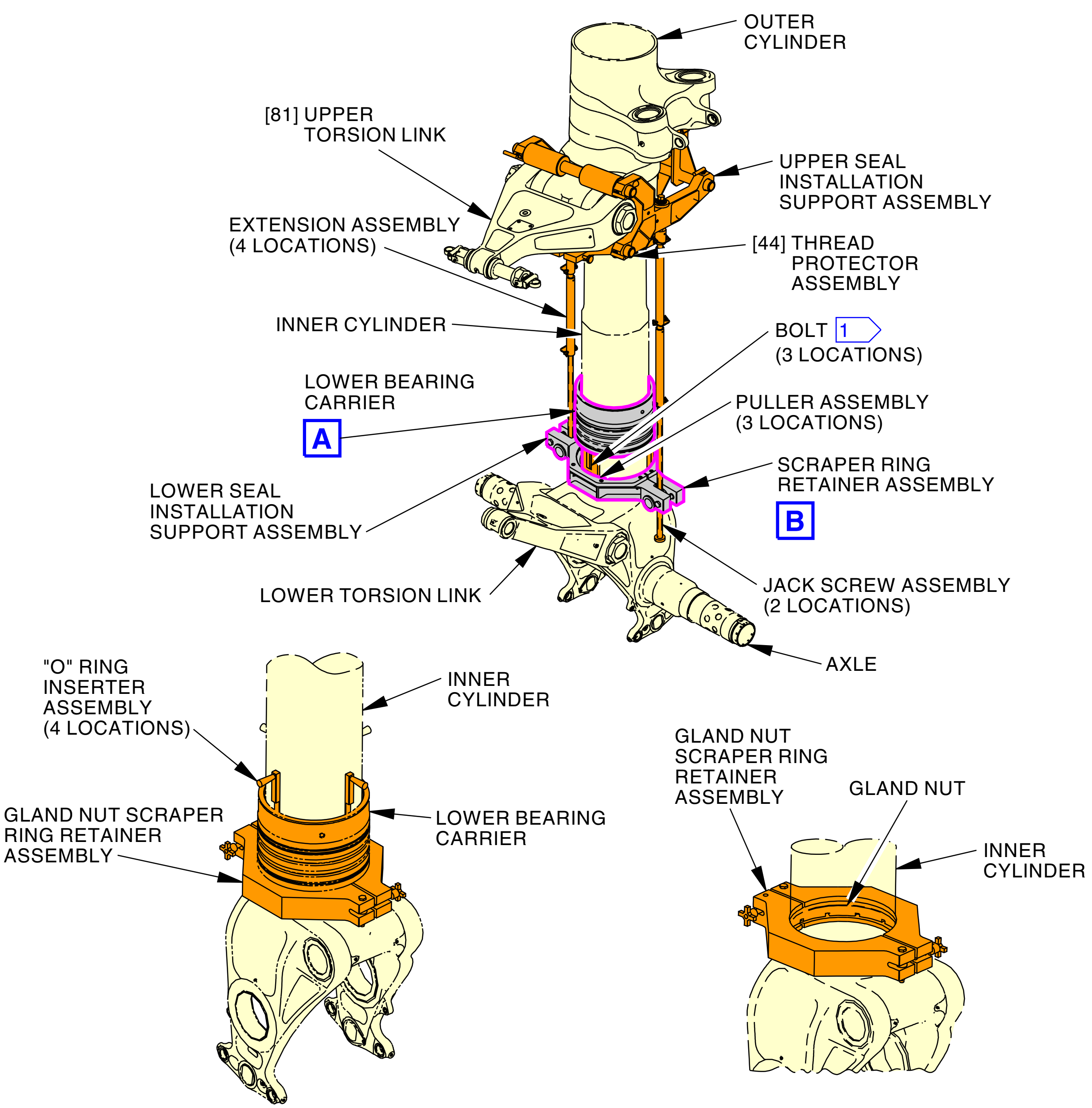
(10) Install the spacer [10] on the inner cylinder [7] and on top of the lower bearing [11].

I. Put the Airplane Back to Its Usual Condition

SUBTASK 32-11-25-010-002-002

(1) Do this task: Main Landing Gear Shock Strut Inner Cylinder with Truck Assembly Installation, TASK 32-11-24-420-801.

END OF TASK



LOWER BEARING CARRIER
("O" RING INSTALLATION)
A

SCRAPER RING RETAINER ASSEMBLY
(SCRAPER RING RETENTION)
B

1 CONNECTED TO BOTTOM OF LOWER BEARING CARRIER

U54763 S0000196492_V3

Main Landing Gear Lower Bearing Seals Replacement Equipment
Figure 204/32-11-25-990-815

MAIN LANDING GEAR SHOCK STRUT SEALS - INSPECTION/CHECK

1. General

   A. This procedure provides instructions to check the main landing gear shock struts for hydraulic leaks.

TASK 32-11-25-200-802

2. Main Landing Gear Shock Strut Seal Leakage Check

   A. General

      (1) This task gives the instructions to make sure a shock strut is serviceable when you find fluid leakage on the inner cylinder.

         NOTE: During the initial landing cycles of a new landing gear it is usual to have hydraulic fluid streaks on the shock strut. These streaks are caused by hydraulic fluid applied to the shock strut seals during seal installation and will stop after more landing cycles occur. These streaks are different from the actual continuous drips that are the indication of shock strut seal leakage.

      (2) It is acceptable to operate the aircraft with a missing section of the energizer ring or other damage to the scraper ring. The scraper ring should be replaced with a new solid scraper ring or split scraper ring at the earliest maintenance opportunity to avoid excessive damage to the dynamic seal. If you do not have a split scraper ring available, you can cut a solid scraper ring or the damaged scraper ring to re-install it (TASK 32-11-25-960-808).

         NOTE: The installation of a split scraper ring is also a temporary repair and should also be replaced at the earliest maintenance opportunity.

   B. References

Reference	Title
05-51-01-210-801	Phase IA Inspection (P/B 201)
05-51-01-210-803-002	Phase I Inspection (P/B 201)
09-11-00-580-801	Maintenance Towing (P/B 201)
12-15-01-610-809	Main Landing Gear Shock Strut Fluid Check (P/B 301)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-11-25-960-808	Replace the Gland Nut Scraper Ring (P/B 801)

   C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

   D. Shock Strut Seal Leak Inspection

SUBTASK 32-11-25-480-024

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

      (1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-25-210-007

(2) Inspect the shock struts for leakage.

SUBTASK 32-11-25-210-008

(3) If you find leakage of the shock strut fluid on the inner cylinder, do the steps that follow to make sure the shock strut is serviceable:

(a) Check for leaks for 5 minutes:

1) Wipe the surface of the inner cylinder with a clean cloth to remove all of the fluid from the leak.

2) Monitor the inner cylinder where it meets the outer cylinder for 5 minutes.

NOTE: Make sure the extension of the inner cylinder does not change during this time.

3) Make a record of the location and the number of drops which come from the seals during the 5 minutes.

(b) Tow the airplane to cause movement between the inner cylinder and the outer cylinder, do this task: Maintenance Towing, TASK 09-11-00-580-801.

NOTE: The minimum distance the airplane must be moved is two airplane lengths.

(c) Check for leaks for 5 minutes:

1) Wipe the surface of the inner cylinder with a clean cloth to remove all of the fluid from the leak.

2) Monitor the inner cylinder where it meets the outer cylinder for 5 minutes.

NOTE: Make sure the extension of the inner cylinder does not change during this time.

3) Make a record of the location and the number of drops which come from the seals during the 5 minutes.

(d) Calculate the average of the number of drops which came from the seals during both of the 5 minute measurements.

SUBTASK 32-11-25-210-009

(4) If the leakage stopped, do the steps that follow:

(a) Continue to monitor the strut for leakage on subsequent landings.

1) If you see more signs of leakage, do the entire leak check procedure again.

NOTE: If you find a continuous leakage flow on subsequent landings the shock strut is not serviceable.

CAUTION A DEFLATED OR FLAT STRUT CAN CAUSE DAMAGE DURING LANDING. IF THE AIRPLANE LANDED WITH A DEFLATED OR FLAT STRUT, DO HARD LANDING INSPECTION PER AMM 05-51-01/201 TO MAKE SURE THERE IS NO DAMAGE.

(b) If you do not find leakage on subsequent landings, examine the fluid level of the shock strut within 5 days or 15 flight cycles, (TASK 12-15-01-610-809).

NOTE: If the leakage has stopped, there is no addition action necessary.

1) If the shock strut is deflated or flat, do this task: Phase IA Inspection, TASK 05-51-01-210-801 or Phase I Inspection, TASK 05-51-01-210-803-002.

SUBTASK 32-11-25-210-010

(5) If there was leakage but the average was less than 50 drops during the two 5 minute periods, do the steps that follow:

NOTE: 20 drops is equal to 1.0 cc.

(a) Continue to monitor the strut for leakage on subsequent landings until you replace the seals.

1) If the leakage continues or increases, do the entire seal leak check procedure again.

CAUTION	A DEFLATED OR FLAT STRUT CAN CAUSE DAMAGE DURING LANDING. IF THE AIRPLANE LANDED WITH A DEFLATED OR FLAT STRUT, DO HARD LANDING INSPECTION PER AMM 05-51-01/201 TO MAKE SURE THERE IS NO DAMAGE.

(b) If you do not find leakage on subsequent landings, examine the fluid level of the shock strut within 3 days or 10 flight cycles, (TASK 12-15-01-610-809).

1) If the shock strut is deflated or flat, do this task: Phase IA Inspection, TASK 05-51-01-210-801 or Phase I Inspection, TASK 05-51-01-210-803-002.

(c) Continue to monitor the fluid level of the shock strut at no more than 5 day or 15 flight cycle intervals, until you replace the seals, (TASK 12-15-01-610-809).

SUBTASK 32-11-25-210-011

(6) If the average leakage was more than 50 drops during the two 5 minute periods, but was not continuous, do the steps that follow:

NOTE: 20 drops is equal to 1.0 cc.

CAUTION	A DEFLATED OR FLAT STRUT CAN CAUSE DAMAGE DURING LANDING. IF THE AIRPLANE LANDED WITH A DEFLATED OR FLAT STRUT, DO THE LANDING INSPECTION PER AMM 05-51-01/201 TO MAKE SURE THERE IS NO DAMAGE.

(a) Do this task: Main Landing Gear Shock Strut Fluid Check, TASK 12-15-01-610-809.

1) If the shock strut is deflated or flat, do this task: Phase IA Inspection, TASK 05-51-01-210-801 or Phase I Inspection, TASK 05-51-01-210-803-002.

(b) Continue to monitor the fluid level of the shock strut after each flight until you replace the seals.

SUBTASK 32-11-25-210-012

(7) If the fluid leaked continuously during the 5 minute period, the shock strut is not serviceable and you must replace the shock strut seals.

END OF TASK

MAIN LANDING GEAR SHOCK STRUT SEALS - REPAIRS

1. **General**
   A. This procedure provides instructions to disconnect the gland nut to replace or repair a damaged scraper ring.
   B. Make sure all working areas, tools, and your hands are clean when you handle the scraper ring.

TASK 32-11-25-960-808

2. **Replace the Gland Nut Scraper Ring**
   (Figure 801)

   A. **General**
      (1) This task provided instructions to replace a damaged gland nut scraper ring with a split scraper ring.
      (2) If you do not have a split scraper ring available, you can cut the damaged scraper ring and re-install it for a limited amount of time.
      (3) It is acceptable to operate the aircraft with a missing section of the energizer ring or other damage to the scraper ring. The scraper ring should be replaced with a new solid scraper ring or split scraper ring at the earliest maintenance opportunity to avoid excessive damage to the dynamic seal. If you do not have a split scraper ring available, you can cut a solid scraper ring or the damaged scraper ring to re-install it.

      NOTE: The installation of a split scraper ring is also a temporary repair and should also be replaced when the main landing gear is disassembled for other maintenance or overhaul.

   B. **References**

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-15-01-610-810	Main Landing Gear Shock Strut Servicing (P/B 301)
20-11-00-910-801	Standard Torque Values (P/B 201)
32-00-10-100-802	Landing Gear Inner Cylinder Chrome Cleaning (P/B 701)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-45-01-000-801	Main Landing Gear Wheel and Tire Assembly Removal (P/B 401)
32-45-01-400-801	Main Landing Gear Wheel and Tire Assembly Installation (P/B 401)
32-45-07-000-801	Main Landing Gear Brake Removal (P/B 401)
32-45-07-400-801	Main Landing Gear Brake Installation (P/B 401)

   C. **Tools/Equipment**

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-4250	Wrench - Support, MLG Gland Nut Part #: A32045-110 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
A00226	Compound - Tamper-Proof Putty	BMS8-45
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00467	Fluid - Landing Gear Shock Strut	BMS3-32 Type II
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
16	Scraper ring	32-11-01-01B-300	ARO ALL

F. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

G. Prepare for the Procedure

SUBTASK 32-11-25-490-004

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-25-490-005

(2) Lift the airplane a small amount to set the jacks properly and to keep the airplane level when the shock strut is deflated, (TASK 07-11-01-580-804).

SUBTASK 32-11-25-020-087

WARNING DO NOT REMOVE THE VALVE BODY UNLESS YOU DEFLATE THE SHOCK STRUT FULLY. THE AIR PRESSURE CAN BLOW THE VALVE BODY OUT AND CAUSE INJURY TO PERSONS.

(3) Deflate the shock strut [1] for the main landing gear:

(a) Remove the cap [3] for the air valve [2].

(b) Loosen the air valve swivel nut [4] a maximum of two turns to deflate the shock strut.

NOTE: Fluid in the shock strut [1] will have bubbles when you release the pressure. Deflate the shock strut slowly to prevent the leakage of the fluid through the air valve.

SUBTASK 32-11-25-020-088

(4) Remove the wheel and tire assemblies from the center axle to get better access to the gland nut [17], do this task: Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-01-000-801.

SUBTASK 32-11-25-020-089

(5) Do this task: Main Landing Gear Brake Removal, TASK 32-45-07-000-801.

SUBTASK 32-11-25-020-090

(6) Disconnect the gland nut [17] from the outer cylinder [8]:

(a) Remove the bolts [20], washers [21], and nuts [22] for the lockplate [24] to release the gland nut [17].

(b) Use the MLG gland nut spanner wrench, SPL-4250 to disconnect the gland nut [17] from the outer cylinder [8].

(c) Move the gland nut [17] down the inner cylinder [7].

SUBTASK 32-11-25-020-091

(7) Remove the damaged scraper ring [16] from the gland nut [17].

SUBTASK 32-11-25-020-092

(8) Apply fluid, D00467 to the new split scraper ring [16].

SUBTASK 32-11-25-020-093

(9) Install the new split scraper ring [16] in the gland nut [17].

(a) If you do not have a split scraper ring [16], you can cut the damaged scraper ring to re-install it.

NOTE: This is a temporary fix only. The damaged scraper ring should be replaced with a split or solid scraper ring at the earliest opportunity.

(b) If you will operate the aircraft with a damaged scraper ring, before each flight and until a new scraper ring is installed, do this task: Landing Gear Inner Cylinder Chrome Cleaning, TASK 32-00-10-100-802.

SUBTASK 32-11-25-640-015

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(10) Apply a thin layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the threads and the thread relief of the gland nut [17].

SUBTASK 32-11-25-420-055

(11) Install the gland nut [17]:

(a) Move the gland nut [17] up to the outer cylinder [8] and engage the gland nut threads.

(b) Use the MLG gland nut spanner wrench, SPL-4250, for the gland nut [17] to tighten the gland nut between 230 ft-lb (312 N·m) to 260 ft-lb (353 N·m).

SUBTASK 32-11-25-420-056

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(12) Install the lockplate [24] for the gland nut [17]:

(a) Apply a thin layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the shank and threads of bolts [20] and to washers [21].

(b) Install the lockplate [24] in the holes which will put the tab of the lockplate [24] as close to a slot in the gland nut [17] as possible.

NOTE: If it is necessary, loosen the gland nut [17] a small amount to help with the alignment.

(c) Install the bolts [20], washers [21] and nuts [22]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

(d) Apply compound, A00226, View B-B (Figure 801).

NOTE: Apply it to make sure the seal made by the compound, A00226, must break if the bolts [20] are loosened.

SUBTASK 32-11-25-020-094

(13) Do this task: Main Landing Gear Brake Installation, TASK 32-45-07-400-801.

SUBTASK 32-11-25-020-095

(14) Do this task: Main Landing Gear Wheel and Tire Assembly Installation, TASK 32-45-01-400-801.

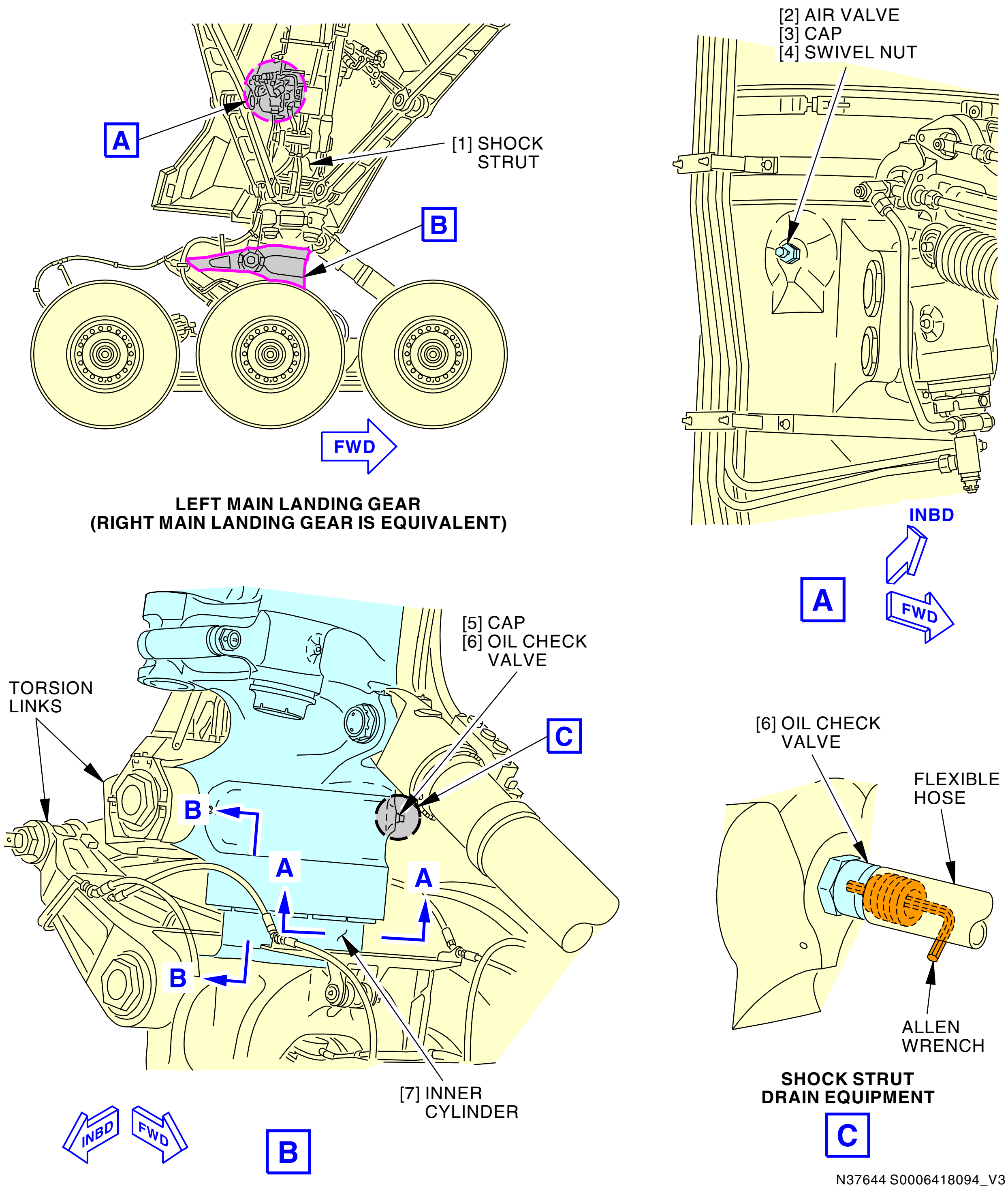
SUBTASK 32-11-25-090-002

(15) To lower the airplane and remove the jacks, do this task: Lower the Airplane Off of the Jacks, TASK 07-11-01-580-805.

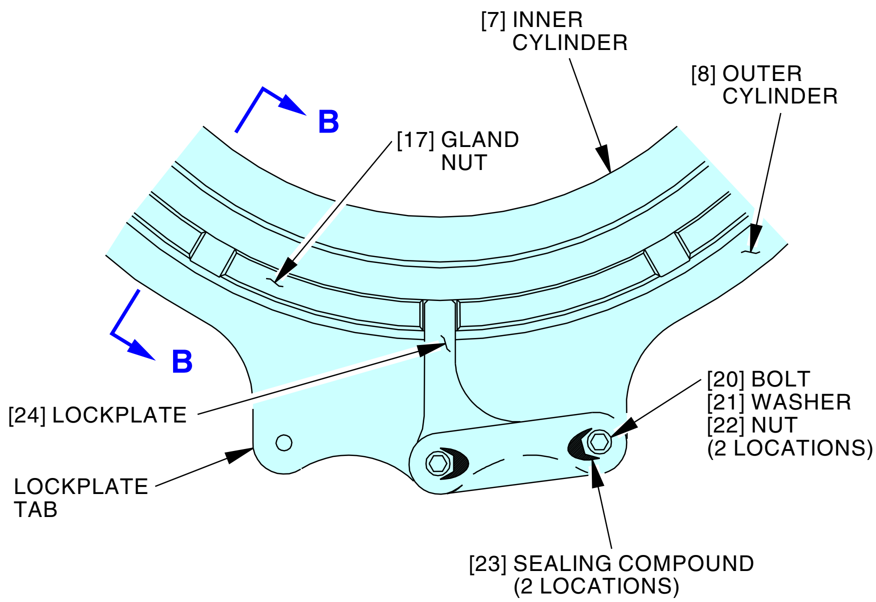
SUBTASK 32-11-25-600-007

(16) Do this task: Main Landing Gear Shock Strut Servicing, TASK 12-15-01-610-810.

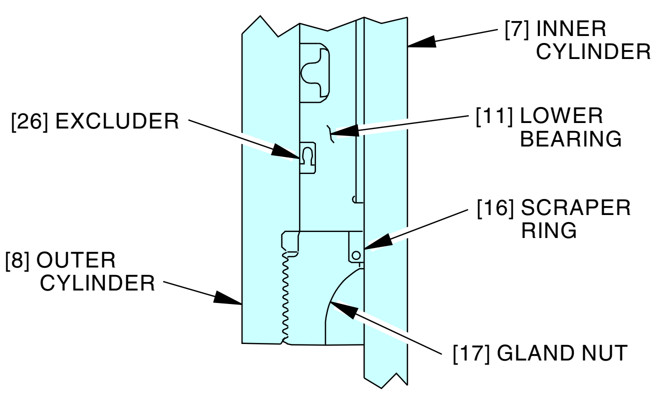
END OF TASK



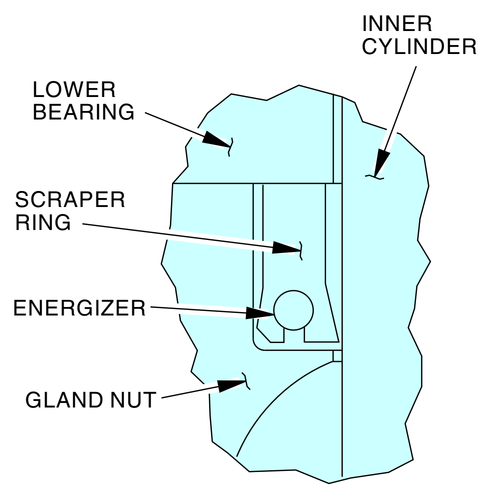
MLG Scraper Ring Repair
Figure 801/32-11-25-990-808 (Sheet 1 of 2)



A-A



B-B



SCRAPER RING

D

N37648 S0006418095_V3

MLG Scraper Ring Repair
Figure 801/32-11-25-990-808 (Sheet 2 of 2)

MAIN LANDING GEAR AXLE - REMOVAL/INSTALLATION

1. **General**

A. This procedure has these tasks:

(1) A removal of the forward axle for the main landing gear.

(2) An installation of the forward axle for the main landing gear.

(3) A removal of the center axle for the main landing gear.

(4) An installation of the center axle for the main landing gear.

(5) A removal of the aft axle for the main landing gear.

(6) An installation of the aft axle for the main landing gear.

TASK 32-11-26-000-801

2. **Main Landing Gear Forward Axle Removal**

(Figure 401)

A. **General**

(1) This procedure removes the forward axle for the main landing gear.

B. **References**

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-42-05-020-801	In-Axle Assembly Removal (P/B 401)
32-45-07-000-801	Main Landing Gear Brake Removal (P/B 401)

C. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2556	Equipment - Puller, Brake Sleeve Part #: J32010**ECD JAN2019** Supplier: 81205 Part #: J32010-106 Supplier: 81205

D. **Location Zones**

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for the Removal

SUBTASK 32-11-26-490-003

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-26-490-004

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-26-860-001

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

F. Main Landing Gear Forward Axle Removal

SUBTASK 32-11-26-860-002

(1) Lift the airplane with jacks until the forward axle wheels are above the ground, (TASK 07-11-01-580-804).

SUBTASK 32-11-26-020-001

(2) For the forward axle, do this task: Main Landing Gear Brake Removal, TASK 32-45-07-000-801.

NOTE: This procedure will also remove the wheel and tire assemblies.

SUBTASK 32-11-26-860-003

(3) Do this task: In-Axle Assembly Removal, TASK 32-42-05-020-801.

SUBTASK 32-11-26-400-001

(4) Attach a label to the wires to indicate the left and the right sensor connectors.

SUBTASK 32-11-26-020-002

(5) Disconnect the electrical connector [5] for the wiring for the forward axle [7].

SUBTASK 32-11-26-020-017

(6) Pull the wiring completely out of the forward axle [7].

SUBTASK 32-11-26-400-002

(7) Make sure you attach a label to the wires to indicate the left and the right sensor connectors.

SUBTASK 32-11-26-020-003

(8) Remove the feed through assembly [4]:

(a) Remove the nut [12] from the feed through assembly [4].

(b) Push the feed through assembly [4] completely into the forward axle [7].

SUBTASK 32-11-26-860-004

(9) Remove the wiring clamps [1] from the forward axle [7].

NOTE: The clamp [1] is the band clamp that is around the forward axle.

SUBTASK 32-11-26-860-005

(10) Remove the spacers [2] from the forward axle [7].

SUBTASK 32-11-26-860-006

(11) Remove the brake sleeves [3] from the forward axle [7].

(a) Use the main landing gear brake sleeve puller equipment, SPL-2556, to remove the brake sleeve if it is difficult to remove.

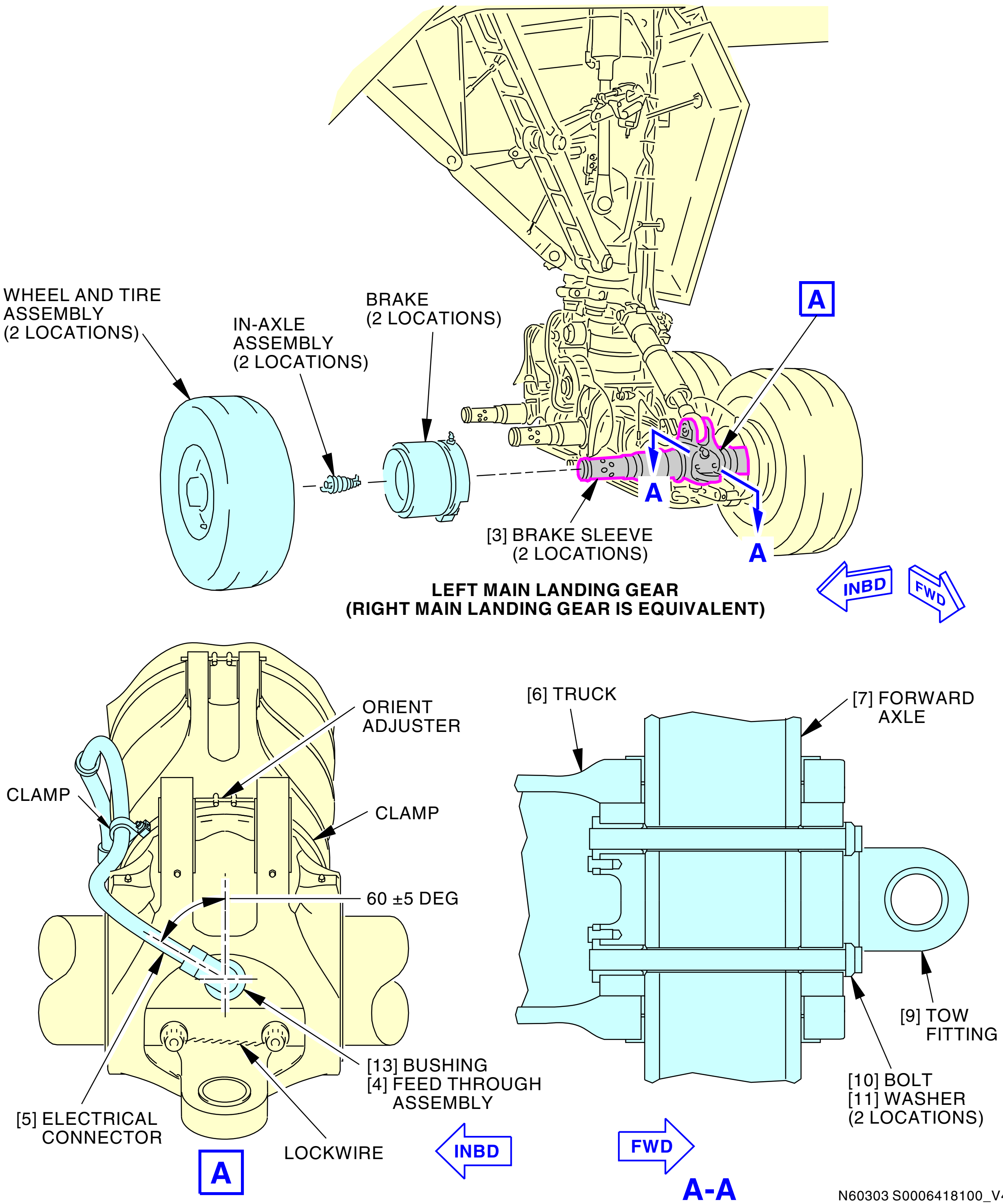
SUBTASK 32-11-26-860-007

(12) Remove the bolts [10] and the washers [11] to disconnect the forward axle [7] from the tow fitting [9] and the truck [6].

SUBTASK 32-11-26-860-008

(13) Remove the forward axle [7].

END OF TASK



Main Landing Gear Forward Axle Installation
Figure 401/32-11-26-990-801

TASK 32-11-26-400-801

3. Main Landing Gear Forward Axle Installation

(Figure 401)

A. References

Reference	Title
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-42-05-400-801	In-Axle Assembly Installation (P/B 401)
32-45-07-400-801	Main Landing Gear Brake Installation (P/B 401)
SWPM 20-20-00	Standard Wiring Practices Manual

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meters - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: T477W Supplier: 01014 Opt Part #: M1B Supplier: 3AD17

C. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
D50004	Compound - Antiseize	BMS3-28
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995
G01314	Tape - 3M Polyester Film Tape 8412	
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
7	Forward axle	32-11-18-01A-375	ARO ALL

E. Location Zones

Zone	Area
731	Left Main Landing Gear

(Continued)

Zone	Area
741	Right Main Landing Gear

F. Main Landing Gear Forward Axle Installation

SUBTASK 32-11-26-420-024

(1) Make sure the tow fitting [9] is in its position in the truck [6].

SUBTASK 32-11-26-420-001

(2) Install the forward axle [7] for the main landing gear:

(a) Lubricate the forward axle [7] with grease, D00013 or grease, D00633 to make installation of the axle easier.

(b) Install the forward axle [7] in the truck [6] and tow fitting [9] until it is in its correct position.

1) Make sure the key slots in the forward axle [7] are pointed up and the feed through assembly hole aligns correctly with the holes in the tow fitting [9].

SUBTASK 32-11-26-420-002

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) Connect the tow fitting [9] to the forward axle [7]:

(a) Lubricate the mating surfaces of the bolts [10] and washers [11] with Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913.

(b) Install the washers [11] on the bolts [10].

(c) Install the bolts [10] to connect the tow fitting [9] to the forward forward axle [7].

(d) Tighten the bolts [10] to 200.0 in-lb (22.6 N·m) - 300.0 in-lb (33.9 N·m).

(e) Install MS20995C32 lockwire, G01048 on the bolts [10].

(f) Apply a fillet seal around the bolts [10] heads with sealant, A00247.

(g) Fill the slot in the bottom of the tow fitting [9] with sealant, A00247 to a depth of 0.25 in. (6.35 mm) - 0.5 in. (12.7 mm).

(h) Apply a fillet seal [8] between the truck [6] and the tow fitting [9] with sealant, A00247.

SUBTASK 32-11-26-420-023

(4) Install the feed through assembly [4]:

(a) Apply sealant, A00247 to the shaft of the feed through assembly [4] and face of the contoured washer.

NOTE: The contoured washer is part of the feed through assembly [4].

(b) Do not get any sealant, A00247 on the threads of the feed through assembly [4].

(c) Install the feed through assembly [4] in the forward axle [7].

NOTE: The feed through assembly [4] is installed from the inside of the axle, pointing out.

(d) Use a piece of string, through the feed through assembly [4] hole in the axle and out the end of the axle, to help install the feed through assembly [4].

(e) Apply compound, D50004 to the threads of the feed through assembly [4].

(f) Clean the mating surfaces of the nut [12] and the bushing [13].

(g) Turn the feed through assembly [4] until the contoured washer on the feed through assembly is completely against the inner surface of the forward forward axle [7].

NOTE: The two notches on the end of the feed through assembly will align forward to aft.

(h) Install the nut [12] on the feed through assembly [4].

(i) Tighten the nut [12] to 40 ft-lb (54 N·m) - 50 ft-lb (68 N·m).

(j) Apply a fillet seal between the nut [12] and the feed through assembly [4] with sealant, A00247.

SUBTASK 32-11-26-420-003

(5) Install the wiring assembly:

(a) Push the wiring in the forward axle [7], through the hole in the tow fitting [9].

(b) Install the electrical connector [5] for the wiring on the feed through assembly [4].

(c) Make sure that the electrical connector [5] is at the angle as shown in Figure 401.

(d) Tighten the electrical connector [5] to 165 in-lb (19 N·m) - 195 in-lb (22 N·m).

(e) Do a check of the resistance between the electrical connector [5] and the feed through assembly [4] with a intrinsically safe approved bonding meter, COM-1550.

NOTE: (SWPM 20-20-00) has instructions for measuring the bonding resistance.

(f) Make sure that the resistance is less than 0.015 ohms.

(g) Install MS20995C32 lockwire, G01048 on the electrical connector [5].

SUBTASK 32-11-26-420-004

(6) Install the spacers [2] for the forward axle [7].

SUBTASK 32-11-26-420-005

(7) Make sure there are two layers of 3M 8412 tape, G01314 where you will put the wiring clamp [1].

SUBTASK 32-11-26-420-006

(8) Install the wiring clamps [1] for the forward axle [7].

SUBTASK 32-11-26-640-001

(9) Install the brake sleeves [3]:

(a) Lubricate the inner diameter of the brake sleeves [3] with grease, D00013 or grease, D00633.

(b) Install the brake sleeves [3] from the forward axle [7].

(c) Remove all unwanted grease.

SUBTASK 32-11-26-420-007

(10) For the forward axle, do this task: In-Axle Assembly Installation, TASK 32-42-05-400-801.

SUBTASK 32-11-26-420-008

(11) For the forward axle, do this task: Main Landing Gear Brake Installation, TASK 32-45-07-400-801.

NOTE: This procedure will also install the wheel and tire assemblies and test the brakes and brake temperature sensors.

(12) Make sure you connect the correct wires to the correct in-axle assembly.

SUBTASK 32-11-26-080-001

(13) Do this task: Lower the Airplane Off of the Jacks, TASK 07-11-01-580-805.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-11-26-410-001

WARNING: OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

TASK 32-11-26-000-802

4. Main Landing Gear Center Axle Removal

(Figure 402)

A. General

(1) This procedure removes the center axle for the main landing gear.

B. References

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
07-11-03-580-801	Lift the Airplane with Axle Jacks (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-42-05-020-801	In-Axle Assembly Removal (P/B 401)
32-45-07-000-801	Main Landing Gear Brake Removal (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-11243	Jack - Axle, MLG & NLG Part #: 2295-10PR Supplier: 00994 Part #: 95P10AR Supplier: 94861 Part #: RT7750 Supplier: D2029 Opt Part #: 2285-10PR Supplier: 00994
SPL-1853	Retainer Equipment, MLG/NLG Torsion Link Part #: J32054-91 Supplier: 81205 Part #: J32054-92 Supplier: 81205

(Continued)

Reference	Description
SPL-2556	Equipment - Puller, Brake Sleeve Part #: J32010**ECD JAN2019** Supplier: 81205 Part #: J32010-106 Supplier: 81205
STD-3842	Punch - Drift

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for the Removal

SUBTASK 32-11-26-490-001

> **WARNING**
> MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-26-490-002

> **WARNING**
> OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-26-860-009

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-11-26-020-004

> **WARNING**
> DO NOT REMOVE THE VALVE BODY UNTIL YOU DEFLATE THE SHOCK STRUT FULLY. THE AIR PRESSURE CAN BLOW THE VALVE BODY OUT AND CAUSE INJURIES TO PERSONNEL.

(4) Deflate the shock strut [34] for the main landing gear:

(a) Remove the cap [31] for the air valve [32].

(b) Loosen the air valve swivel nut [33] a maximum of two turns.

NOTE: Fluid in the shock strut [34] will have bubbles when you release the pressure. Deflate the shock strut [34] slowly to prevent the leakage of the fluid through the air valve [32].

1) If necessary, attach a hose to the air valve [32] and route the hose to a container to catch any fluid that may escape.

(c) Loosen the air valve swivel nut [33] fully when all of the pressure in the shock strut [34] is released.

1) The air valve [32] should remain open throughout the remainder of this task.

NOTE: If the air valve [32] is closed, it is possible for the shock strut [34] to repressurize as the nitrogen comes out of solution.

SUBTASK 32-11-26-860-010

(5) To lift the airplane with jacks until the center wheels are above the ground, do this task: Lift the Airplane with Jacks, TASK 07-11-01-580-804.

NOTE: The truck assembly is curved such that the center tires will leave the ground before the forward or aft tires when the airplane is lifted.

F. Main Landing Gear Center Axle Removal

SUBTASK 32-11-26-020-005

(1) For the center axle, do this task: Main Landing Gear Brake Removal, TASK 32-45-07-000-801.

NOTE: This procedure will also remove the wheel and tire assemblies.

SUBTASK 32-11-26-020-006

(2) If the in-axle assembly is installed in the center axle, do this task: In-Axle Assembly Removal, TASK 32-42-05-020-801.

SUBTASK 32-11-26-400-003

(3) Attach a label to the wires to indicate the left and the right sensor connectors.

SUBTASK 32-11-26-020-007

(4) Remove the brake sleeves [3] from the center axle [39].

(a) Use the main landing gear brake sleeve puller equipment, SPL-2556, to remove the brake sleeves [3] if it is difficult to remove.

SUBTASK 32-11-26-020-008

(5) Disconnect the electrical connector (coupling type) [35] for the center axle pin [38].

SUBTASK 32-11-26-020-009

(6) Pull the wiring completely out of the center axle [39].

(7) Make sure you attach a label to the wiring to indicate the left and the right connectors.

SUBTASK 32-11-26-020-010

(8) Remove the pin lock bolt [37] to disconnect the center axle pin [38] from the truck [6].

(a) If necessary, lift the front of MLG truck [6], as required, with an axle jack, COM-11243 to gain enough clearance between center axle pin [38] and the inner cylinder [36].

SUBTASK 32-11-26-020-011

(9) Remove the center axle pin [38] to disconnect the center axle [39] from the truck [6].

(10) Check that the bushing in the center axle [39] is flush with the axle outer-diameter.

(a) If bushing has moved, use a drift punch, STD-3842 to reset the bushing flush with the axle outer diameter.

SUBTASK 32-11-26-860-011

(11) To lift the forward and aft ends of the truck [6] with axle jacks until the shock strut is compressed approximately 6 in. (152 mm), do this task: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801.

SUBTASK 32-11-26-480-001

(12) Install the retainer equipment, SPL-1853, for the main landing gear shock strut [34] to hold it in the compressed position.

SUBTASK 32-11-26-860-012

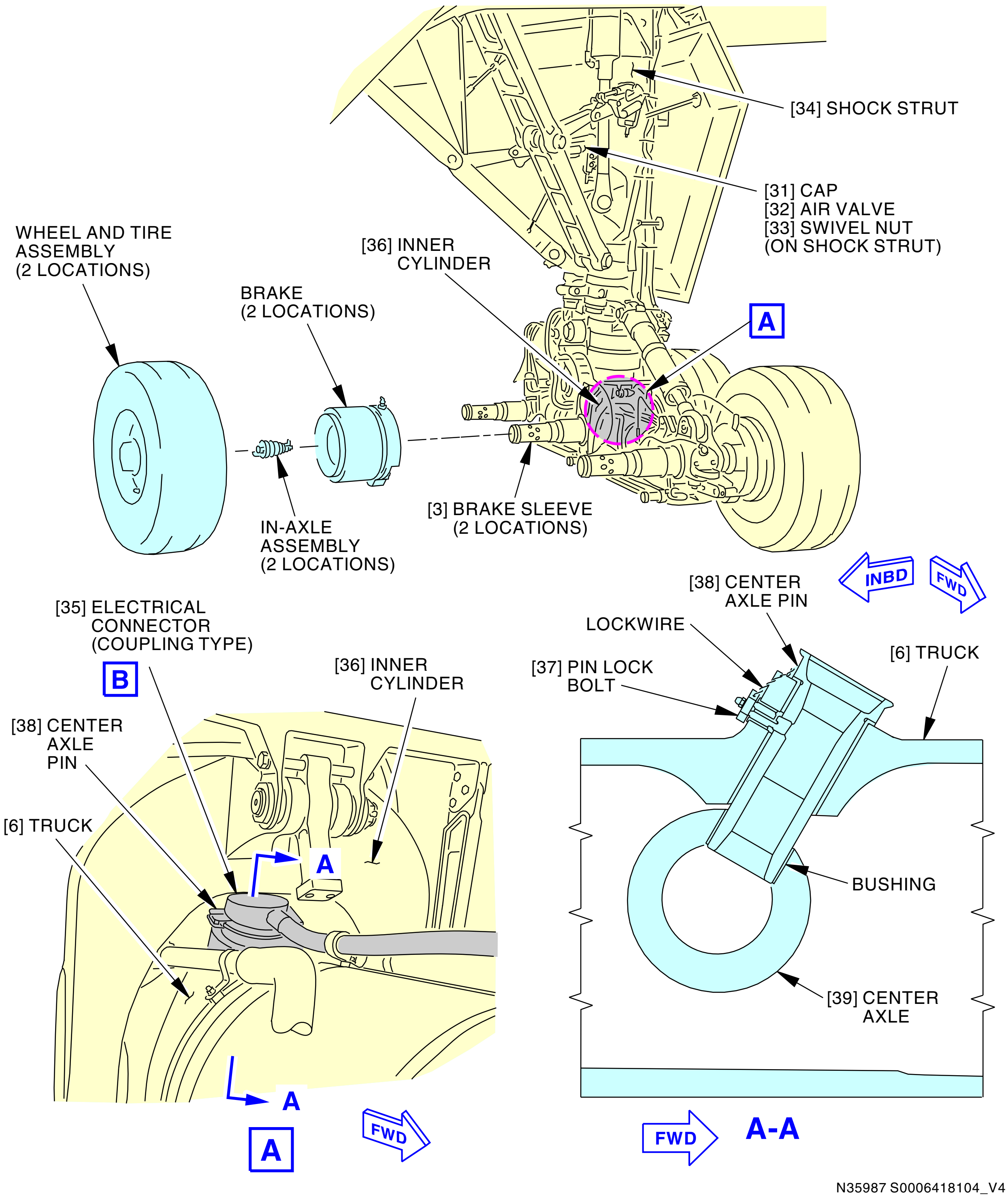
(13) With the axle jacks, lower the truck [6] until the center axle [39] is free to move.

NOTE: The weight of the inner cylinder [36] will be held by the retainer equipment, SPL-1853, and the weight of the truck [6] will be held by the axle jacks.

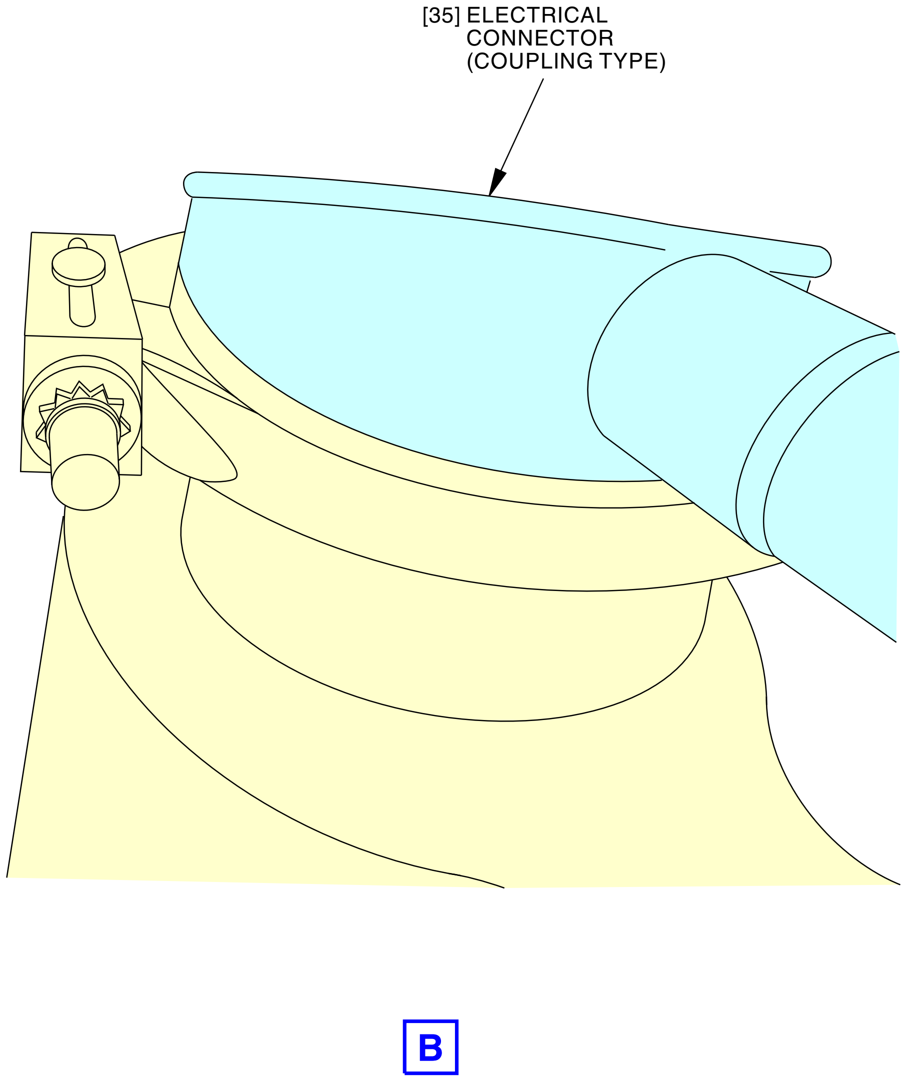
SUBTASK 32-11-26-020-012

(14) Remove the center axle [39].

END OF TASK



Main Landing Gear Center Axle Installation
Figure 402/32-11-26-990-802 (Sheet 1 of 2)



Main Landing Gear Center Axle Installation
Figure 402/32-11-26-990-802 (Sheet 2 of 2)

TASK 32-11-26-400-802

5. Main Landing Gear Center Axle Installation

(Figure 402)

A. References

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-15-01-610-810	Main Landing Gear Shock Strut Servicing (P/B 301)
12-21-14-640-806-002	Lower Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-42-05-400-801	In-Axle Assembly Installation (P/B 401)
32-45-07-400-801	Main Landing Gear Brake Installation (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1853	Retainer Equipment, MLG/NLG Torsion Link Part #: J32054-91 Supplier: 81205 Part #: J32054-92 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
D50255	Grease - Aircraft And Instrument	MIL-PRF-32014
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Main Landing Gear Center Axle Installation

SUBTASK 32-11-26-420-026

(1) Install the center axle [39] for the main landing gear:

(a) Lift or lower the truck [6] to align the hole for the center axle in the truck [6] with the hole for the center axle in the inner cylinder [36] (Lift the Airplane with Jacks, TASK 07-11-01-580-804).

(b) Lubricate the center axle [39] with grease, D50255 to make installation of the axle easier.

(c) Push the center axle [39] in the truck [6] and inner cylinder [36] until it is in its correct position.

1) Make sure the key slots in the center axle [39] are pointed up and the wiring hole in the axle aligns with the wiring hole in the truck [6].

SUBTASK 32-11-26-420-010

(2) Connect the truck [6] to the center axle [39]:

(a) Lubricate the mating surfaces of the center axle center axle pin [38] with grease, D00013 or grease, D00633.

(b) Install the center axle center axle pin [38] to connect the truck [6] to the center axle [39].

(c) Lubricate the mating surfaces of the pin lock bolt [37] with grease, D00013 or grease, D00633.

(d) Install the pin lock bolt [37] to connect the center axle center axle pin [38] to the truck [6].

(e) Tighten the pin lock bolt [37] to 10 ft-lb (13.6 N·m) to 20 ft-lb (27.1 N·m).

(f) Install MS20995C32 lockwire, G01048 on the pin lock bolt [37].

SUBTASK 32-11-26-640-004

(3) Lubricate the center axle [39], with grease, D50255, at the lube point on the fork of the inner cylinder [36] (Lower Main Landing Gear and Actuating Mechanisms Lubrication, TASK 12-21-14-640-806-002).

(a) Lubricate the joint until all of the grease, grease, D00013, has been forced out.

SUBTASK 32-11-26-420-011

(4) Do these steps to install the wiring assembly:

(a) Push the wiring in the center axle [39], through the hole in the center axle center axle pin [38].

(b) Install the electrical connector (coupling type) [35] for the wiring on the center axle center axle pin [38].

(c) Tighten the coupling to 90 in-lb (10 N·m) - 105 in-lb (12 N·m).

SUBTASK 32-11-26-640-002

(5) Do these steps to install the brake sleeves [3]:

(a) Lubricate the inner diameter of the brake sleeves [3] with grease, D00013 or grease, D00633.

(b) Install the brake sleeves [3] from the center axle [39].

(c) Remove all excess grease.

SUBTASK 32-11-26-420-012

(6) For the center axle, do this task: In-Axle Assembly Installation, TASK 32-42-05-400-801.

SUBTASK 32-11-26-420-013

(7) For the center axle, do this task: Main Landing Gear Brake Installation, TASK 32-45-07-400-801.

NOTE: This procedure will also install the wheel and tire assemblies and test the brakes and brake temperature sensors.

(a) Make sure you connect the correct wires to the correct in-axle assembly.

SUBTASK 32-11-26-080-002

(8) Remove the retainer equipment, SPL-1853, from the shock strut.

SUBTASK 32-11-26-080-003

(9) Lower and remove the axle jacks.

SUBTASK 32-11-26-080-004

(10) Do this task: Lower the Airplane Off of the Jacks, TASK 07-11-01-580-805.

F. **Put the Airplane Back to Its Usual Condition**

SUBTASK 32-11-26-600-001

(1) To do the servicing of the shock strut for the main landing gear, do this task: Main Landing Gear Shock Strut Servicing, TASK 12-15-01-610-810.

SUBTASK 32-11-26-410-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

——— END OF TASK ———

TASK 32-11-26-000-803

6. Main Landing Gear Aft Axle Removal

(Figure 403)

A. **General**

(1) This procedure removes the aft axle for the main landing gear.

B. **References**

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-42-05-020-801	In-Axle Assembly Removal (P/B 401)
32-45-07-000-801	Main Landing Gear Brake Removal (P/B 401)

C. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2556	Equipment - Puller, Brake Sleeve Part #: J32010**ECD JAN2019** Supplier: 81205 Part #: J32010-106 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205
SPL-4694	Wrench - Aft Axle, Pivot Truck Beam (J32042-9 included in J32042-89 kit)

D. **Location Zones**

Zone	Area
731	Left Main Landing Gear

(Continued)

Zone	Area
741	Right Main Landing Gear

E. Prepare for the Removal

SUBTASK 32-11-26-490-005

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-26-490-006

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-26-860-013

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

F. Main Landing Gear aft Axle Removal

SUBTASK 32-11-26-860-014

(1) To lift the airplane until the aft wheels are above the ground, do this task: Lift the Airplane with Jacks, TASK 07-11-01-580-804.

SUBTASK 32-11-26-020-013

(2) For the aft axle, do this task: Main Landing Gear Brake Removal, TASK 32-45-07-000-801.

NOTE: This procedure will also remove the wheel and tire assemblies.

SUBTASK 32-11-26-860-015

(3) If the in-axle assembly is installed, do this task: In-Axle Assembly Removal, TASK 32-42-05-020-801.

SUBTASK 32-11-26-020-014

(4) Disconnect the electrical connector [54] for the aft axle [62].

SUBTASK 32-11-26-020-015

(5) Pull the wiring completely out of the aft axle [62].

SUBTASK 32-11-26-020-016

(6) Remove the wiring clamps [53] for the aft axle [62].

SUBTASK 32-11-26-860-016

(7) Remove the brake sleeves [3] from the aft axle [62].

(a) Use the main landing gear brake sleeve puller equipment, SPL-2556, to remove the brake brake sleeves [3] if it is difficult to remove.

SUBTASK 32-11-26-860-018

(8) Disconnect the reaction link [51] from the aft axle [62], do these steps:

(a) Remove the lock bolt [65] and collar [66] from the pin [64].

(b) Remove the pin [64] to disconnect the reaction link [51] from the aft axle [62].

SUBTASK 32-11-26-860-025

(9) Disconnect the steering actuator [52] from the aft axle [62], do these steps:

(a) Remove the lock bolt [71] and collar [73] from the pin [77].

(b) Remove the pin [77] to disconnect the steering actuator [52] from the aft axle [62].

SUBTASK 32-11-26-860-022

(10) Remove the pivot pin [56] to disconnect the aft axle [62] from the truck [6].

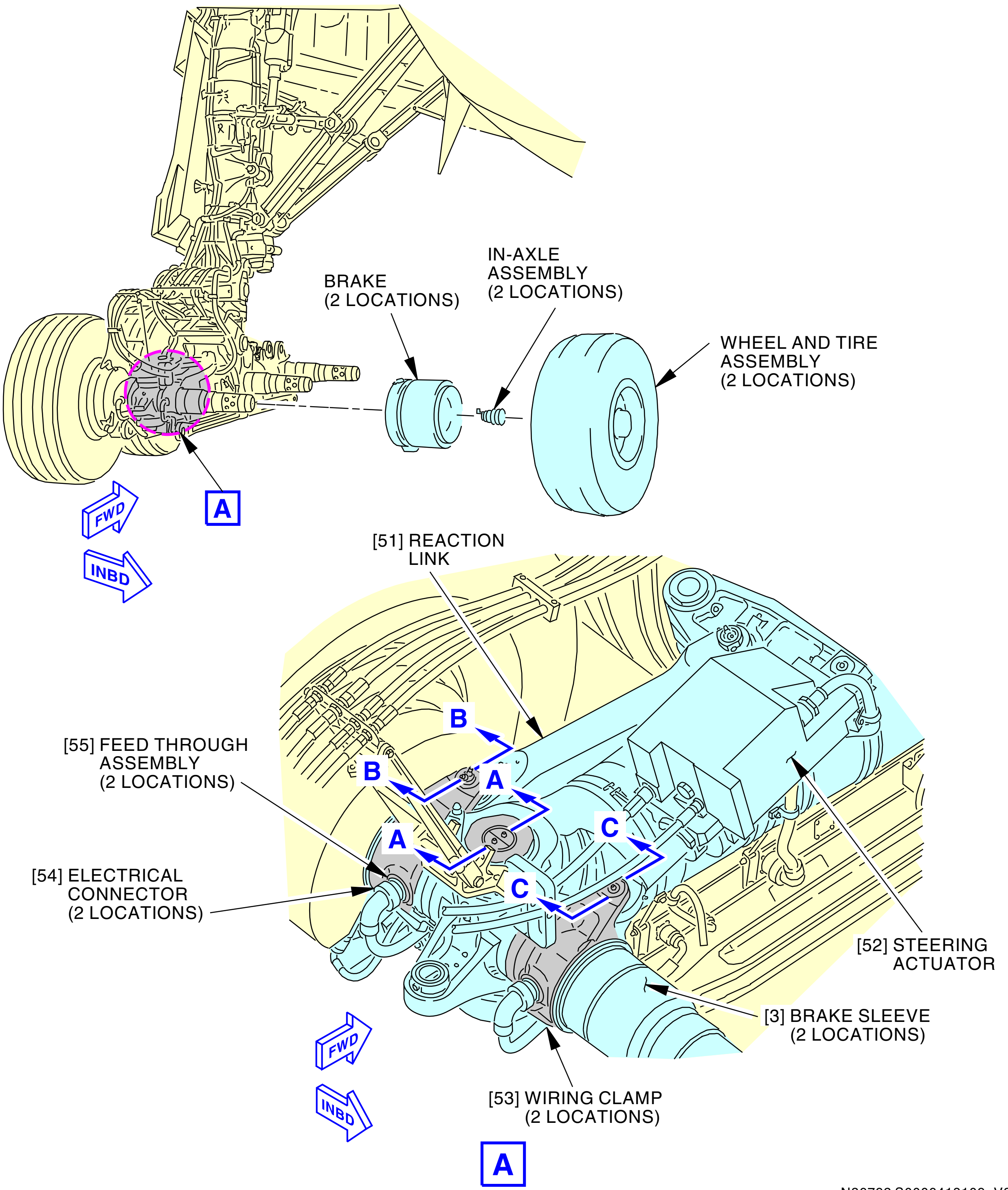
(a) Use the wrench kit, SPL-4133 or wrench assembly, SPL-4694 to remove the nut [58] from the pivot pin [56] (Figure 403).

NOTE: The two wrench kits contains a wrench for the aft axle pin which will work for all 777 models.

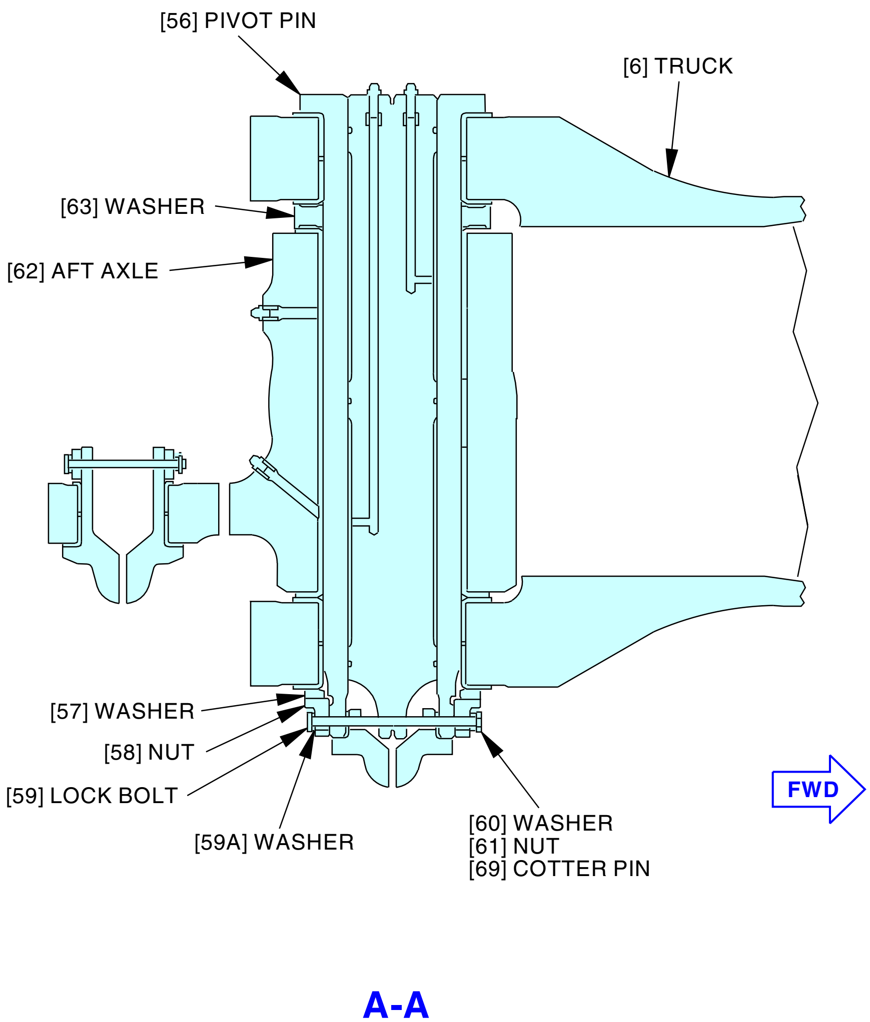
SUBTASK 32-11-26-860-023

(11) Remove the aft axle [62].

END OF TASK



Main Landing Gear Aft Axle Installation
Figure 403/32-11-26-990-807 (Sheet 1 of 3)



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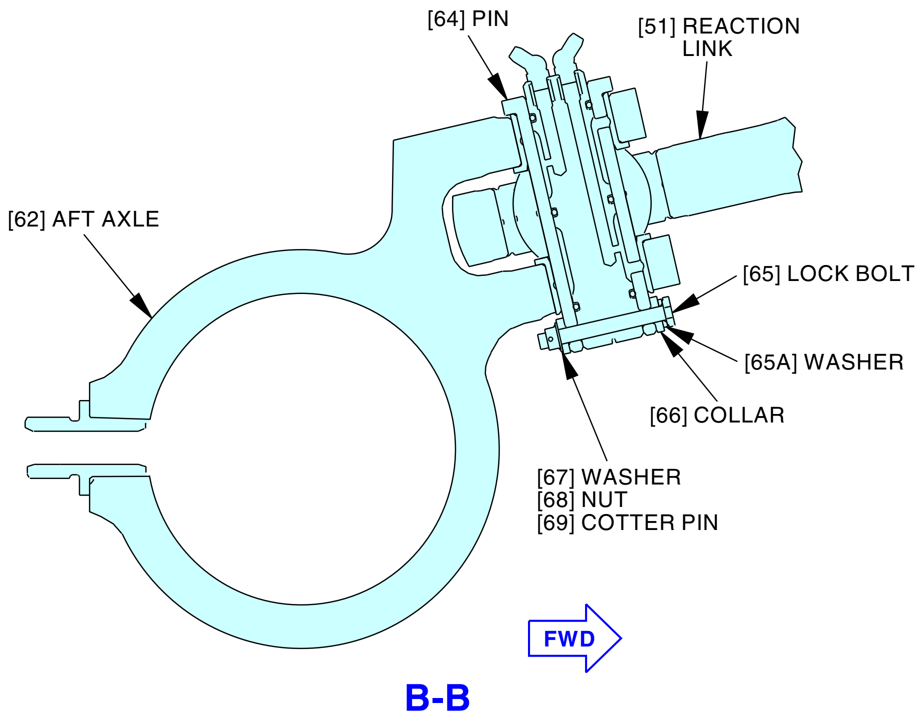
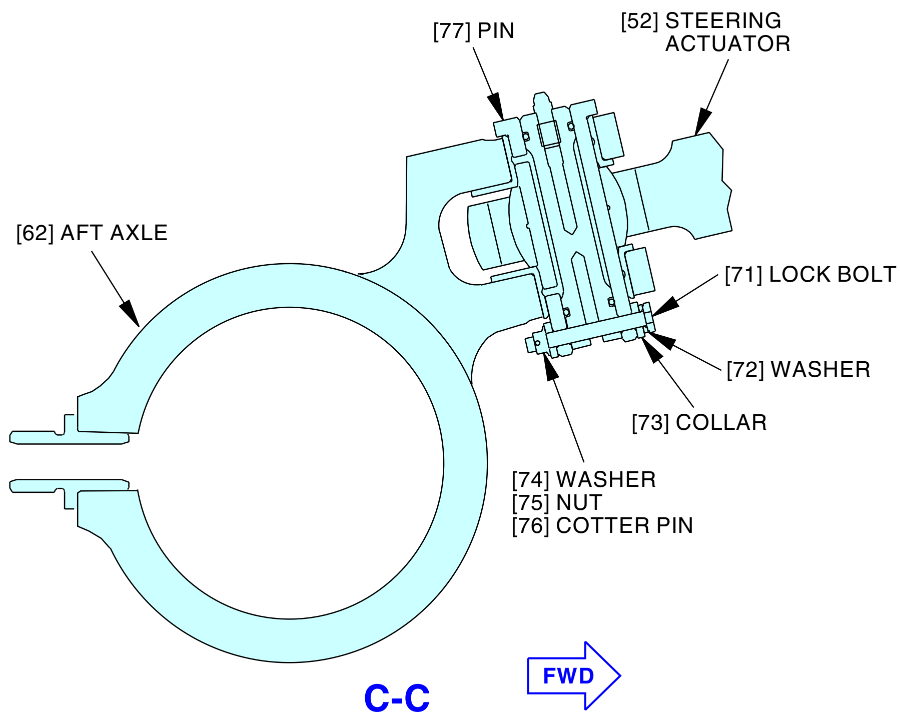
Main Landing Gear Aft Axle Installation
Figure 403/32-11-26-990-807 (Sheet 2 of 3)





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Main Landing Gear Aft Axle Installation
Figure 403/32-11-26-990-807 (Sheet 3 of 3)

TASK 32-11-26-400-803

7. Main Landing Gear Aft Axle Installation

(Figure 403)

A. References

Reference	Title
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
20-11-00-910-801	Standard Torque Values (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-11-01-990-811	Figure: Special Tools for Main Landing Gear Installation (P/B 401)
32-42-05-400-801	In-Axle Assembly Installation (P/B 401)
32-45-07-400-801	Main Landing Gear Brake Installation (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995
G01314	Tape - 3M Polyester Film Tape 8412	
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
69	Cotter pin	32-11-18-01A-070	ARO ALL

E. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Main Landing Gear aft Axle Installation

SUBTASK 32-11-26-420-014

(1) Install the aft aft axle [62] for the main landing gear:

(a) Apply a thin layer of grease, D00633 on the washer [63].

(b) Install the aft aft axle [62] in the truck [6].

NOTE: Make sure the key slots in the aft aft axle [62] are pointed up.

(c) Install the washer [63] between the top of the aft aft axle [62] and the truck [6].

SUBTASK 32-11-26-420-015

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(2) Connect the aft aft axle [62] to truck [6]:

(a) Apply a thin layer of grease, D00633 to the chrome surfaces of the pivot pin [56].

(b) Apply a thin layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the remaining mating surfaces, and to the washer [57], and nut [58].

(c) Install the pivot pin [56] to connect the aft aft axle [62] to the truck [6].

(d) Install the washer [57] and the nut [58] to connect the pivot pin [56] to the truck [6].

(e) Use the wrench kit, SPL-4133 to tighten the nut [58] to 125 ft-lb (169 N·m) - 150 ft-lb (203 N·m) (Figure 32-11-01-990-811).

(f) Turn the nut [58] back a minimum amount to permit the aft aft axle [62] to turn freely and align the holes for the lock bolt [59].

(g) Apply a layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the mating surfaces of the lock bolt [59], the washer [60], and the nut [61].

(h) Install the lock bolt [59] in the pivot pin [56] and the nut [58].

(i) Install the washer [60], the nut [61], and the cotter pin [69] on the lock bolt [59]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

(j) Remove all excess grease.

SUBTASK 32-11-26-420-016

(3) Install the wiring assembly:

(a) Push the wire in the aft axle [62], through the hole in the aft axle for that wire.

(b) Install the electrical connector [54] on the feed through assembly [55].

(c) Tighten the electrical connectors [54] to 165 in-lb (18.6 N·m) - 195 in-lb (22.0 N·m).

(d) Install MS20995C32 lockwire, G01048 on the electrical connector [54].

SUBTASK 32-11-26-640-003

(4) Install the brake sleeves [3]:

(a) Lubricate the inner diameter of the brake sleeves [3] with grease, D00013 or grease, D00633.

(b) Install the brake sleeves [3] from the aft aft axle [62].

(c) Remove all excess grease.

SUBTASK 32-11-26-420-017

(5) Make sure there are two layers of 3M 8412 tape, G01314 where you will put the wiring clamps [53].

SUBTASK 32-11-26-420-018

(6) Install the wiring clamps [53] for the aft aft axle [62].

SUBTASK 32-11-26-420-025

(7) Connect the steering actuator [52] to the aft aft axle [62], do these steps:

(a) Apply a thin layer of grease, D00633 to the chrome surfaces of the pin [77].

(b) Install the pin [77] to connect the steering actuator [52] to the aft aft axle [62].

WARNING: USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING: DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(c) Apply a thin layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the mating surfaces of the lock bolt [71], washer [74], and the nut [75].

(d) Install the collar [73].

(e) Install the lock bolt [71], washer [74], and the nut [75]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

(f) Install the cotter pin [76].

(g) Remove all excess grease.

SUBTASK 32-11-26-420-020

WARNING: USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(WARNING PRECEDES)

WARNING DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(8) Connect the reaction link [51] to the aft aft axle [62], do these steps:

(a) Apply a thin layer of grease, D00633 to the chrome surfaces of the pin [64].

(b) Install the pin [64] to connect the reaction link [51] to the aft aft axle [62].

(c) Apply a thin layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the mating surfaces of the lock bolt [65], the washer [67], and the nut [68].

(d) Install the collar [66] on the pin [64].

(e) Install the lock bolt [65], washer [67], and nut [68]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

(f) Install the cotter pin [69].

(g) Remove all excess grease.

SUBTASK 32-11-26-420-021

(9) For the aft axle, do this task: In-Axle Assembly Installation, TASK 32-42-05-400-801.

SUBTASK 32-11-26-420-022

(10) For the aft axle, do this task: Main Landing Gear Brake Installation, TASK 32-45-07-400-801.

NOTE: This procedure will also install the wheel and tire assemblies then test the brakes and brake temperature sensors.

NOTE: Make sure you connect the wiring to the correct in-axle assembly.

SUBTASK 32-11-26-080-005

(11) Do this task: Lower the Airplane Off of the Jacks, TASK 07-11-01-580-805.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-11-26-090-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

MAIN LANDING GEAR AXLE - INSPECTION/CHECK

1. **General**
   - A. This task supplies the data for a dimensional inspection of the axles for the main landing gear.
   - B. This task does not remove or install the axles or the components on the axles, refer to the Main Gear Axle - Removal/Installation for procedures to remove and install the axles.

TASK 32-11-26-200-801

2. **Main Landing Gear Axle Inspection**
(Figure 601)

A. General

(1) This procedure gives wear limits and repair data for the main landing gear axles.

B. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-45-01-000-801	Main Landing Gear Wheel and Tire Assembly Removal (P/B 401)
32-45-01-400-801	Main Landing Gear Wheel and Tire Assembly Installation (P/B 401)
32-45-07-000-801	Main Landing Gear Brake Removal (P/B 401)
32-45-07-400-801	Main Landing Gear Brake Installation (P/B 401)

C. Tools/Equipment

Reference	Description
STD-1096	Micrometer - Depth, 0-1 inch, Readable to 1/1000 inch
STD-1097	Caliper - Vernier, 0-6 inch, Readable to 1/1000 inch

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Procedure

SUBTASK 32-11-26-480-005

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-26-480-006

> **WARNING** MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-11-26-020-018

(3) To remove parts to get access to the axles for the main landing gear do the tasks that follow for the applicable axle (Figure 601):

(a) Do this task: Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-01-000-801.

(b) Do this task: Main Landing Gear Brake Removal, TASK 32-45-07-000-801.

SUBTASK 32-11-26-020-019

(4) Use these tools to check for wear on the parts of the main landing gear axle:

(a) micrometer (0-1 inch, readable to 1/1000 inch), STD-1096 (0 - 25.4mm, readable to 0.025 mm)

(b) vernier caliper (0 - 6 inch, readable to 1/1000 inch), STD-1097 (0 - 152mm, readable to 0.025 mm).

SUBTASK 32-11-26-020-020

(5) Examine the parts of the axles for worn areas:

(a) Measure the parts as necessary with a micrometer (0-1 inch, readable to 1/1000 inch), STD-1096 or a vernier caliper (0 - 6 inch, readable to 1/1000 inch), STD-1097.

(b) Compare the dimensions you measured with the permitted wear dimensions that follow.

(c) If the parts are not in the tolerance, replace or repair the part as required.

Table 601/32-11-26-993-801

NAME OF THE PARTS THAT ARE IN CONTACT	DIM.	DIAMETER DESIGN LIMITS		WEAR LIMITS	
		MINIMUM inches/mm	MAXIMUM inches/mm	PERMITTED MAXIMUM I.D./ MINIMUM O.D. OF WORN PART	MAXIMUM SERVICE DIAMETRIC CLEARANCE
#1 OUTBOARD WHEEL BEARING	I.D.	5.2500 in 133.350 mm	5.2510 in 133.375 mm	5.2566 in 133.517 mm	0.0106 in 0.269 mm
#1 OUTBOARD WHEEL SLEEVE	O.D.	5.2469 in 133.271 mm	5.2498 in 133.345 mm	5.2404 in 133.107 mm	
#2 INBOARD WHEEL BEARING	I.D.	5.6250 in 142.875 mm	5.6260 in 142.900 mm	5.6317 in 143.046 mm	0.0107 in 0.273 mm
#2 INBOARD WHEEL SLEEVE	O.D.	5.6219 in 142.796 mm	5.6248 in 142.870 mm	5.6153 in 142.628 mm	
#3 OUTBOARD BRAKE BUSHING	I.D.	6.2030 in 157.556 mm	6.2055 in 157.620 mm	6.2115 in 157.772 mm	0.0105 in

Table 601/32-11-26-993-801 (Continued)

NAME OF THE PARTS THAT ARE IN CONTACT	DIM.	DIAMETER DESIGN LIMITS		WEAR LIMITS	
		MINIMUM inches/mm	MAXIMUM inches/mm	PERMITTED MAXIMUM I.D./ MINIMUM O.D. OF WORN PART	MAXIMUM SERVICE DIAMETRIC CLEARANCE
#3 OUTBOARD BRAKE SLEEVE	O.D.	6.2000 in 157.480 mm	6.2010 in 157.505 mm	6.1950 in 157.353 mm	0.266 mm
#4 INBOARD BRAKE BUSHING	I.D.	7.3530 in 186.766 mm	7.3560 in 186.842 mm	7.3624 in 187.006 mm	0.0114 in 0.290 mm
#4 INBOARD BRAKE SLEEVE	O.D.	7.3500 in 186.690 mm	7.3510 in 186.715 mm	7.3446 in 186.552 mm	
#5 INBOARD BRAKE SLEEVE	I.D.	6.7495 in 171.437 mm	6.7515 in 171.488 mm	6.7577 in 171.645 mm	0.0087 in 0.221 mm
#5 AXLE	O.D.	6.7480 in 171.399 mm	6.7490 in 171.425 mm	6.7428 in 171.267 mm	
#6 OUTBOARD BRAKE SLEEVE	I.D.	5.6255 in 142.888 mm	5.6275 in 142.939 mm	5.6332 in 143.084 mm	0.0122 in 0.311 mm
#6 INBOARD WHEEL SLEEVE	O.D.	5.6200 in 142.748 mm	5.6210 in 142.773 mm	5.6153 in 142.628 mm	

Table 602/32-11-26-993-802

NAME OF THE PARTS THAT ARE IN CONTACT	DIM.	DIAMETER DESIGN LIMITS		WEAR LIMITS	
		MINIMUM inches/mm	MAXIMUM inches/mm	PERMITTED MAXIMUM I.D./ MINIMUM O.D. OF WORN PART	MINIMUM SERVICE DIAMETRIC INTERFERENCE
#7 INBOARD WHEEL SLEEVE	I.D.	5.4540 in 138.532 mm	5.4550 in 138.557 mm	5.4580 in 138.633 mm	-0.0010 in -0.025 mm
#7 AXLE	O.D.	5.4570 in	5.4580 in	5.4540 in	
#8 OUTBOARD WHEEL SLEEVE	I.D.	5.0000 in 127.000 mm	5.0010 in 127.025 mm	5.0040 in 127.102 mm	-0.0010 in -0.025 mm
#8 AXLE	O.D.	5.0030 in 127.076 mm	5.0040 in 127.102 mm	5.0000 in 127.000 mm	

SUBTASK 32-11-26-020-021

(6) To install parts on the axles for the main landing gear do the tasks that follow for the applicable axle:

(a) Do this task: Main Landing Gear Wheel and Tire Assembly Installation, TASK 32-45-01-400-801.

(b) Do this task: Main Landing Gear Brake Installation, TASK 32-45-07-400-801.

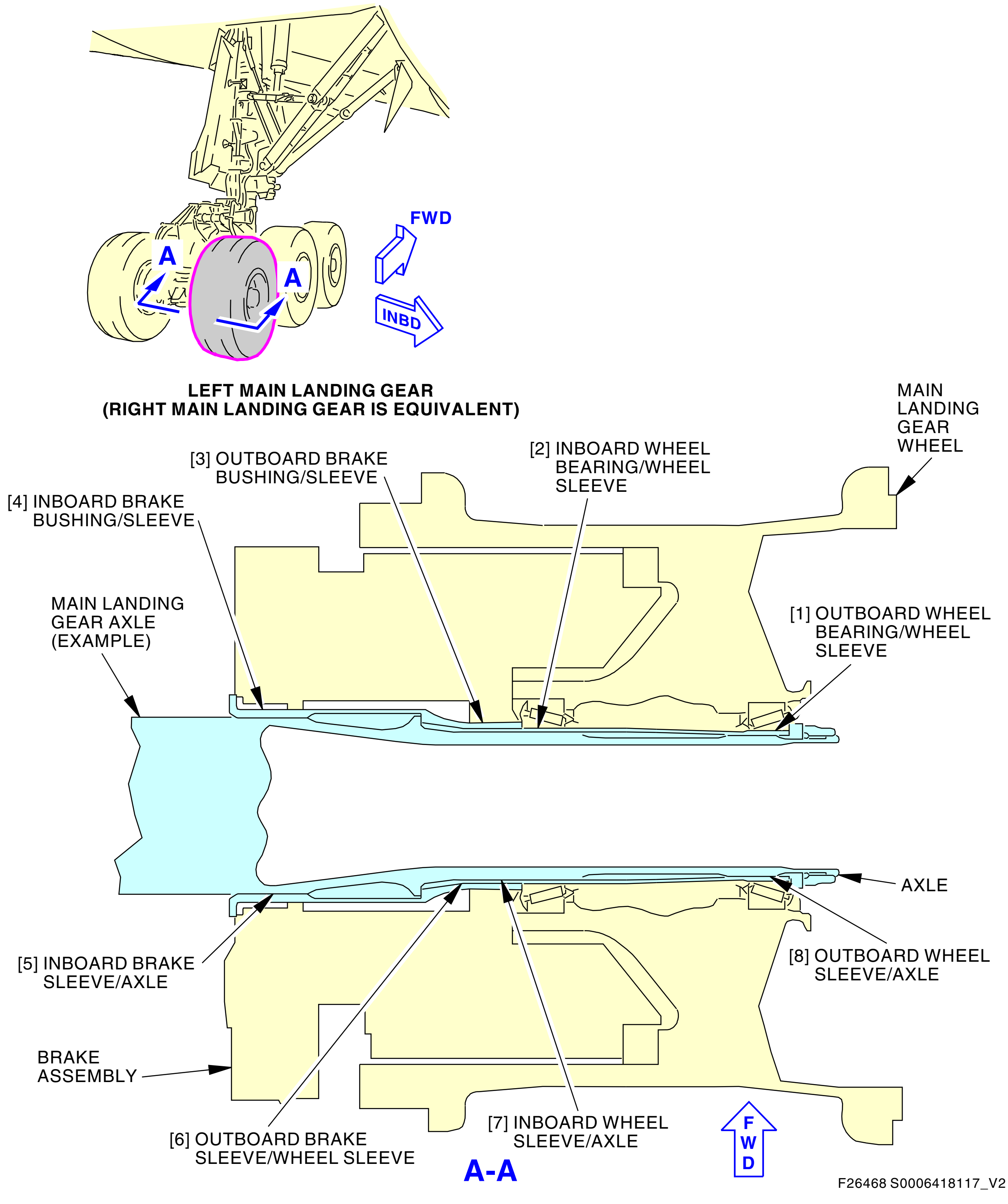
F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-11-26-480-007

WARNING: MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER, THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

END OF TASK



Main Landing Gear Axle Wear Limits
Figure 601/32-11-26-990-804

MAIN LANDING GEAR TOW FITTING - REMOVAL/INSTALLATION

1. **General**
   A. This procedure has these tasks:
      (1) A removal of the tow fitting for the main landing gear
      (2) An installation of the tow fitting for the main landing gear.
   B. To remove the tow fitting, it is necessary for you to remove the forward axle from the truck.

TASK 32-11-27-000-801

2. **Main Landing Gear Tow Fitting Removal**
   (Figure 401)

   A. General
      (1) This procedure provides instructions to remove the tow fitting for the main landing gear.

   B. References

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-42-05-020-801	In-Axle Assembly Removal (P/B 401)
32-45-07-000-801	Main Landing Gear Brake Removal (P/B 401)

   C. Tools/Equipment

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2556	Equipment - Puller, Brake Sleeve Part #: J32010**ECD JAN2019** Supplier: 81205 Part #: J32010-106 Supplier: 81205

   D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

   E. Prepare for the Removal

   SUBTASK 32-11-27-480-001

   WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

      (1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-27-010-001

> **WARNING** USE THE CORRECT PROCEDURE TO INSTALL THE DOOR LOCKS. THE DOORS OPEN AND CLOSE QUICKLY. INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT CAN OCCUR.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-27-860-001

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-11-27-480-002

(4) Lift the airplane with jacks until the forward wheels are above the ground (TASK 07-11-01-580-804).

NOTE: Do not use axle jacks to lift the landing gear off of the ground, this will cause the axle hole to become oval and make the axle removal very difficult.

F. Main Landing Gear Tow Fitting Removal

SUBTASK 32-11-27-020-001

(1) For the forward axle [7], do this task: Main Landing Gear Brake Removal, TASK 32-45-07-000-801.

NOTE: This procedure will also remove the wheel and tire assemblies.

SUBTASK 32-11-27-860-002

(2) If the in-axle assemblies for the forward axle [7] are installed, do this task: In-Axle Assembly Removal, TASK 32-42-05-020-801.

SUBTASK 32-11-27-020-002

(3) Disconnect the electrical connector [5] for the forward axle [7].

SUBTASK 32-11-27-020-003

(4) Pull the wiring completely out of the forward axle [7].

NOTE: Make sure you attach a label the wires to indicate the left and the right connectors.

SUBTASK 32-11-27-020-004

(5) Remove the feed through assembly [4] from the forward axle [7]:

(a) Remove the nut [12] from the feed through assembly [4].

(b) Push the feed through assembly [4] into the forward axle [7] to disconnect the axle from the tow fitting [9].

SUBTASK 32-11-27-860-003

(6) Loosen the wiring clamps [1] from the forward axle [7].

SUBTASK 32-11-27-860-004

(7) Remove the spacers [2] from the forward axle [7].

SUBTASK 32-11-27-860-005

(8) Remove the brake sleeves [3] from the forward axle [7].

(a) Use the main landing gear brake sleeve puller equipment, SPL-2556 to remove the brake sleeves [3] if they are difficult to remove.

SUBTASK 32-11-27-860-006

(9) Remove the bolts [10] to disconnect the forward axle [7] from the tow fitting [9] and the truck [6].

SUBTASK 32-11-27-860-009

(10) Remove the fillet seal [8] from joint of the forward face of the tow fitting [9] and the truck [6].

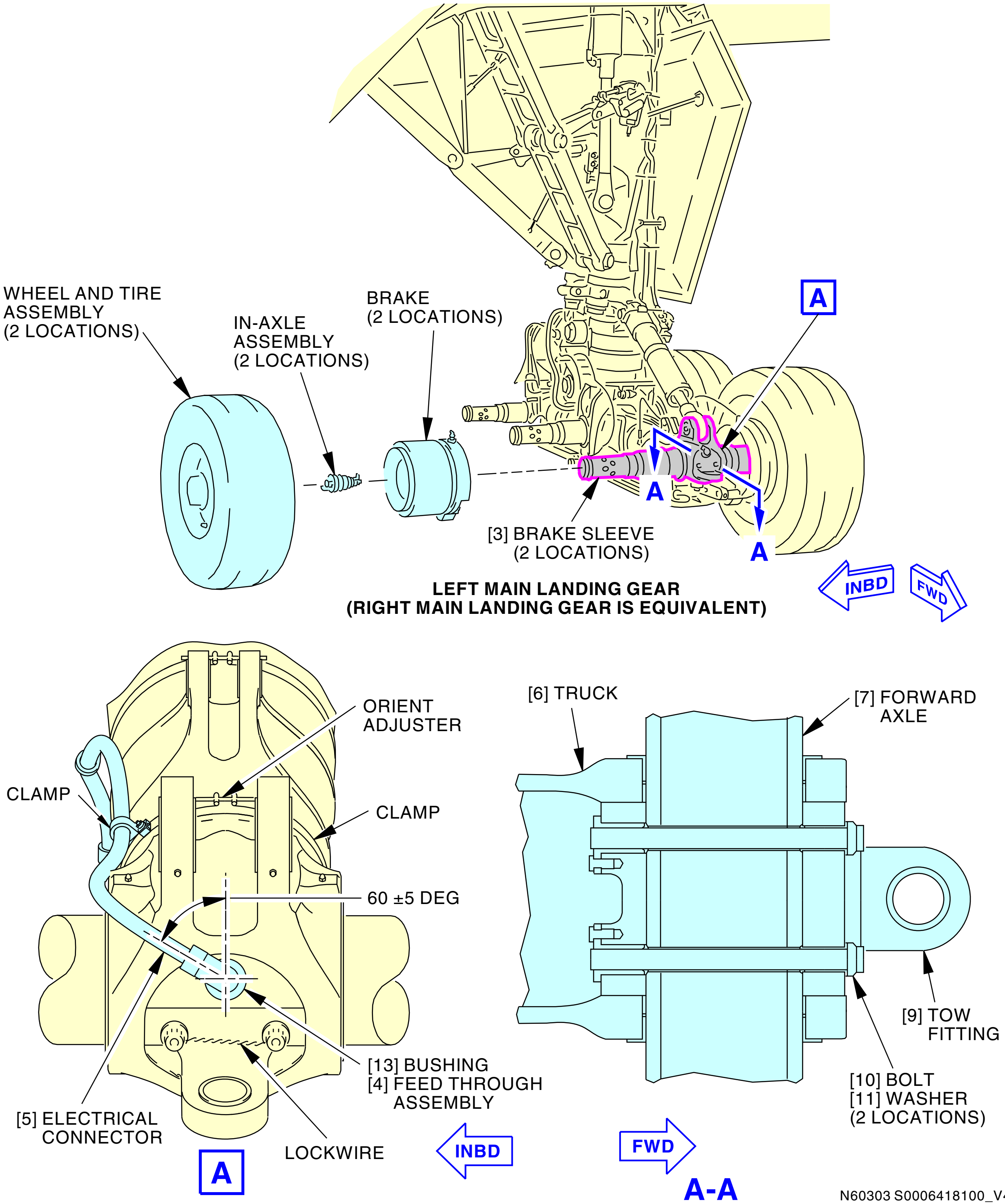
SUBTASK 32-11-27-860-007

(11) Remove the forward axle [7].

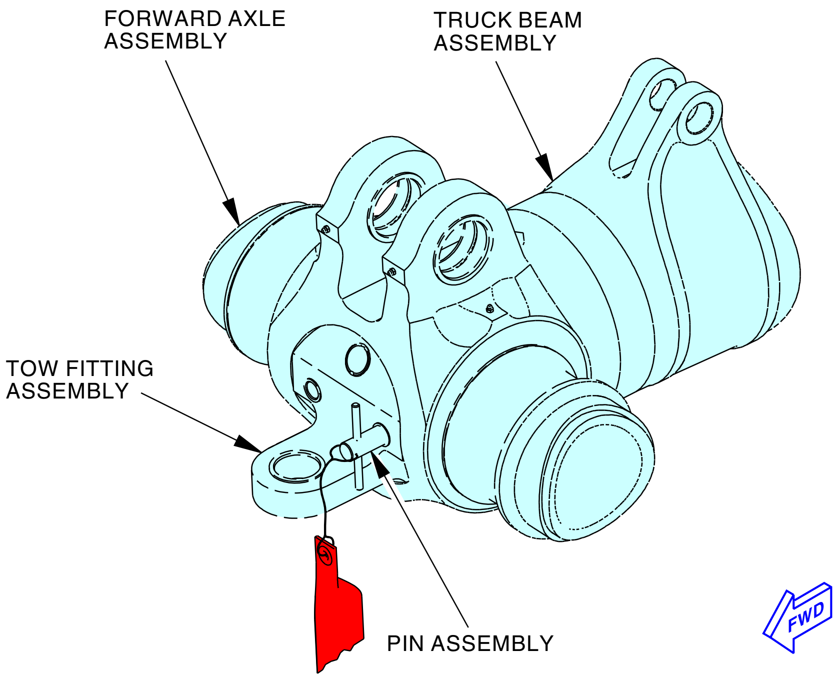
SUBTASK 32-11-27-860-008

(12) Remove the tow fitting [9].

END OF TASK



Main Landing Gear Tow Fitting Installation
Figure 401/32-11-27-990-801



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Main Landing Gear Tow Fitting Alignment Pin
Figure 402/32-11-27-990-802

TASK 32-11-27-400-801

3. Main Landing Gear Tow Fitting Installation

A. General

(1) This procedure provides instructions to install the forward tow fitting for the main landing gear.

B. References

Reference	Title
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-21-14-640-806-002	Lower Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-42-05-400-801	In-Axle Assembly Installation (P/B 401)
32-45-07-400-801	Main Landing Gear Brake Installation (P/B 401)
SWPM 20-20-00	Standard Wiring Practices Manual

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meters - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: T477W Supplier: 01014 Opt Part #: M1B Supplier: 3AD17
SPL-1881	Pin - Alignment, Main Landing Gear Tow Fitting Part #: J32065-7 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
D50004	Compound - Antiseize	BMS3-28
G01314	Tape - 3M Polyester Film Tape 8412	
G01505	Lockwire - Safety And Lock	NASM20995
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
9	Tow fitting	32-11-18-01A-340	ARO ALL

F. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

G. Main Landing Gear Tow Fitting Installation

SUBTASK 32-11-27-420-010

(1) Install the tow fitting [9] in its location in the main landing gear truck:

(a) Lubricate the mating surfaces of the tow fitting [9] with grease, D00013 or grease, D00633.

(b) Install the tow fitting [9] in its correct position in the truck [6].

NOTE: The hole for the feed through assembly should be above the bolt holes in the tow fitting.

SUBTASK 32-11-27-420-001

(2) Install the forward axle [7] for the main landing gear:

(a) Lubricate the forward axle [7] with grease, D00013 or grease, D00633, to make installation of the axle easier.

(b) Install the forward axle [7] in its correct position in the truck [6] and tow fitting [9].

NOTE: Make sure the key slots on the ends of the forward axle [7] are pointed up and the feed through assembly hole aligns correctly with the hole in the tow fitting [9].

SUBTASK 32-11-27-420-002

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) Do these steps to connect the tow fitting [9] to the forward axle [7]:

(a) Use the MLG tow fitting alignment pin, SPL-1881 to align the bolt holes in the tow fitting [9] with the bolt holes in the forward axle [7].

(b) Lubricate the mating surfaces of the bolts [10] and washers [11] with Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913.

(c) Install the bolts [10] and washers [11] that connect the tow fitting [9] to the forward axle [7].

(d) Tighten the bolts [10] to 200.0 in-lb (22.6 N·m) - 300.0 in-lb (33.9 N·m).

(e) Install the lockwire, G01505 on the bolts [10].

(f) Apply a fillet seal around the heads of the bolts [10] with sealant, A00247.

(g) Fill the slot in the bottom of the tow fitting [9] with sealant, A00247 to a depth of 0.25 in. (6.35 mm) -0.5 in. (12.7 mm).

(h) Apply a fillet seal [8] between the inside diameter of the tow fitting hole in the truck [6] and the forward face of the tow fitting [9] with sealant, A00247.

SUBTASK 32-11-27-420-011

(4) Install the feed through assembly [4] in the forward axle [7] and the tow fitting [9]:

(a) Clean the mating area of the nut [12] and the bushing for the feed through assembly [4].

(b) Apply anti-seize compound, D50004 to the threads of the feed through assembly [4] and the threads of the nut [12].

(c) Install the feed through assembly [4] from the inside of the forward axle [7] pointing out.

1) Put a piece of string through the feed through assembly hole and out the end of the axle.

2) Put the feed through assembly [4] on the string with the threaded end pointing towards the axle.

3) Tie a piece of card board (of equivalent soft material) behind the feed through assembly [4].

NOTE: Make sure there is enough string behind the feed through assembly [4] so the string can be pulled back out of the axle.

4) Pull the string to move the feed through assembly [4] in its position.

5) Remove the string.

(d) Apply sealant, A00247 to the mating surfaces of the nut [12] and the bushing for the feed through assembly [4].

(e) Wet install the nut [12] on the feed through assembly and tighten to 40 ft-lb (54 N·m) - 50 ft-lb (68 N·m).

(f) Use an intrinsically safe approved bonding meter, COM-1550 to make sure the maximum resistance between the feed through assembly [4] and the forward axle [7] is not more than 0.010 ohms (SWPM 20-20-00).

SUBTASK 32-11-27-420-003

(5) Install the wiring assembly:

(a) Push the wiring in the forward axle [7] through the feed through assembly [4] in the tow fitting [9].

(b) Install the electrical connector [5] for the wiring on the feed through assembly [4].

(c) Make sure that the electrical connector [5] is at the angle as shown in Figure 401.

(d) Tighten the electrical connector [5] to 165 in-lb (19 N·m) - 195 in-lb (22 N·m).

(e) Install lockwire, G01505, on the electrical connector [5].

SUBTASK 32-11-27-420-004

(6) Install the spacers [2] for the forward axle [7].

SUBTASK 32-11-27-420-005

(7) Make sure there are two layers of 3M 8412 tape, G01314, where you will install the wiring clamps [1].

SUBTASK 32-11-27-420-006

(8) Install the wiring clamps [1] for the forward axle [7].

SUBTASK 32-11-27-640-001

(9) Lubricate the inner diameter of the sleeves [3] with grease, D00013 or grease, D00633.

SUBTASK 32-11-27-420-007

(10) Install the sleeves [3] for the forward axle [7].

(a) Remove any excess grease.

SUBTASK 32-11-27-420-008

(11) Do this task: In-Axle Assembly Installation, TASK 32-42-05-400-801.

SUBTASK 32-11-27-420-009

(12) Do this task: Main Landing Gear Brake Installation, TASK 32-45-07-400-801.

NOTE: This procedure will also install the wheel and tire assemblies, and test the brakes and brake temperature sensors.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-11-27-080-001

(1) Lower the airplane and remove the jacks (TASK 07-11-01-580-805).

SUBTASK 32-11-27-640-002

(2) To lubricate the tow fitting [9] and the forward axle [7] at the grease fittings, do this task: Lower Main Landing Gear and Actuating Mechanisms Lubrication, TASK 12-21-14-640-806-002.

SUBTASK 32-11-27-410-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

MAIN LANDING GEAR WHEEL SLEEVE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the main landing gear wheel sleeve.

(2) An installation of the main landing gear wheel sleeve

B. The wheel sleeve has an interference fit with the landing gear axle. It is necessary to use temperature differentials to remove or install the wheel sleeve.

TASK 32-11-28-200-801

2. Main Landing Gear Wheel Sleeve Removal

(Figure 401)

A. General

(1) You can not remove the wheel sleeve if the brake sleeve is on the axle.

B. References

Reference	Title
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-42-05-020-801	In-Axle Assembly Removal (P/B 401)
32-45-01-000-801	Main Landing Gear Wheel and Tire Assembly Removal (P/B 401)
32-45-07-000-801	Main Landing Gear Brake Removal (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1572	Thermometer - Infrared, Intrinsically Safe Part #: EX-MP4 A Supplier: 3GT36 Opt Part #: DHS24XC-FM Supplier: 08086 Opt Part #: DHS24XF-FM Supplier: 08086 Opt Part #: IR-16L3 IS Supplier: 75037
SPL-4564	Puller Equipment, Wheel Sleeve, MLG Axles Part #: K32042-1 Supplier: 81205
STD-1304	Blanket - Heat, Capable of Maintaining 350 to 400 Degrees F

D. Consumable Materials

Reference	Description	Specification
G01012	Compound - Carbon Dioxide, Solid (Dry Ice - Any Commercial Grade)	

E. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Procedure

SUBTASK 32-11-28-490-001

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-28-490-002

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-28-020-001

(3) Do this task: Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-01-000-801.

SUBTASK 32-11-28-020-002

(4) Do this task: Main Landing Gear Brake Removal, TASK 32-45-07-000-801.

(a) Make sure you remove the brake sleeve when you remove the brake.

SUBTASK 32-11-28-020-003

(5) Do this task: In-Axle Assembly Removal, TASK 32-42-05-020-801.

SUBTASK 32-11-28-020-004

(6) Remove the in-axle assembly wires from the axle [3].

NOTE: The wires need only to be moved away from the outboard ends of the axle.

(a) Disconnect the electrical connector from the feed through assembly on the axle [3].

(b) Pull the wires for the in-axle assembly out of the working area in the axle [3].

SUBTASK 32-11-28-020-005

(7) Use the retention pin removal tool, a part of main landing gear wheel sleeve puller equipment, SPL-4564, to remove the retention pins [2] from the wheel sleeve [1] and axle [3]:

SUBTASK 32-11-28-020-006

(8) Decrease the temperature of the axle [3] for the removal of the wheel sleeve [1]:

NOTE: The cold temperature will decrease the axle diameter. When you subsequently apply heat to the wheel sleeve, the wheel sleeve will loosen.

WARNING	DO NOT GET THE DRY ICE ON YOUR SKIN. THE DRY ICE IS FROZEN CARBON DIOXIDE AT A TEMPERATURE OF APPROXIMATELY -120 F (-84 C). THE COLD TEMPERATURE OF THE CARBON DIOXIDE CAN CAUSE INJURY TO PERSONS.

(a) Put a cloth tightly in the axle [3] at the point where the wheel sleeve [1] ends on the axle [3].

NOTE: The cloth will supply protection for the components in the other end of the axle. When you fill the axle with the dry ice, the cloth will keep the dry ice in the correct end of the axle.

(b) Fill the inner diameter of the axle [3] with the compound, G01012 (dry ice).

NOTE: As the dry ice melts, cold carbon dioxide gas will cause moisture in the air to condense and form a fog. When the axle temperature is near the temperature of the dry ice the fog will decrease.

NOTE: You might not get this effect if you are working in an environment with low humidity.

(c) Add more dry ice to the inner diameter of the axle [3] before you install the axle sleeve puller.

NOTE: This will keep the axle at a constant temperature when you apply heat to the brake housing bushing.

SUBTASK 32-11-28-480-003

(9) Install the wheel sleeve puller, a part of main landing gear wheel sleeve puller equipment, SPL-4564, on the wheel sleeve [1]:

NOTE: Do not remove the dry ice from the axle before you install the axle sleeve puller.

(a) Install the wheel sleeve collar on the wheel sleeve [1].

(b) Tighten the knurled nuts such that the pins inside the collar go into the holes in the wheel sleeve [1].

(c) Install the puller assembly in the axle [3].

(d) Install the lock pins to connect the puller assembly to the wheel sleeve collar.

NOTE: You can use the long extensions to add more length to the puller assembly.

SUBTASK 32-11-28-020-007

(10) Increase the temperature of the wheel sleeve [1]:

CAUTION	DO NOT LET THE TEMPERATURE OF THE AXLE COMPONENTS BECOME 300°F (149°C) FOR MORE THAN 180 MINUTES. THE MATERIALS FOR THE AXLE COMPONENTS CAN BECOME WEAK IF THE THERMAL LOADS ARE TOO LARGE. WEAK AXLE COMPONENTS CAN BREAK DURING OPERATION.

(a) Install the electrical heat blanket, STD-1304 (capable of maintaining 351°F (177°C) - 399°F (204°C)) around the wheel sleeve [1].

(b) Permit the temperature of the wheel sleeve [1] to become approximately 250°F (121°C).

1) Use the Infrared Thermometer, COM-1572 or equivalent, to measure the temperature of the wheel sleeve [1].

SUBTASK 32-11-28-020-008

(11) Remove the wheel sleeve [1]:

(a) As the temperature of the wheel sleeve [1] increases, slowly and continuously increase the tension on the wheel sleeve puller.

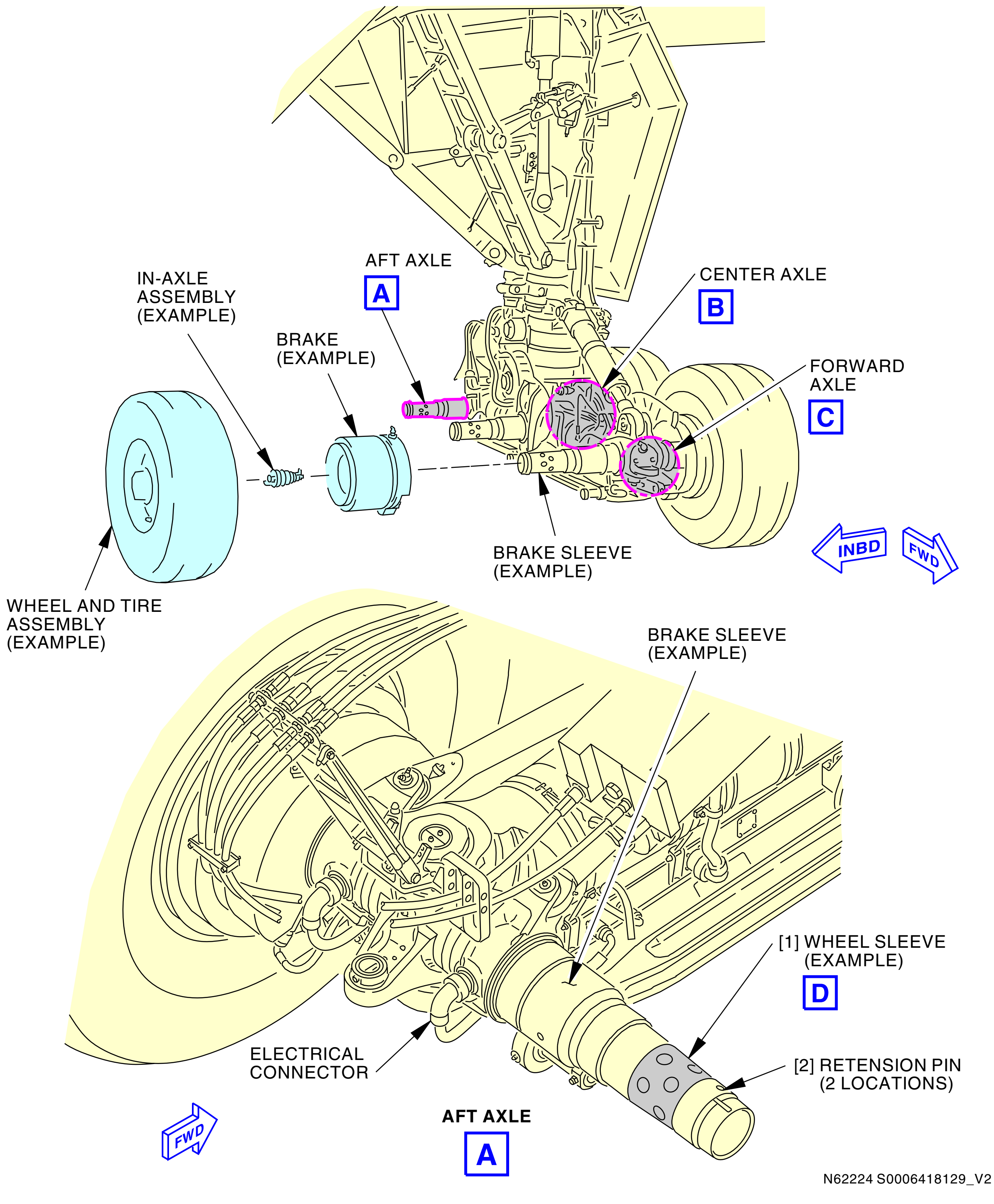
(b) When the wheel sleeve [1] starts to move, remove the electrical heat blanket.

1) If the wheel sleeve [1] does not move, add more dry ice to the inner diameter of the axle [3].

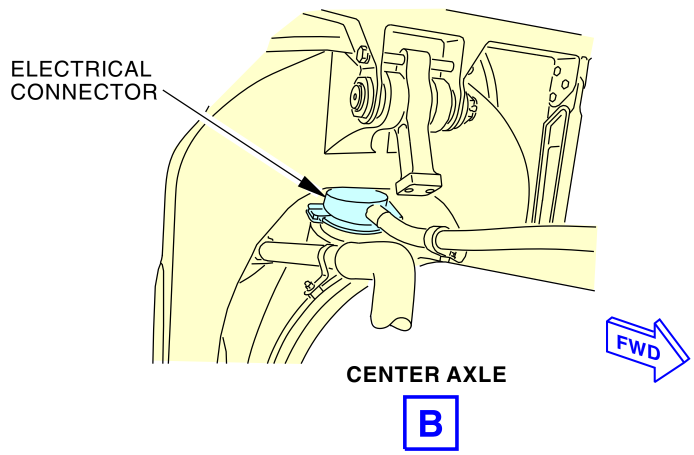
NOTE: You must remove the axle sleeve puller to add more dry ice to the axle.

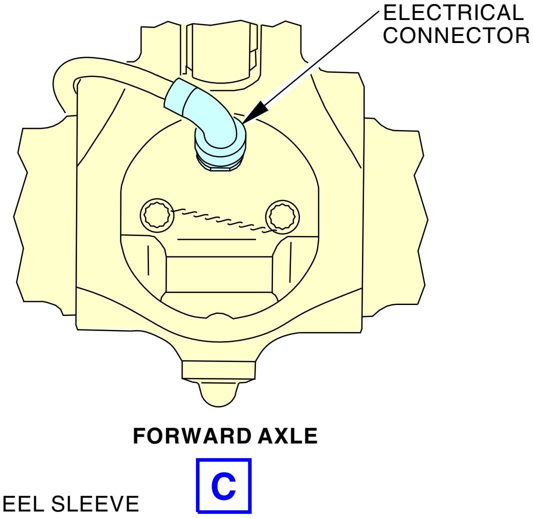
(c) Immediately remove the wheel sleeve [1] with the axle sleeve puller before the component temperatures go to the ambient temperature.

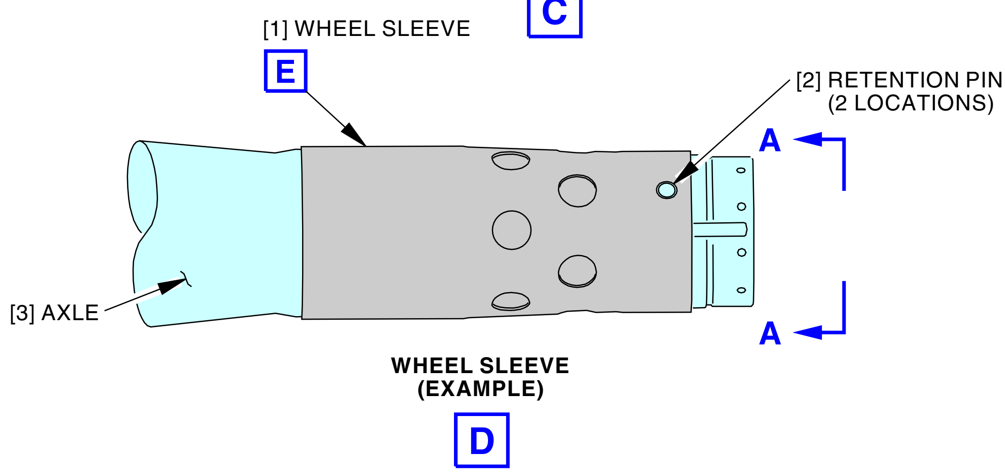
END OF TASK



Main Landing Gear Wheel Sleeve Installation
Figure 401/32-11-28-990-802 (Sheet 1 of 3)







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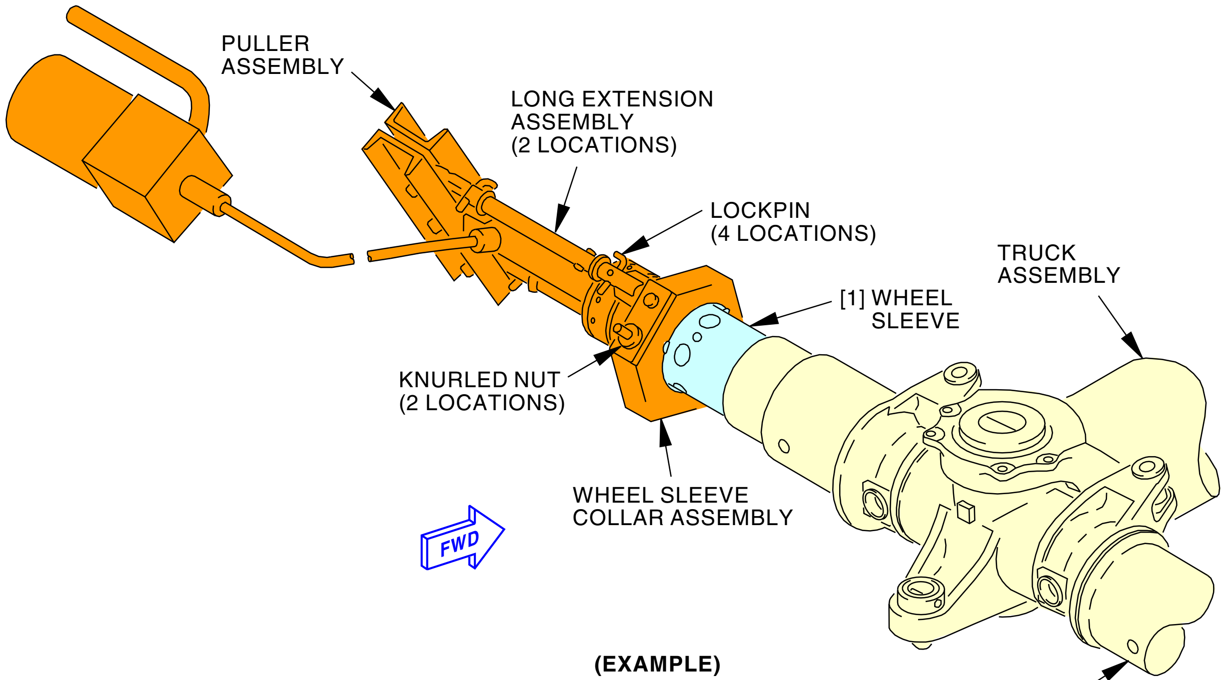
Main Landing Gear Wheel Sleeve Installation
Figure 401/32-11-28-990-802 (Sheet 2 of 3)



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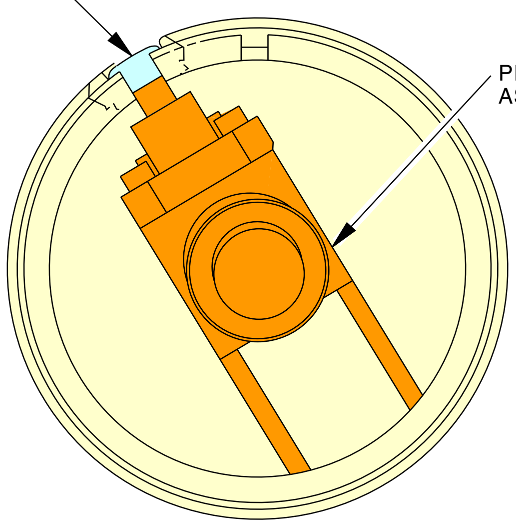

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Main Landing Gear Wheel Sleeve Installation
Figure 401/32-11-28-990-802 (Sheet 3 of 3)

TASK 32-11-28-200-802

3. Main Landing Gear Wheel Sleeve Installation

(Figure 401)

A. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-11-26-200-801	Main Landing Gear Axle Inspection (P/B 601)
32-42-05-400-801	In-Axle Assembly Installation (P/B 401)
32-45-01-400-801	Main Landing Gear Wheel and Tire Assembly Installation (P/B 401)
32-45-07-400-801	Main Landing Gear Brake Installation (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1572	Thermometer - Infrared, Intrinsically Safe Part #: EX-MP4 A Supplier: 3GT36 Opt Part #: DHS24XC-FM Supplier: 08086 Opt Part #: DHS24XF-FM Supplier: 08086 Opt Part #: IR-16L3 IS Supplier: 75037
STD-1242	Hammer - Standard
STD-1304	Blanket - Heat, Capable of Maintaining 350 to 400 Degrees F

C. Consumable Materials

Reference	Description	Specification
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79 Type III
C00259	Coating - Chemical And Solvent Resistant Finish, Corrosion Inhibiting Primer	BMS10-11 Type I
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
G01012	Compound - Carbon Dioxide, Solid (Dry Ice - Any Commercial Grade)	

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Procedure

SUBTASK 32-11-28-210-001

(1) Make sure the wheel sleeve [1] is serviceable:

(a) Examine the wheel sleeve [1] for damage.

(b) Check the wheel sleeve [1] for wear (TASK 32-11-26-200-801).

SUBTASK 32-11-28-210-002

(2) Apply grease, D00013 or grease, D00633, to the area of the axle [3] that touches the wheel sleeve [1].

NOTE: When the axle temperature is decreased, water vapor in the air can condense onto the axle, the grease is applied to the axle now such that later you can remove the grease with the condensed water, before you install the wheel sleeve.

SUBTASK 32-11-28-420-001

(3) Decrease the temperature of the axle [3] for the installation of the wheel sleeve [1]:

NOTE: The cold temperature will decrease the axle diameter. When you subsequently apply heat to the wheel sleeve, the wheel sleeve diameter will increase, and you can install the sleeve.

WARNING	DO NOT GET THE DRY ICE ON YOUR SKIN. THE DRY ICE IS FROZEN CARBON DIOXIDE AT A TEMPERATURE OF APPROXIMATELY -120 F (-84 C). THE COLD TEMPERATURE OF THE CARBON DIOXIDE CAN CAUSE INJURY TO PERSONS.

(a) Put a cloth tightly in the axle [3] at the point where the wheel sleeve [1] ends on the axle [3].

NOTE: The cloth will supply protection for the components in the other end of the axle. When you fill the axle with the dry ice, the cloth will keep the dry ice in the correct end of the axle.

(b) Fill the inner diameter of the axle [3] with the compound, G01012 (dry ice).

1) You can also apply dry ice to the outside diameter of the axle [3] if you did not apply grease to it.

NOTE: As the dry ice melts, cold carbon dioxide gas will cause moisture in the air to condense and form a fog. When the axle temperature is near the temperature of the dry ice the fog will decrease.

NOTE: You might not get this effect if you are working in an environment with low humidity.

SUBTASK 32-11-28-420-002

(4) Increase the temperature of the wheel sleeve [1]:

CAUTION	DO NOT LET THE TEMPERATURE OF THE AXLE COMPONENTS BECOME 300°F (149°C) FOR MORE THAN 180 MINUTES. THE MATERIALS FOR THE AXLE COMPONENTS CAN BECOME WEAK IF THE THERMAL LOADS ARE TOO LARGE. WEAK AXLE COMPONENTS CAN BREAK DURING OPERATION.

(a) Install the electrical heat blanket, STD-1304 (capable of maintaining 351°F (177°C) - 399°F (204°C)) around the wheel sleeve [1].

(b) Permit the temperature of the wheel sleeve [1] to become approximately 250°F (121°C).

1) Use the Infrared Thermometer, COM-1572 or equivalent, to measure the temperature of the wheel sleeve [1].

SUBTASK 32-11-28-640-001

(5) Apply grease, D00013 or grease, D00633, to the area of the axle [3] that contacts the wheel sleeve [1]:

(a) If water has condensed onto the axle [3], use a cloth to remove the grease, with the water condensation, before you apply more grease.

(b) Do not remove the grease from the outer edge of the axle recess, after the final application of the grease.

SUBTASK 32-11-28-420-003

(6) Install the wheel sleeve [1] on the axle [3]:

(a) Remove the electrical heat blanket from the wheel sleeve [1].

(b) Align the retention pin holes in the wheel sleeve [1] with the holes in the axle [3].

(c) Immediately install the wheel sleeve [1] before the temperatures of the wheel sleeve [1] and the axle [3] go to the ambient temperature.

CAUTION DO NOT HIT THE SLEEVE DIRECTLY WITH THE HAMMER. THIS WILL CAUSE DAMAGE TO THE AXLE SLEEVE.

(d) If it is necessary, carefully use a standard hammer, STD-1242, with a block of wood to install the sleeve.

(e) Make sure the retention pin hole in the wheel sleeve [1] aligns with the hole in the axle [3].

(f) If the wheel sleeve [1] goes too far on the axle [3], use the axle sleeve puller to put the wheel sleeve [1] in its correct position.

NOTE: The electrical heat blanket and the dry ice will help with the movement of the sleeve.

SUBTASK 32-11-28-420-004

(7) Install the retention pin [2] for the wheel sleeve [1]:

(a) Apply primer, C00259 or primer, C00175, to the area in the retention pin hole of the axle [3].

(b) Install the retention pin [2] while the primer is wet.

1) Push the retention pin [2] into the axle [3].

2) Make sure the retention pin [2] fully engages with the axle [3].

3) Use grease, D00013 or grease, D00633 to fill the retention pin [2] hole.

SUBTASK 32-11-28-420-005

(8) Remove the cloth and all of the dry ice from the inner diameter of the axle [3].

SUBTASK 32-11-28-420-006

(9) Install the in-axle assembly wires in the axle [3]:

(a) Pull the in-axle assembly wires into their position in the axle [3].

(b) Connect the electrical connector to the feed through assembly on the axle [3].

1) For the forward or aft axles, tighten the electrical connector to 165 in-lb (18.6 N·m) - 195 in-lb (22.0 N·m).

2) For the center axle, tighten the electrical connector to 185 in-lb (20.9 N·m) - 215 in-lb (24.3 N·m).

SUBTASK 32-11-28-420-007

(10) Do this task: Main Landing Gear Brake Installation, TASK 32-45-07-400-801.

SUBTASK 32-11-28-420-008

(11) Do this task: In-Axle Assembly Installation, TASK 32-42-05-400-801.

SUBTASK 32-11-28-420-009

(12) Do this task: Main Landing Gear Wheel and Tire Assembly Installation, TASK 32-45-01-400-801.

F. Put the Airplane Back to Its Usual Condition.

SUBTASK 32-11-28-480-004

WARNING	MAKE SURE THAT THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER, THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT

(1) Do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

SUBTASK 32-11-28-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

Main Landing Gear Truck Junction Box

1. **General**
   A. This pageblock contain these tasks;

TASK 32-11-30-800-801

2. **J501 and J503 Junction Boxes- Maintenance Practices**

A. **General**

(1) This task includes the steps to inspect, adjust and/or replace the band clamps used to secure the junction boxes located under the main landing gear trucks.

B. **Location Zones**

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

C. **Procedure**

ARO 001-006 PRE SB 777-32-0095

SUBTASK 32-11-30-200-002

(1) Check the band clamp nuts to ensure they are maintaining the proper torque as follows:

(a) After two flight legs, verify the band clamps have not loosened and have maintained a gap at the tension adjuster. Re-torque as needed to the 35-40 lb-in recommended band clamp nut torque range. Secure using a double nut P/N BACN11R3CM or BACN11Z3C or BACN10JC3CM depending on the band clamp gap / thread engagement. Clamps with a wider gap may need nut BACN10JC3CM (or equivalent) for proper thread engagement (see notes 1-4 below).

(b) After five flight legs, again verify the band clamps have not loosened and have maintained a gap at the tension adjuster. Re-torque as needed to the 35-40 lb-in recommended band clamp nut torque. See notes 1-4 below.

(c) After an additional 15 flight legs (from last five), again verify the band clamps have not loosened and have maintained a gap at the tension adjuster. Re-torque as needed to the 35-40 lb-in recommended band clamp nut torque range. See notes 1-4 below.

NOTE: Verify that band clamps are perpendicular to truck beam centerline and parallel to each other prior to/during torquing.

NOTE: Verify the socket and/or tool extension is not contacting the band clamp. The socket may wedge itself between the nut and the band clamp interfering with torquing and resulting in lower than specified torque values. A thin wall socket is recommended to prevent interference.

NOTE: Boeing recommends torquing the band clamp nut/s to 35-40 lb-in.

NOTE: Ensure the self-locking nut is not re-used more than 5 times.

(2) If a gap does not exist between the band clamp ends at the tension adjuster after torquing to the recommended 35-40 lb-in range, operators can install shim/s under the clamp to prevent the ends from touching: fabricate Laminated CRES shims, BAC1534-62C, stock size .062 X 1.00 wide X 10.00 inch maximum length and/or .062 thick stainless steel, type 301, 302 or 303 X 1.00 wide X 10.00 inch maximum length. The shim/s shall be bonded (installed wet) to the inside surface (the inner clamp surface that is in contact with the mylar tape under the clamps) of the existing band clamps using BAC5010 type 71 adhesive.

ARO 001-006 PRE SB 777-32-0095 (Continued)

(a) As an option, operators may make one longer shim, 20 inches in length (in lieu of two 10 inch shims butted). Position the single shim centered under the bolt / clamp tension mechanism.

(b) If the above shim material is not available, as a temporary repair, shim under the clamp with aluminum speed tape (i.e.3M-436). This would entail cleaning the surface with an approved cleaning agent and then using one or more layers of tape in 14-15 inch length, as required, to achieve a gap.

ARO 007-999; ARO 001-006 POST SB 777-32-0095

SUBTASK 32-11-30-200-004

(3) Check the band clamp nuts to ensure they are maintaining the proper torque as follows:

NOTE: It is not necessary for the operator to complete inspection for the new band clamps after 2, 5, and 15 flight legs. But the operator can choose to do this.

(a) After two flight legs, verify the band clamps have not loosened and have maintained a gap at the tension adjuster. Re-torque as needed to the 35-40 lb-in recommended band clamp nut torque range. Secure using a double nut P/N BACN11R3CM or BACN11Z3C or BACN10JC3CM depending on the band clamp gap / thread engagement. Clamps with a wider gap may need nut BACN10JC3CM (or equivalent) for proper thread engagement (see notes 1-4 below).

(b) After five flight legs, again verify the band clamps have not loosened and have maintained a gap at the tension adjuster. Re-torque as needed to the 35-40 lb-in recommended band clamp nut torque. See notes 1-4 below.

(c) After an additional 15 flight legs (from last five), again verify the band clamps have not loosened and have maintained a gap at the tension adjuster. Re-torque as needed to the 35-40 lb-in recommended band clamp nut torque range. See notes 1-4 below.

NOTE: Verify that band clamps are perpendicular to truck beam centerline and parallel to each other prior to/during torquing.

NOTE: Verify the socket and/or tool extension is not contacting the band clamp. The socket may wedge itself between the nut and the band clamp interfering with torquing and resulting in lower than specified torque values. A thin wall socket is recommended to prevent interference.

NOTE: Boeing recommends torquing the band clamp nut/s to 35-40 lb-in.

NOTE: Ensure the self-locking nut is not re-used more than 5 times.

(4) If a gap does not exist between the band clamp ends at the tension adjuster after torquing to the recommended 35-40 lb-in range, operators can install shim/s under the clamp to prevent the ends from touching: fabricate Laminated CRES shims, BAC1534-62C, stock size .062 X 1.00 wide X 10.00 inch maximum length and/or .062 thick stainless steel, type 301, 302 or 303 X 1.00 wide X 10.00 inch maximum length. The shim/s shall be bonded (installed wet) to the inside surface (the inner clamp surface that is in contact with the mylar tape under the clamps) of the existing band clamps using BAC5010 type 71 adhesive.

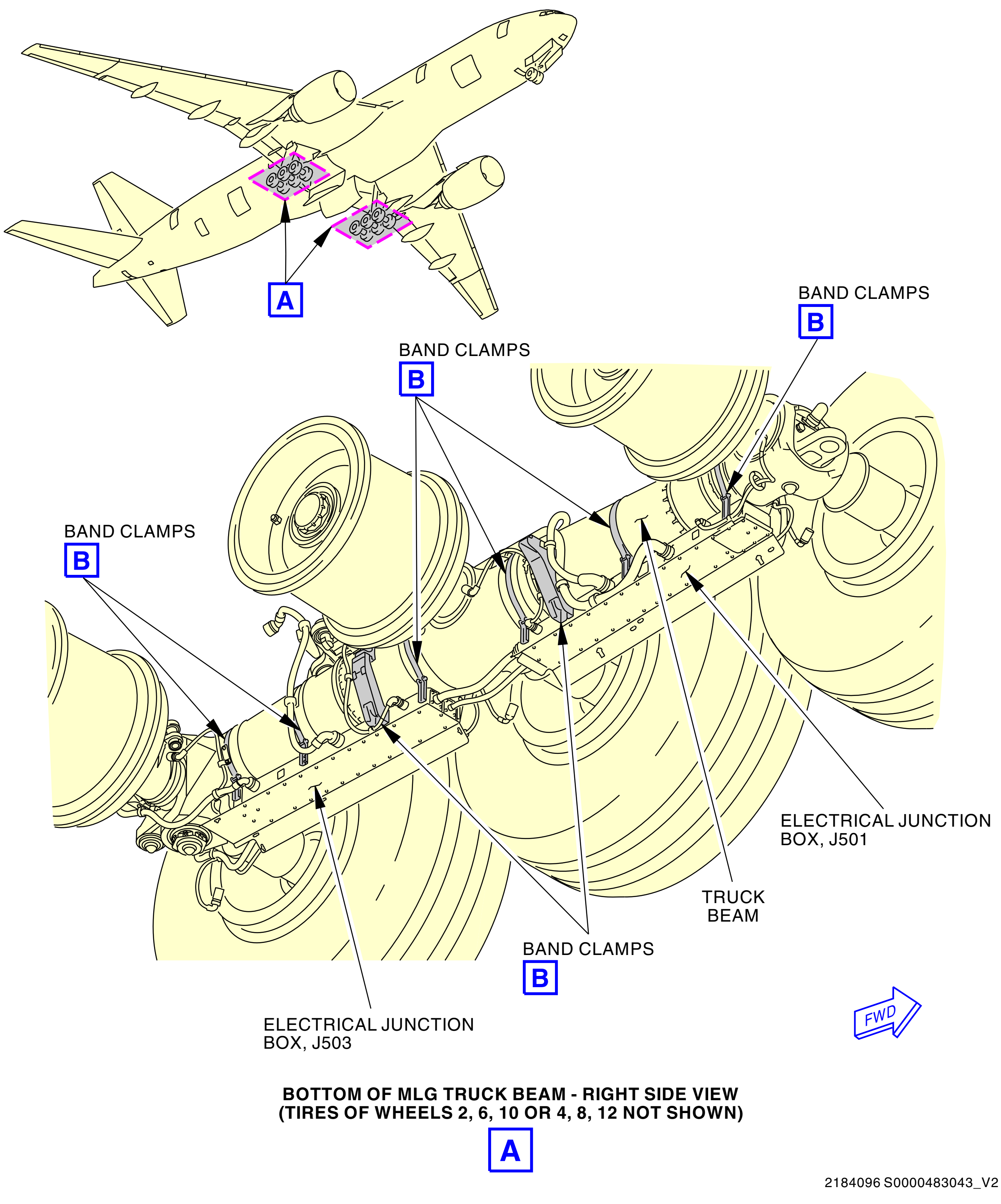
(a) As an option, operators may make one longer shim, 20 inches in length (in lieu of two 10 inch shims butted). Position the single shim centered under the bolt / clamp tension mechanism.

ARO 007-999; ARO 001-006 POST SB 777-32-0095 (Continued)

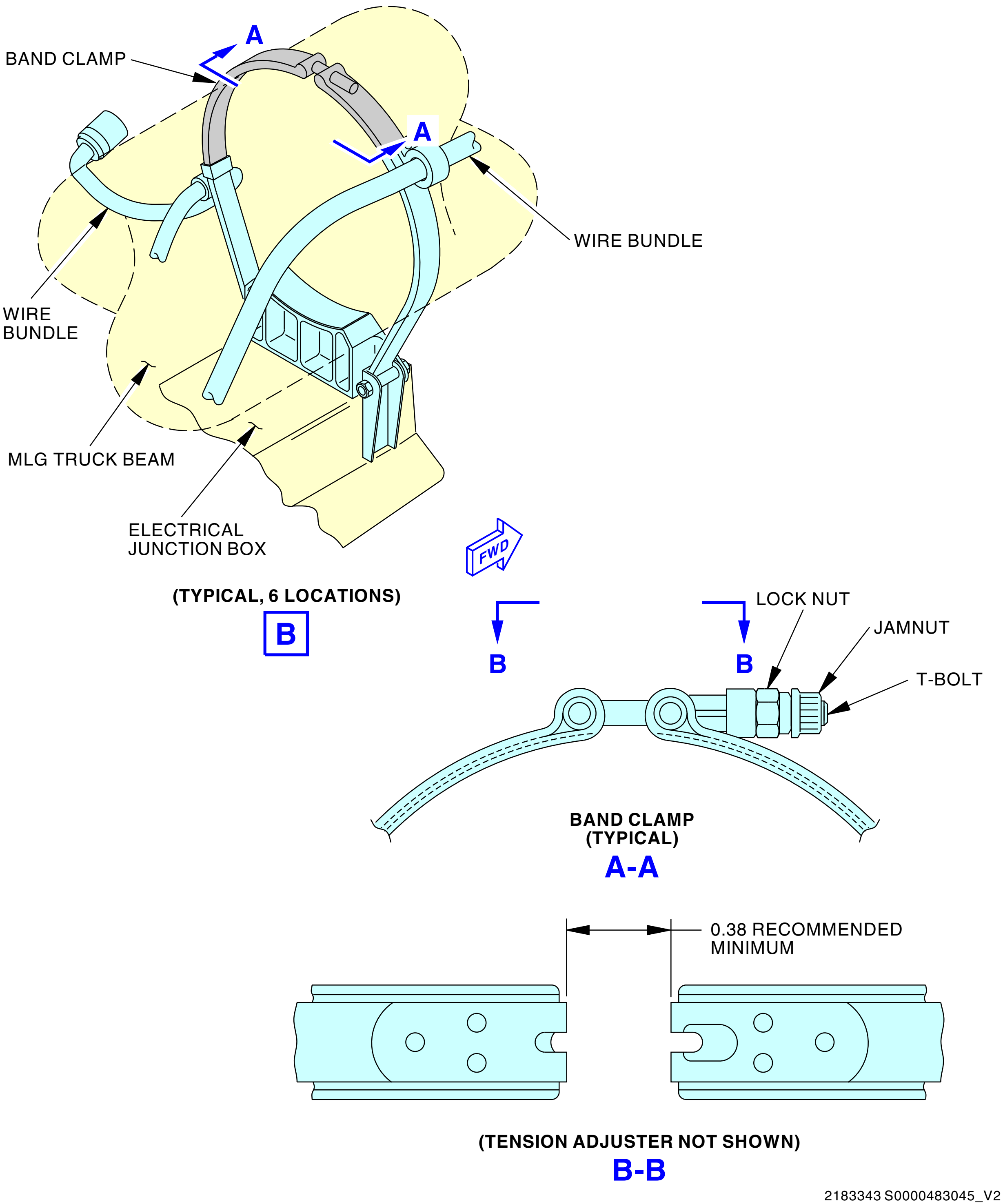
(b) If the above shim material is not available, as a temporary repair, shim under the clamp with aluminum speed tape (i.e.3M-436). This would entail cleaning the surface with an approved cleaning agent and then using one or more layers of tape in 14-15 inch length, as required, to achieve a gap.

ARO ALL

——— END OF TASK ———



J501 and J503 Electrical Junction Box
Figure 201/32-11-30-990-801 (Sheet 1 of 2)



J501 and J503 Electrical Junction Box
Figure 201/32-11-30-990-801 (Sheet 2 of 2)

MAIN LANDING GEAR AIR VALVE AND CHECK VALVE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the main landing gear air valve and check valve.

(2) An installation of the main landing gear air valve and check valve.

TASK 32-11-96-000-801

2. Main Landing Gear Air Valve and Check Valve - Removal

A. General

(1) This task includes the steps to remove the main landing gear air valve and check valve.

B. References

Reference	Title
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Consumable Materials

Reference	Description	Specification
D00467	Fluid - Landing Gear Shock Strut	BMS3-32 Type II
D50022	Fluid - Landing Gear Shock Strut (Specifically For Preservation)	BMS3-32 Type I
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

D. Prepare for the Removal

SUBTASK 32-11-96-420-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-96-420-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-96-000-001

(3) Disconnect hydraulic fluid, D50022 or hydraulic fluid, D00467 supply line to the check valve.

(4) Open the air valve [2] to release the pressure in the outer cylinder [1].

(a) Release air pressure from the component assembly by turning the swivel nut on the air valve counterclockwise.

(5) Open the check valve [3] to release the pressure in the outer cylinder [1].

E. Air Valve and Check Valve Removal

SUBTASK 32-11-96-020-001

(1) Do the steps that follow to remove the air valve [2].

(a) Remove the MS20995C32 lockwire, G01048.

(b) Remove the air valve [2].

(2) Do the steps that follow to remove the check valve [3].

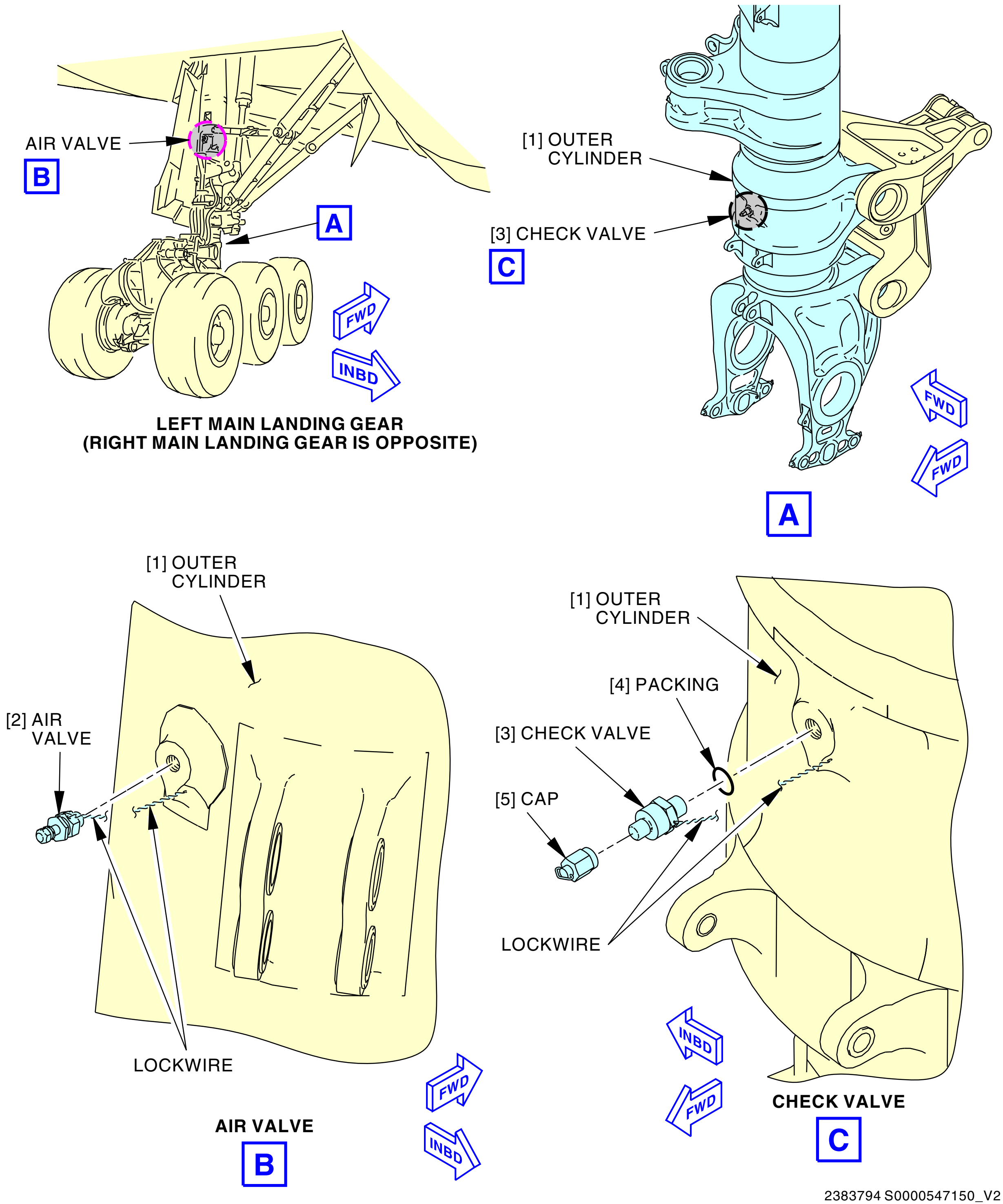
(a) Remove the cap [5].

(b) Remove the MS20995C32 lockwire, G01048.

(c) Remove the check valve [3] and packing [4].

(d) Drain all of the hydraulic fluid from the Main landing Gear.

——— END OF TASK ———



Main Landing Gear Air Valve and Check Valve
Figure 401/32-11-96-990-801

TASK 32-11-96-400-801

3. Main Landing Gear Air Valve and Check Valve - Installation

Figure 401

A. General

(1) This task includes the steps to install the main landing gear air valve [2] and check valve [3].

B. References

Reference	Title
20-10-23-400-801	Lockwire, Cotter Pins, and Lockrings - Installation (P/B 401)
20-30-80-910-801	General Cleaning of Metal (Series 80) (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Consumable Materials

Reference	Description	Specification
A00226	Compound - Tamper-Proof Putty	BMS8-45
D00467	Fluid - Landing Gear Shock Strut	BMS3-32 Type II
D50022	Fluid - Landing Gear Shock Strut (Specifically For Preservation)	BMS3-32 Type I
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
4	Packing	32-11-01-01B-242	ARO ALL

E. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Prepare for the Installation

SUBTASK 32-11-96-420-003

> **WARNING**
> MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-11-96-420-004

> **WARNING**
> OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-11-96-210-001

(3) If check valve [3] is damaged, prepare to install a new check valve [3].

(4) If the check valve [3] is not damaged, then clean the check valve [3] with solvent (General Cleaning of Metal (Series 80), TASK 20-30-80-910-801).

(a) Do a last flush of the check valve [3] with solvent.

(b) Make sure to remove all of the solvent material before the check valve [3] is installed.

(c) Before the check valve [3] and the new packing [4] are installed into the outer cylinder [1], lubricate the valve and packing with fluid, D00467.

(5) Prepare to install a new air valve [2].

G. Air Valve and Check Valve Installation

SUBTASK 32-11-96-400-001

(1) Install the check valve [3]:

(a) Lubricate the new packing [4] and the threads of the check valve [3] with hydraulic fluid, D50022 or hydraulic fluid, D00467.

(b) Install the new packing [4] and the check valve [3] into the correct location of the outer cylinder [1].

(c) Apply a torque of 23 +2 / -1 ft-lb (31 +3 / -2 N·m) to the check valve [3].

(d) Use the double-twist procedure to install a MS20995C32 lockwire, G01048 on the check valve [3] (Lockwire, Cotter Pins, and Lockrings - Installation, TASK 20-10-23-400-801).

(e) Install the cap [5]

(2) Install the air valve [2]:

(a) Lubricate the seal and the threads of the air valve with hydraulic fluid, D50022 or hydraulic fluid, D00467.

(b) Install the air valve [2] into the correct location of the outer cylinder [1].

(c) Apply a torque of 12 ±1 ft-lb (16 ±2 N·m) to the body of the air valve [2].

(d) Apply a torque of 6 ±1 ft-lb (8 ±1 N·m) to the swivel of the air valve [2].

(e) Use the double-twist procedure to install a MS20995C32 lockwire, G01048 on the air valve [2] (Lockwire, Cotter Pins, and Lockrings - Installation, TASK 20-10-23-400-801).

(f) Apply tamper-proof compound, A00226 to the check valve [3], then if moved, it will cause the seal to break.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-11-96-840-001

(1) Move the outer cylinder [1] into the vertical position and fully compress.

(a) Carefully, loosen the air valve [2] to release air when hydraulic fluid is pumped into the outer cylinder [1] through the check valve [3].

(b) Connect hydraulic fluid, D50022 or hydraulic fluid, D00467 supply line to the check valve [3].

——— END OF TASK ———

MAIN LANDING GEAR DOORS - ADJUSTMENT/TEST

1. General

A. This procedure has these tasks:

(1) An adjustment of the main landing gear body door

NOTE: The shock strut door, the drag strut door, and the trunnion door must be in adjustment before the main landing gear door is adjusted.

(2) An adjustment of the main landing gear drag strut door

NOTE: The shock strut door must be in its nominal position and the panels around the shock strut door must be in adjustment before adjustment of the drag strut door.

(3) An adjustment of the main landing gear trunnion door

NOTE: The shock strut door must be in its nominal position and the panels around the shock strut door must be in adjustment before adjustment of the trunnion door.

(4) An adjustment of the main landing gear shock strut door.

NOTE: The attachment rods and the washer stacks on the shock strut door will not be adjusted. All adjustments will be made by adjusting the fixed trailing edge panels around the shock strut door.

TASK 32-12-00-910-805

2. Main Landing Gear Body Door Adjustment

(Figure 501)

A. General

(1) This procedure provides instructions to adjust the main landing gear body door.

B. References

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-802	Main Hydraulic System Pressurization with a Portable Hydraulic Cart (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)
32-32-16-000-801	Main Landing Gear Door Uplock Hook Removal (P/B 401)
32-32-16-400-801	Main Landing Gear Door Uplock Hook Installation (P/B 401)
32-61-06-820-801	Measure and Adjust the Clearance for the Door Closed Sensor (P/B 201)
CMM 32-12-03	Component Maintenance Manual

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1796	Portable Hydraulic Cart, System Test, Capable of 3000 PSI and a minimum flow of 50 GPM. Part #: 5830 SERIES Supplier: 59603 Part #: 58300BJ Supplier: 59603 Part #: 9780-0327 Supplier: 05172 Part #: 9780-0398 Supplier: 05172 Part #: HPPE503K-S4 Supplier: 6T605 Part #: HT2000-1-E/1-S Supplier: H6394 Part #: HT2000-1-F-S Supplier: H6394 Part #: HT50-E-F-D Supplier: H6394 Part #: PH50D Supplier: 10000 Part #: TMH3000 Supplier: L1238
SPL-1213	Plug - Hydraulic Pressure Tube, 5/8 Inch Line, Corrosion Resistant Steel Part #: AS5231J10 Supplier: 81205 Part #: BACP20AU10J Supplier: 81205 Opt Part #: MS21913J10 Supplier: 88277
SPL-1257	Plug - Hydraulic Return Tube, 1/2 Inch Line, Corrosion Resistant Steel Part #: BACP20AU8J Supplier: 81205 Opt Part #: MS21913J8 Supplier: 88277
SPL-1882	Locating Equipment, MLG Door Uplock Roller Part #: J32063-1 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
C00308	Compound - Corrosion Preventive, Petrolatum Hot Application	MIL-C-11796
G02020	Clay, Modeling	

E. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
732	Left Main Landing Gear Body Door
741	Right Main Landing Gear
742	Right Main Landing Gear Body Door

F. Access Panels

Number	Name/Location
149BAL	Aft Keel Beam Pressure Relief Door

G. Prepare for the Adjustment

SUBTASK 32-12-00-480-008

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-12-00-010-008

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-12-00-860-036

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-12-00-860-037

(4) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-12-00-860-038

(5) Attach a DO-NOT-OPERATE tag to the control lever for the landing gear.

SUBTASK 32-12-00-860-039

(6) Open this access panel that is between the main landing gear doors:

Number	Name/Location
149BAL	Aft Keel Beam Pressure Relief Door

SUBTASK 32-12-00-860-040

(7) To supply electric power, do this task: Supply Electrical Power, TASK 24-22-00-860-805.

H. Main Landing Gear Body Door Adjustment

SUBTASK 32-12-00-020-010

(1) To remove the uplock hook [34] and mechanism, do this task: Main Landing Gear Door Uplock Hook Removal, TASK 32-32-16-000-801.

SUBTASK 32-12-00-020-011

(2) If you are adjusting a new or different main landing gear body door, do the step that follows to prevent damage to the micro-switch [45]:

(a) Adjust the two nuts [47] on the micro-switch [45], on the forward door stop, to move the micro-switch up and out of the way.

SUBTASK 32-12-00-020-012

(3) Do the steps that follow to close the main landing gear door:

(a) Disconnect the pressure and return hydraulic lines from the actuator for the door you will adjust.

(b) Install plugs in the hydraulic lines for the door actuator:

1) Install a 1/2 inch corrosion resistant steel hydraulic line return tube plug, SPL-1257, in the extension hydraulic line.

2) Install a 5/8 inch corrosion resistant steel hydraulic line pressure tube plug, SPL-1213, in the retraction hydraulic line.

(c) Connect the pressure and return lines from the 3000 PSI, 50 GPM system test portable hydraulic cart, COM-1796, or equivalent, to the door actuator:

NOTE: The hydraulic service cart must be capable of being adjusted from 0 - 1500 psig (0 - 10340kPa).

1) Install a 1/2 inch fitting on the service cart's hydraulic return line.

2) Install a 5/8 inch fitting on the service cart's hydraulic pressure line.

3) Put the hydraulic lines from the service cart through the open panel between the main landing gear doors and in to the wheel well for the door you will adjust.

4) Connect the pressure line to the door actuator's retract fitting.

5) Connect the return line to the door actuator's extend fitting.

WARNING	MAKE SURE THE AREA AROUND THE LANDING GEAR AND ITS DOORS ARE CLEAR OF PERSONS AND EQUIPMENT DURING A LANDING GEAR RETRACTION AND EXTENSION TEST. THIS WILL HELP PREVENT INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

CAUTION	MAKE SURE THAT THE PRESSURE FROM THE HYDRAULIC SERVICE CART IS LESS THAN 1500 PSIG (10,342 KPA). MORE PRESSURE CAN CAUSE DAMAGE TO THE DOOR STOPS, THE UPLOCK HOOK, AND THE TOWER WHEN THE DOOR CLOSES.

6) To close the main landing gear door, use the hydraulic service cart to pressurize the door actuator to approximately 500 psig (3447 kPa) - 1500 psig (10,342 kPa), do this task: Main Hydraulic System Pressurization with a Portable Hydraulic Cart, TASK 29-11-00-860-802.

NOTE: Slowly increase the hydraulic pressure that is supplied by the service cart to close the main landing gear door.

a) Close the main landing gear door [4] until the forward and aft door stops just contact the door.

NOTE: The main landing gear door [4] will be held in this position by hydraulic pressure from the service cart.

SUBTASK 32-12-00-820-024

(4) Make sure the fit of the main landing gear door [4] is in tolerance at the applicable locations (Table 501).

NOTE: The adjustments of the forward and aft edges of the main landing gear door are made when you adjust the forward and aft door stops, this controls the flushness values at the forward and aft edges (zone E, G, and B).

NOTE: The forward/outboard edge (zone D) (Figure 502) that is common to the trailing edge fixed panel and main landing gear shock strut door may be trimmed, if you are installing a new door, to achieve the value in the table.

NOTE: The outboard edges of the door must be verified after the roller rigging and after the door is warped and locked closed with the airplane up on jacks.

(a) Write the fit values that are not in tolerance.

(b) Use the "ALL" tolerances, in (Table 501), for all airplane main landing gear door clearance and flushness checks.

Table 501/32-12-00-993-812 MAIN LANDING GEAR DOOR CLEARANCE AND FLUSHNESS VALUES

EDGE ZONE	FLUSHNESS (MISMATCH)
B	0.0 +0.15 / -0.15 inch 0.0 +3.8 / -3.8 mm
C	10% - 50% bulb seal compression (verified after door adjustment)
D	10% - 50% bulb seal compression (verified after door adjustment)
E*[1]	0.0 +0.20 / -0.10 inch 0.0 +5.1 / -2.5 mm or 0.0 +0.35 / -0.15 inch 0.0 +8.9 / -3.8 mm (for a total length of 30 inches (762 mm) or less along Zone E)
G*[2]	0.0 +0.20 / -0.10 inch 0.0 +5.1 / -2.5 mm or 0.0 +0.35 / -0.15 inch 0.0 +8.9 / -3.8 mm (for a total length of 30 inches (762 mm) or less along Zone G)
IT IS ACCEPTABLE FOR A BULB SEAL TO BE IN THE AIRSTREAM	
EDGE ZONE	CLEARANCE (USE THIS VALUE WHEN YOU INSTALL A NEW DOOR THAT DOES NOT HAVE THE BULB SEAL)
D	0.50 +0.10 / -0.10 inch 12.7 +2.5 / -2.5 mm

*[1] Zone E is allowed to be within a flushness tolerance of 0.0 +0.35/-0.15 inch for a total length of 30 inches or less. Otherwise Zone E must be within a flushness tolerance of 0.0 +0.20/-0.10 inch.

*[2] Zone G is allowed to be within a flushness tolerance of 0.0 +0.35/-0.15 inch for a total length of 30 inches or less. Otherwise Zone G must be within a flushness tolerance of 0.0 +0.20/-0.10 inch.

SUBTASK 32-12-00-820-025

(5) Open the main landing gear door:

(a) Slowly decrease the hydraulic pressure that is supplied by the service cart to open the main landing gear door [4].

SUBTASK 32-12-00-020-013

(6) If the main landing gear door [4] is not in tolerance, do the steps that follow for the forward door stop [21] and aft door stop [22]:

(a) Remove the bolt [24] and bolt [28] which hold the stop pad [27] and stop pad [32] on the bottom of the forward door stop [21] and aft door stop [22].

(b) Add or remove the shim [25], shim [31] or the filler [26] for the stop pad [27], stop pad [32] to move the main landing gear door [4] into tolerance.

(c) Install the bolts [24] for the forward door stop [21] and the bolts [28], washers [29], and the nuts [30] for the aft door stop [22].

(d) Tighten the bolts [24] with your hand.

(e) Close the main landing gear door [4]:

1) Slowly increase the hydraulic pressure that is supplied by the service cart to close the main landing gear door [4] until the forward and aft door stops just contact the door.

(f) Make sure the main landing gear door [4] is in tolerance along the forward and aft edges of the door (zones G, E, and B).

SUBTASK 32-12-00-820-026

(7) Open the main landing gear door:

(a) Slowly decrease the hydraulic pressure that is supplied by the service cart to open the main landing gear door [4].

SUBTASK 32-12-00-420-012

(8) If the forward door stop [21] or aft door stop [22] were adjusted, do the steps that follow:

(a) Remove the bolts [24], bolts [28] for the forward door stop [21], aft door stop [22].

(b) Apply corrosion preventive compound, C00308 to all areas of the holes in the forward door stop [21], aft door stop [22] and shims [25], shims [31], and immediately install the bolts [24], bolts [28].

(c) Apply sealant, A00247 to the edges of the shims [25], shims [31] and the fillers [26] for the forward door stop [21], aft door stop [22].

(d) Install the bolts [24] in the forward door stop [21] and tighten them to 100 ±5 in-lb (11.3 ±0.6 N·m).

(e) Install the bolts [28], the washers [29], and the nuts [30] in the aft door stop [22] and tighten them.

SUBTASK 32-12-00-820-027

(9) If you moved the micro-switch [45] up and out of the way, do the steps that follow to adjust the micro-switch on the forward door stop [21]:

(a) Put a small quantity of clay, G02020 on the micro-switch fitting [48] such that when the main landing gear door [4] is closed the clay, G02020 will deform to the clearance dimension Z between the door stop and the micro-switch fitting.

(b) Close main landing gear door [4]:

1) Slowly increase the hydraulic pressure that is supplied by the service cart to close the main landing gear door [4] until the forward and aft door stops contact the door.

(c) Open the main landing gear door [4]:

1) Slowly decrease the hydraulic pressure that is supplied by the service cart to open the main landing gear door [4].

(d) Measure the thickness of the clay, G02020 that was deformed when you closed the main landing gear door [4].

(e) Remove the clay, G02020 from the micro-switch fitting [48].

(f) Loosen the two nuts [47] on the micro-switch [45] and adjust the switch up and down to until the dimension Z is 0.040 in. (1.016 mm) - 0.250 in. (6.350 mm) MORE than the thickness of the deformed clay, G02020 (Figure 502).

NOTE: The dimension Z is measured between the bottom of the micro-switch fitting [48] and the bottom of the roller [46] on the micro-switch.

(g) Make sure the roller [46] on the micro-switch [45] is pointed in the inboard/outboard direction.

(h) Tighten the two nuts [47] on the micro-switch [45] to 10 in-lb (1 N·m) - 25 in-lb (2.8 N·m).

SUBTASK 32-12-00-860-041

(10) If you are adjusting a new or different main landing gear body door, do this task: Measure and Adjust the Clearance for the Door Closed Sensor, TASK 32-61-06-820-801.

SUBTASK 32-12-00-860-042

(11) If you are adjusting a new or different main landing gear body door, do one of the checks that follow to make sure the uplock roller [23] is in adjustment (Figure 502).

NOTE: The first check uses an uplock roller location tool and a gage, the second check does not use a special tool. It is easier to do the check with the special tool.

(a) CHECK #1: Do the steps that follow to check the X and Y dimensions with the uplock roller location tool (Figure 502):

1) Install the uplock locating locating equipment, SPL-1882, in the location for the door uplock hook [34] and mechanism.

2) Close the main landing gear door [4]:

a) Slowly increase the hydraulic pressure that is supplied by the service cart to close the main landing gear door [4] until the forward and aft door stops just contact the door.

3) Measure the clearance between the uplock roller [23] and the uplock roller location tool at points X and Y:

NOTE: You can get access to the uplock roller [23] through the shock strut door opening.

a) Make sure the clearance is 0.227 in. (5.77 mm) - 0.274 in. (6.96 mm), see (Figure 502) for gage locations.

(b) CHECK #2: Do the steps that follow to check dimension X and dimension Y between the uplock roller [23] and the uplock hook pin [33] (Figure 502):

1) Close the main landing gear door [4]:

a) Slowly increase the hydraulic pressure that is supplied by the service cart to close the main landing gear door [4] until the forward and aft door stops just contact the door.

2) Measure the dimension X and the dimension Y for the uplock roller [23] and the uplock hook pin [33]:

NOTE: You can get access to the uplock roller [23] through the shock strut door opening.

a) Dimension X should be 0.334 ±0.015 in. (8.48 ±0.38 mm).

b) Dimension Y should be 3.509 ±0.005 in. (89.13 ±0.13 mm).

(c) Open the main landing gear door [4]:

1) Slowly decrease the hydraulic pressure that is supplied by the service cart to open the main landing gear door [4].

SUBTASK 32-12-00-820-028

(12) If you checked the uplock roller [23] and the uplock roller is not in adjustment, do the steps that follow:

NOTE: You only need to check the uplock roller [23] if you are adjusting a new or different main landing gear body door.

(a) Remove the bolts [35], bolts [38], the washers [36], washers [39], and the nuts [37], nuts [40] that attach the uplock roller fitting [44] to the main landing gear door [4].

(b) Add or remove shims [41] or filler [42] from the uplock roller fitting [44] to adjust the uplock roller [23] vertically.

(c) Loosely install the bolts [35], bolts [38], the washers [36], washers [39], and the nuts [37], nuts [40] to hold the uplock roller fitting [44] to the main landing gear door [4].

(d) Move the uplock roller on the serrated plates [43] to adjust the uplock roller [23] inboard or outboard.

(e) Tighten the nuts [37], nuts [40] enough to prevent the uplock roller [23] from moving when the main landing gear door [4] is closed.

(f) Close the main landing gear door [4]:

1) Slowly increase the hydraulic pressure that is supplied by the service cart to close the main landing gear door [4] until the forward and aft door stops contact the door.

(g) Make sure the uplock roller [23] is in adjustment.

(h) Open the main landing gear door [4]:

1) Slowly decrease the hydraulic pressure that is supplied by the service cart to open the main landing gear door [4].

SUBTASK 32-12-00-820-029

(13) If you adjusted the uplock roller [23], do the steps that follow when you have the uplock roller [23] in tolerance:

NOTE: You only need to adjust the uplock roller [23] if you are adjusting a new or different main landing gear body door.

(a) Do the steps that follow for each of the bolts [35], bolts [38] that attach the uplock roller fitting [44] to the main landing gear door [4].

NOTE: Do not remove all of the bolts at the same time.

1) Remove a bolts [35] or bolts [38], the washers [36] or washers [39], and the nuts [37] or nuts [40] for the uplock roller fitting [44].

2) Apply sealant, A00247, to the bolts [35], bolts [38], the washers [36], washers [39], and the nuts [37], nuts [40].

3) Install the bolts [35], bolts [38], the washers [36], washers [39], and the nuts [37], nuts [40] to connect the uplock roller fitting [44] to the main landing gear door [4].

4) Tighten the nuts [37], nuts [40].

SUBTASK 32-12-00-420-013

(14) To install the uplock hook [34], do this task: Main Landing Gear Door Uplock Hook Installation, TASK 32-32-16-400-801

(a) Make sure the uplock hook [34] is in the open position.

SUBTASK 32-12-00-860-043

(15) Do the steps that follow to close the main landing gear door:

(a) Slowly increase the hydraulic pressure that is supplied by the service cart to close the main landing gear door [4] until the door closes and locks.

NOTE: You may need to use more hydraulic pressure to get the door to latch in the closed position.

(b) Make sure the uplock hook [34] latches the uplock roller [23].

SUBTASK 32-12-00-210-006

(16) With the door in the up and locked position, remove the hydraulic pressure supplied by the hydraulic pressure cart.

NOTE: The main landing gear door [4] is warped and locked closed for final fit check.

SUBTASK 32-12-00-210-007

(17) Make sure the fit of the main landing gear door [4] is still in tolerance at the forward and aft edges of the main landing gear door (zone E, G, and B) (Table 501).

SUBTASK 32-12-00-860-044

(18) Open the main landing gear door [4]:

(a) Use the ground release system to open the main landing gear door [4] (TASK 32-00-40-860-802).

SUBTASK 32-12-00-210-008

(19) Do this task: Lift the Airplane with Jacks, TASK 07-11-01-580-804.

SUBTASK 32-12-00-860-045

(20) Do the steps that follow to retract the main landing gear:

(a) Remove the DO-NOT-OPERATE tag from the control lever for the landing gear.

(b) Push the GEAR OVRD button which is on the landing gear module in the flight compartment.

NOTE: This will prevent operation of the aural warning which operates when the CONFIG GEAR message shows on the Engine Indicating and Crew Alerting System (EICAS).

(c) For the applicable main landing gear for the door you are adjusting, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

(d) Pressurize the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE RETRACTION PATH FOR THE APPLICABLE LANDING GEAR. THE LANDING GEAR AND DOORS MOVE QUICKLY. THE MOVEMENT OF THE LANDING GEAR AND DOORS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

(e) Move the control lever for the landing gear to the UP position to retract the main landing gear.

(f) Attach a DO-NOT-OPERATE tag to the control lever for the landing gear.

(g) Do the steps that follow to close the main landing gear door:

1) Slowly increase the hydraulic pressure that is supplied by the service cart to close the main landing gear door [4] until the door closes and locks.

NOTE: You may need to use more hydraulic pressure to get the door to latch in the closed position.

2) Make sure the uplock hook [34] latches the uplock roller [23].

3) With the door in the up and locked position, remove the hydraulic pressure supplied by the hydraulic pressure cart.

SUBTASK 32-12-00-350-002

(21) If you are installing a new door, the forward/outboard edge (zone D) must be trimmed to get the clearance at zone D, and the bulb seal must be installed.

NOTE: For a new door, the forward/outboard edge has 0.25 in. (6.35 mm) excess on the edge band and the seal is not installed.

NOTE: You can either trim the edge in a shop or you can trim the edge while the door is installed on the airplane.

NOTE: If you trim too much material from the edge of the door, you will need to re-build the edge.

(a) Make sure the fit of the main landing gear door [4] is in tolerance at the forward/outboard edge (zone D) (Table 501).

(b) To trim the forward/outboard edge (zone D) of the main landing gear door and install the bulb seal, refer to this task (CMM 32-12-03).

(c) Make sure the clearance of the main landing gear door at zone D is in tolerance before you lower the airplane off of the jacks.

SUBTASK 32-12-00-210-009

(22) Make sure there is a 10% - 50% bulb seal compression at zones C and D (Figure 501).

SUBTASK 32-12-00-860-046

(23) Do the steps that follow to extend the main landing gear:

(a) Open themain landing gear door [4]:

1) Use the ground release system to open the main landing gear door [4] (TASK 32-00-40-860-802).

NOTE: This must be done since the door actuator is still disconnected from the main hydraulic system.

(b) Remove the DO-NOT-OPERATE tag from the control lever for the landing gear.

WARNING: KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE RETRACTION PATH FOR THE APPLICABLE LANDING GEAR. THE LANDING GEAR AND DOORS MOVE QUICKLY. THE MOVEMENT OF THE LANDING GEAR AND DOORS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

(c) Move the control lever for the landing gear to the DOWN position to extend the main landing gear.

(d) Attach a DO-NOT-OPERATE tag to the control lever for the landing gear.

(e) For the applicable main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

(f) Remove pressure from the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-12-00-210-010

(24) Do this task: Lower the Airplane Off of the Jacks, TASK 07-11-01-580-805.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 32-12-00-020-014

(1) Do the steps that follow for the main landing gear door actuator:

(a) Disconnect the service cart's hydraulic lines from the door actuator.

(b) Remove the plugs from the airplane's hydraulic lines for the door actuator.

(c) Connect the airplane's hydraulic lines to the door actuator.

SUBTASK 32-12-00-860-047

(2) Close this panel that is between the main landing gear doors:

Number	Name/Location
149BAL	Aft Keel Beam Pressure Relief Door

SUBTASK 32-12-00-860-048

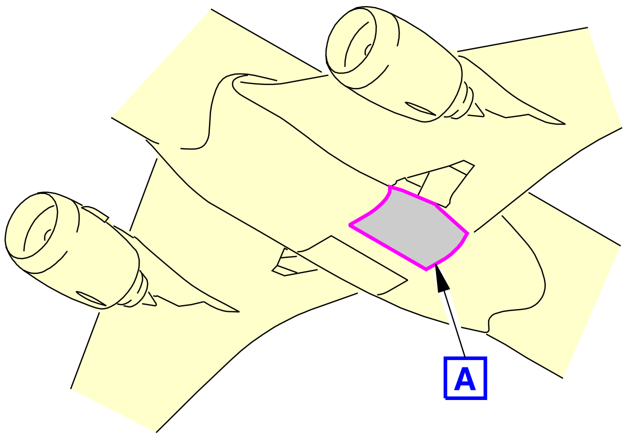
(3) Remove the DO-NOT-OPERATE tag from the control lever for the landing gear.

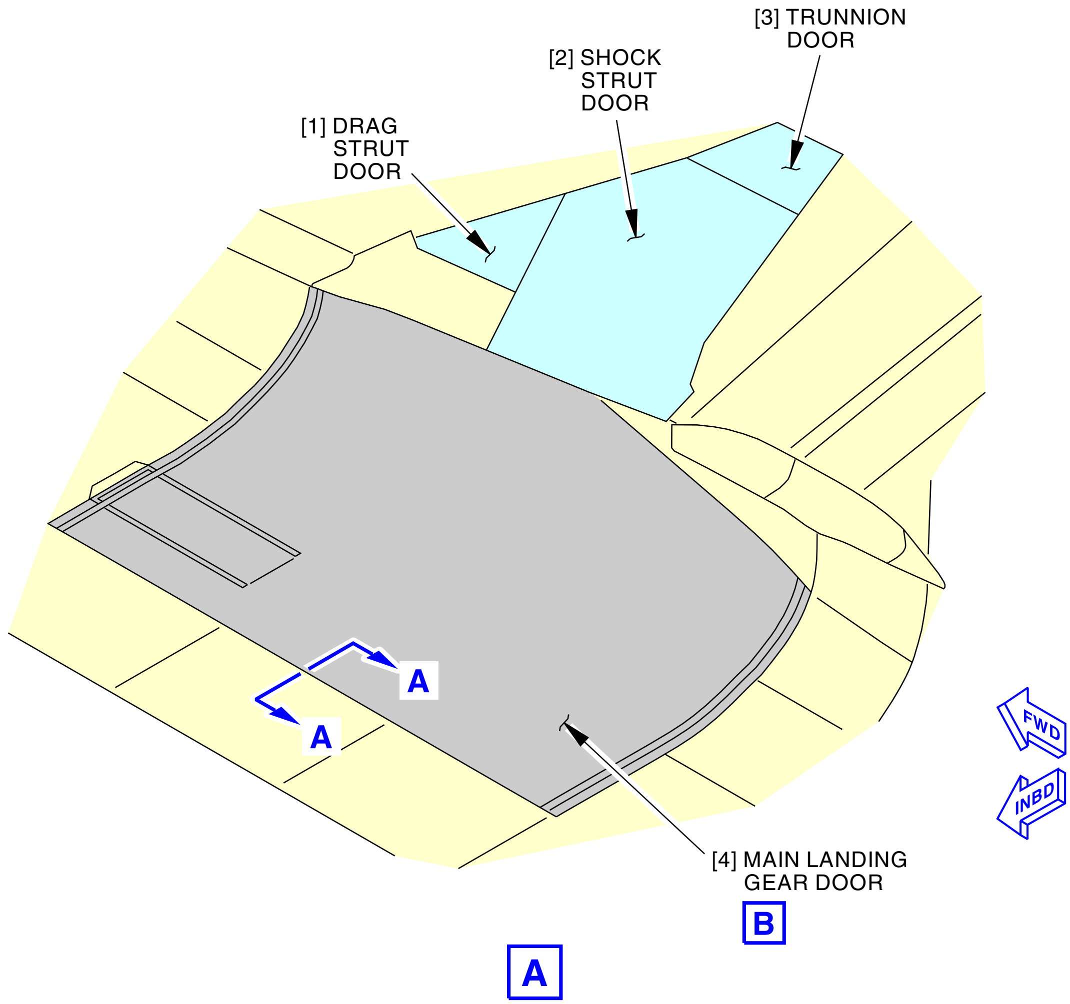
SUBTASK 32-12-00-410-008

WARNING OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(4) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK





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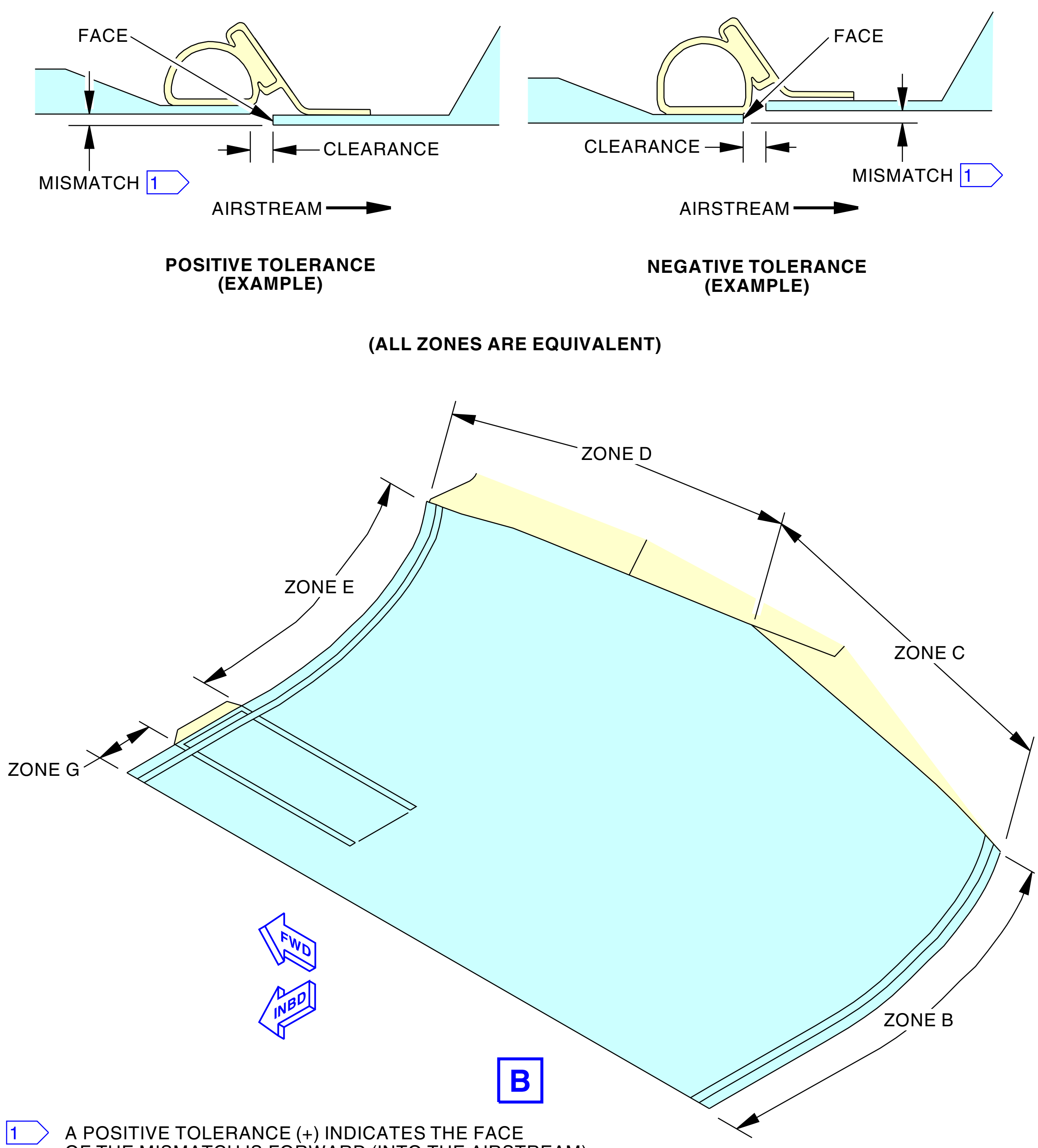
Main Landing Gear Door Fit Tolerances
Figure 501/32-12-00-990-801 (Sheet 1 of 2)



1 A POSITIVE TOLERANCE (+) INDICATES THE FACE OF THE MISMATCH IS FORWARD (INTO THE AIRSTREAM). A NEGATIVE TOLERANCE (-) INDICATES THE FACE OF THE MISMATCH FACES AFT (AWAY FROM THE AIRSTREAM).

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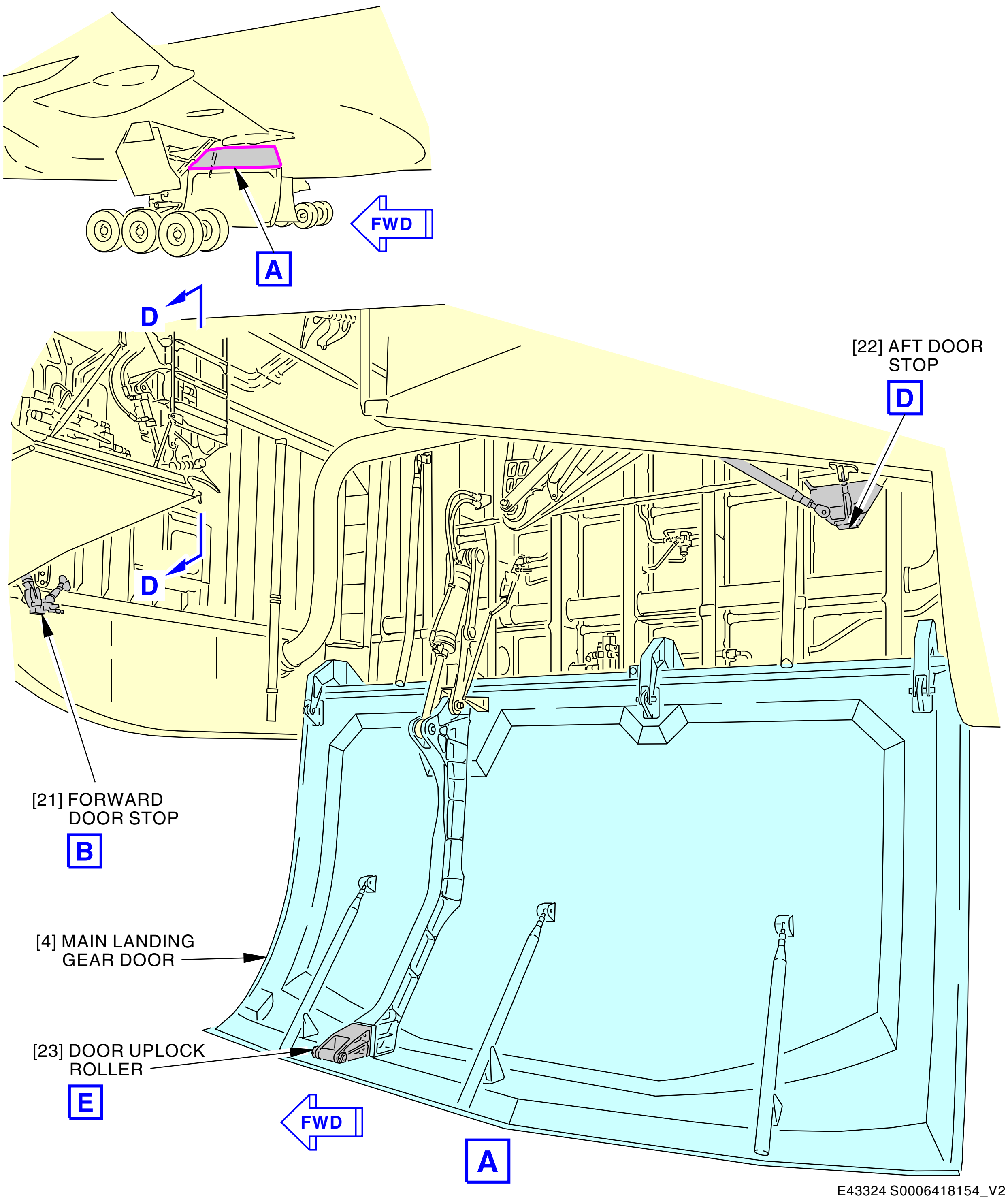
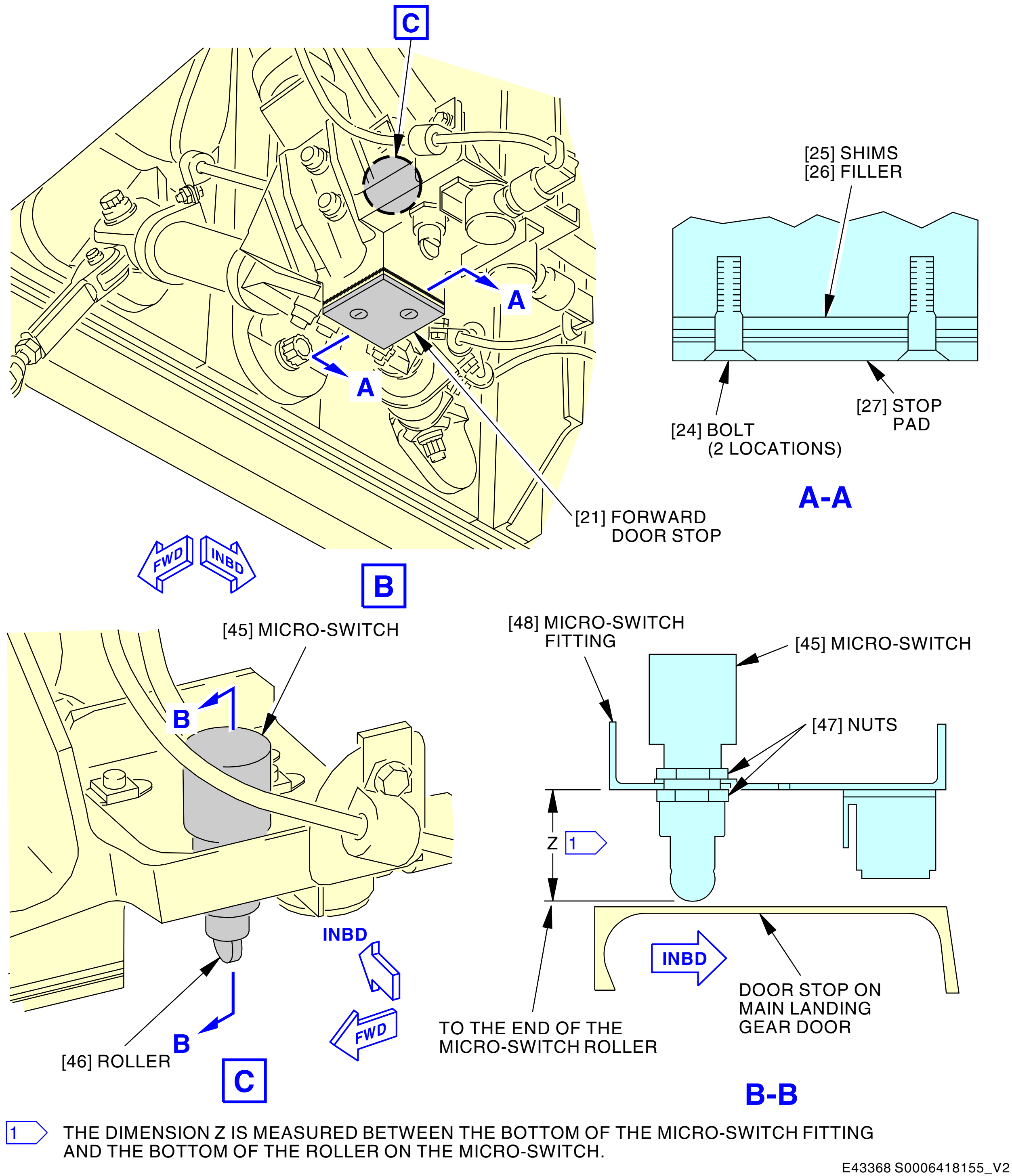
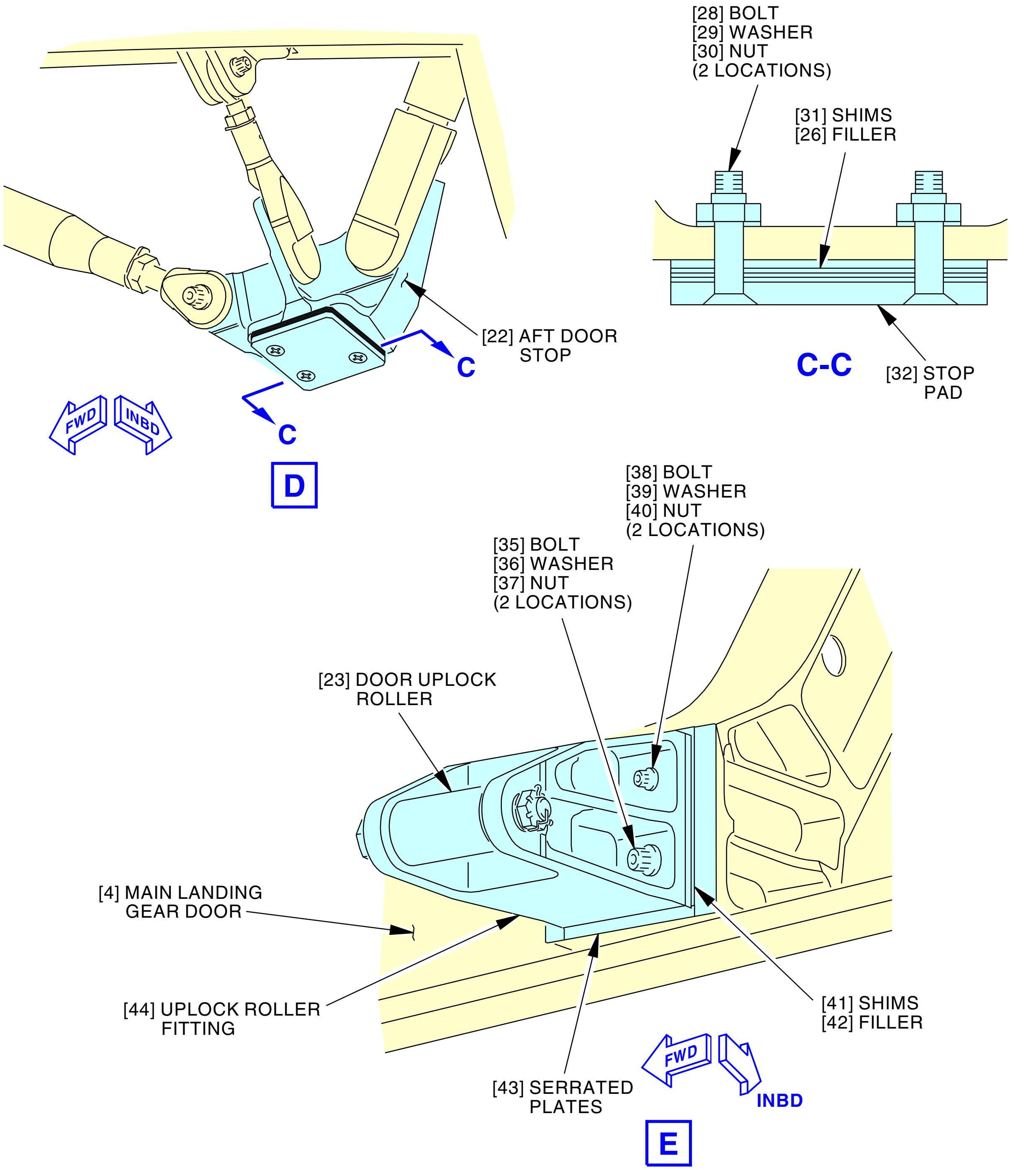
Main Landing Gear Door Fit Tolerances
Figure 501/32-12-00-990-801 (Sheet 2 of 2)



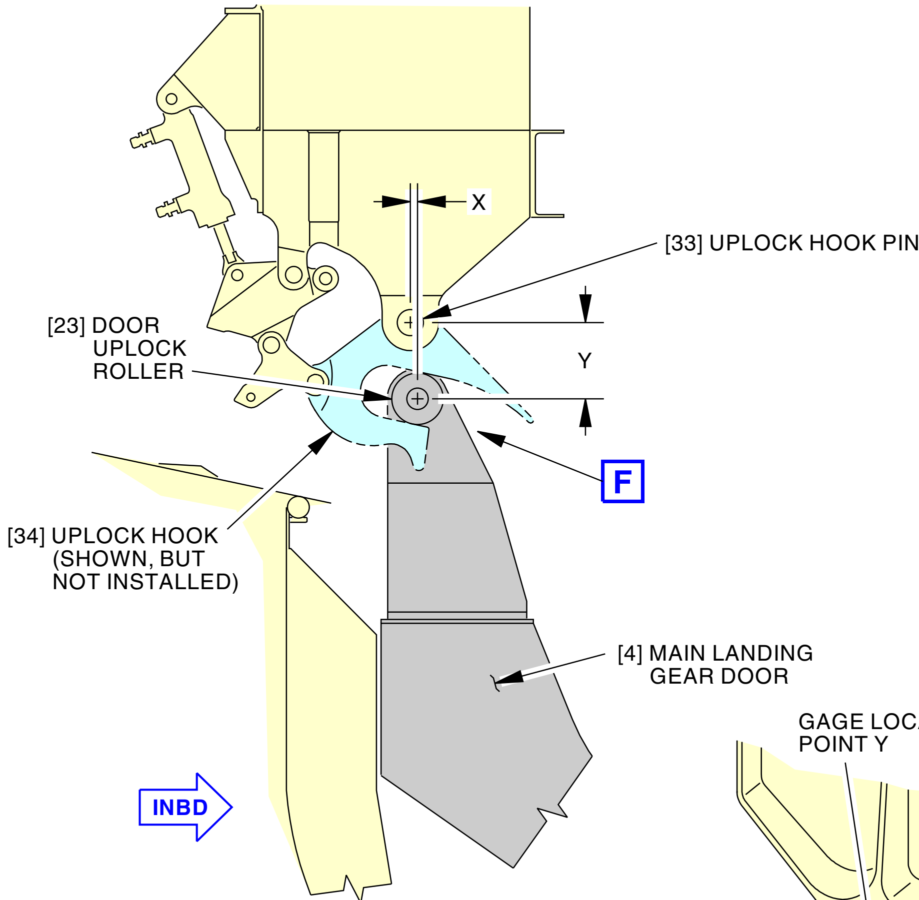
Main Landing Gear Door and Door Uplock Roller Adjustment
Figure 502/32-12-00-990-802 (Sheet 1 of 4)



Main Landing Gear Door and Door Uplock Roller Adjustment
Figure 502/32-12-00-990-802 (Sheet 2 of 4)

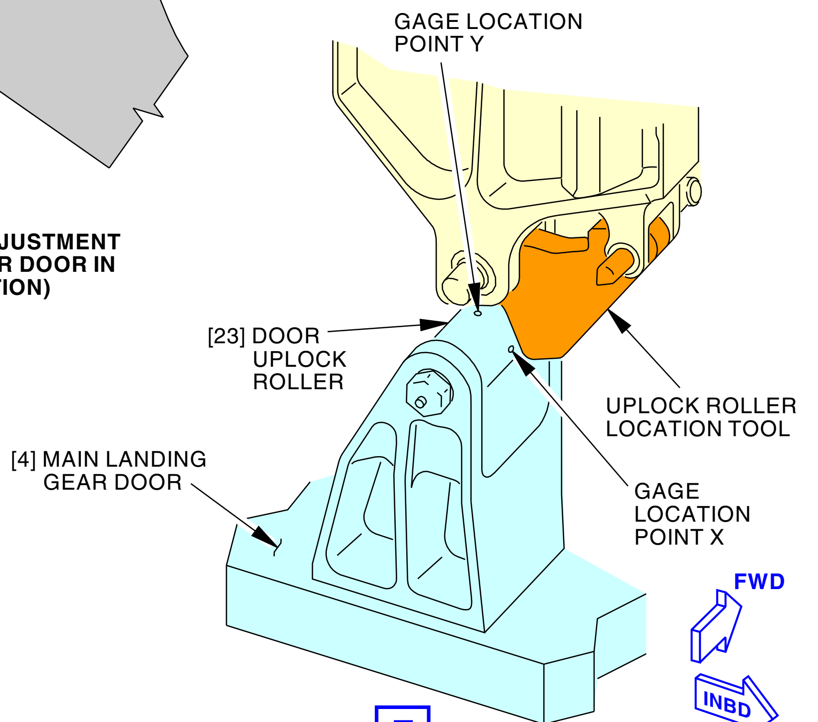


Main Landing Gear Door and Door Uplock Roller Adjustment
Figure 502/32-12-00-990-802 (Sheet 3 of 4)



UPLOCK ROLLER ADJUSTMENT (MAIN LANDING GEAR DOOR IN CLOSED POSITION)

D-D



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Main Landing Gear Door and Door Uplock Roller Adjustment
Figure 502/32-12-00-990-802 (Sheet 4 of 4)

TASK 32-12-00-910-806

3. Main Landing Gear Drag Strut Door Adjustment

(Figure 503)

A. General

(1) This procedure provides instructions to adjust the main landing gear drag strut door.

(2) When you adjust any rod to fair a door, if it is possible, make sure the drain holes are oriented to give maximum drainage for the rod, within the tolerances given for the fit of the door.

B. References

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Consumable Materials

Reference	Description	Specification
A02315	Sealant - Low Density, Synthetic Rubber. 2 Part	BMS5-142 Type II
G01505	Lockwire - Safety And Lock	NASM20995

D. Location Zones

Zone	Area
731	Left Main Landing Gear
734	Left Main Landing Gear Drag Strut Door
741	Right Main Landing Gear
744	Right Main Landing Gear Drag Strut Door

E. Prepare for the Adjustment

SUBTASK 32-12-00-480-006

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-12-00-010-006

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-12-00-860-030

(3) Lift the airplane with jacks until the main landing gear wheels are above the ground and there is enough clearance to retract the main landing gear (TASK 07-11-01-580-804).

SUBTASK 32-12-00-860-031

(4) Retract the main landing gear:

(a) Make sure the control lever for the landing gear is in the DN position.

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(b) To pressurize the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(c) To supply electric power, do this task: Supply Electrical Power, TASK 24-22-00-860-805.

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(d) Remove the downlock pin from the main landing gear for the door which is to be adjusted (TASK 32-00-30-080-801).

WARNING MAKE SURE THERE ARE NO PERSONS OR EQUIPMENT NEAR THE THRUST REVERSER. MAKE SURE THE THRUST REVERSER LEVER POSITION AGREES WITH THE CORRECT THRUST REVERSER POSITION. THIS WILL PREVENT INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(e) Put the control lever for the landing gear to the UP position to retract the main landing gear.

(f) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

NOTE: This will disable the alternate extend system.

(g) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

NOTE: This will remove the hydraulic power from the landing gear up circuits.

F. Main Landing Gear Drag Strut Door Adjustment

SUBTASK 32-12-00-820-020

(1) Make sure the fit of the drag strut door [1] is in tolerance (Table 502).

(a) Write the fit values that are not in tolerance.

(b) Use the tolerances, in (Table 502), for all airplane main landing gear drag strut door clearance and flushness checks.

Table 502/32-12-00-993-809 MAIN LANDING GEAR DRAG STRUT DOOR CLEARANCE AND FLUSHNESS VALUES

EDGE ZONE	CLEARANCE	FLUSHNESS (MISMATCH)
J	0.28 +0.17/-0.10 inch 7.1 +4.3 /-2.5 mm	0.0 +0.03/-0.06 inch 0.0 +0.76/-1.52 mm
K	0.28 +0.10/-0.10 inch 7.1 +2.5 /-2.5 mm	NO ADJUSTMENT NECESSARY
M	0.69 +0.10/-0.14 inch 17.5 +2.5 /-3.6 mm	0.0 +0.03/-0.06 inch 0.0 +0.76/-1.52 mm
IT IS ACCEPTABLE TO DEVIATE FROM THE FLUSHNESS REQUIREMENTS FOR SECTIONS OF EACH DOOR EDGE. FOR THE SHOCK STRUT DOOR, TRUNNION DOOR AND DRAG STRUT DOOR; THE SUM OF ALL THE DOOR'S LINEAR FLUSHNESS DEVIATIONS CAN NOT EXCEED 100 INCHES (2.5 METERS). FOR EXAMPLE, IF YOU FOUND FLUSHNESS DEVIATIONS ALONG 50 INCHES OF THE SHOCK STRUT DOOR'S EDGES AND 30 INCHES ALONG THE TRUNNION DOOR'S EDGES, YOU WOULD THEN BE ALLOWED 20 INCHES (MAX) ALONG THE DRAG STRUT DOOR'S EDGES BEFORE YOU ARE OUT-OF-TOLERANCE FOR THE DOORS. FOR THIS 100 INCHES MAXIMUM, ANY WING DOOR EDGE CAN BE FLUSH WITH THE LOWER WING PANELS 0.0 +0.06/-0.10 INCH (0.0 +1.5/-2.5 mm).		

SUBTASK 32-12-00-820-021

(2) If the fit is not in tolerance, do the steps that follow:

(a) Extend the main landing gear:

1) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

NOTE: This will supply the hydraulic power to the landing gear down circuits.

WARNING MAKE SURE THE AREA AROUND THE LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT WHEN THEY OPERATE. IF THE AREA IS NOT CLEAR, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

2) Put the control lever for the landing gear to the DN position to extend the main landing gear.

3) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

NOTE: This will remove the hydraulic power from the landing gear up circuits.

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

4) Install the downlock pins on the main landing gear (TASK 32-00-30-480-801).

(b) Adjust the drag strut door (Table 502), (Figure 504):

1) Adjust the length of the rod [61], by turning the rod, to get the flushness along zone J and zone M for the drag strut door [1].

2) Adjust the bulb seals and retainers to get the clearances along zone J, M, and K and to get a 10% - 50% bulb seal compression:

NOTE: The clearances are measured between the structure next to the drag strut door and the edge of the bulb seal retainer on the drag strut door.

a) Loosen the bolts [5] that attach the bulb seals to the drag strut door [1].

b) Adjust the bulb seals to meet the clearance requirements for the drag strut door [1].

c) Tighten the bolts [5] for the bulb seals.

(c) Retract the main landing gear:

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

1) Remove the downlock pins from the main landing gear for the door which is to be adjusted (TASK 32-00-30-080-801).

2) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

NOTE: This will supply the hydraulic power to the landing gear up circuits.

WARNING	MAKE SURE THE AREA AROUND THE LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT WHEN THEY OPERATE. IF THE AREA IS NOT CLEAR, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

3) Put the control lever for the landing gear to the UP position to retract the landing gear.

4) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

NOTE: This will remove the hydraulic power from the landing gear up circuits.

(d) Make sure the drag strut door [1] is still in tolerance (Table 502).

SUBTASK 32-12-00-860-032

(3) Extend the main landing gear:

(a) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

NOTE: This will supply the hydraulic power to the landing gear down circuits.

(b) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

NOTE: This will enable the alternate extend system.

WARNING: MAKE SURE THE AREA AROUND THE LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT WHEN THEY OPERATE. IF THE AREA IS NOT CLEAR, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(c) Put the control lever for the landing gear to the DN position to extend the landing gear.

(d) To remove pressure from the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(e) Install the downlock pins on the main landing gear (TASK 32-00-30-480-801).

SUBTASK 32-12-00-420-010

(4) Do the following when you have the drag strut door [1] in tolerance:

(a) Apply sealant, A02315 to the space between the bulb seals and the drag strut door [1].

(b) Make sure you can see the threads in the inspection holes on the ends of the rod [61].

(c) Install lockwire, G01505 on the two ends of the rod [61] you adjusted.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-12-00-080-004

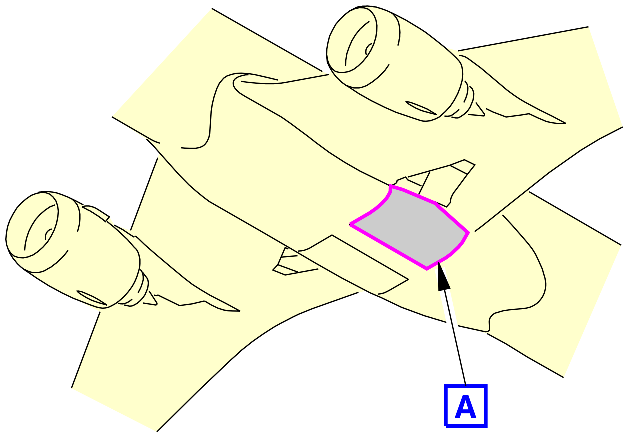
(1) Lower the airplane and remove the jacks (TASK 07-11-01-580-805).

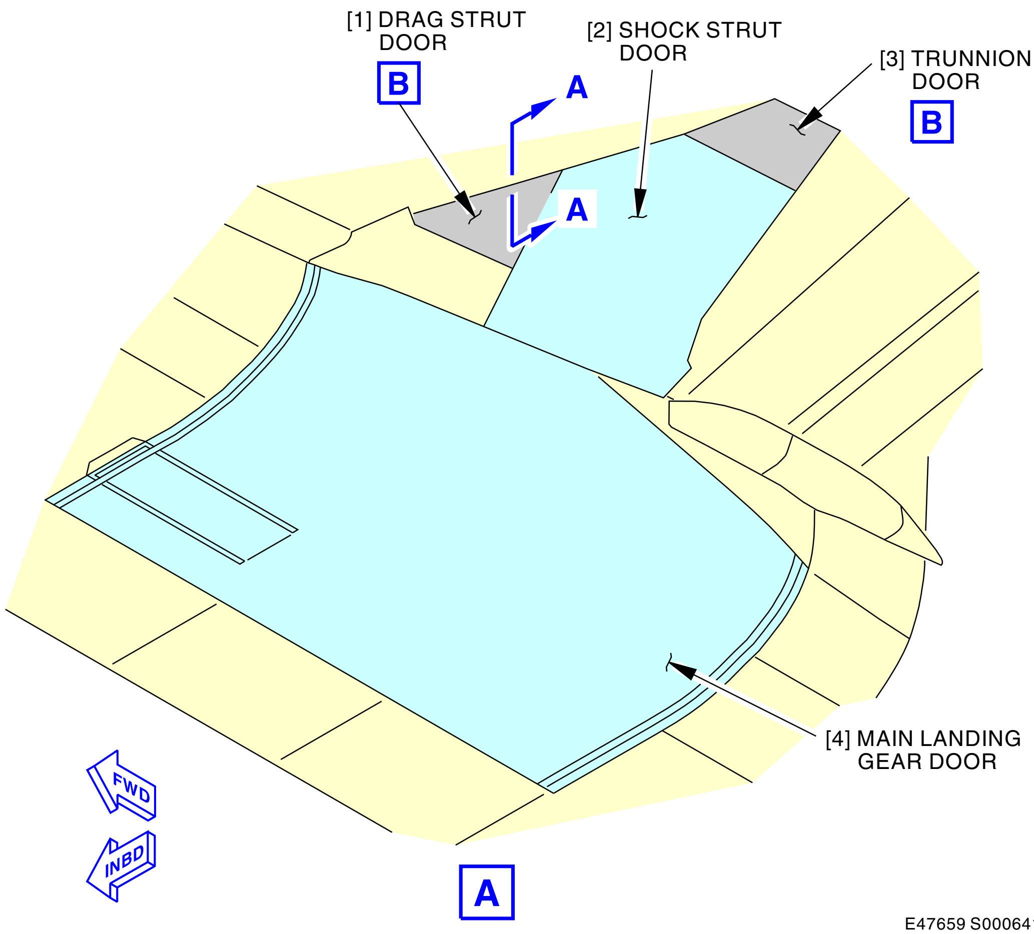
SUBTASK 32-12-00-410-006

WARNING: OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

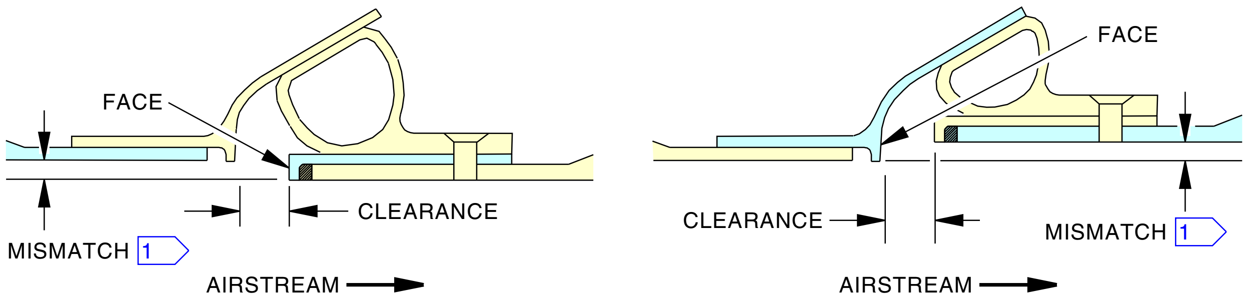
(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

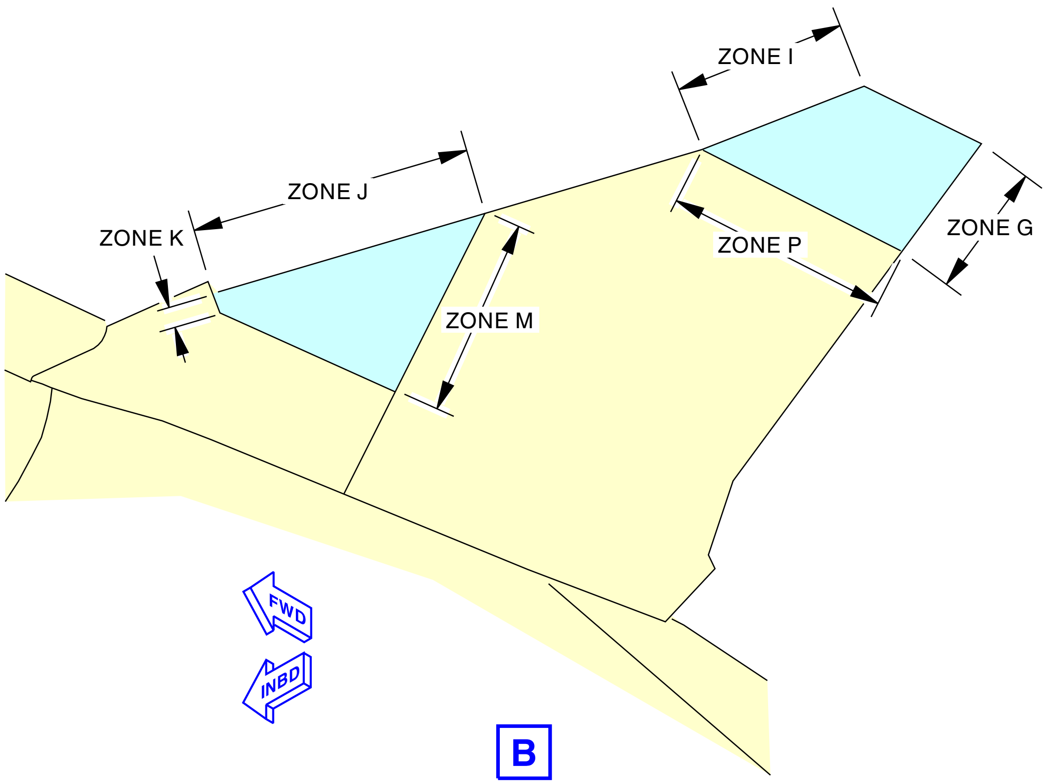




Main Landing Gear Trunnion and Drag Strut Doors Fit Tolerances
Figure 503/32-12-00-990-803 (Sheet 1 of 2)



(ALL ZONES ARE EQUIVALENT)
A-A



1 A POSITIVE TOLERANCE (+) INDICATES THE FACE OF THE MISMATCH IS FORWARD (INTO THE AIRSTREAM). A NEGATIVE TOLERANCE (-) INDICATES THE FACE OF THE MISMATCH FACES AFT (AWAY FROM THE AIRSTREAM).

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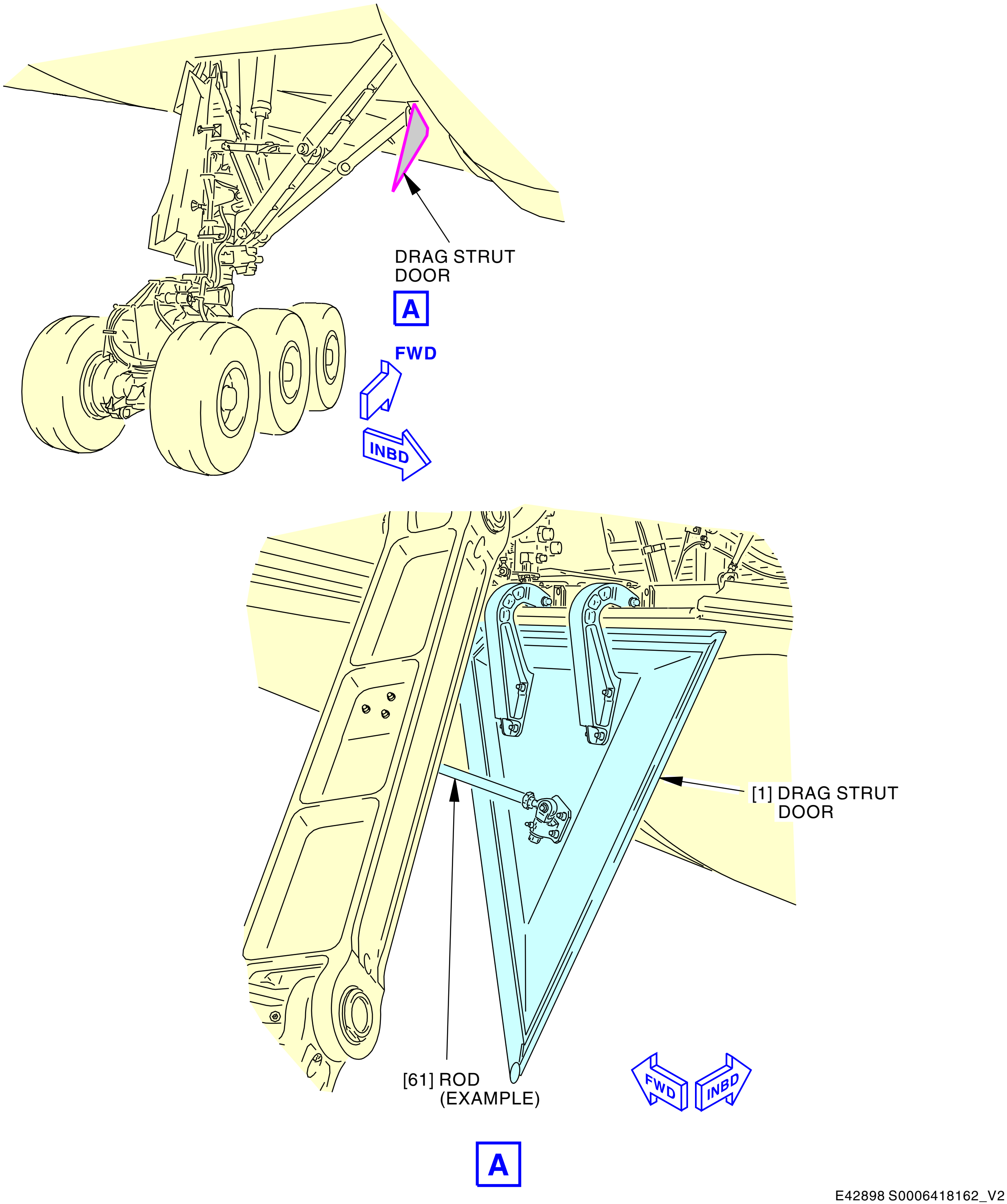
Main Landing Gear Trunnion and Drag Strut Doors Fit Tolerances
Figure 503/32-12-00-990-803 (Sheet 2 of 2)



Main Landing Gear Drag Strut Door Adjustment
Figure 504/32-12-00-990-804

TASK 32-12-00-910-807

4. Main Landing Gear Trunnion Door Adjustment

(Figure 505 or Figure 506)

A. General

(1) This procedure provide instructions to adjust the main landing gear trunnion door.

(2) When you adjust any rod to fair a door, if it is possible, make sure the drain holes are oriented to give maximum drainage for the rod, within the tolerances given for the fit of the door.

B. References

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Consumable Materials

Reference	Description	Specification
G01505	Lockwire - Safety And Lock	NASM20995

D. Location Zones

Zone	Area
731	Left Main Landing Gear
735	Left Main Landing Gear Trunnion Door
741	Right Main Landing Gear
745	Right Main Landing Gear Trunnion Door

E. Prepare for the Adjustment

SUBTASK 32-12-00-480-007

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-12-00-010-007

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-12-00-860-033

(3) Lift the airplane with jacks until the main landing gear wheels are above the ground and there is enough clearance to retract the main landing gear (TASK 07-11-01-580-804).

SUBTASK 32-12-00-860-034

(4) Retract the main landing gear:

(a) Make sure the control lever for the landing gear is in the DN position.

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, DRIVE MECHANISMS AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU OPERATE THEM WITH ELECTRICAL OR HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(b) To pressurize the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(c) To supply electric power, do this task: Supply Electrical Power, TASK 24-22-00-860-805.

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(d) Remove the downlock pin from the main landing gear for the door which is to be adjusted (TASK 32-00-30-080-801).

WARNING MAKE SURE THE AREA AROUND THE LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT WHEN THEY OPERATE. IF THE AREA IS NOT CLEAR, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(e) Put the control lever for the landing gear to the UP position to retract the main landing gear.

(f) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

NOTE: This will disable the alternate extend system.

(g) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

NOTE: This will remove the hydraulic power from the landing gear up circuits.

F. Main Landing Gear Trunnion Door Adjustment

SUBTASK 32-12-00-820-022

(1) Make sure the fit of the trunnion door [3] is in tolerance (Table 503).

(a) Write the fit values that are not in tolerance.

(b) Use the "ALL" tolerances, in (Table 503), for all airplane main landing gear trunnion door clearance and flushness checks.

Table 503/32-12-00-993-810 MAIN LANDING GEAR TRUNNION DOOR CLEARANCE AND FLUSHNESS VALUES

AIRPLANE EFFECTIVITY	EDGE ZONE	FLUSHNESS	CLEARANCE
ALL	G	0.0 +0.03/ -0.06 inch	
ALL	I	0.0 +0.03/ -0.06 inch	
ALL	P	0.0 +0.03/ -0.06 inch	
ALL	G		0.36 +/-0.03 inch 9.14 +/-0.76 mm
ALL	I		0.35+/-0.03 inch 8.89+/-0.76 mm
ALL	P		0.85+/-0.03 inch 21.59+/-0.76 mm
IT IS ACCEPTABLE TO DEVIATE FROM THE FLUSHNESS REQUIREMENTS FOR SECTIONS OF EACH DOOR EDGE. FOR THE SHOCK STRUT DOOR, TRUNNION SECTIONS OF EACH DOOR EDGE. FOR THE SHOCK STRUT DOOR, TRUNNION DOOR AND DRAG STRUT DOOR; THE SUM OF ALL THE DOOR'S LINEAR FLUSHNESS DEVIATIONS CAN NOT EXCEED 100 INCHES (2.5 METERS). FOR EXAMPLE, YOU FOUND FLUSHNESS DEVIATIONS ALONG 50 INCHES OF THE SHOCK STRUT DOOR'S EDGES AND 30 INCHES ALONG THE TRUNNION DOOR'S EDGES, YOU WOULD THEN BE ALLOWED 20 INCHES (MAX) ALONG THE DRAG			ALL THE NOMINAL GAPS ARE FOR REFERENCE PURPOSES ONLY. THE CLEARANCE FROM THE TRUNNION DOOR TO THE SURROUNDING STRUCTURE IS NOT ADJUSTABLE. THE SAME CONDITION WILL APPLY AFTER A TRUNNION DOOR IS REPLACED.

SUBTASK 32-12-00-820-023

(2) If the fit is not in tolerance, do the steps that follow:

(a) Extend the main landing gear:

1) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

NOTE: This will supply the hydraulic power to the landing gear down circuits.

WARNING MAKE SURE THE AREA AROUND THE LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT WHEN THEY OPERATE. IF THE AREA IS NOT CLEAR, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

2) Put the control lever for the landing gear to the DN position to extend the main landing gear.

3) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

NOTE: This will remove the hydraulic power from the landing gear up circuits.

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

4) Install the downlock pins on the main landing gear (TASK 32-00-30-480-801).

(b) Adjust the trunnion door (Table 503), (Figure 505 or Figure 506):

1) Adjust the length of the rod [81], by turning the rod, to get the flushness along zones I, G, and P for the trunnion door [3].

NOTE: This actuator rod configuration has two adjustable ends with no offset.

NOTE: If the rod is retracted, the door will become higher than the surface of the wing (the door will be out from the lower wing surface). If the rod is extended, the door will become lower than the surface of the wing (the door will be drawn into lower wing surface).

2) Adjust the length of the rod [81], to get the flushness along zones I, G, and P for the trunnion door [3].

NOTE: This actuator rod configuration has one adjustable rod end with an offset.

NOTE: If the rod is retracted, the door will become higher than the surface of the wing (the door will be out from the lower wing surface). If the rod is extended, the door will become lower than the surface of the wing (the door will be drawn into lower wing surface).

(c) Retract the main landing gear:

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

1) Remove the downlock pin from the main landing gear for the door which is to be adjusted (TASK 32-00-30-080-801).

2) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

NOTE: This will supply the hydraulic power to the landing gear up circuits.

WARNING: MAKE SURE THE AREA AROUND THE LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT WHEN THEY OPERATE. IF THE AREA IS NOT CLEAR, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

3) Put the control lever for the landing gear to the UP position to retract the landing gear.

4) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

NOTE: This will remove the hydraulic power from the landing gear up circuits.

(d) Make sure the trunnion door [3] is still in tolerance (Table 503).

SUBTASK 32-12-00-860-035

(3) Extend the main landing gear:

(a) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

NOTE: This will supply the hydraulic power to the landing gear down circuits.

(b) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

NOTE: This will enable the alternate extend system.

WARNING: MAKE SURE THE AREA AROUND THE LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT WHEN THEY OPERATE. IF THE AREA IS NOT CLEAR, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(c) Put the control lever for the landing gear to the DN position to extend the landing gear.

(d) To remove pressure from the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(e) Install the downlock pins on the main landing gear (TASK 32-00-30-480-801).

SUBTASK 32-12-00-420-011

(4) Do the following when you have the trunnion door [3] in tolerance:

(a) Make sure you can see the threads in the inspection holes on the ends of the rod [81].

(b) Tighten the rod [81].

(c) Make sure you can see the threads in the inspection holes of the rod [81].

(d) Install lockwire, G01505 on the two ends of the rod [81] you adjusted.

(e) Install lockwire, G01505 on the rod [81] you adjusted.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-12-00-080-005

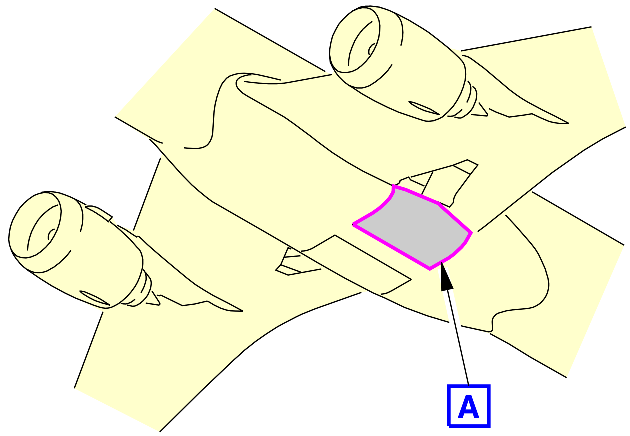
(1) Lower the airplane and remove the jacks (TASK 07-11-01-580-805).

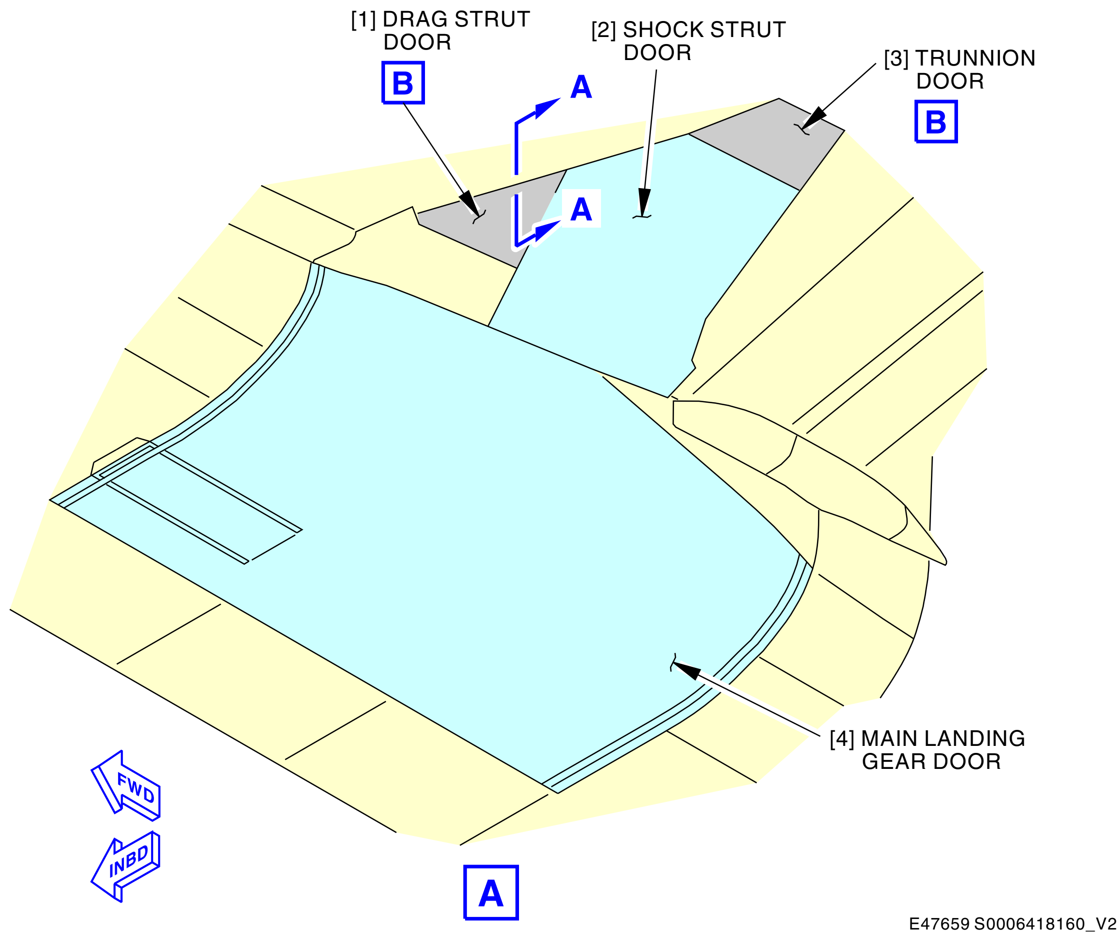
SUBTASK 32-12-00-410-007

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

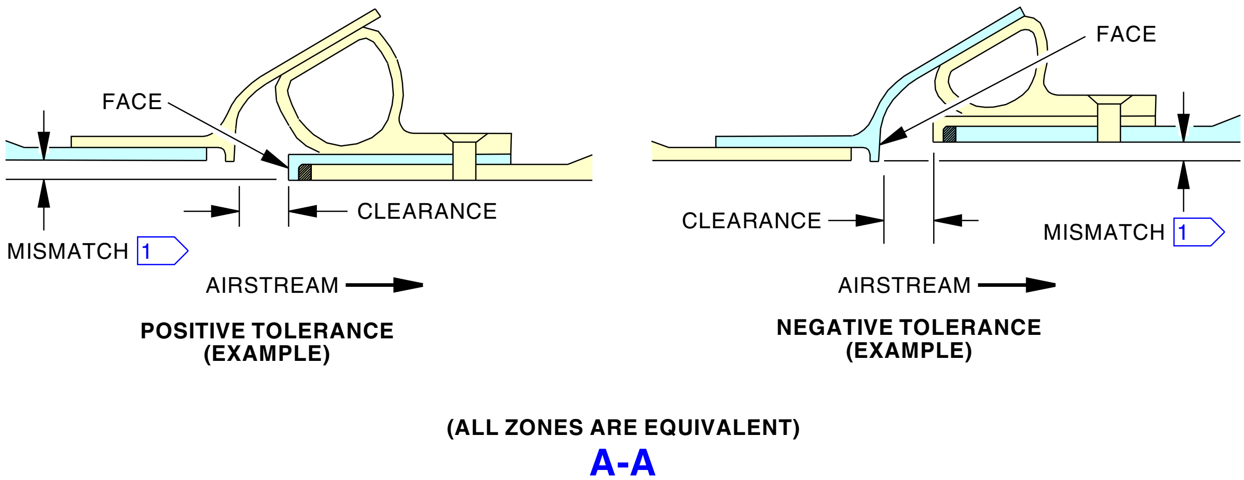
(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

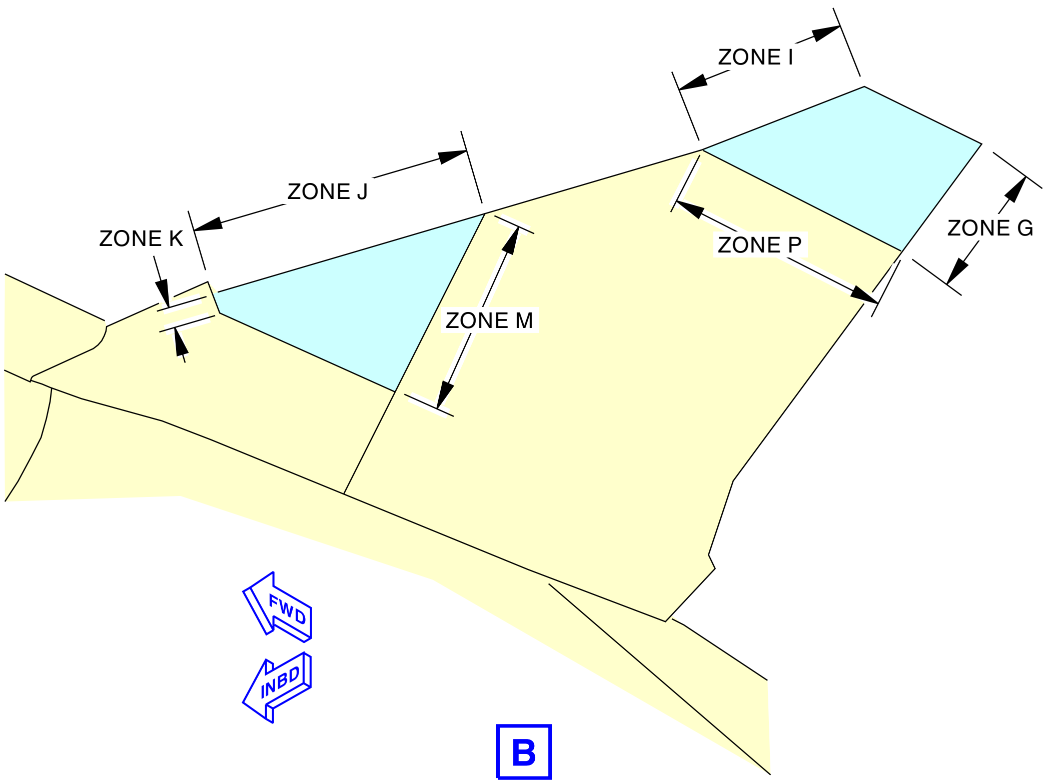
END OF TASK





Main Landing Gear Trunnion and Drag Strut Doors Fit Tolerances
Figure 505/32-12-00-990-810 (Sheet 1 of 2)





1 A POSITIVE TOLERANCE (+) INDICATES THE FACE OF THE MISMATCH IS FORWARD (INTO THE AIRSTREAM). A NEGATIVE TOLERANCE (-) INDICATES THE FACE OF THE MISMATCH FACES AFT (AWAY FROM THE AIRSTREAM).

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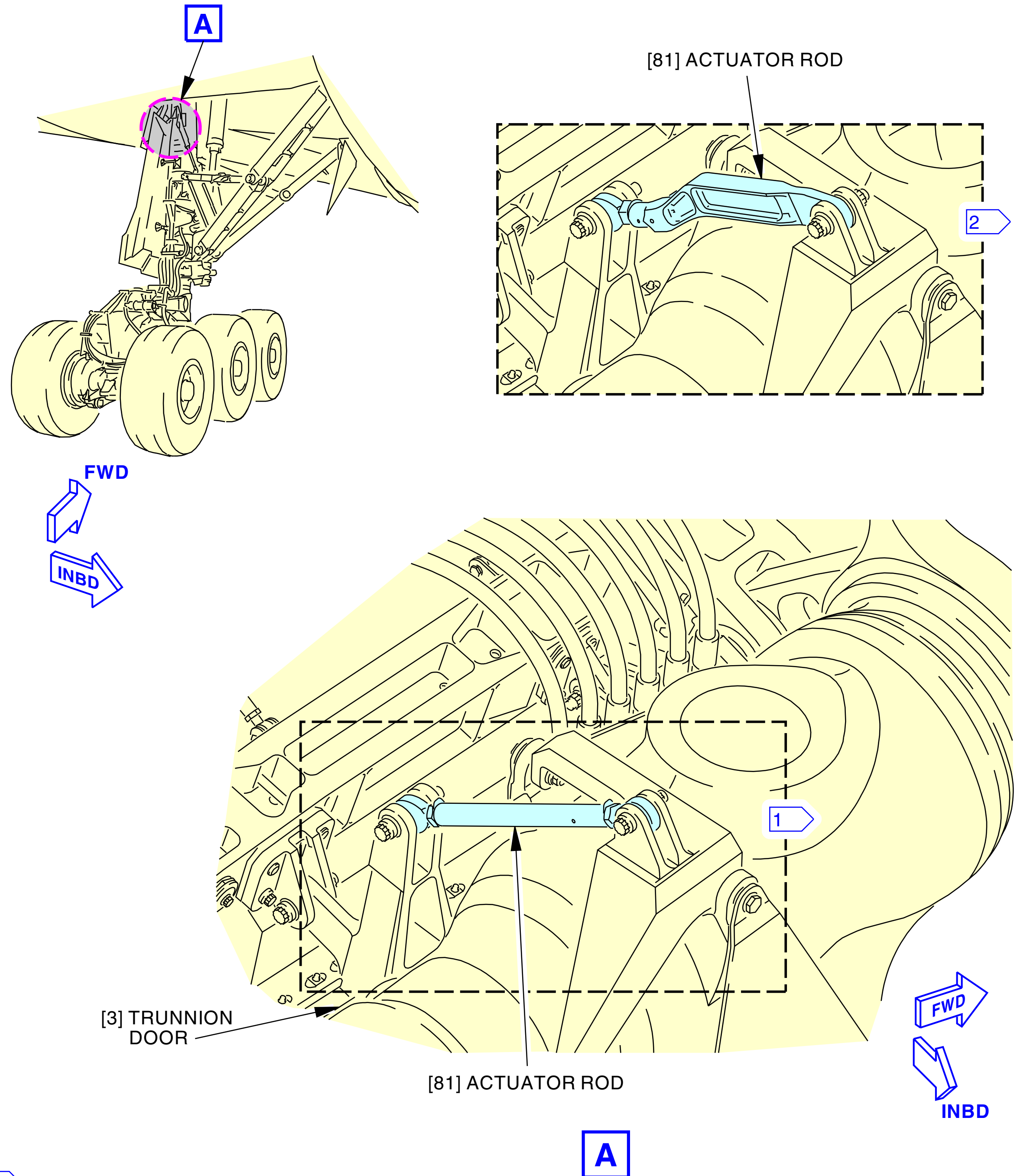
Main Landing Gear Trunnion and Drag Strut Doors Fit Tolerances
Figure 505/32-12-00-990-810 (Sheet 2 of 2)



1 BOTH ROD ENDS ADJUSTABLE NO OFFSET

2 ONE ADJUSTABLE ROD END WITH OFFSET

E58623 S0006418165_V2

Main Landing Gear Trunnion Door Adjustment
Figure 506/32-12-00-990-805

TASK 32-12-00-910-804

5. **Main Landing Gear Shock Strut Door Adjustment**
(Figure 507)

A. **General**

(1) This procedure provides instructions to adjust the main landing gear shock strut Door.

(2) Do not adjust the rod lengths or bushings on the shock strut door fittings. Adjustment of the tolerances for the shock strut door will be accomplished by adjusting the rods for the fixed trailing edge panels next to the door.

(3) When you adjust any rod to fair a door, if it is possible, make sure the drain holes are oriented to give maximum drainage for the rod, within the tolerances given for the fit of the door.

B. **References**

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. **Consumable Materials**

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
G01505	Lockwire - Safety And Lock	NASM20995

D. **Location Zones**

Zone	Area
731	Left Main Landing Gear
733	Left Main Landing Gear Shock Struct Door
741	Right Main Landing Gear
743	Right Main Landing Gear Shock Strut Door

E. **Prepare for the Adjustment**

SUBTASK 32-12-00-480-004

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-12-00-010-004

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-12-00-860-014

(3) Lift the airplane with jacks until the main landing gear wheels are above the ground and there is enough clearance to retract the main landing gear (TASK 07-11-01-580-804).

SUBTASK 32-12-00-860-015

(4) Retract the main landing gear:

(a) Make sure the control lever for the landing gear is in the DN position.

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(b) Remove the downlock pin from the main landing gear which is to be adjusted (TASK 32-00-30-080-801).

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, DRIVE MECHANISMS AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU OPERATE THEM WITH ELECTRICAL OR HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(c) To pressurize the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(d) To supply electric power, do this task: Supply Electrical Power, TASK 24-22-00-860-805.

WARNING MAKE SURE THAT PERSONS AND EQUIPMENT ARE CLEAR OF THE LEADING EDGE SLATS DURING THIS PROCEDURE. THE SLATS CAN MOVE AUTOMATICALLY WHEN THE HYDRAULIC SYSTEM IS PRESSURIZED. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(e) Put the control lever for the landing gear to the UP position to retract the main landing gear.

(f) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

NOTE: This will disable the alternate extend system.

(g) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

NOTE: This will remove the hydraulic power from the landing gear up circuits.

F. Main Landing Gear Shock Strut Door Adjustment

SUBTASK 32-12-00-820-006

(1) Make sure the fit of the shock strut door [2] is in tolerance (Table 504).

(a) Write the fit values that are not in tolerance.

(b) Use the "ALL" tolerances, in (Table 504), for all airplane main landing gear shock strut door clearance and flushness checks.

Table 504/32-12-00-993-811 MAIN LANDING GEAR SHOCK STRUT DOOR CLEARANCE AND FLUSHNESS VALUES

AIRPLANE EFFECTIVITY	EDGE ZONE	CLEARANCE	FLUSHNESS
ALL	E	0.26 +0.34/-0.10 inch 6.6 +8.6 /-2.5 mm	0.0 +0.06/-0.20 inch +1.52/-5.08 mm
ALL	F	0.30 +0.30/-0.10 inch 7.6 +7.6 /-2.5 mm	0.0 +0.03/-0.06 inch 0.0 +0.76/-1.52 mm
ALL	J	0.28 +0.10/-0.10 inch 7.1 +2.5 /-2.5 mm	0.0 +0.03/-0.06 inch 0.0 +0.76/-1.52 mm
ALL	N	0.43 +0.17/-0.10 inch 10.9 +4.3 /-2.5 mm	0.0 +0.03/-0.06 inch 0.0 +0.76/-1.52 mm
IT IS ACCEPTABLE TO DEVIATE FROM THE FLUSHNESS REQUIREMENTS FOR SECTIONS OF EACH DOOR EDGE. FOR THE SHOCK STRUT DOOR, TRUNNION DOOR AND DRAG STRUT DOOR; THE SUM OF ALL THE DOOR'S LINEAR FLUSHNESS DEVIATIONS CAN NOT EXCEED 100 INCHES (2.5 METERS). FOR EXAMPLE, YOU FOUND FLUSHNESS DEVIATIONS ALONG 50 INCHES OF THE SHOCK STRUT DOOR'S EDGES AND 30 INCHES ALONG THE TRUNNION DOOR'S EDGES, YOU WOULD THEN BE ALLOWED 20 INCHES (MAX) ALONG THE DRAG STRUT STRUT DOOR'S EDGES BEFORE YOU ARE OUT-OF-TOLERANCE FOR THE DOORS. FOR THIS 100 INCHES MAXIMUM, ANY WING DOOR EDGE CAN BE FLUSH WITH THE LOWER WING PANELS 0.0 +0.06/-0.10 INCH (0.0 +1.5/-2.5 mm).			

SUBTASK 32-12-00-820-007

(2) If the fit is not in tolerance, do the steps that follow:

(a) Extend the main landing gear:

1) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

NOTE: This will supply the hydraulic power to the landing gear down circuits.

WARNING	MAKE SURE THE AREA AROUND THE LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT WHEN THEY OPERATE. IF THE AREA IS NOT CLEAR, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

2) Put the control lever for the landing gear to the DN position to extend the main landing gear.

3) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

NOTE: This will remove the hydraulic power from the landing gear up circuits.

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

4) Install the downlock pins on the main landing gear (TASK 32-00-30-480-801).

(b) Adjust the fit of the shock strut door (Table 504), (Figure 508):

1) Make sure all washer stacks or bushings and the nominal rod lengths for the shock strut door are as shown (Figure 508).

2) Adjust the two adjustment rods [129], by turning the rods, for the lower trailing edge panel [112] to get the tolerance at zone N on the forward edge of the shock strut door [2].

3) Adjust the two rod [130], by turning the rods, for the lower trailing edge panel [131] to get the tolerance at zone J on the forward outboard edge of the shock strut door [2].

4) Adjust the four adjustment rod [128], by turning the rods, for the lower trailing edge panel [132] to get the tolerances at zone E and F on the aft edge of the shock strut door [2].

5) Adjust the bulb seals and retainers to meet the clearance requirements and the bulb seal compression for zones E, F, J, N, and C (flap):

NOTE: Make sure the bulb seal at zone C is compressed. The zone C door and flap clearance is not adjustable.

a) Loosen the bolts [5] that attach the bulb seals to the shock strut door [2].

b) Adjust the bulb seals to meet the clearance requirements for the shock strut door [2].

c) Tighten the bolts [5] for the bulb seals.

(c) Retract the main landing gear:

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEARS BUT THE ONE TO BE ADJUSTED. WHEN YOU MOVE THE CONTROL LEVER FOR THE LANDING GEAR, THE LANDING GEAR CAN RETRACT AND CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

1) Remove the downlock pins from the main landing gear for the door which is to be adjusted (TASK 32-00-30-080-801).

2) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

NOTE: This will supply the hydraulic power to the landing gear up circuits.

WARNING: MAKE SURE THE AREA AROUND THE LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT WHEN THEY OPERATE. IF THE AREA IS NOT CLEAR, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

3) Put the control lever for the landing gear to the UP position to retract the landing gear.

4) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

NOTE: This will remove the hydraulic power from the landing gear up circuits.

(d) Make sure the shock strut door [2] is still in tolerance (Table 504).

SUBTASK 32-12-00-860-016

(3) Extend the main landing gear:

(a) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

NOTE: This will supply the hydraulic power to the landing gear down circuits.

(b) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

NOTE: This will enable the alternate extend system.

WARNING MAKE SURE THE AREA AROUND THE LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT WHEN THEY OPERATE. IF THE AREA IS NOT CLEAR, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(c) Put the control lever for the landing gear to the DN position to extend the landing gear.

(d) To remove pressure from the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(e) Install the downlock pins on the main landing gear (TASK 32-00-30-480-801).

SUBTASK 32-12-00-420-007

(4) Do the following when you have the shock strut door [2] in tolerance:

(a) Apply sealant, A00247 to the space between the bulb seals and the shock strut door [2] (Figure 507).

(b) Make sure you can see the threads in the inspection holes on the ends of the adjustment rod [128], adjustment rod [129], and adjustment rod [130].

(c) Install lockwire, G01505 on the two ends of the adjustment rod [128], adjustment rod [129] and adjustment rod [130] that you adjusted.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-12-00-080-003

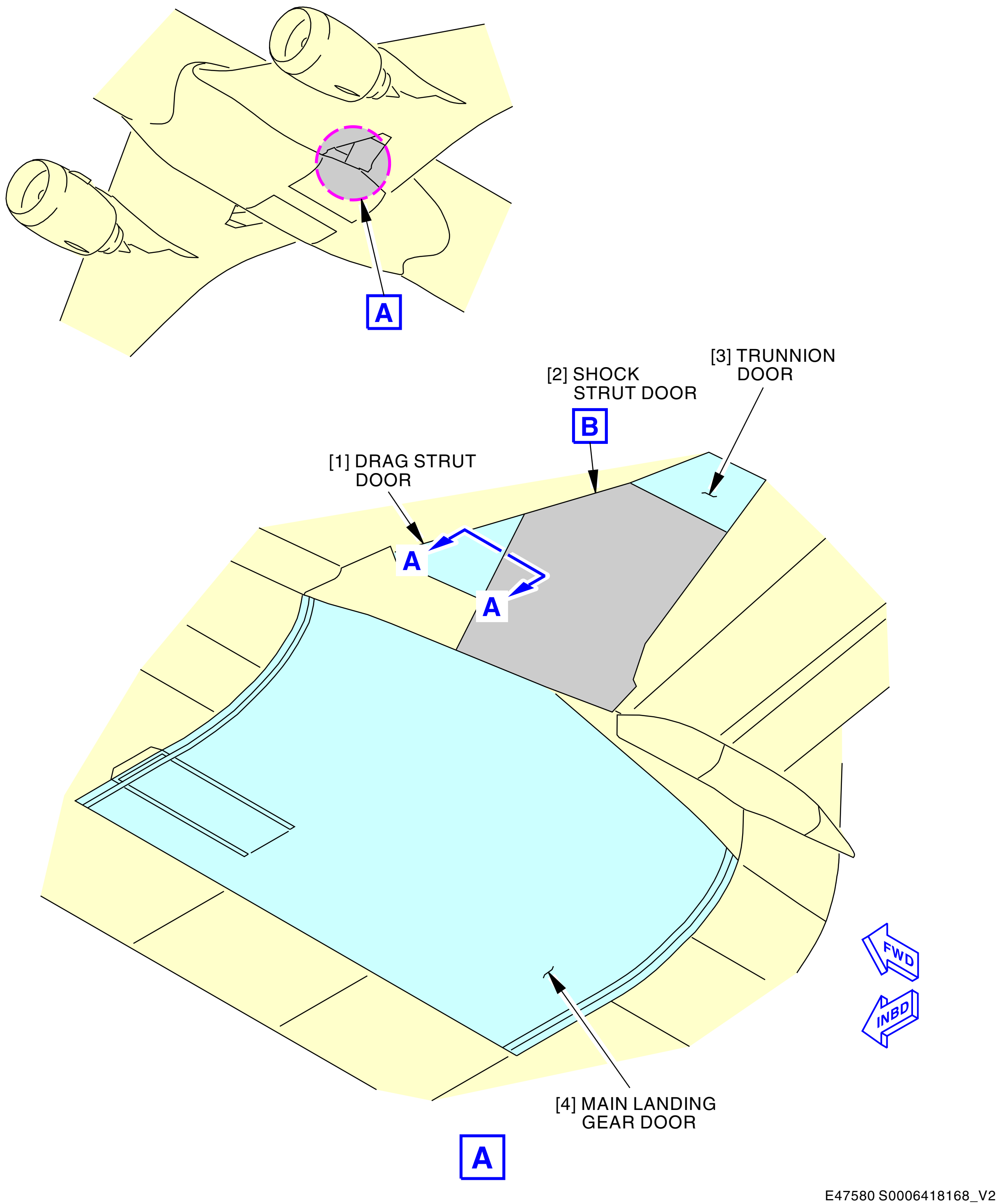
(1) Lower the airplane and remove the jacks (TASK 07-11-01-580-805).

SUBTASK 32-12-00-410-004

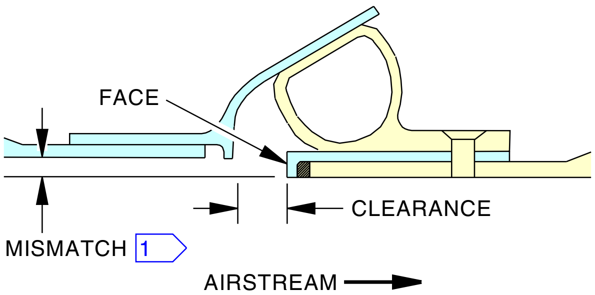
WARNING OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

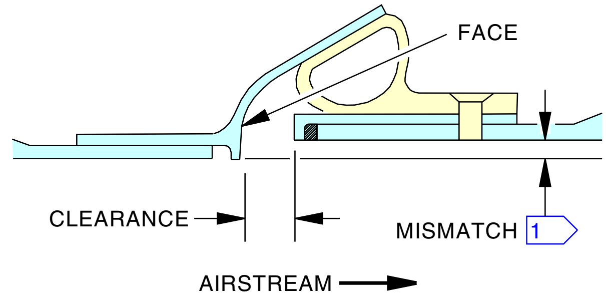
END OF TASK



Main Landing Gear Shock Strut and Drag Strut Doors Fit Tolerances
Figure 507/32-12-00-990-806 (Sheet 1 of 2)

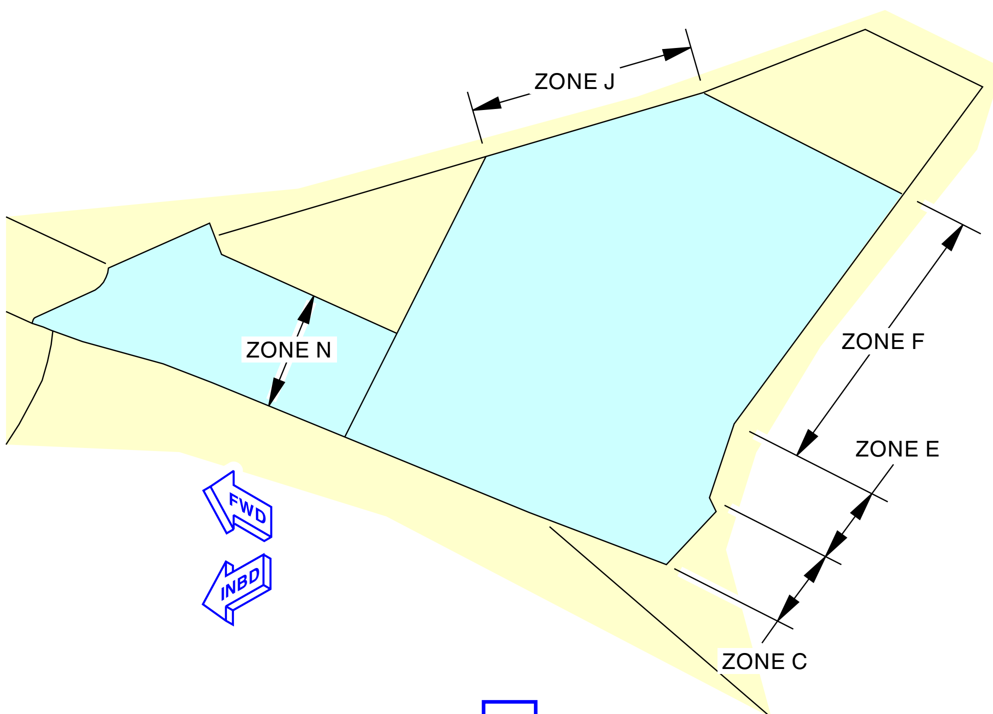


POSITIVE TOLERANCE
(EXAMPLE)



NEGATIVE TOLERANCE
(EXAMPLE)

(ALL ZONES ARE EQUIVALENT)
A-A

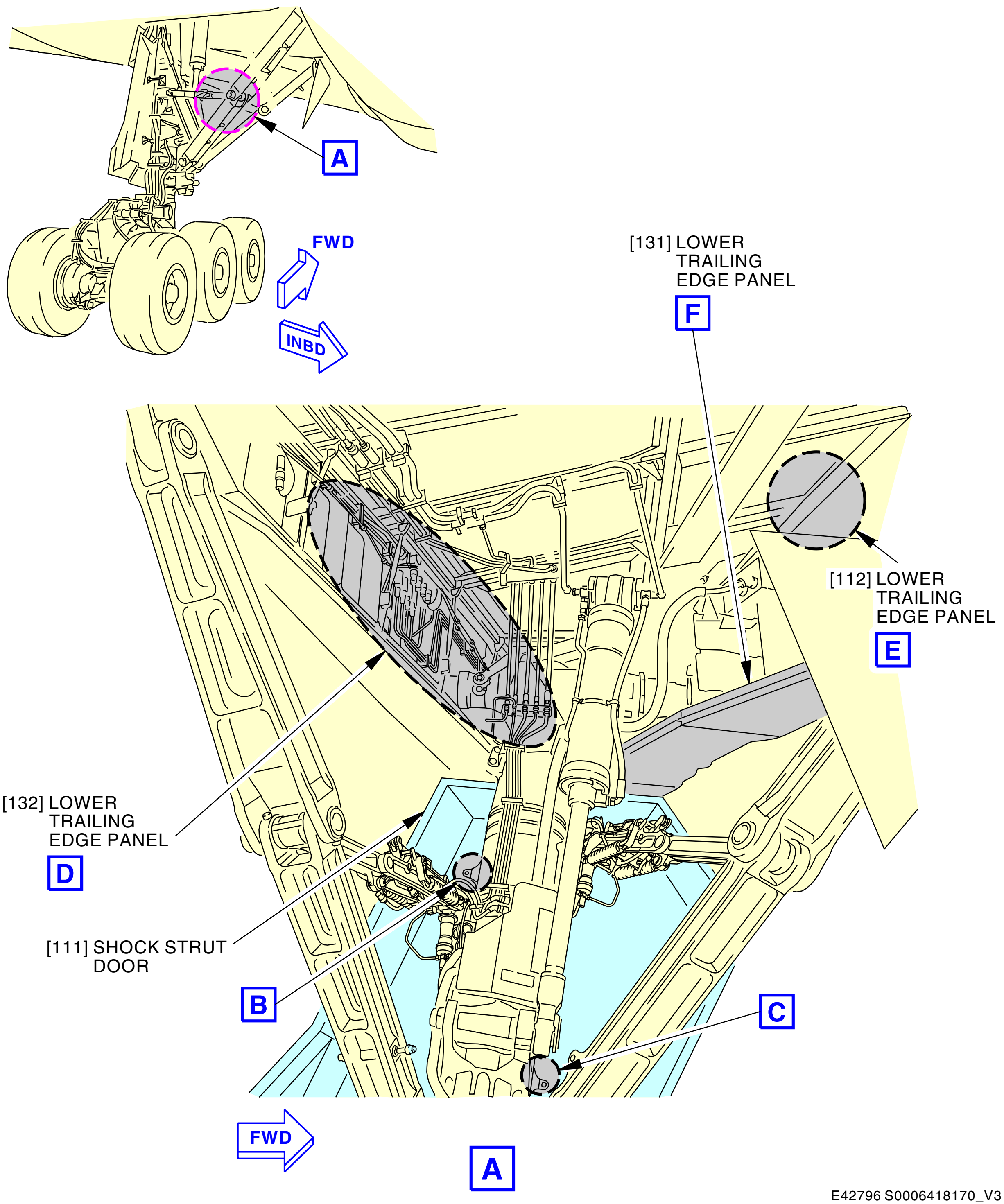


B

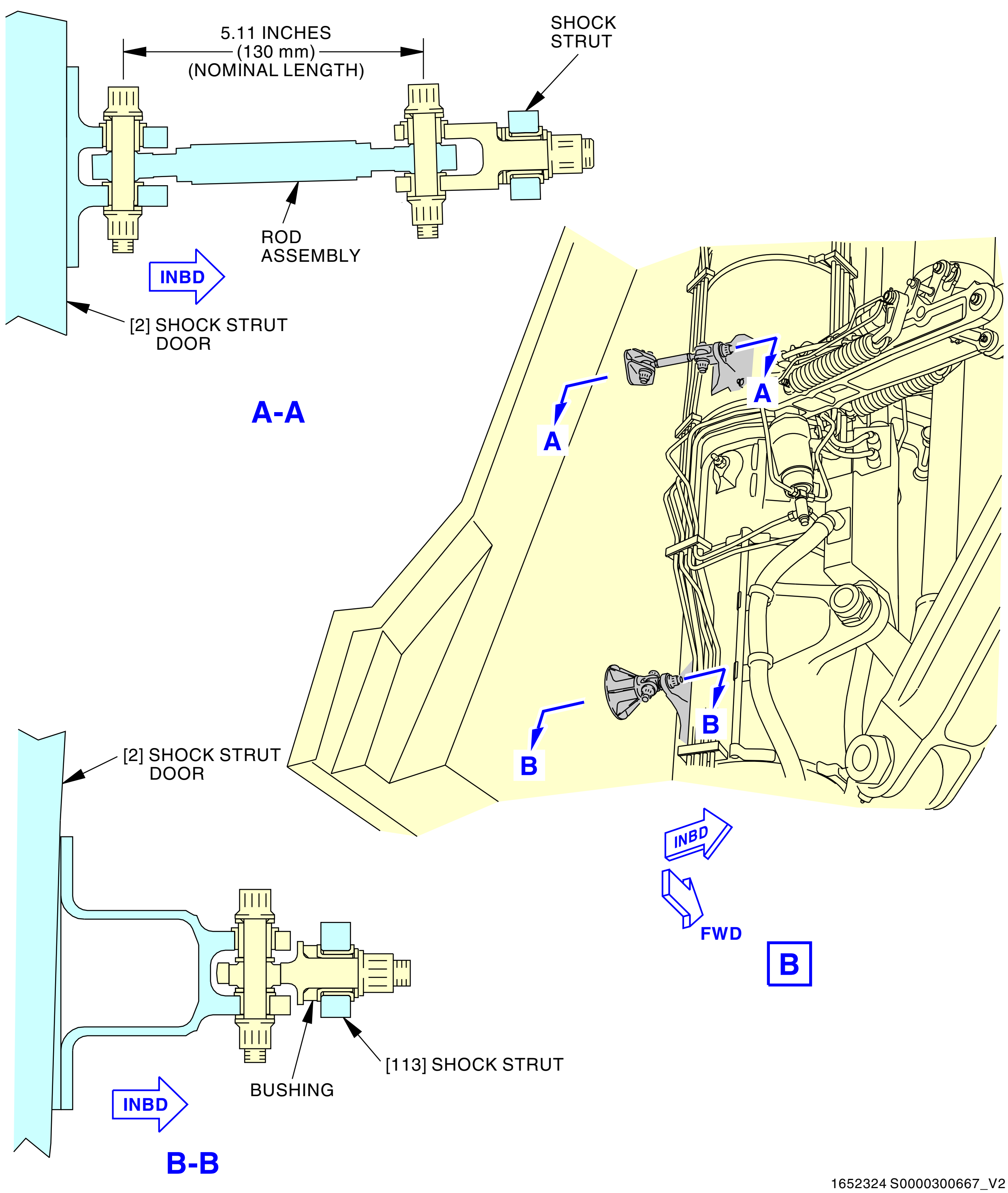
1 A POSITIVE TOLERANCE (+) INDICATES THE FACE OF THE MISMATCH IS FORWARD (INTO THE AIRSTREAM). A NEGATIVE TOLERANCE (-) INDICATES THE FACE OF THE MISMATCH FACES AFT (AWAY FROM THE AIRSTREAM)

E47581 S0006418169_V2

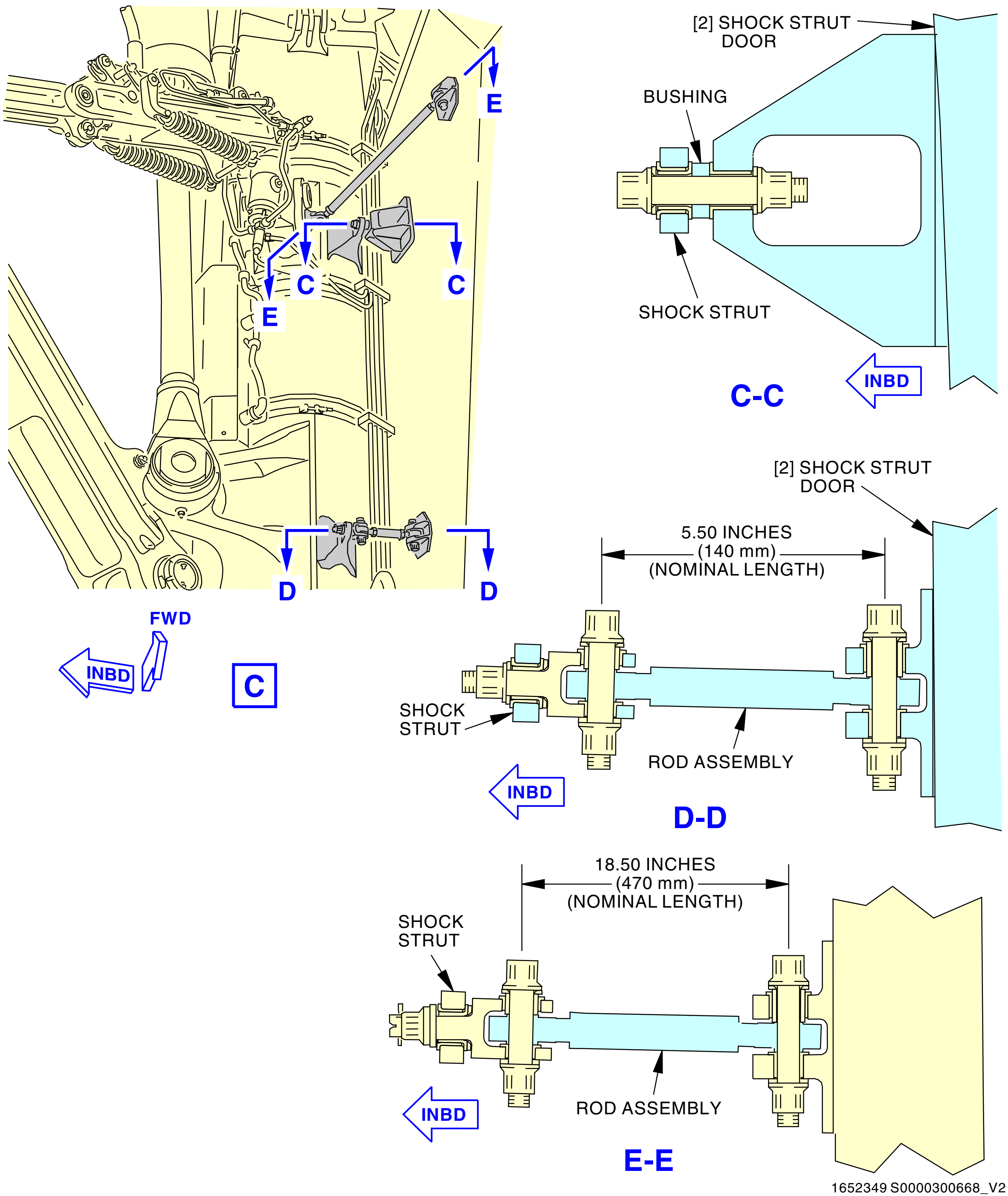
Main Landing Gear Shock Strut and Drag Strut Doors Fit Tolerances
Figure 507/32-12-00-990-806 (Sheet 2 of 2)



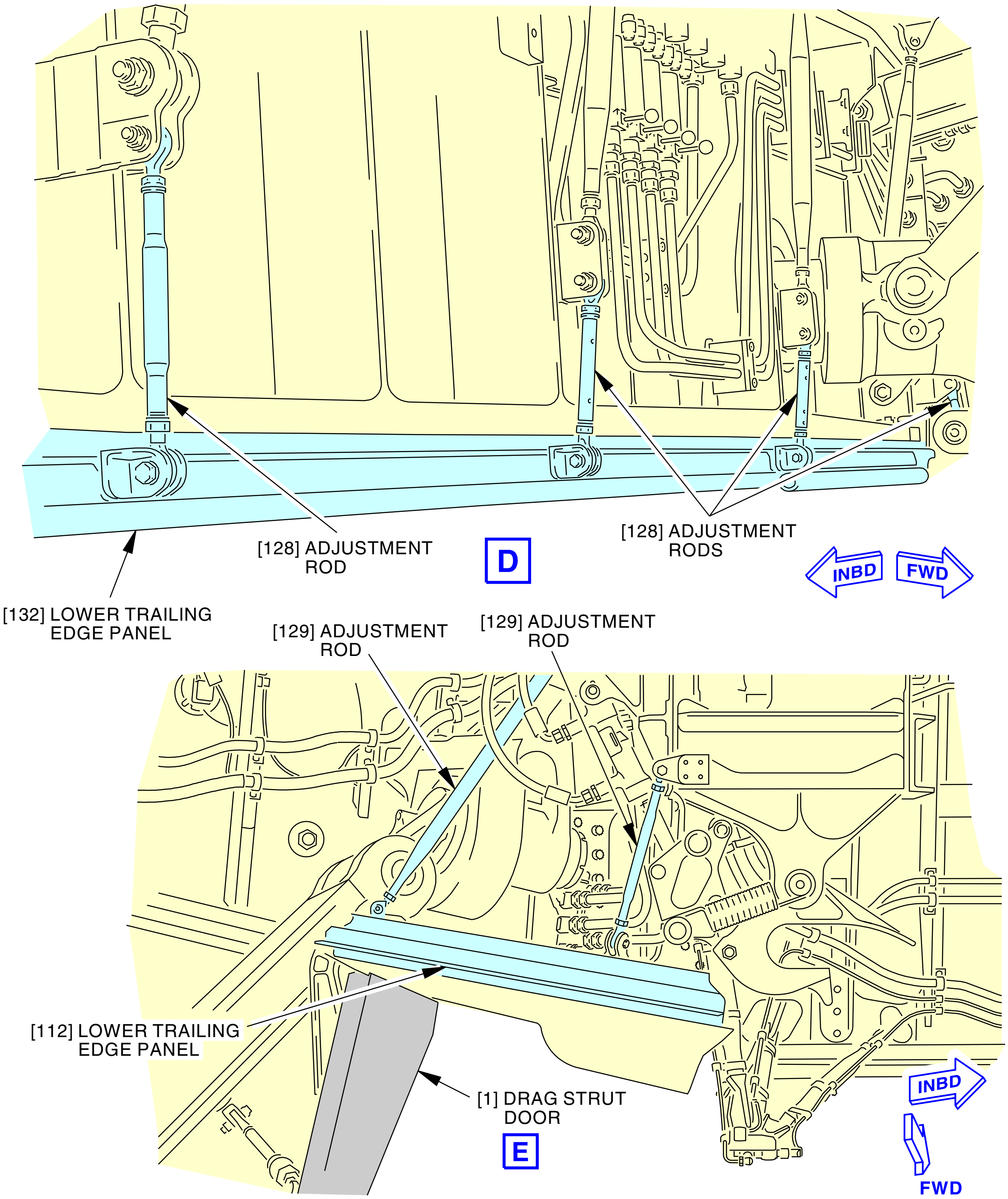
Main Landing Gear Shock Strut Doors Adjustment
Figure 508/32-12-00-990-807 (Sheet 1 of 5)



Main Landing Gear Shock Strut Doors Adjustment
Figure 508/32-12-00-990-807 (Sheet 2 of 5)

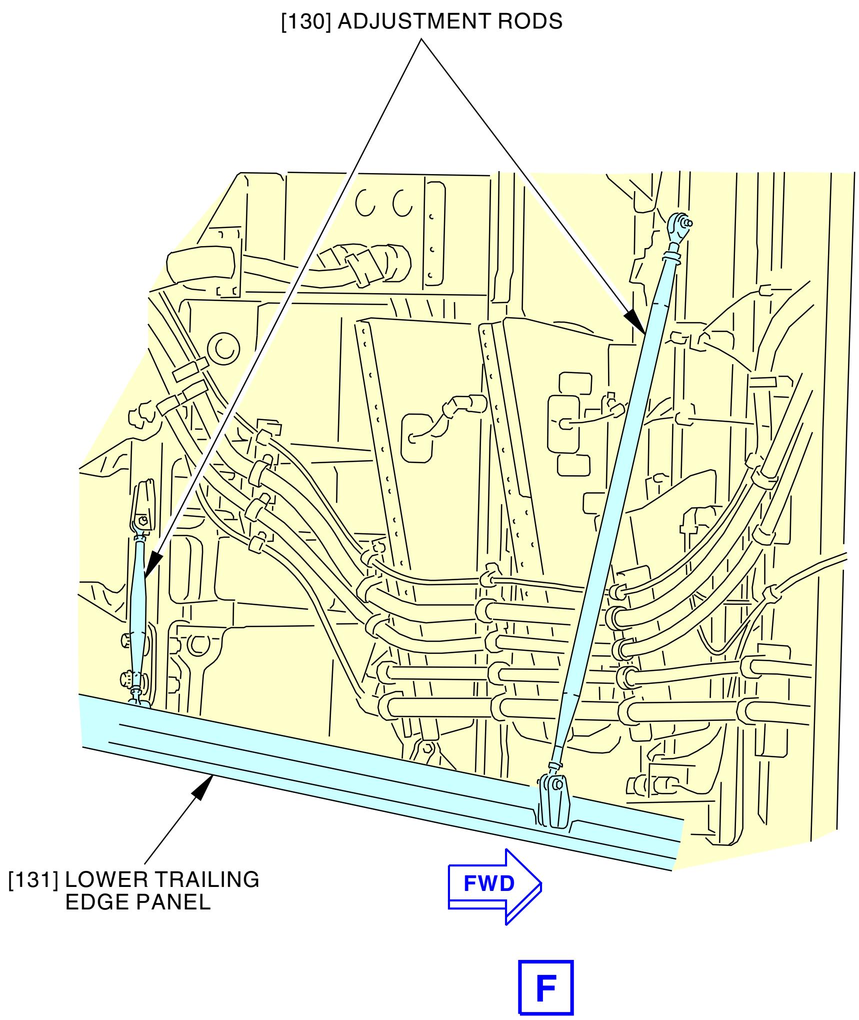


Main Landing Gear Shock Strut Doors Adjustment
Figure 508/32-12-00-990-807 (Sheet 3 of 5)



E57216 S0006418173_V2

Main Landing Gear Shock Strut Doors Adjustment
Figure 508/32-12-00-990-807 (Sheet 4 of 5)



F23715 S0006418174_V2

Main Landing Gear Shock Strut Doors Adjustment
Figure 508/32-12-00-990-807 (Sheet 5 of 5)

MAIN LANDING GEAR DOORS - INSPECTION/CHECK

1. **General**
   - A. This procedure contains scheduled maintenance task data.
   - B. This procedure has these tasks:
     - (1) General visual inspection of the left main lading gear door
     - (2) General visual inspection of the right main lading gear door.
     - (3) Inspection and wear limit check of the main landing gear uplock roller.

TASK 32-12-00-210-801

2. **General Visual Inspection of the Left Main Landing Gear Door Mechanism**
   (Figure 601)

   NOTE: This procedure is a scheduled maintenance task.

   A. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
732	Left Main Landing Gear Body Door

   C. Procedure

   SUBTASK 32-12-00-210-011

   WARNING: MAKE SURE THE LANDING GEAR DOWNLOCK PINS ARE INSTALLED. THIS WILL PREVENT ACCIDENTAL RETRACTION OF THE LANDING GEAR, INJURY TO PERSONS, AND DAMAGE TO EQUIPMENT.

   (1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

   SUBTASK 32-12-00-860-050

   WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

   (2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

   SUBTASK 32-12-00-210-012

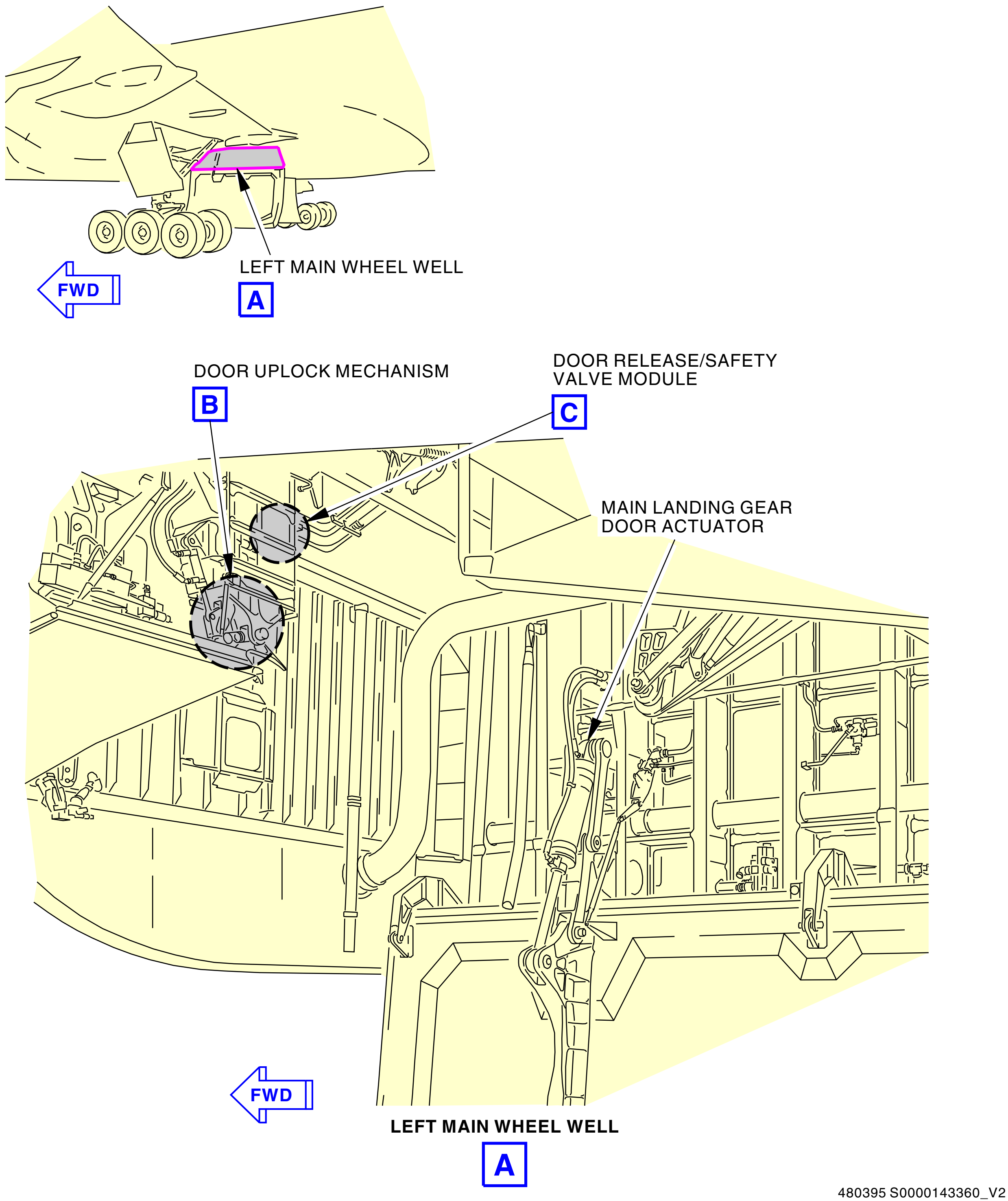
   (3) Do a general visual inspection of these components for damage:
   - (a) Main landing gear door actuator mechanism
   - (b) Door uplock mechanism
   - (c) Door release/safety valve module.

SUBTASK 32-12-00-860-051

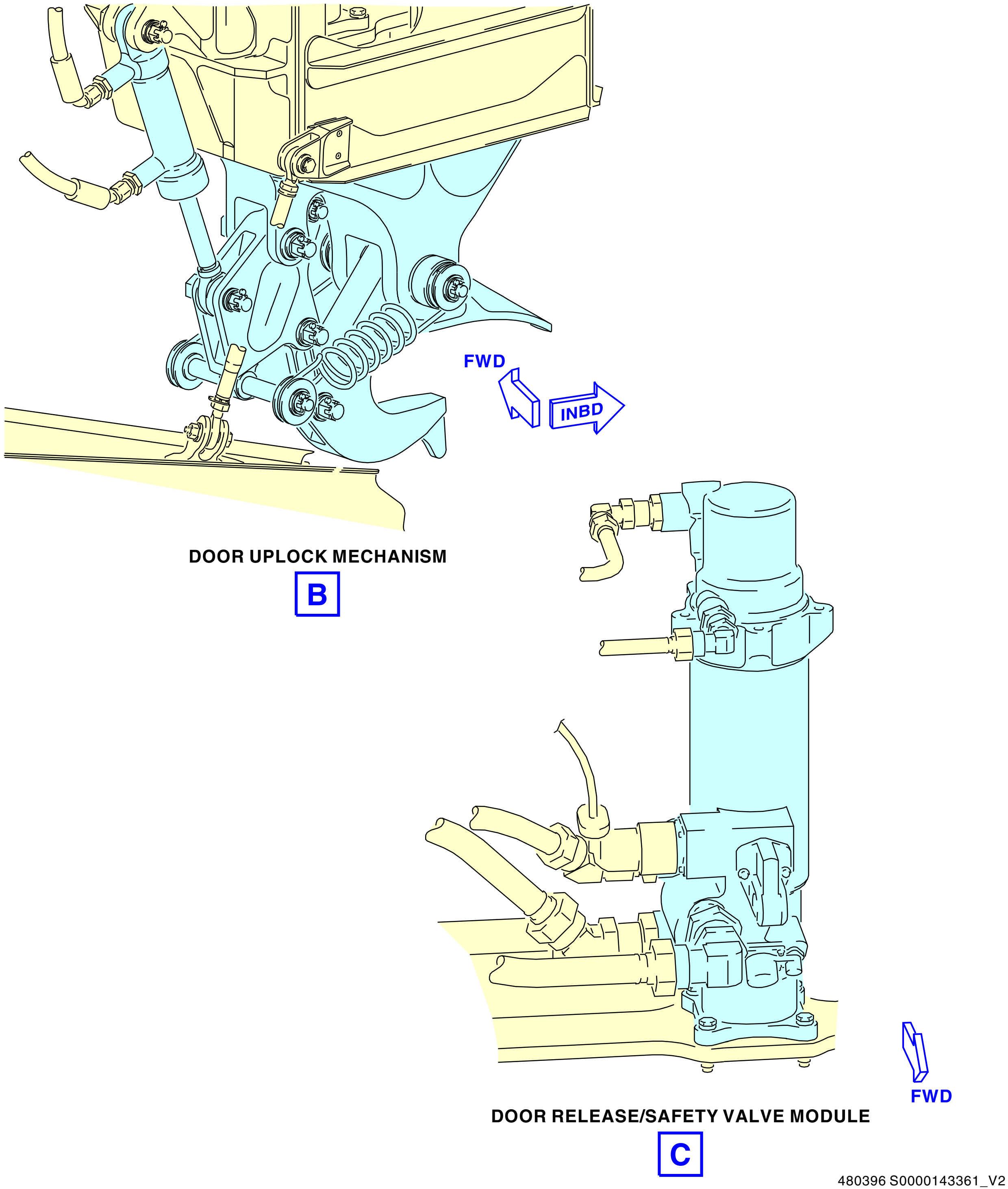
WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

——— END OF TASK ———



Left Main Landing Gear Door Mechanism General Visual (External)
Figure 601/32-12-00-990-808 (Sheet 1 of 2)



Left Main Landing Gear Door Mechanism General Visual (External)
Figure 601/32-12-00-990-808 (Sheet 2 of 2)

TASK 32-12-00-210-802

3. General Visual Inspection of the Right Main Landing Gear Door Mechanism

(Figure 602)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
144	Main Landing Gear Wheel Well, Right
742	Right Main Landing Gear Body Door

C. Procedure

SUBTASK 32-12-00-860-049

WARNING MAKE SURE THE LANDING GEAR DOWNLOCK PINS ARE INSTALLED. THIS WILL PREVENT ACCIDENTAL RETRACTION OF THE LANDING GEAR, INJURY TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-12-00-860-052

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-12-00-210-013

(3) Do a general visual inspection of these components for damage:

(a) Main landing gear door actuator mechanism

(b) Door uplock mechanism

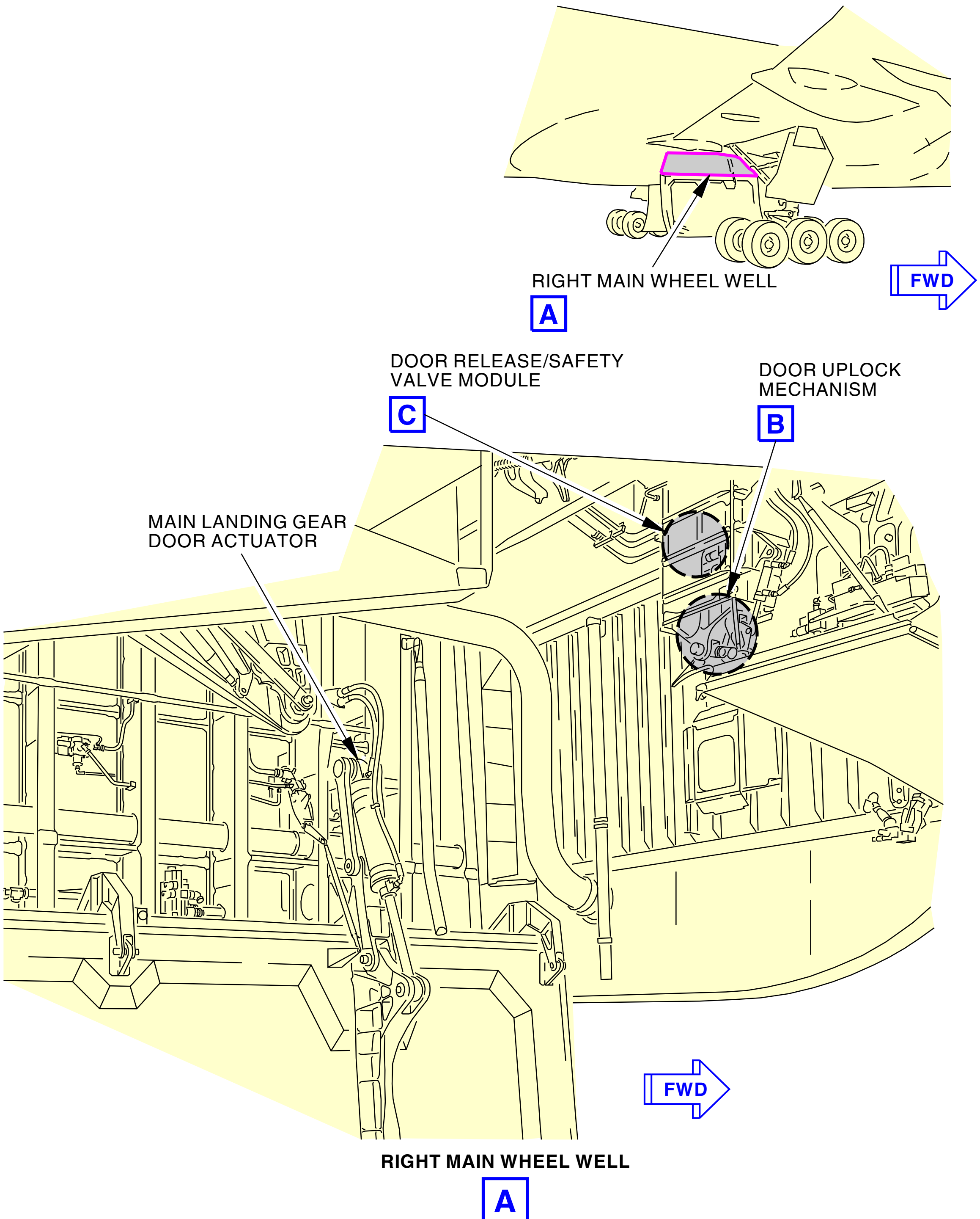
(c) Door release/safety valve module.

SUBTASK 32-12-00-860-053

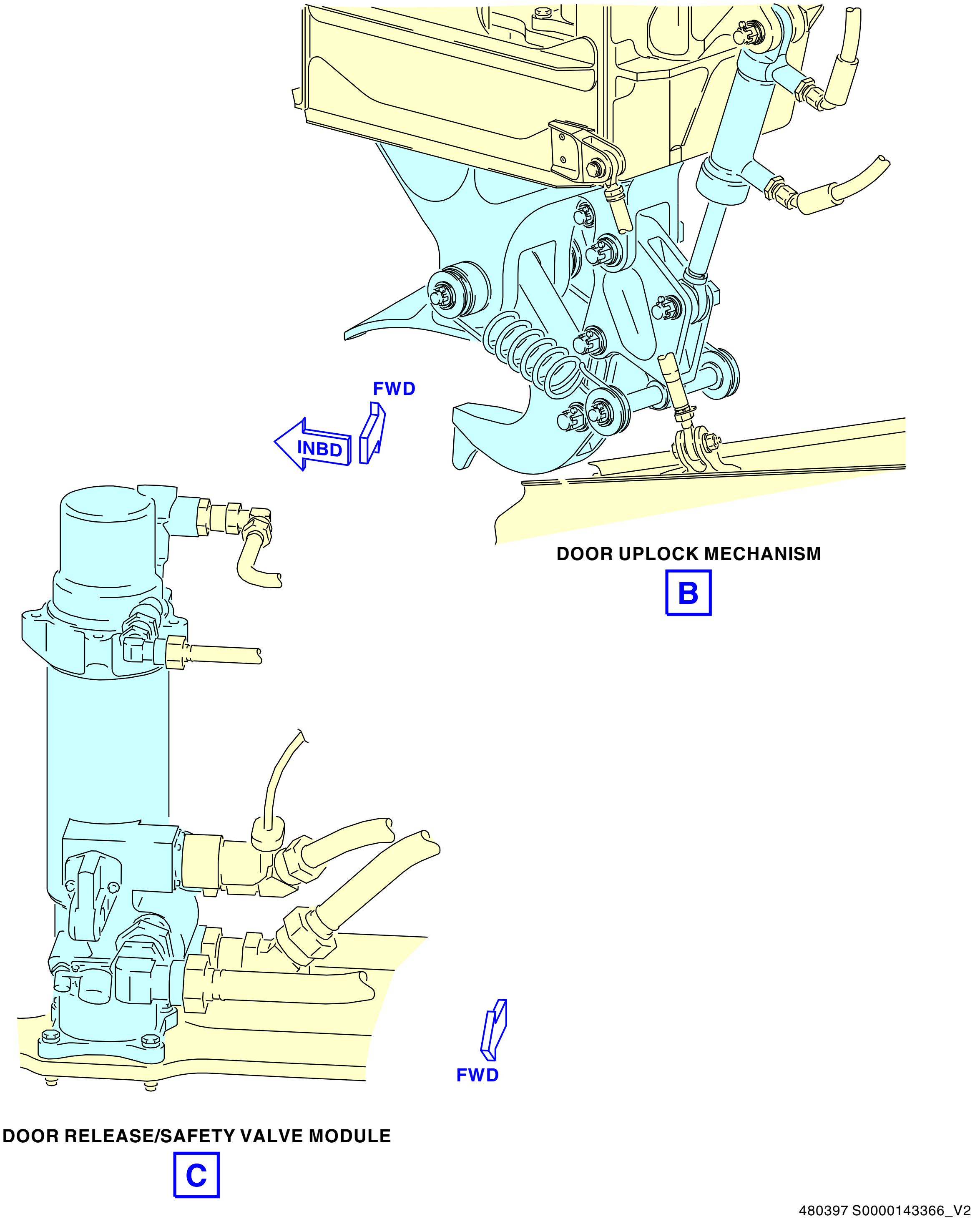
WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK



Right Main Landing Gear Door Mechanism General Visual (External)
Figure 602/32-12-00-990-809 (Sheet 1 of 2)



Right Main Landing Gear Door Mechanism General Visual (External)
Figure 602/32-12-00-990-809 (Sheet 2 of 2)

MAIN LANDING GEAR DOOR SEALS - REPAIR

1. **General**
   A. This procedure gives the instructions to repair the aerodynamic seals on the main landing gear doors.

TASK 32-12-00-350-801

2. **Main Landing Door Seals - Repairs**

   A. **General**

   (1) The repair procedures contained in DOOR SEALS - REPAIRS, PAGEBLOCK 52-09-00/801 can be used to repair the seals on the main landing gear doors. Please refer to the Component Maintenance Manual of each door for the seal replacement instructions, if they are needed.

   B. **References**

Reference	Title
52-09-00 P/B 801	DOOR SEALS - REPAIRS

   C. **Location Zones**

Zone	Area
732	Left Main Landing Gear Body Door
742	Right Main Landing Gear Body Door

——— END OF TASK ———

MAIN LANDING GEAR BODY DOOR - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the main gear body door

(2) An installation of the main gear body door.

TASK 32-12-01-020-801

2. Main Landing Gear Body Door Removal

(Figure 401)

A. General

(1) This procedure supplies instructions to remove the body door assembly [1] for the main landing gear.

B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1998	Equipment - Removal/Installation, Main Landing Gear Doors Part #: J52030-1 Supplier: 81205

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
24	Cotter pin	52-81-00-01-770	ARO 001-017

E. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
732	Left Main Landing Gear Body Door
742	Right Main Landing Gear Body Door

F. Prepare for the Removal

SUBTASK 32-12-01-480-002

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-12-01-010-001

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-12-01-860-001

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

G. Main Landing Gear Body Door Removal

SUBTASK 32-12-01-020-001

(1) Remove the bolt [22] to disconnect the sequence valve rod [14] from the rod fitting attached to the body door assembly [1].

SUBTASK 32-12-01-020-002

(2) Disconnect the bonding jumpers [18] from the hinges of the body door assembly [1]:

(a) Remove the washers [35] and nuts [36] to disconnect the bonding jumpers [18] from the hinges.

SUBTASK 32-12-01-020-006

(3) Remove the cotter pin [30], nut [31], washers [29], bolt [34], pin [32] and its caps [33] to disconnect the body door actuator [12] from the actuator fitting [17].

NOTE: The body door actuator can stay in its location, but it can be necessary to move it slightly out of the way when you install the main landing gear door removal and installation equipment, SPL-1998.

SUBTASK 32-12-01-480-001

(4) Install the door removal main landing gear door removal and installation equipment, SPL-1998, on the body door assembly [1] (Figure 402):

NOTE: The towing arm for the main landing gear door removal and installation equipment, SPL-1998, must point forward. It can be necessary to disconnect the forward and aft arms from the equipment and move them to the opposite side of the equipment to get the correct configuration.

(a) Make sure you install the safety pins in all of the equipment retention pins to keep them from becoming disconnected.

(b) Move the main landing gear door removal and installation equipment, SPL-1998, to a position forward of the body door assembly [1] to be removed.

(c) Install the aft lift assembly in its location on the aft skid bar of the body door assembly [1].

1) Position the two brackets above the aft skid bar such that the aft lift assembly is 90 degree to the aft skid bar.

2) Lower and rotate the aft lift assembly clockwise into its position.

(d) Lift the aft arm until you can install the retention pin in the aft support and the aft arm.

(e) Lift the forward arm to an intermediate position as you move the main landing gear door removal and installation equipment, SPL-1998, aft into its position below the body door assembly [1].

(f) Install the side brace:

1) Lift the forward arm until it is vertical.

2) Install the lower end of the side brace in the main landing gear door removal and installation equipment, SPL-1998.

3) Install the upper end of the side brace in the forward arm.

NOTE: It can be necessary to move the forward arm up and then down to install the upper end of the side brace.

4) Hold the forward arm in an intermediate position.

(g) Lift the forward arm until you can install the retention pin in the forward support and the forward arm.

(h) Connect the upper end of the forward arm to the actuator fitting on the main landing gear door:

1) Extend or retract the jack screws in the corners of the main landing gear door removal and installation equipment, SPL-1998, to get the forward arm into its position to install the retention pin.

2) Install the retention pin to connect the forward arm to the main landing gear door.

(i) Connect the aft arm to the aft lift assembly at the aft lift link.

(j) Install the retention hook on the uplock roller fitting.

(k) Install the retention pin in the retention hook.

SUBTASK 32-12-01-020-007

(5) Extend or retract the jack screws on the main landing gear door removal and installation equipment, SPL-1998, to remove the load from the hinge fitting [2], hinge fitting [8], and hinge fitting [11].

SUBTASK 32-12-01-020-004

(6) Remove the hinge bolt [6], bushing [5], hinge bolts [10], and bushings [9] from the hinge fitting [2], hinge fitting [8], and hinge fitting [11].

SUBTASK 32-12-01-020-005

(7) Remove the body door assembly [1]:

(a) Extend or retract the jack screws on the main landing gear door removal and installation equipment, SPL-1998, until you can get access to the hinge bolt [27] on the actuator support fitting [15] and actuator hinge [16].

1) Remove the bolt [37] and collar [38] from the end of the bolt [27], if fitted.

2) Remove and discard the cotter pin [24] from bolt [27].

3) Remove the washer [26] and nut [25] from the bolt [27].

4) Remove the bolt [27] and washer [28] from the actuator support fitting [15] and actuator hinge [16].

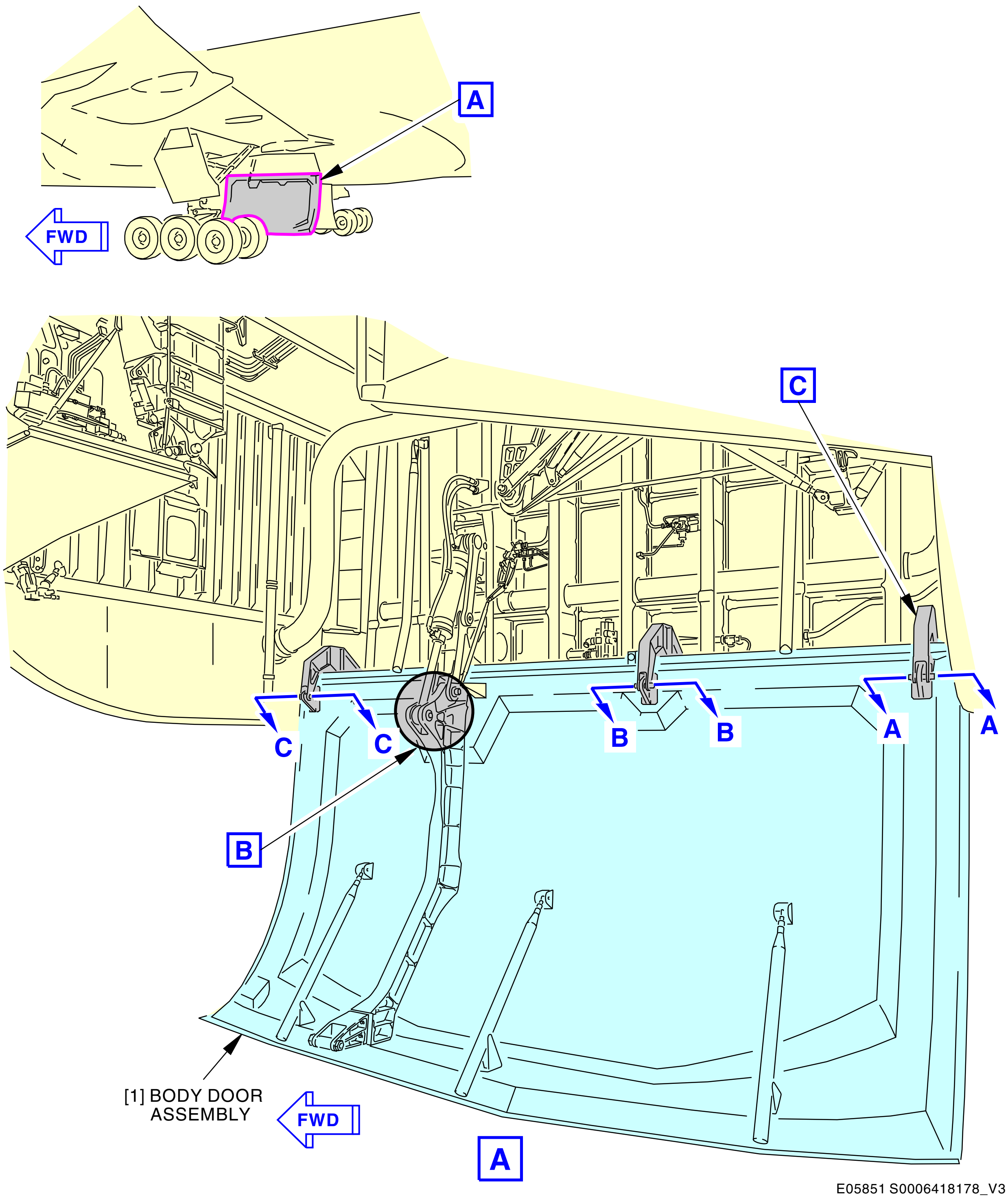
SUBTASK 32-12-01-020-008

(8) Remove the main landing gear door removal and installation equipment, SPL-1998, with the door, from the work area:

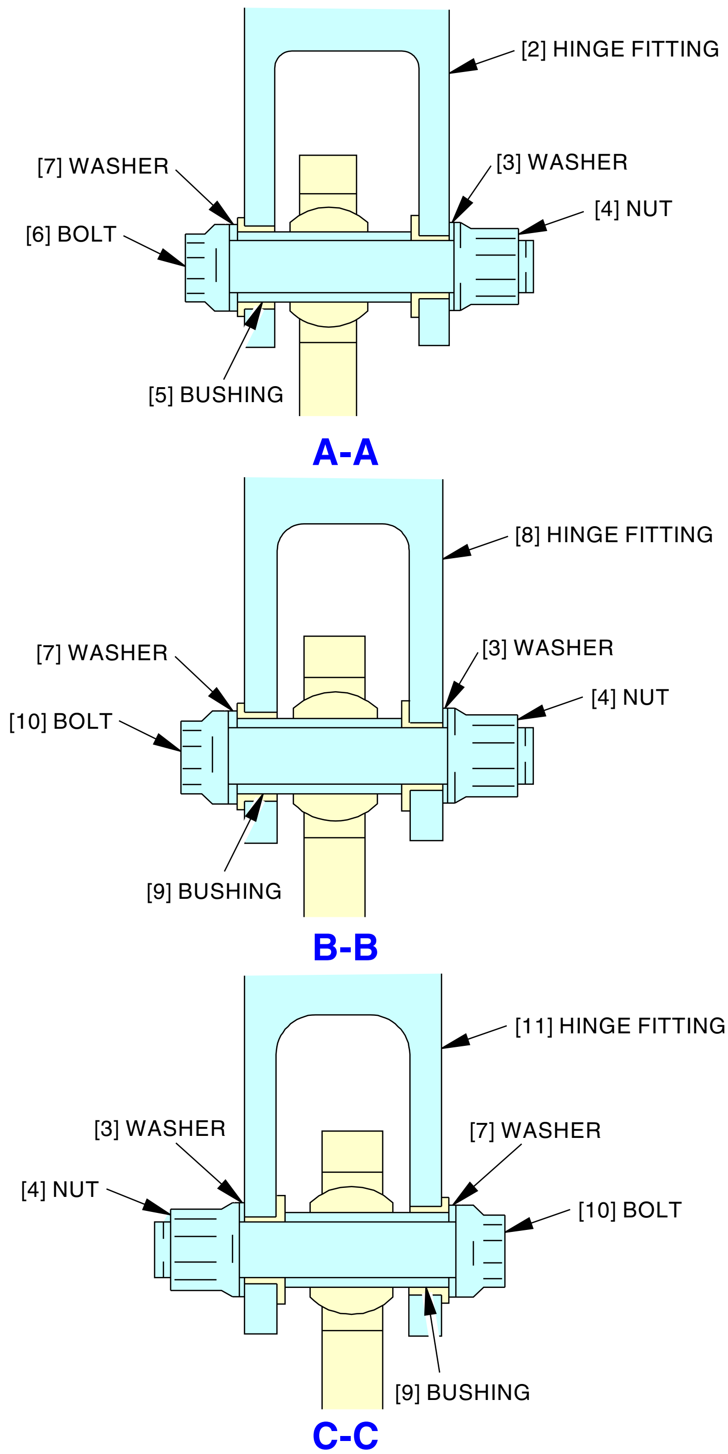
(a) Extend the jack screws of the main landing gear door removal and installation equipment, SPL-1998, until there is sufficient clearance to remove the main landing gear door removal and installation equipment, SPL-1998, with the door, from the work area.

NOTE: The ends of the door hinges on the airplane must be above the upper edge of the main landing gear door.

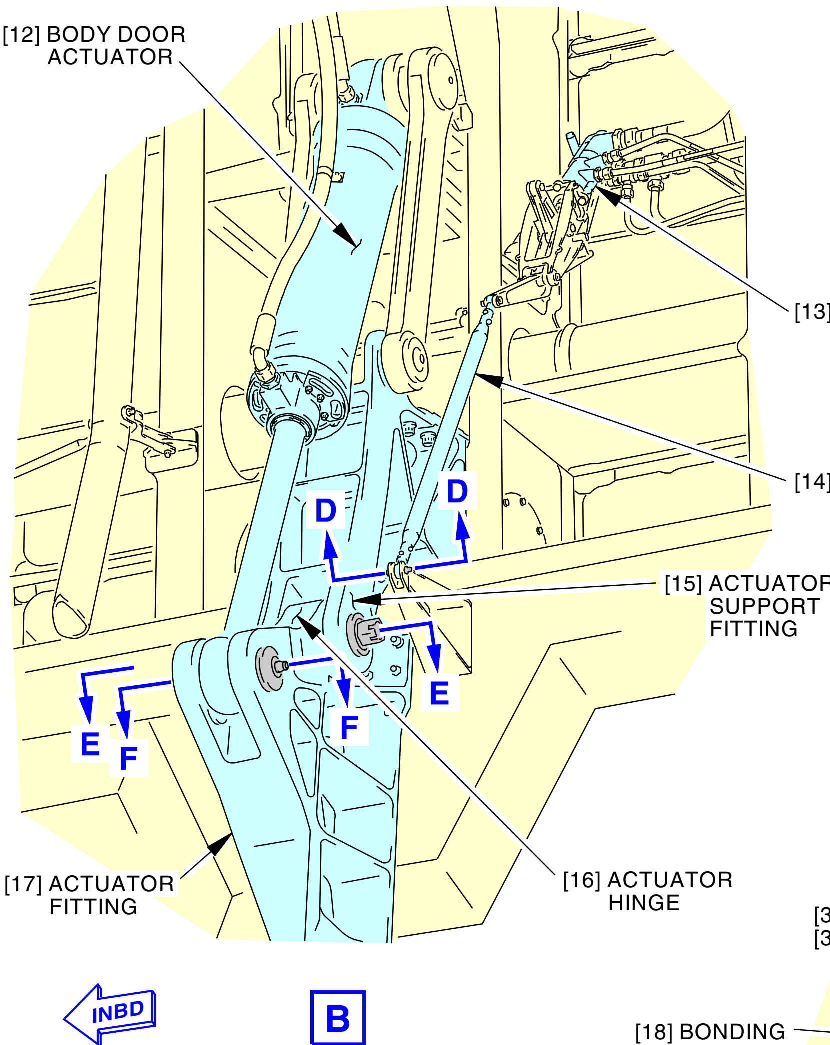
END OF TASK

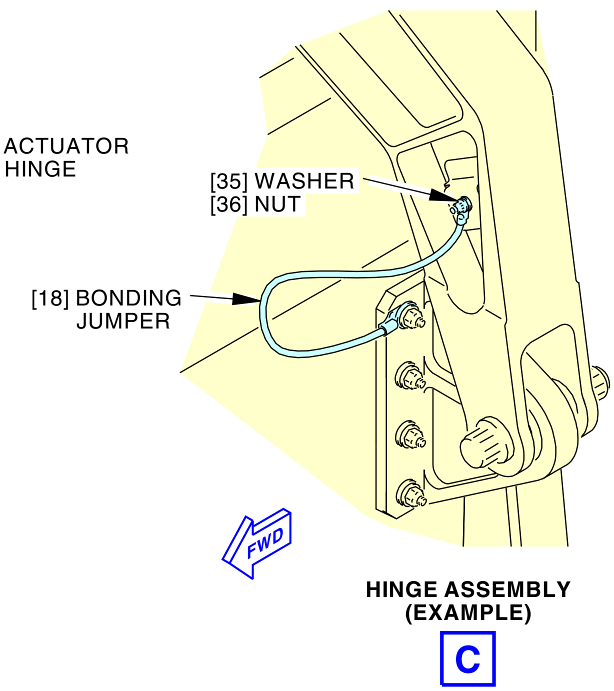


Main Landing Gear Body Door Installation
Figure 401/32-12-01-990-801 (Sheet 1 of 4)



Main Landing Gear Body Door Installation
Figure 401/32-12-01-990-801 (Sheet 2 of 4)





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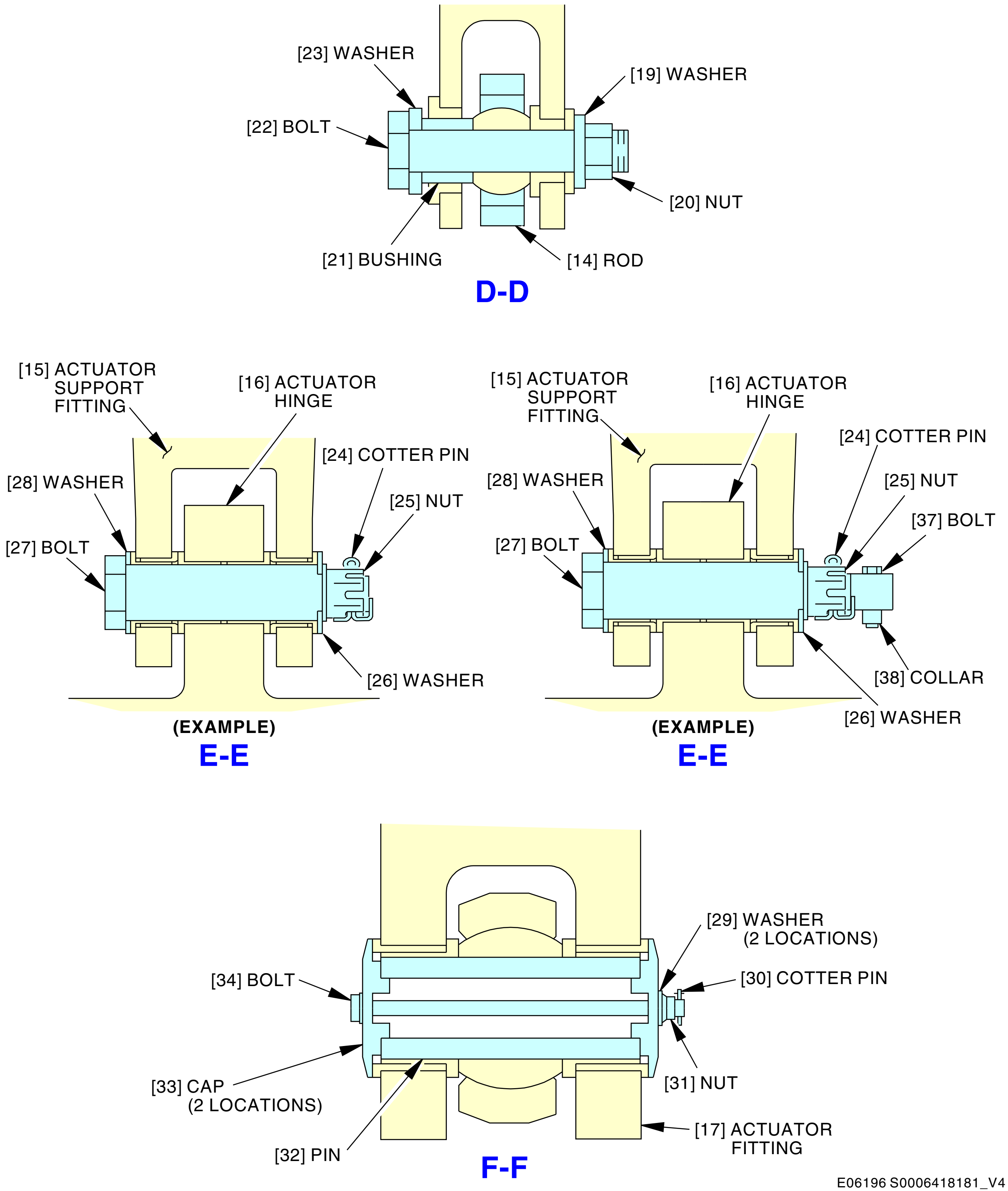
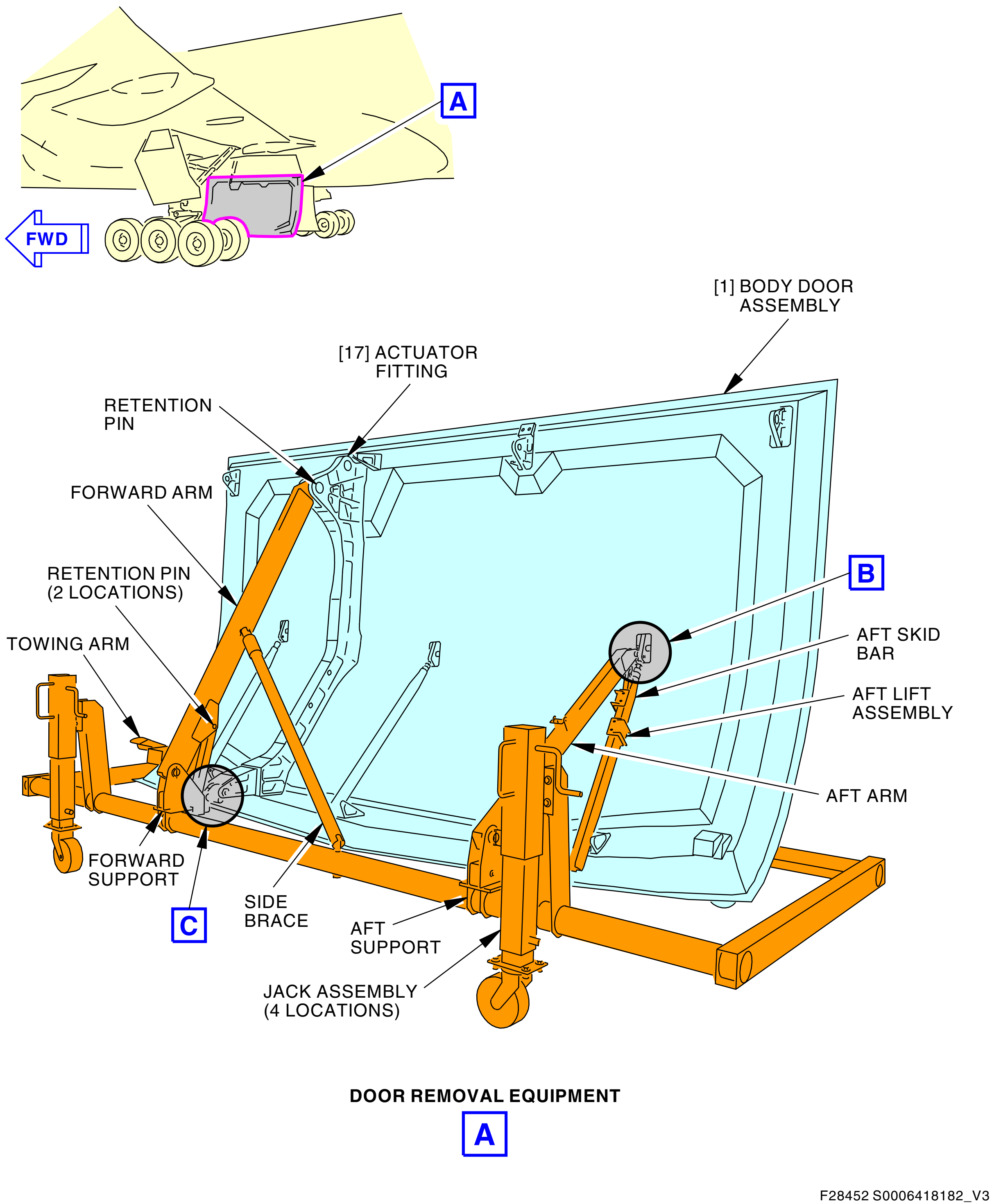
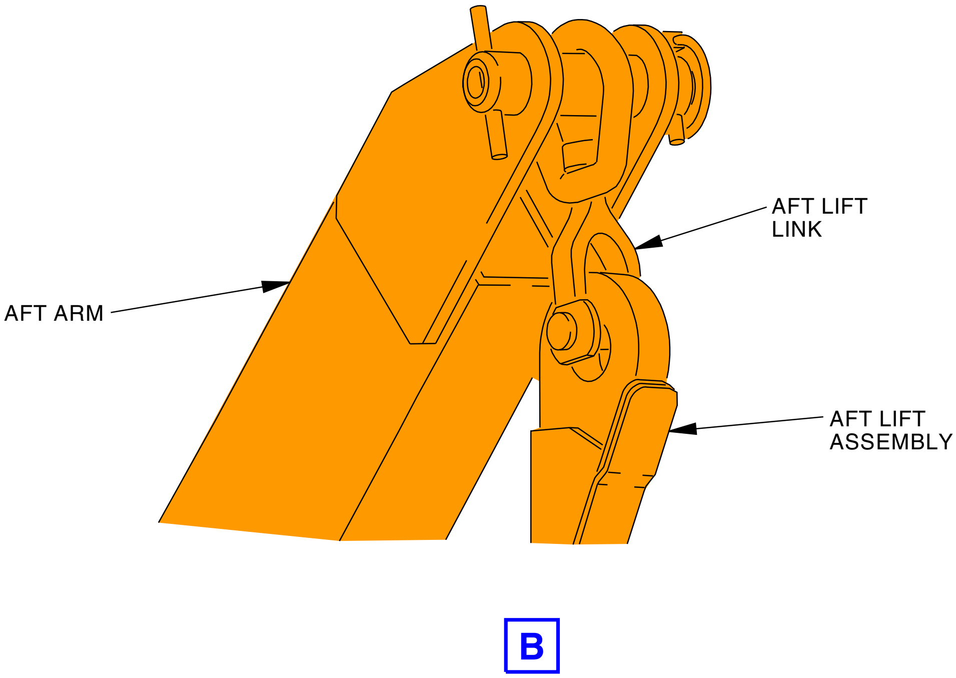
Main Landing Gear Body Door Installation
Figure 401/32-12-01-990-801 (Sheet 3 of 4)

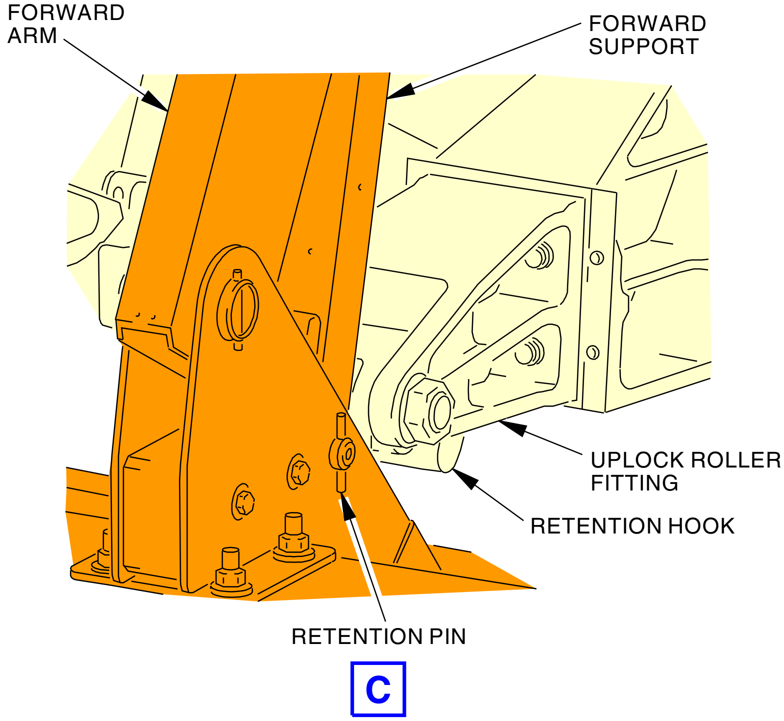


Main Landing Gear Body Door Installation
Figure 401/32-12-01-990-801 (Sheet 4 of 4)



Main Landing Gear Body Door Removal Tool
Figure 402/32-12-01-990-802 (Sheet 1 of 2)





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**Main Landing Gear Body Door Removal Tool
Figure 402/32-12-01-990-802 (Sheet 2 of 2)**

TASK 32-12-01-420-801

3. Main Landing Gear Body Door Installation

(Figure 401)

A. General

(1) This procedure supplies instructions to install the body door assembly [1] for the main landing gear.

B. References

Reference	Title
12-21-15-640-802-002	Main Landing Gear Doors and Actuating Mechanisms Lubrication (P/B 301)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-12-00-910-805	Main Landing Gear Body Door Adjustment (P/B 501)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1998	Equipment - Removal/Installation, Main Landing Gear Doors Part #: J52030-1 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
G02461	Shim - Laminated, Polyimide	BAC1535
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Door assembly	52-81-00-01-830	ARO 001-017
		52-81-00-01-835	ARO 001-017
24	Cotter pin	52-81-00-01-770	ARO 001-017
30	Pin	32-32-14-01-085	ARO ALL

F. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
732	Left Main Landing Gear Body Door
742	Right Main Landing Gear Body Door

G. Main Landing Gear Body Door Installation

SUBTASK 32-12-01-916-001

(1) Tape phenolicshim, G02461, stock (0.01 +0.05 / -0.00 in. (0.25 +1.27 / -0.00 mm) thick) to both sides of the actuator hinge [16] to protect the hinge beam assembly and actuator support fitting [15] during installation.

SUBTASK 32-12-01-420-004

(2) Put the main landing gear door removal and installation equipment, SPL-1998, with the body door assembly [1] in its position below the hinge fitting [2], hinge fitting [8], and hinge fitting [11]:

(a) Extend the jack screws in the corners of the main landing gear door removal and installation equipment, SPL-1998, until there is sufficient clearance to move the main landing gear door removal and installation equipment, SPL-1998, with the door, into its position below the hinge fittings.

NOTE: The ends of the door hinges on the airplane must be above the upper edge of the main landing gear door.

(b) Move the main landing gear door removal and installation equipment, SPL-1998, and body door assembly [1] to their position.

SUBTASK 32-12-01-420-001

(3) Retract the jack screws in the corners of the main landing gear door removal and installation equipment, SPL-1998, until the hinges are in their correct positions in the hinge fitting [2], hinge fitting [8], and hinge fitting [11].

SUBTASK 32-12-01-640-005

(4) Lubricate these parts for the actuator support fitting [15] with grease, D00633:

(a) Threads of the bolt [27].

(b) Faces of the washer [28] and washer [26].

(c) Threads of the nut [25].

SUBTASK 32-12-01-640-001

(5) Install the actuator hinge [16] to the actuator support fitting [15]:

(a) Install the washer [28] on the bolt [27].

(b) Install the bolt [27] in the actuator support fitting [15] and actuator hinge [16].

(c) Install the washer [26] and nut [25] on the bolt [27].

(d) Tighten the nut [25] to 150 in-lb (16.9 N·m) - 200 in-lb (22.6 N·m).

(e) If it is necessary, loosen the nut [25] to the nearest castellation to align the hole for the new cotter pin [24].

(f) Install the new cotter pin [24].

(g) At the end of bolt [27] install the bolt [37] and collar [38], if required.

SUBTASK 32-12-01-640-006

(6) Lubricate these parts for the hinge fitting [2], hinge fitting [8], and hinge fitting [11] with grease, D00633:

(a) Threads of the bolt [6] and two bolts [10].

(b) Faces of the three washers [7] and three washers [3].

(c) The bushing [5] and two bushings [9].

(d) The three nuts [4].

SUBTASK 32-12-01-640-002

(7) Do these steps to connect each of the hinges to the hinge fittings:

(a) Install the washer [7] and bushing [9] on the bolt [10] for the hinge fitting [11].

(b) Install the washer [7] and bushing [9] on the bolt [10] for the hinge fitting [8].

(c) Install the washer [7] and bushing [5] on the bolt [6] for the hinge fitting [2].

(d) Install the bolt [10] in the hinge fitting [11].

(e) Install the bolt [10] in the hinge fitting [8].

(f) Install the bolt [6] in the hinge fitting [2].

(g) Install the washers [3] and nuts [4] on the bolt [6] and bolts [10].

(h) Tighten the nuts [4] to 200 ft-lb (271 N·m) - 292 ft-lb (396 N·m).

SUBTASK 32-12-01-916-002

(8) Remove the phenolic shim, G02461, stock from the actuator hinge [16].

SUBTASK 32-12-01-080-001

(9) Remove the main landing gear door removal and installation equipment, SPL-1998, from the body door assembly [1]:

(a) Remove the retention hook from the uplock roller fitting.

(b) Disconnect the aft arm from the aft lift assembly.

(c) Remove the aft lift assembly.

(d) Disconnect the upper end of the forward arm from the actuator fitting on the main landing gear door:

1) Extend or retract the corner jack screws on the main landing gear door removal and installation equipment, SPL-1998, to remove the load from the retention pin.

2) Remove the retention pin to disconnect the forward arm from the body door assembly [1].

(e) Lift the forward arm until you can remove the retention pin from the forward support and the forward arm.

(f) Remove the side brace.

(g) Lift the forward arm to an intermediate position as you move the main landing gear door removal and installation equipment, SPL-1998, forward and away from the airplane.

SUBTASK 32-12-01-640-003

(10) Do the steps below to connect the body door actuator [12] to the actuator fitting [17] on the body door assembly [1]:

(a) Lubricate the chromed surfaces of the pin [32] and its mating surfaces with grease, D00013, or grease, D00633.

(b) Install the pin [32] in the actuator fitting [17] and body door actuator [12].

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(WARNING PRECEDES)

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(c) Apply Cor-Ban 27L Compound, G50237, or Mastinox 6856 K, C00913, to these parts for the body door actuator [12]:

1) Threads of the bolt [34].

2) The faces of the washers [29].

3) Threads of the nut [31].

(d) Install the washer [29] and one of the cap [33] on the bolt [34].

(e) Install the bolt [34].

(f) Install the remaining cap [33], washer [29], and nut [31] on the bolt [34].

(g) Tighten the nut [31]:

1) If Cor-Ban 27L Compound, G50237, is used, tighten to 5 in-lb (0.6 N·m) - 32 in-lb (3.6 N·m).

2) If Mastinox 6856 K, C00913, is used, tighten to 60 in-lb (6.8 N·m) - 95 in-lb (10.7 N·m).

(h) If it is necessary, loosen the nut [31] to the next castellation to align the hole for the cotter pin [30].

(i) Install the cotter pin [30].

SUBTASK 32-12-01-420-002

(11) Connect the rod [14] for the sequence valve [13] to the body door assembly [1]:

(a) Install the washer [23] and bushing [21] on the bolt [22].

(b) Install the bolt [22] to connect the rod [14] to the body door assembly [1].

(c) Install the washer [19] and nut [20] on the bolt [22].

SUBTASK 32-12-01-020-009

(12) Connect the bonding jumpers [18] to the hinges of the body door assembly [1]:

(a) Install the washers [35] and nuts [36] to connect the bonding jumpers [18] to the hinges.

H. Put the Airplane Back to its Usual Condition

SUBTASK 32-12-01-820-001

(1) Do this task: Main Landing Gear Body Door Adjustment, TASK 32-12-00-910-805.

SUBTASK 32-12-01-640-004

(2) For the grease fittings on the body door assembly [1], do this task: Main Landing Gear Doors and Actuating Mechanisms Lubrication, TASK 12-21-15-640-802-002.

SUBTASK 32-12-01-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

MAIN LANDING GEAR BODY DOOR STOP - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the forward door stop for the main landing gear body door

(2) An installation of the forward door stop for the main landing gear body door

(3) A removal of the aft door stop for the main landing gear body door

(4) An installation of the aft door stop for the main landing gear body door.

TASK 32-12-02-020-801

2. Main Landing Gear Forward Door Stop Removal

(Figure 401)

A. General

(1) This procedure supplies instructions to remove the forward door stop for the main landing gear body door.

B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for the Removal

SUBTASK 32-12-02-480-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-12-02-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-12-02-860-001

(3) For the center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

E. Main Landing Gear Forward Door Stop

SUBTASK 32-12-02-020-006

(1) Disconnect the clamps [7] that hold the sensor wires to the forward door stop.

SUBTASK 32-12-02-020-001

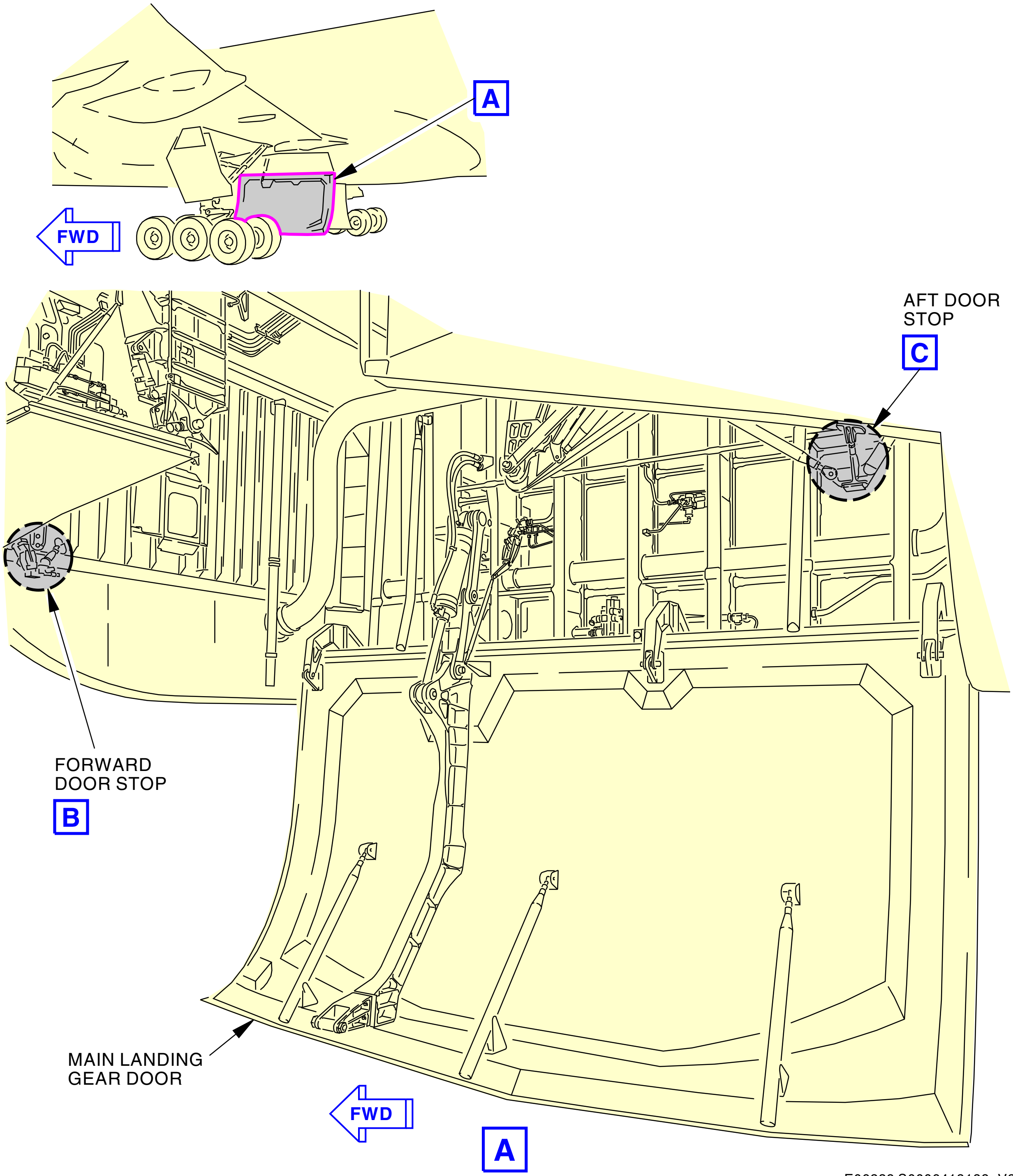
(2) Disconnect the electrical connectors from the door sensors [6] on the forward door stop.

SUBTASK 32-12-02-020-002

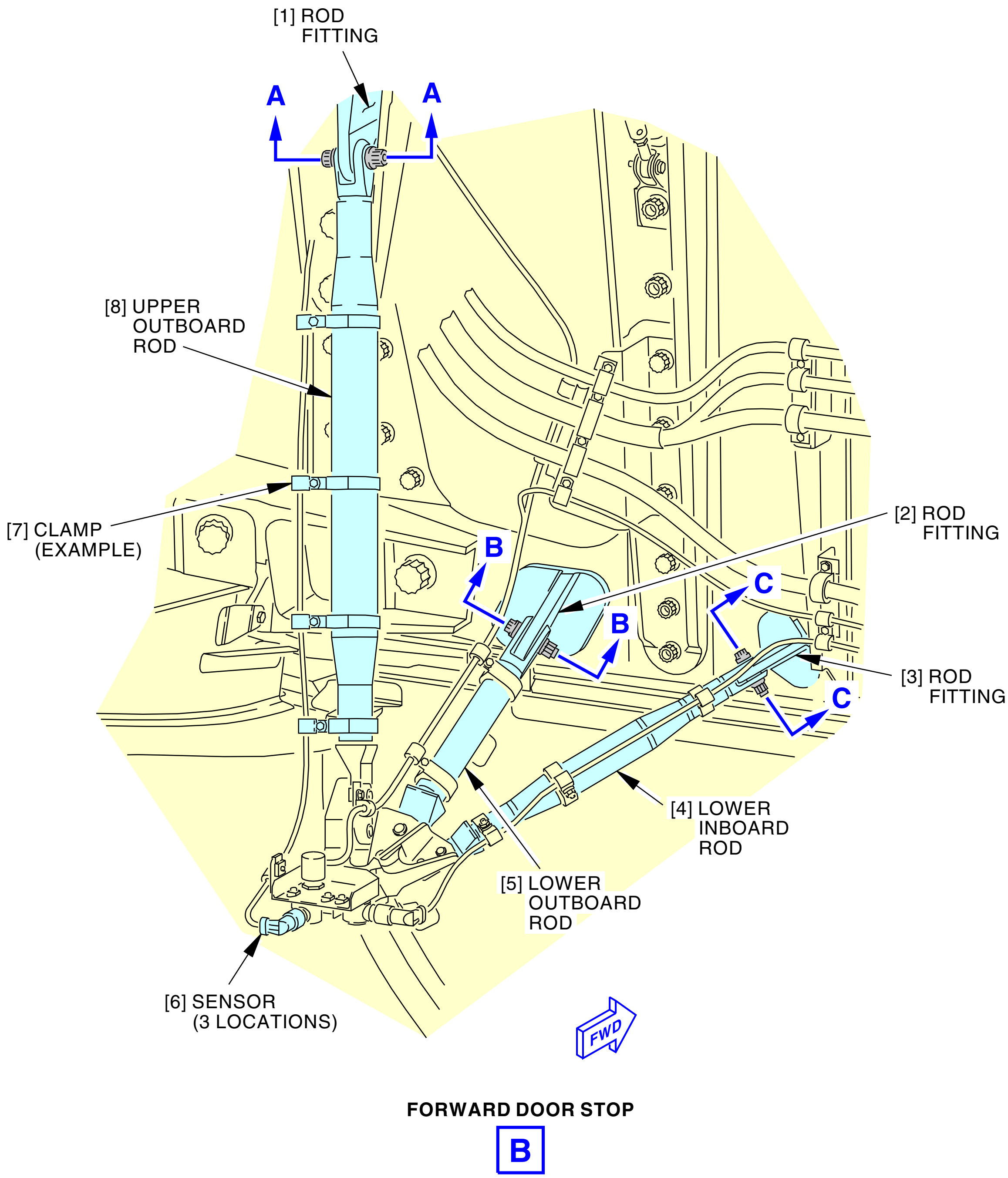
(3) Disconnect the lower inboard rod [4], lower outboard rod [5], and upper outboard rod [8] for the forward door stop:

(a) Remove the bolt [12], bolt [17], and bolt [23] to disconnect the rod assemblies for the forward door stop from the rod fitting [1], rod fitting [2], and rod fitting [3].

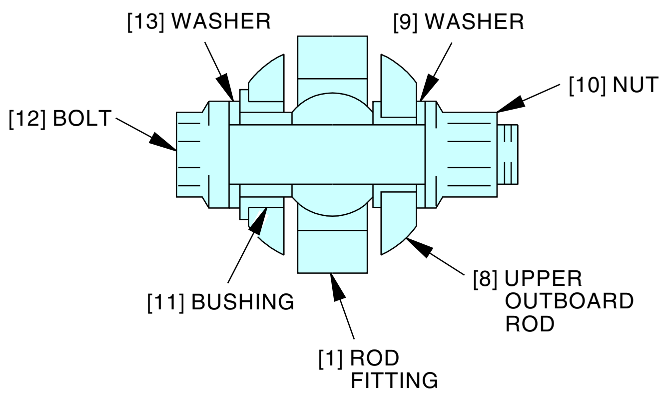
——— END OF TASK ———

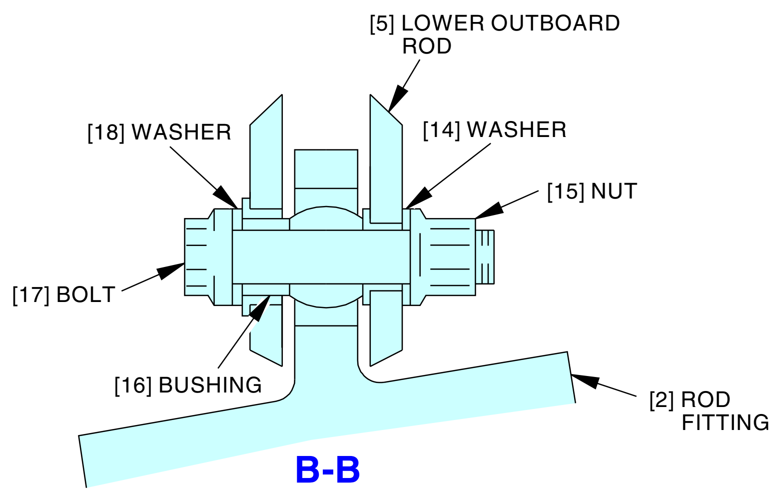


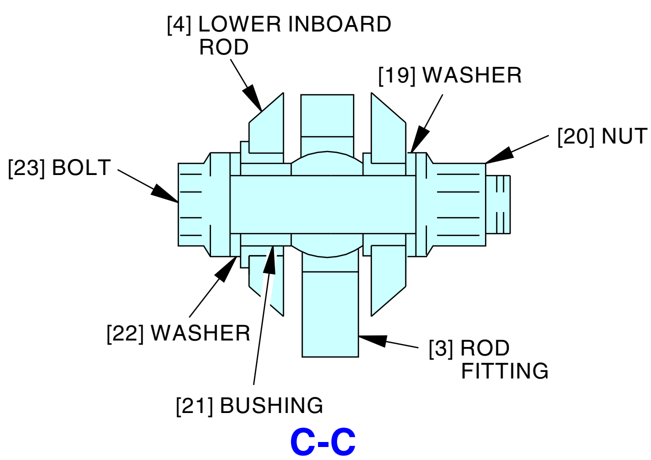
Main Landing Gear Body Door Stop Installation
Figure 401/32-12-02-990-802 (Sheet 1 of 3)



Main Landing Gear Body Door Stop Installation
Figure 401/32-12-02-990-802 (Sheet 2 of 3)







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Main Landing Gear Body Door Stop Installation
Figure 401/32-12-02-990-802 (Sheet 3 of 3)

TASK 32-12-02-420-801

3. **Main Landing Gear Forward Door Stop Installation**
(Figure 401)

A. **General**

(1) This procedure supplies instructions to install the forward door stop for the main landing gear body door.

B. **References**

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-12-00-910-805	Main Landing Gear Body Door Adjustment (P/B 501)
32-61-06-700-801	Test of the Door Closed Sensor for the Main Gear (P/B 201)

C. **Consumable Materials**

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33

D. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
4	Lower inboard rod	32-12-02-01-175	ARO ALL
		32-12-02-01-177	ARO ALL
5	Lower outboard rod	32-12-02-01-095	ARO ALL
		32-12-02-01-097	ARO ALL
8	Upper outboard rod	32-12-02-01-025	ARO ALL
		32-12-02-01-027	ARO ALL

E. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

F. **Main Landing Gear Door Forward Door Stop Installation**

SUBTASK 32-12-02-640-009

(1) Lubricate the mating surfaces of the bolt [12], bolt [17], and bolt [23] with grease, D00633.

SUBTASK 32-12-02-640-010

(2) Lubricate the mating surfaces of the washer [9], washer [13], washer [14], washer [18], washer [19], and washer [22] with grease, D00633.

SUBTASK 32-12-02-640-002

(3) Lubricate the mating surfaces of the bushing [11], bushing [16], bushing [21] with grease, D00633.

SUBTASK 32-12-02-420-001

(4) Put the lower inboard rod [4], lower outboard rod [5], and upper outboard rod [8] for the forward door stop in their position in the rod fitting [1], rod fitting [2], and rod fitting [3].

SUBTASK 32-12-02-640-001

(5) Connect the upper outboard rod [8] for the forward door stop to the rod fitting [1]:

(a) Install the washer [13] and bushing [11] on the bolt [12].

(b) Install the bolt [12] to connect the upper outboard rod [8] to the rod fitting [1].

(c) Install the washer [9] and nut [10] on the bolt [12].

(d) Tighten the nut [10] to 870 in-lb (98 N·m) - 1300 in-lb (147 N·m).

SUBTASK 32-12-02-640-003

(6) Connect the lower outboard rod [5] for the forward door stop to the rod fitting [2]:

(a) Install the washer [18] and bushing [16] on the bolt [17].

(b) Install the bolt [17] to connect the lower outboard rod [5] to the rod fitting [2].

(c) Install the washer [14] and nut [15] on the bolt [17].

(d) Tighten the nut [15] to 510 in-lb (58 N·m) - 840 in-lb (95 N·m).

SUBTASK 32-12-02-640-004

(7) Connect the lower inboard lower inboard rod [4] for the forward door stop to the rod fitting [3]:

(a) Install the washer [22] and bushing [21] on the bolt [23].

(b) Install the bolt [23] to connect the lower inboard rod [4] to the rod fitting [3].

(c) Install the washer [19] and nut [20] on the bolt [23].

(d) Tighten the nut [20] to 300 in-lb (34 N·m) - 500 in-lb (56 N·m).

SUBTASK 32-12-02-420-002

(8) Connect the electrical connectors to the door sensors [6] and connect the clamps [7] for the sensor wires to the forward door stop.

G. Put the Airplane Back to its Usual Condition

SUBTASK 32-12-02-820-001

(1) To adjust the main landing gear door fit tolerances, do this task: Main Landing Gear Body Door Adjustment, TASK 32-12-00-910-805.

SUBTASK 32-12-02-420-003

(2) Do this task: Test of the Door Closed Sensor for the Main Gear, TASK 32-61-06-700-801.

SUBTASK 32-12-02-410-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

——— END OF TASK ———

TASK 32-12-02-020-802

4. Main Landing Gear Aft Door Stop Removal

(Figure 402)

A. General

(1) This procedure supplies instructions to remove the aft door stop for the main landing gear body door.

B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)

(Continued)

Reference	Title
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for the Removal

SUBTASK 32-12-02-480-002

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-12-02-010-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-12-02-860-002

(3) For the center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

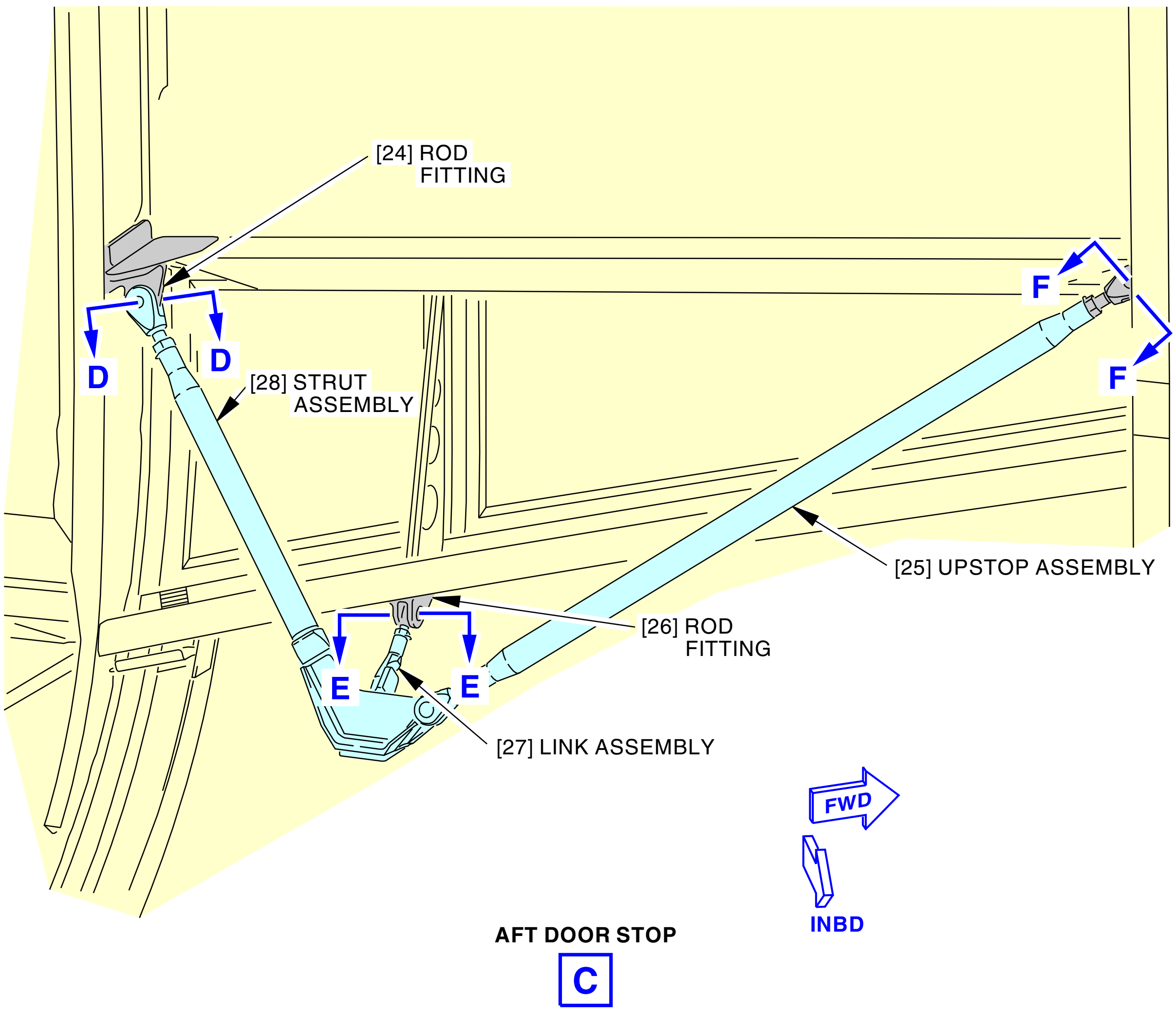
E. Main Landing Gear Aft Door Stop Removal

SUBTASK 32-12-02-020-004

(1) Disconnect the upstop assembly [25], link assembly [27], and strut assembly [28] for the aft door stop:

(a) Remove the bolt [32], bolt [37], and bolt [43] to disconnect the rod assemblies for the aft door stop from the rod fitting [24], rod fitting [26], and rod fitting [39].

END OF TASK



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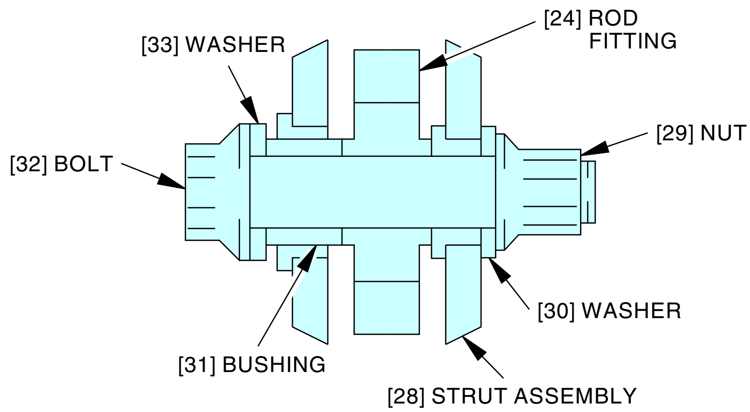
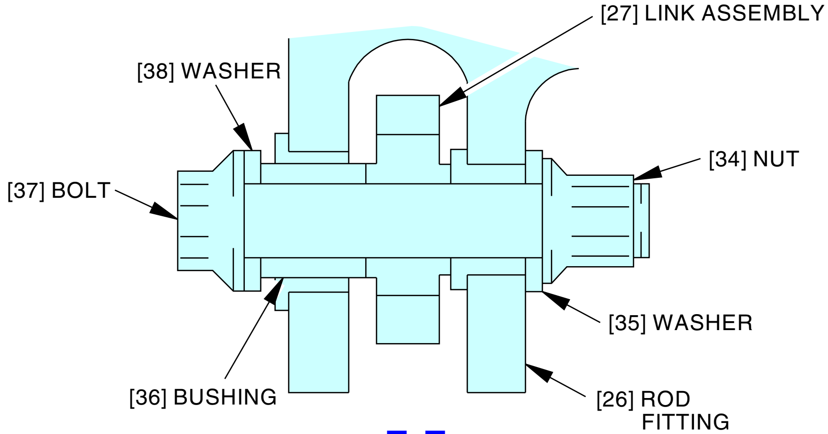
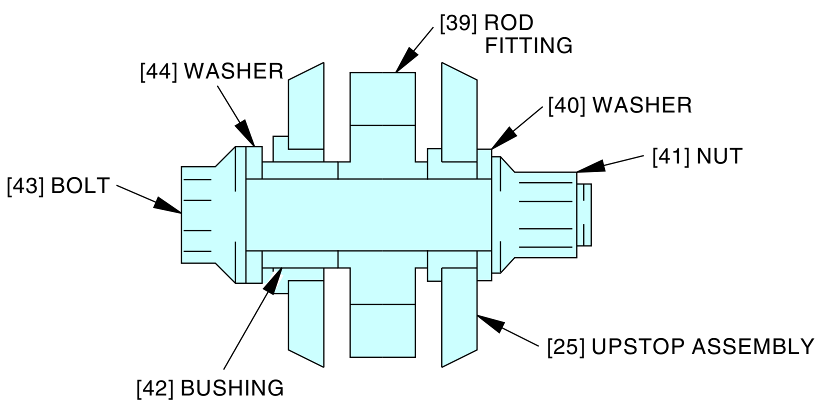
Main Landing Gear Body Door Stop Installation
Figure 402/32-12-02-990-801 (Sheet 1 of 2)



D-D



E-E



F-F

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Main Landing Gear Body Door Stop Installation
Figure 402/32-12-02-990-801 (Sheet 2 of 2)

TASK 32-12-02-420-802

5. Main Landing Gear Aft Door Stop Installation

(Figure 402)

A. General

(1) This procedure supplies instructions to install the aft door stop for the main landing gear body door.

B. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-12-00-910-805	Main Landing Gear Body Door Adjustment (P/B 501)

C. Consumable Materials

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
25	Upstop assembly	32-12-02-05A-035	ARO ALL
		32-12-02-05A-040	ARO ALL

E. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Main Landing Gear Door Aft Door Stop Installation

SUBTASK 32-12-02-640-005

(1) Lubricate the mating surfaces of the bolt [32], bolt [37], and bolt [43] with grease, D00633.

SUBTASK 32-12-02-640-011

(2) Lubricate the mating surfaces of the washer [30], washer [33], washer [35], washer [38], washer [40], and washer [44] with grease, D00633.

SUBTASK 32-12-02-640-012

(3) Lubricate the mating surfaces of the nut [29], nut [34], and nut [41] with grease, D00633.

SUBTASK 32-12-02-640-013

(4) Lubricate the mating surfaces of the bushing [31], bushing [36], and bushing [42] with grease, D00633.

SUBTASK 32-12-02-420-004

(5) Put the upstop assembly [25], link assembly [27], strut assembly [28] for the aft door stop in their position in the rod fitting [24], rod fitting [26], and rod fitting [39].

SUBTASK 32-12-02-640-006

(6) Connect the strut assembly [28] for the aft door stop to the rod fitting [24]:

(a) Install the washer [33] and bushing [31] on the bolt [32].

(b) Install the bolt [32] to connect the strut assembly [28] to the rod fitting [24].

(c) Install the washer [30] and nut [29] on the bolt [32].

SUBTASK 32-12-02-640-007

(7) Connect the link assembly [27] for the aft door stop to the rod fitting [26]:

(a) Install the washer [38] and bushing [36] on the bolt [37].

(b) Install the bolt [37] to connect the link assembly [27] to the rod fitting [26].

(c) Install the washer [35] and nut [34] on the bolt [37].

SUBTASK 32-12-02-640-008

(8) Connect the upstop assembly [25] for the aft door stop to the rod fitting [39]:

(a) Install the washer [44] and bushing [42] on the bolt [43].

(b) Install the bolt [43] to connect the upstop assembly [25] to the rod fitting [39].

(c) Install the washer [40] and nut [41] on the bolt [43].

G. Put the Airplane Back to its Usual Condition

SUBTASK 32-12-02-820-002

(1) To adjust the main landing gear door fit tolerances, do this task: Main Landing Gear Body Door Adjustment, TASK 32-12-00-910-805.

SUBTASK 32-12-02-410-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

——— END OF TASK ———

MAIN LANDING GEAR SHOCK STRUT DOOR - REMOVAL/INSTALLATION

1. **General**
   A. This procedure has these tasks:
      (1) A removal of the shock strut door for the main landing gear.
      (2) An installation of the shock strut door for the main landing gear.

TASK 32-12-06-020-801

2. **Main Landing Gear Shock Strut Door Removal**
   (Figure 401)

   A. General
      (1) This procedure gives the instructions for the removal of the shock strut door from the main landing gear.
      (2) In this procedure the shock strut door is called the shock strut door [1].

   B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
733	Left Main Landing Gear Shock Struct Door
741	Right Main Landing Gear
743	Right Main Landing Gear Shock Strut Door

   D. Prepare for the Removal

SUBTASK 32-12-06-480-001

> **WARNING**
> MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

      (1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-12-06-010-001

> **WARNING**
> OBEY THE INSTALLATION PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

      (2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-12-06-860-001

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

E. Main Landing Gear Shock Strut Door Removal

SUBTASK 32-12-06-020-003

ARO ALL; SHOCK STRUT DOOR WITHOUT BUSHING

(1) Remove the nut [12], washers [10], bolt [8], and washer [9] to disconnect the shock strut door [1] from the shock strut [2].

(a) Record the quantity of the washers [10] under the nut [12], and between the shock strut [2] and the shock strut door [1].

NOTE: The total quantity of washers [10] is not changing. If you install them like they were removed it will help make the subsequent adjustment easier.

ARO ALL; SHOCK STRUT DOOR WITH BUSHING

(2) Remove the nut [12], bushing [11], washer [10], bolt [8], and washer [9] to disconnect the shock strut door [1] from the shock strut [2].

ARO ALL

SUBTASK 32-12-06-020-001

(3) Remove the nut [3], washer [4], bolt [7], washer [6] and bushing [30] to disconnect the shock strut door [1] from the rod assembly [5].

SUBTASK 32-12-06-020-007

(4) Remove the nut [15], washer [14], bolt [16], washer [17] and bushing [31] to disconnect the shock strut door [1] from the rod assembly [13].

SUBTASK 32-12-06-020-008

(5) Remove the nut [21], washer [22], bolt [20], washer [19] and bushing [32] to disconnect the shock strut door [1] from the rod assembly [18].

SUBTASK 32-12-06-020-009

(6) Remove the nut [24], washer [23], bolt [25], washer [26] and bushing [33] to disconnect the shock strut door [1] from the shock strut [2].

SUBTASK 32-12-06-020-002

(7) Remove the shock strut door [1].

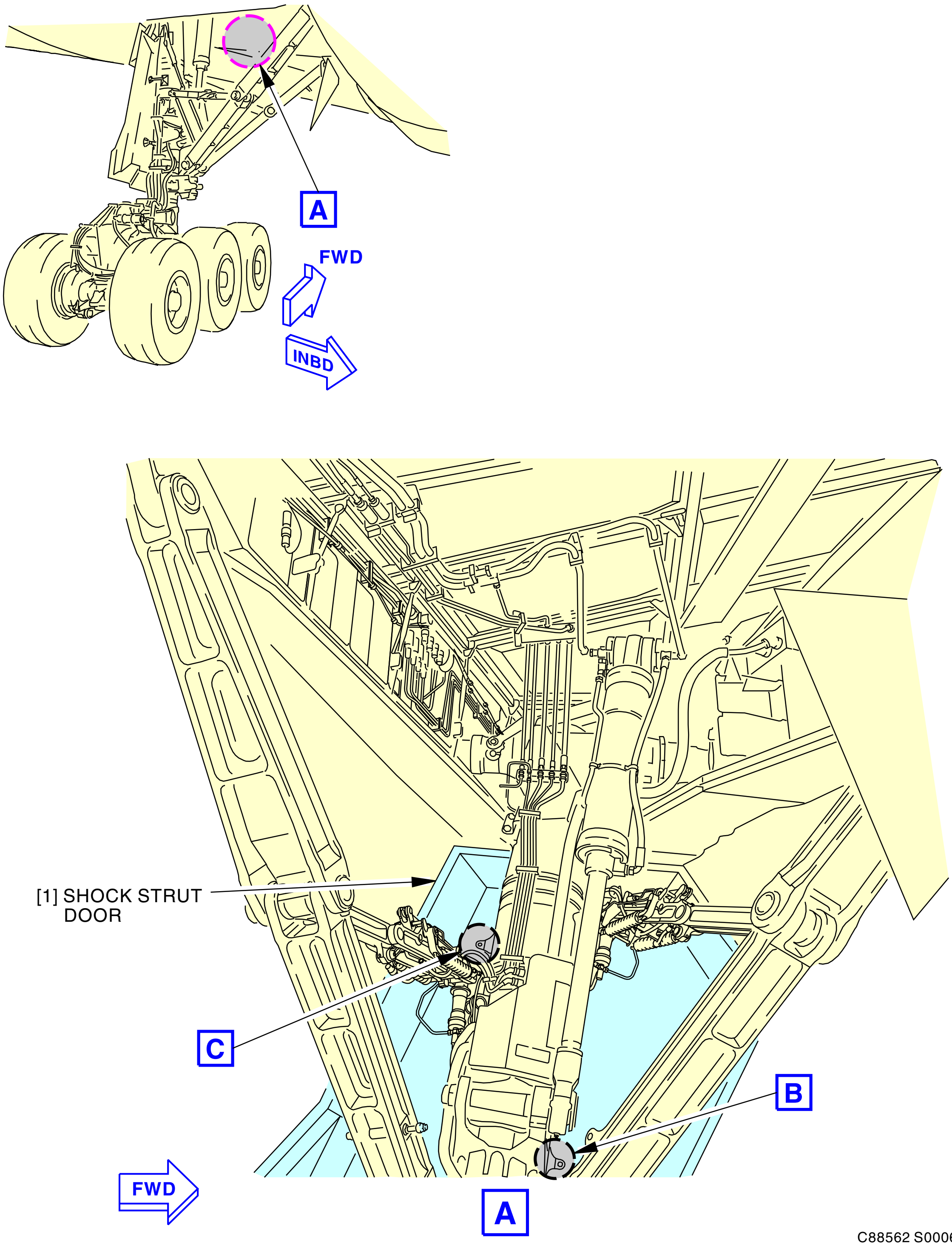
SUBTASK 32-12-06-000-001

(8) If it necessary do the steps to disconnect the rod assembly [5]:

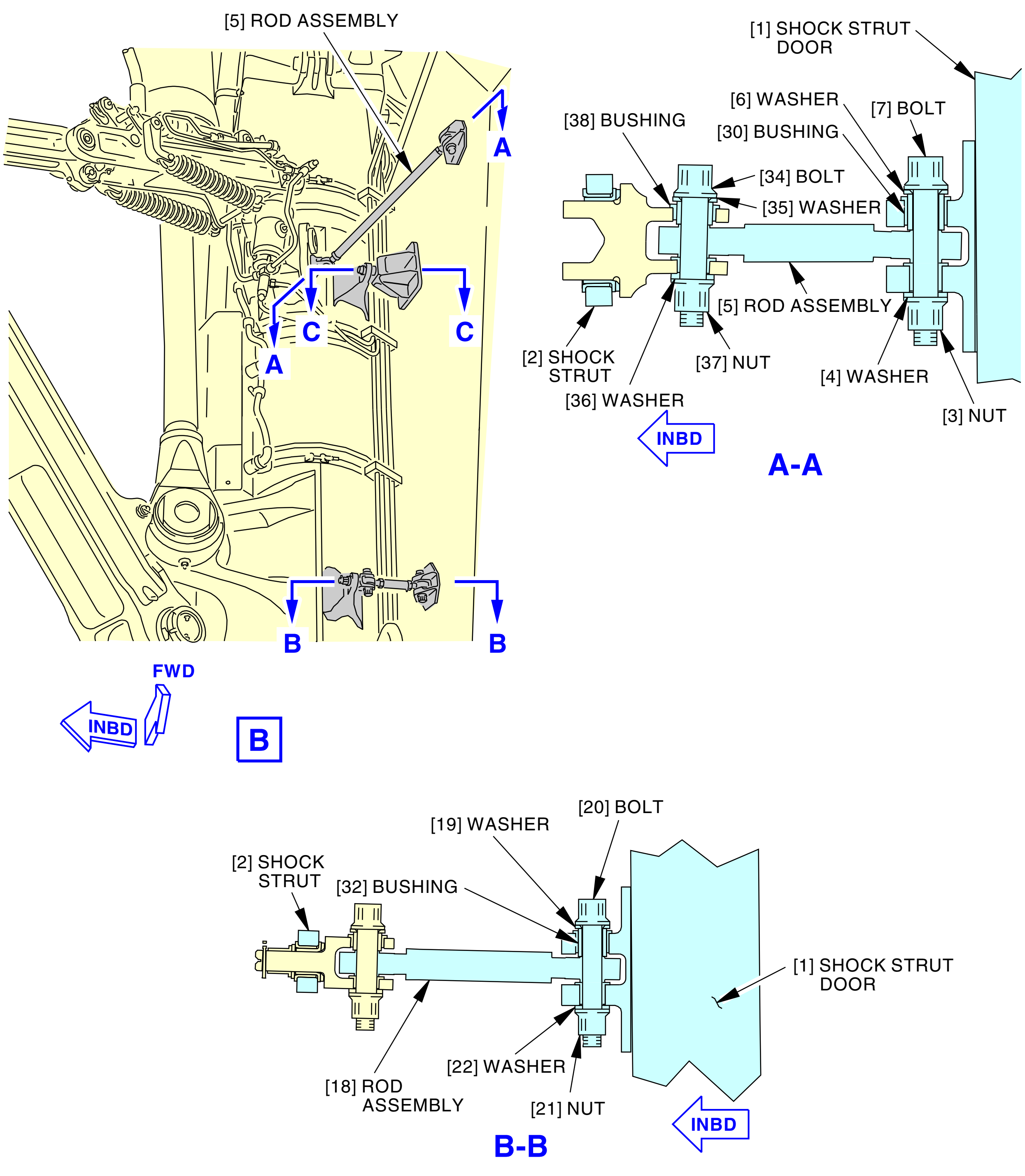
(a) Remove the nut [37] and washer [36] from bolt [34].

(b) Remove the bolt [34], washer [35] and bushing [38].

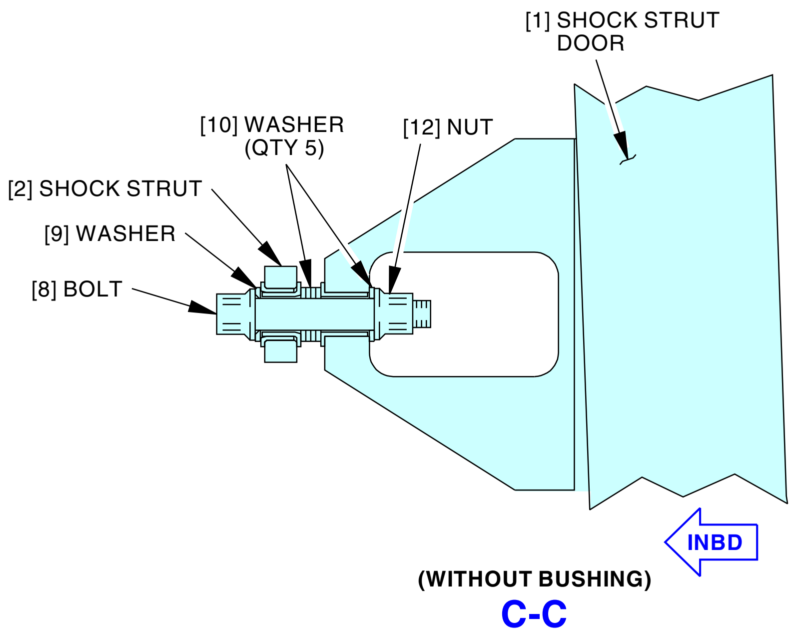
——— END OF TASK ———

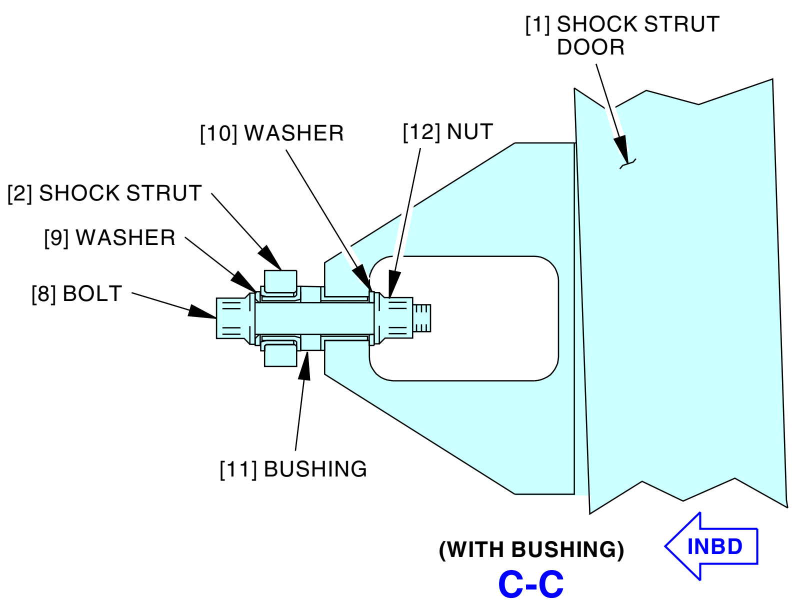


Main Landing Gear Shock Strut Door Installation
Figure 401/32-12-06-990-801 (Sheet 1 of 4)



Main Landing Gear Shock Strut Door Installation
Figure 401/32-12-06-990-801 (Sheet 2 of 4)





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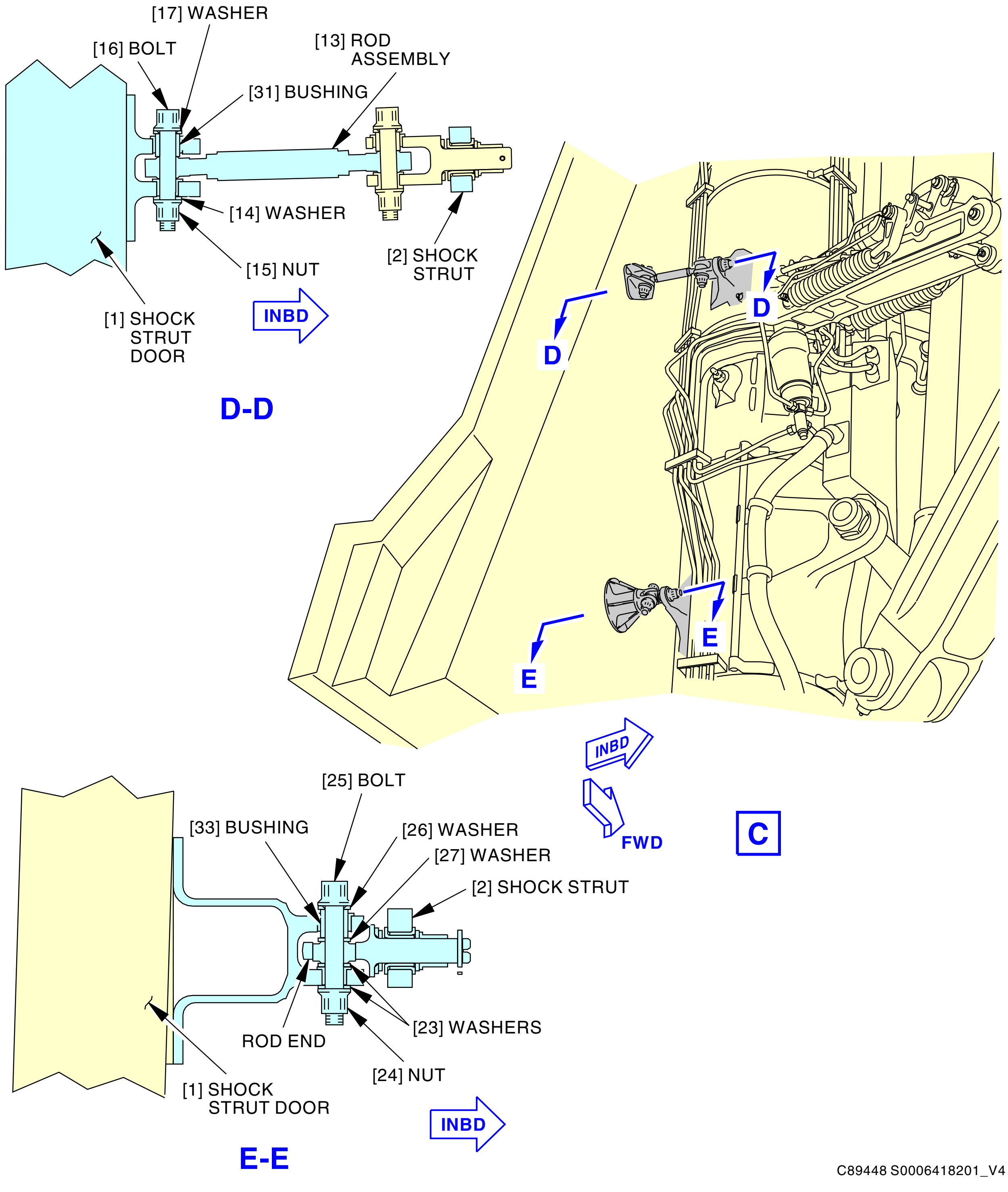
Main Landing Gear Shock Strut Door Installation
Figure 401/32-12-06-990-801 (Sheet 3 of 4)



Main Landing Gear Shock Strut Door Installation
Figure 401/32-12-06-990-801 (Sheet 4 of 4)

TASK 32-12-06-420-801

3. Main Landing Gear Shock Strut Door Installation

(Figure 401)

A. General

(1) This procedure gives the instructions for the installation of the shock strut door on the main landing gear.

(2) In this procedure the shock strut door is called the shock strut door [1].

B. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-12-00-910-804	Main Landing Gear Shock Strut Door Adjustment (P/B 501)

C. Consumable Materials

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
733	Left Main Landing Gear Shock Struct Door
741	Right Main Landing Gear
743	Right Main Landing Gear Shock Strut Door

E. Main Landing Gear Shock Strut Door Installation

SUBTASK 32-12-06-640-001

(1) Apply a thin layer of grease, D00633 to the outside surface of bushing [30], bushing [31], bushing [32], and bushing [33].

SUBTASK 32-12-06-420-001

(2) Put the shock strut door [1] against the shock strut [2] with the door fittings aligned with the door attach lugs on the shock strut [2].

SUBTASK 32-12-06-420-003

(3) Connect the rod assembly [5] outboard end to the shock strut door [1]:

(a) Install the washer [6] and the bushing [30] on the bolt [7].

(b) Install the bolt [7] to connect the to the shock strut door [1].

(c) Install the washer [4] and nut [3] on the bolt [7].

(d) Tighten nut [3] to 630 in-lb (71.2 N·m)-850 in-lb (96 N·m).

SUBTASK 32-12-06-420-008

(4) Do these steps to connect the rod assembly [5] inboard end, if disconnected, to the shock strut [2]:

(a) Install the washer [35] and the bushing [38] on the bolt [34].

(b) Install the bolt [34] to connect the rod assembly [5] to the shock strut door [1].

(c) Install the washer [36] and nut [37] on the bolt [34].

(d) Tighten the nut [37] to 630 in-lb (71.2 N·m)-850 in-lb (96 N·m).

SUBTASK 32-12-06-420-002

(5) Connect the rod assembly [13] to the shock strut door [1]:

(a) Install the washer [17] and the bushing [31] on the bolt [16].

(b) Install the bolt [16] to connect the rod assembly [13] to the shock strut door [1].

(c) Install the washer [14] and nut [15] on the bolt [16].

(d) Tighten nut [15] to 220 in-lb (24.9 N·m)-410 in-lb (46.3 N·m).

SUBTASK 32-12-06-420-004

(6) Connect the rod assembly [18] to the shock strut door [1]:

(a) Install the washer [19] and the bushing [32] on the bolt [20].

(b) Install the bolt [20] to connect the rod assembly [18] to the shock strut door [1].

(c) Install the washer [22] and nut [21] on the bolt [20].

(d) Tighten nut [21] to 630 in-lb (71.2 N·m)-850 in-lb (96 N·m).

SUBTASK 32-12-06-420-005

(7) Connect the shock strut [2] to the shock strut door [1]:

(a) Install the washer [9] on the bolt [8].

(b) Install the bolt [8] to connect the shock strut [2] to the shock strut door [1].

ARO ALL; SHOCK STRUT DOOR WITHOUT BUSHING

(c) Install the washers [10] and nut [12] on the bolt [8].

NOTE: If you install the washers [10] like you removed them the subsequent adjustment will be easier.

1) Do not tighten the bolt [8] until after the final adjustments are made in subsequent steps.

ARO ALL; SHOCK STRUT DOOR WITH BUSHING

(d) Install the bushing [11], washer [10], and nut [12] on the bolt [8].

1) Do not tighten the bolt [8] until after the final adjustments are made in subsequent steps.

ARO ALL

SUBTASK 32-12-06-420-006

(8) Connect the shock strut [2] to the shock strut door [1]:

(a) Install the washer [26] and the bushing [33] on the bolt [25].

(b) Install the bolt [25] through the first hole in the fitting on the shock strut door [1].

(c) Install the washer [27] on the bolt [25], between the fitting and the rod end on the shock strut [2].

(d) Install the bolt [25] through the rod end on the shock strut [2].

(e) Install washers [23] on bolt [25].

(f) Push the bolt [25] completely through the fitting and install the washers [23] and nut [24] on it.

(g) Tighten the bolt [25] only after the final adjustment.

NOTE: The final adjustments are made in subsequent steps.

SUBTASK 32-12-06-820-001

(9) Do this task: Main Landing Gear Shock Strut Door Adjustment, TASK 32-12-00-910-804.

SUBTASK 32-12-06-420-007

(10) Tighten the bolt [25] is 220 in-lb (24.9 N·m)-410 in-lb (46.3 N·m).

ARO ALL; SHOCK STRUT DOOR WITHOUT BUSHING

SUBTASK 32-12-06-400-001

(11) Tighten the bolt [8] to 1235 ±235 in-lb (140 ±27 N·m).

ARO ALL; SHOCK STRUT DOOR WITH BUSHING

SUBTASK 32-12-06-400-002

(12) Tighten the bolt [8] to 1115 ±115 in-lb (126 ±13 N·m).

ARO ALL

SUBTASK 32-12-06-410-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(13) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

MAIN LANDING GEAR DRAG STRUT DOOR AND LINKAGE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the drag strut door and linkage for the main landing gear

(2) An installation of the drag strut door and linkage for the main landing gear.

TASK 32-12-08-020-802

2. Main Landing Gear Drag Strut Door Removal

(Figure 401)

A. General

(1) This procedure removes the drag strut door from the main landing gear.

B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
731	Left Main Landing Gear
734	Left Main Landing Gear Drag Strut Door
741	Right Main Landing Gear
744	Right Main Landing Gear Drag Strut Door

D. Prepare for the Removal

SUBTASK 32-12-08-480-002

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-12-08-010-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-12-08-860-002

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

E. Main Landing Gear Drag Strut Door Removal

SUBTASK 32-12-08-020-002

(1) Remove the door assembly [3]:

(a) Disconnect the actuator rod [5] from the actuator rod fitting [4] on the upper drag brace.

1) Remove the nut [17], washer [18], bolt [14], washer [13], and bushing [15].

(b) Disconnect the forward hinge [1] from the hinge fitting [10].

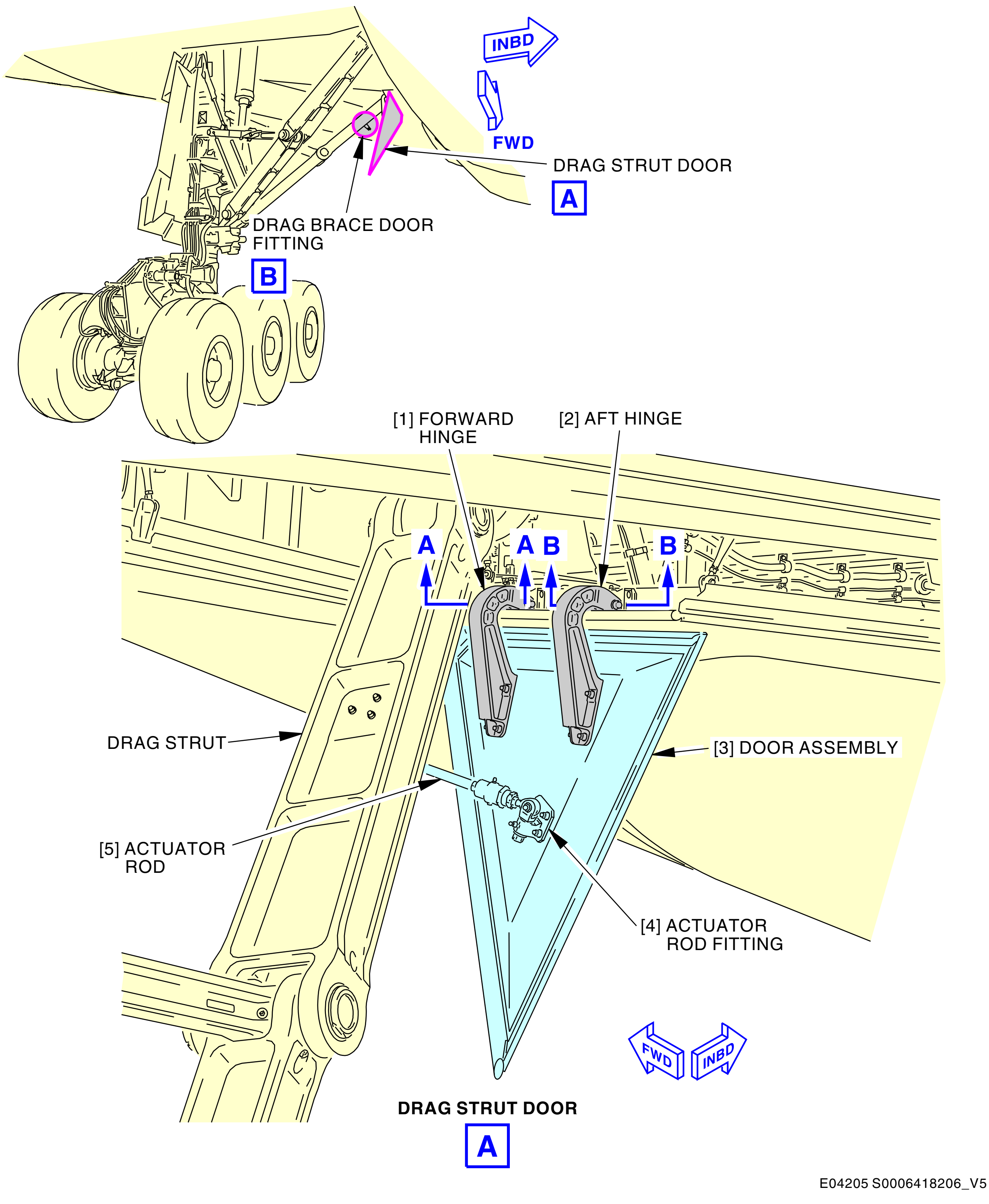
1) Remove the nut [12], washer [11], bolt [8], washer [9], and bushing [7] from the forward hinge [1].

(c) Disconnect the aft hinge [2] from the hinge fitting [10].

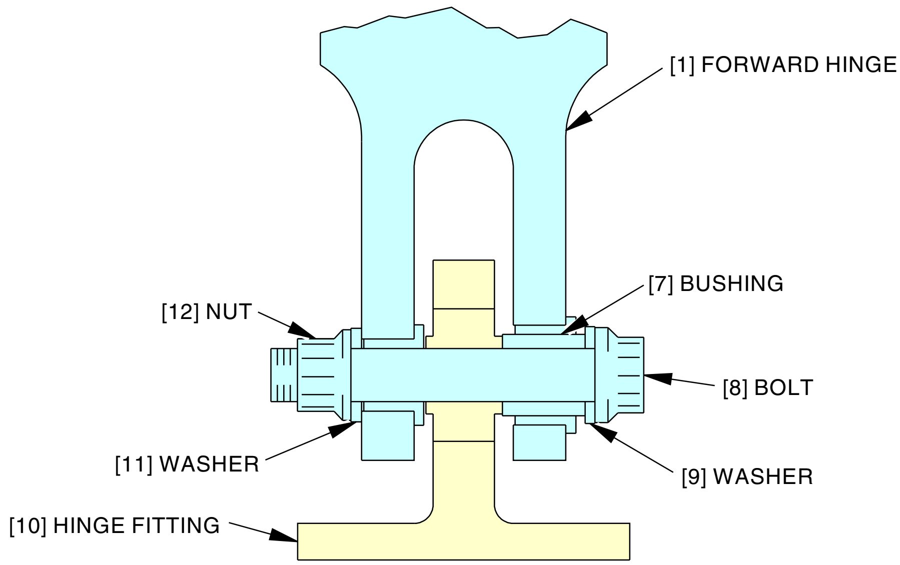
1) Remove the nut [24], bolt [21], washer [23], washer [22], and bushings [20] from the aft hinge [2].

(d) Remove the door assembly [3].

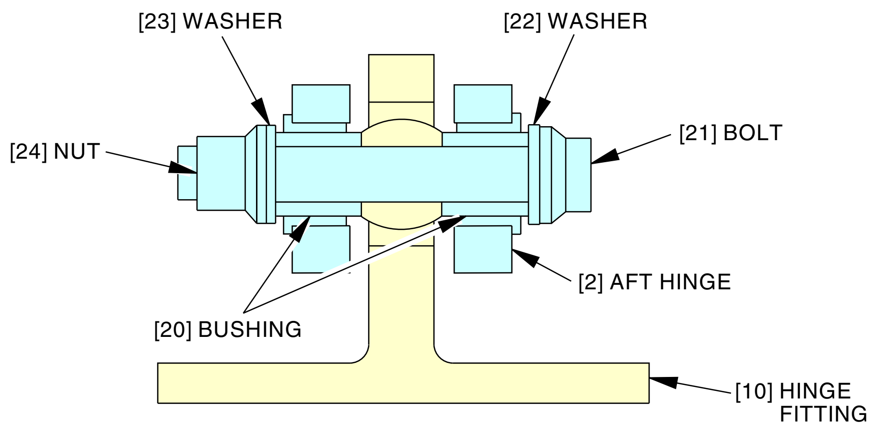
——— END OF TASK ———



Main Landing Gear Drag Strut Door and Linkage Installation
Figure 401/32-12-08-990-801 (Sheet 1 of 3)



FORWARD HINGE
A-A



AFT HINGE
B-B

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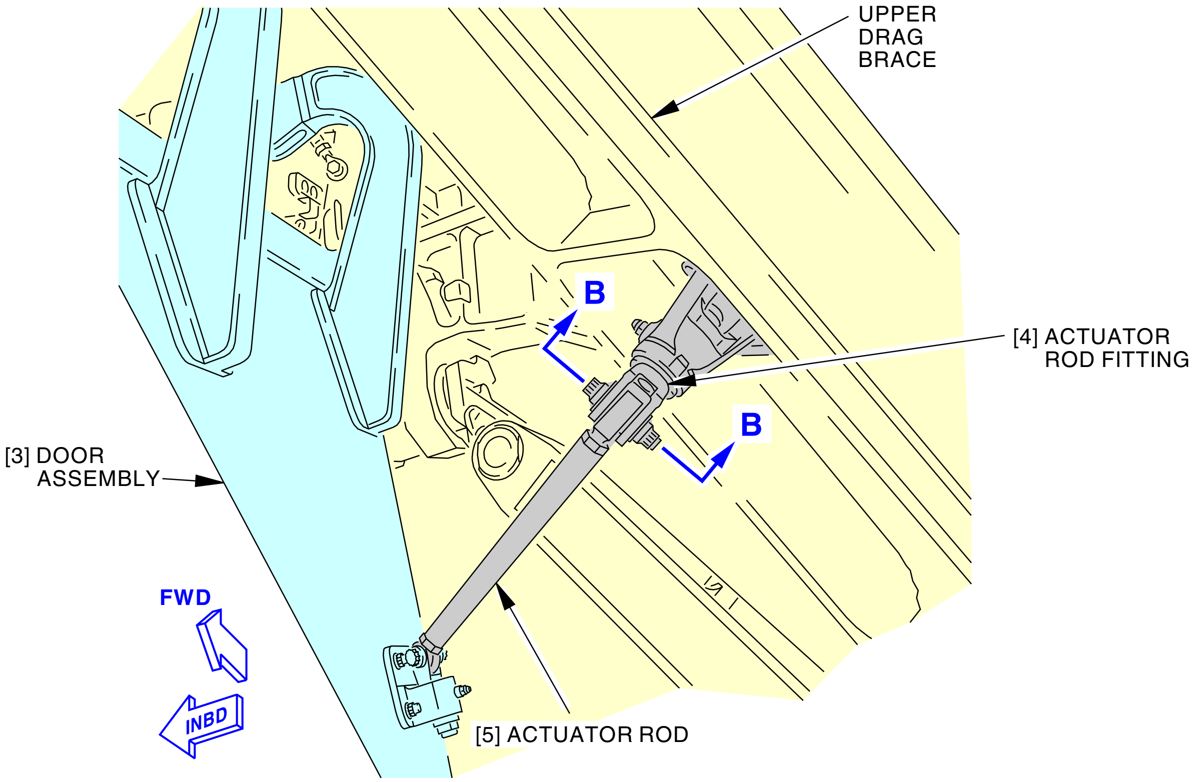
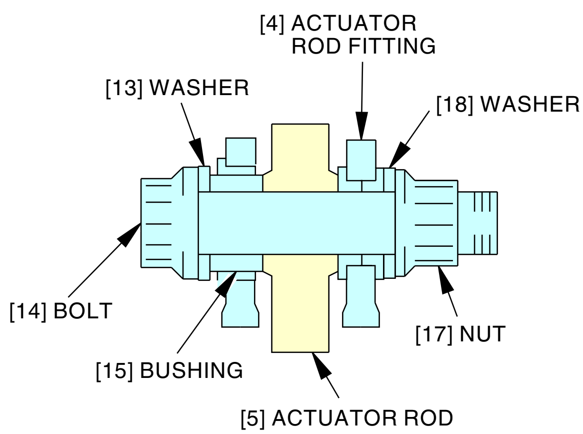
Main Landing Gear Drag Strut Door and Linkage Installation
Figure 401/32-12-08-990-801 (Sheet 2 of 3)



DRAG BRACE DOOR FITTING

B



B-B

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Main Landing Gear Drag Strut Door and Linkage Installation
Figure 401/32-12-08-990-801 (Sheet 3 of 3)

TASK 32-12-08-420-802

3. Main Landing Gear Drag Strut Door Installation

(Figure 401)

A. General

(1) This procedure gives the installation instructions for the drag strut door on the main landing gear.

B. References

Reference	Title
12-21-15-640-802-002	Main Landing Gear Doors and Actuating Mechanisms Lubrication (P/B 301)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-12-00-910-806	Main Landing Gear Drag Strut Door Adjustment (P/B 501)

C. Consumable Materials

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Door assembly	32-12-08-05-371	ARO 001-003
		32-12-08-05-376	ARO 001-003
		32-12-08-05A-145	ARO 004-999

E. Location Zones

Zone	Area
731	Left Main Landing Gear
734	Left Main Landing Gear Drag Strut Door
741	Right Main Landing Gear
744	Right Main Landing Gear Drag Strut Door

F. Main Landing Gear Drag Strut Door Installation

SUBTASK 32-12-08-600-002

(1) Apply a layer of grease, D00633 to the bushings [7] and bushing [15].

SUBTASK 32-12-08-420-004

(2) Put the door assembly [3] in its position on hinge fittings [10].

SUBTASK 32-12-08-640-005

(3) Connect the forward hinge [1] to the hinge fitting [10].

(a) Install the bushing [7], bolt [8], washer [9], washer [11], and nut [12].

1) Tighten the bolt [8] to 220 in-lb (24.9 N·m) - 410 in-lb (46.3 N·m).

SUBTASK 32-12-08-640-006

(4) Connect the aft hinge [2] to the hinge fitting [10].

(a) Install the bushings [20], bolt [21], washer [22], washer [23], and nut [24].

1) Tighten the bolt [21] to 220 in-lb (24.9 N·m) - 410 in-lb (46.3 N·m).

SUBTASK 32-12-08-420-006

(5) Connect the actuator rod [5] to the actuator rod fitting [4].

(a) Install the bushing [15], washer [13], bolt [14], washer [18], and nut [17].

1) Tighten the bolt [14] to 370 in-lb (41.8 N·m) - 690 in-lb (78.0 N·m)

G. Put the Airplane Back to its Usual Condition

SUBTASK 32-12-08-820-002

(1) To adjust the door assembly [3], do this task: Main Landing Gear Drag Strut Door Adjustment, TASK 32-12-00-910-806.

SUBTASK 32-12-08-640-008

(2) For the door assembly [3], do this task: Main Landing Gear Doors and Actuating Mechanisms Lubrication, TASK 12-21-15-640-802-002.

SUBTASK 32-12-08-410-002

WARNING OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

MAIN LANDING GEAR TRUNNION DOOR AND LINKAGE - REMOVAL/INSTALLATION

1. **General**

A. This procedure has these tasks:

(1) A removal of the trunnion door and linkage for the main landing gear

(2) An installation of the trunnion door and linkage for the main landing gear.

TASK 32-12-11-020-801

2. **Main Landing Gear Trunnion Door Removal**

(Figure 401)

A. **General**

(1) This supplies instructions to remove the trunnion door from the main landing gear.

B. **References**

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. **Location Zones**

Zone	Area
731	Left Main Landing Gear
735	Left Main Landing Gear Trunnion Door
741	Right Main Landing Gear
745	Right Main Landing Gear Trunnion Door

D. **Access Panels**

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
551EB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel
651EB	Inboard Fixed Trailing Edge Panel

E. **Prepare for the Removal**

SUBTASK 32-12-11-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-12-11-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-12-11-860-001

(3) For the center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

F. Main Landing Gear Trunnion Door

SUBTASK 32-12-11-020-001

(1) Remove the applicable access panel to get access to the bolt [8], bolt [14] and bolt [19] for the door assembly [23]:

(a) Open these access panels:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
551EB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel
651EB	Inboard Fixed Trailing Edge Panel

SUBTASK 32-12-11-020-003

(2) Disconnect the actuator rod [1] from the outboard actuator rod fitting [2].

(a) Remove the nut [5], washer [4], bolt [8], bushing [3], four washers [6], and the washer [7].

NOTE: If you intend to re-install the same door then do not disturb the length of the actuator rod, if disturbed you will have to do the door adjustment task.

SUBTASK 32-12-11-020-004

(3) Disconnect the aft hinge [9] from the aft hinge fitting [10].

(a) Remove the nut [12], washer [11], bolt [14], washer [13], and the bushing [15].

SUBTASK 32-12-11-020-005

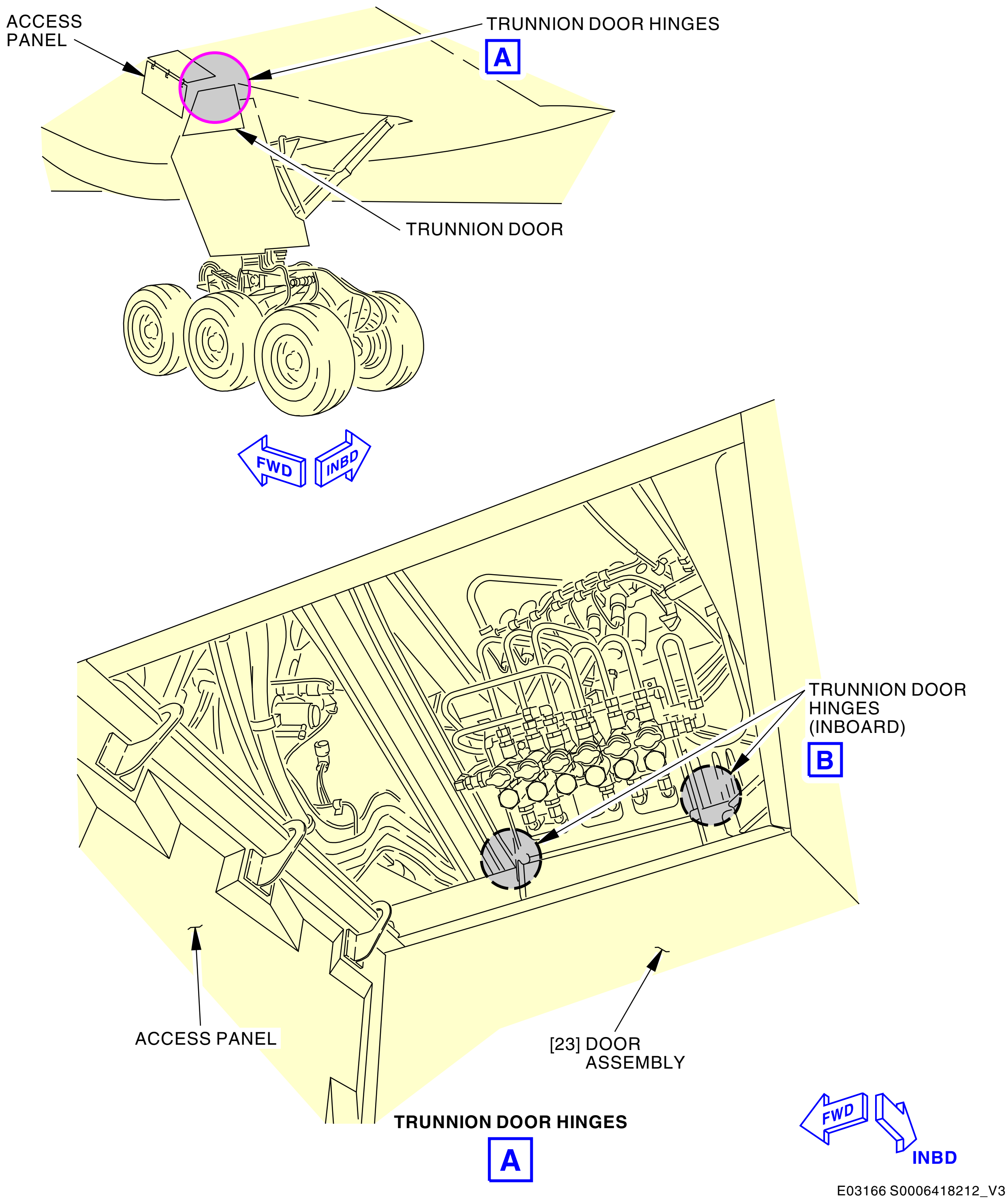
(4) Disconnect the forward hinge [17] from the forward hinge fitting [16].

(a) Remove the nut [22], washer [21], bolt [19], washer [18], and two bushings [20].

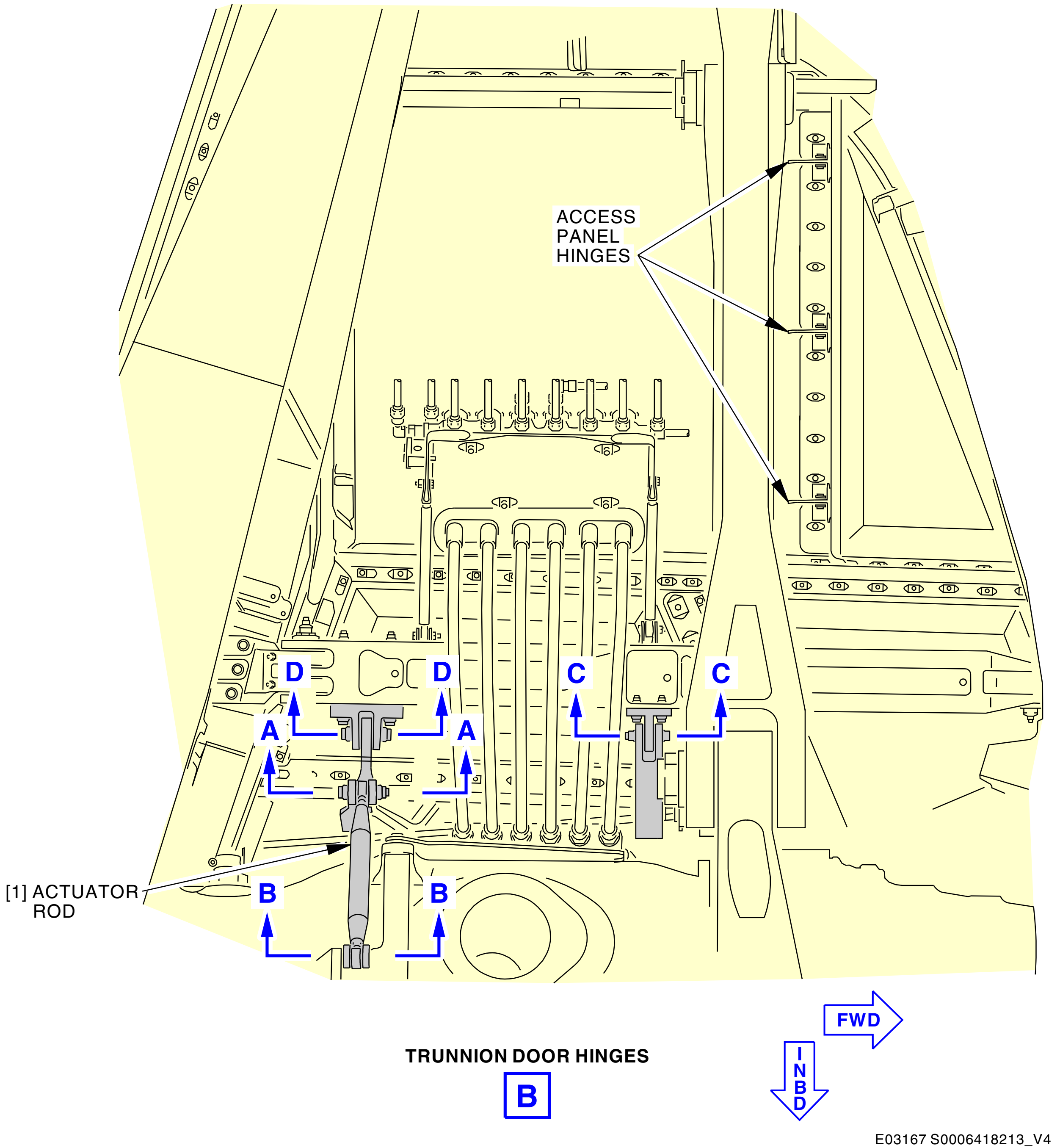
SUBTASK 32-12-11-020-002

(5) Remove the door assembly [23].

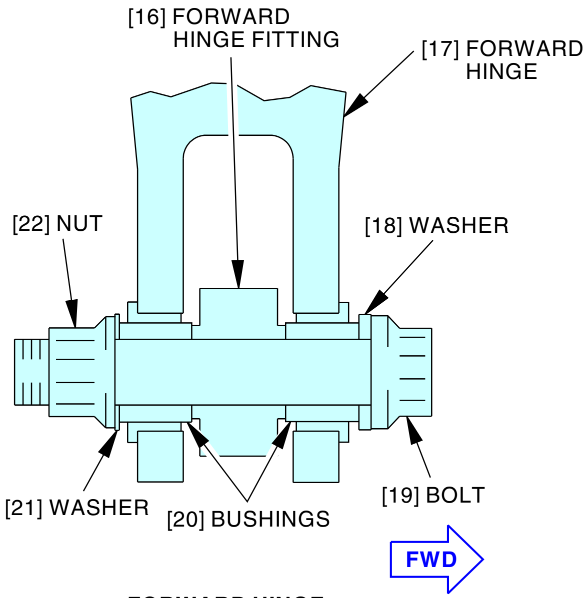
END OF TASK



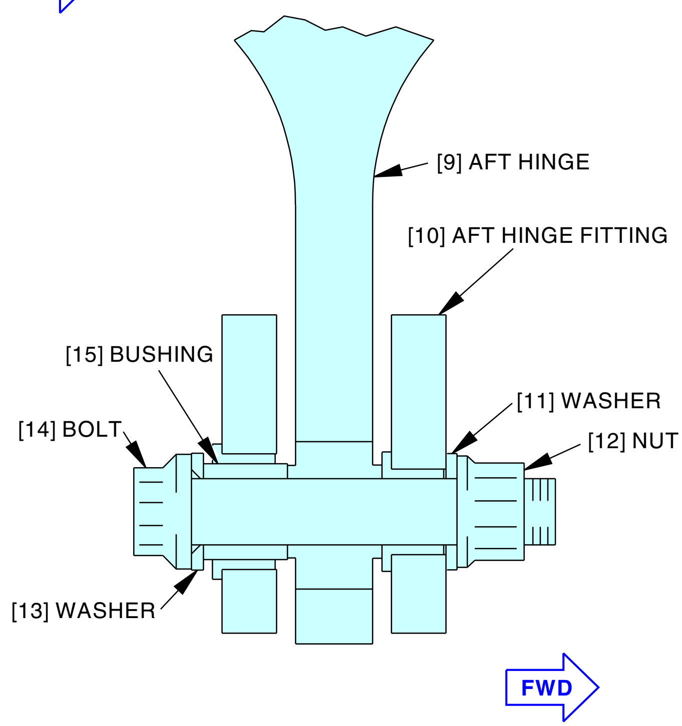
Main Landing Gear Trunnion Door Installation
Figure 401/32-12-11-990-801 (Sheet 1 of 4)



Main Landing Gear Trunnion Door Installation
Figure 401/32-12-11-990-801 (Sheet 2 of 4)



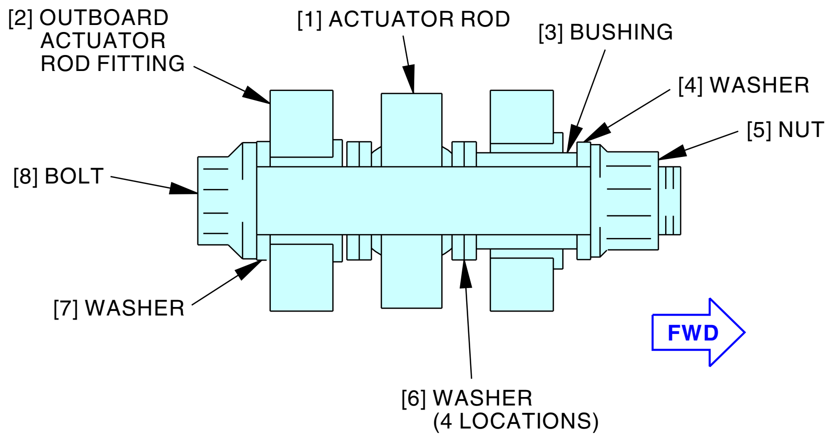
FORWARD HINGE
C-C



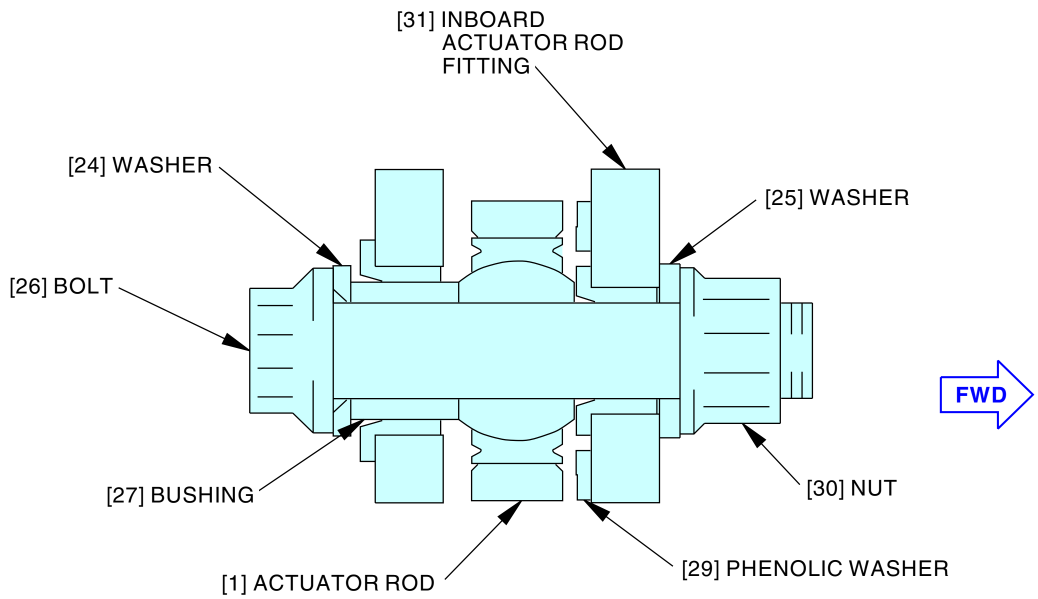
AFT HINGE
D-D

E03168 S0006418214_V4

Main Landing Gear Trunnion Door Installation
Figure 401/32-12-11-990-801 (Sheet 3 of 4)



OUTBOARD ACTUATOR ROD ATTACHMENT FITTING
A-A



INBOARD ACTUATOR ROD ATTACHMENT FITTING
B-B

U53839 S0000206381_V4

Main Landing Gear Trunnion Door Installation
Figure 401/32-12-11-990-801 (Sheet 4 of 4)

TASK 32-12-11-420-801

3. Main Landing Gear Trunnion Door Installation

(Figure 401)

A. General

(1) This procedure gives the installation instructions for the trunnion door on the main landing gear.

B. References

Reference	Title
12-21-15-640-802-002	Main Landing Gear Doors and Actuating Mechanisms Lubrication (P/B 301)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-12-00-910-807	Main Landing Gear Trunnion Door Adjustment (P/B 501)

C. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
D00633	Grease - Aircraft General Purpose	BMS3-33

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
23	Door assembly	32-12-11-07-235	ARO ALL
		32-12-11-07-240	ARO ALL

E. Location Zones

Zone	Area
731	Left Main Landing Gear
735	Left Main Landing Gear Trunnion Door
741	Right Main Landing Gear
745	Right Main Landing Gear Trunnion Door

F. Access Panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
551EB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel
651EB	Inboard Fixed Trailing Edge Panel

G. Main Landing Gear Trunnion Door Installation

SUBTASK 32-12-11-420-001

(1) Put the door assembly [23] in its position in the aft hinge fitting [10] and forward hinge fitting [16].

SUBTASK 32-12-11-600-001

(2) Connect the forward hinge [17] to the forward hinge fitting [16].

(a) Lubricate the outside diameter of the bushings [20] with grease, D00633.

(b) Install the two bushings [20], washer [18], bolt [19], washer [21] and the nut [22].

1) Tighten the bolt [19] to 220 in-lb (24.9 N·m) - 410 in-lb (46.3 N·m).

SUBTASK 32-12-11-600-002

(3) Connect the aft hinge [9] to the aft hinge fitting [10].

(a) Lubricate the outside diameter of the bushing [15] with grease, D00633.

(b) Install the bushing [15], bolt [14], washer [13], washer [11], and nut [12].

1) Tighten the bolt [14] to 370 in-lb (41.8 N·m) - 410 in-lb (46.3 N·m).

SUBTASK 32-12-11-600-003

(4) Connect the actuator rod [1] to the outboard actuator rod fitting [2].

(a) Lubricate the outside diameter of the bushing [3] with grease, D00633.

(b) Install the washer [7], washers [6], bushing [3], bolt [8], washer [4] and nut [5].

1) Tighten the nut [5] to 370 in-lb (41.8 N·m) - 410 in-lb (46.3 N·m).

NOTE: Keep the actuator rod perpendicular to the outboard actuator rod fitting by adjusting the location of the washers.

SUBTASK 32-12-11-600-004

(5) If it disconnected, connect the actuator rod [1] to the inboard actuator rod fitting [31].

(a) Make sure the phenolic washer [29] is bonded in place on the forward inside face of the inboard actuator rod fitting [31].

1) Bond the phenolic washer [29] in place using sealant, A00247, if necessary.

(b) Lubricate the outside diameter of the bushing [27] with grease, D00633.

(c) Install the bushing [27], washer [24], bolt [26], washer [25], and nut [30].

1) Tighten the bolt [26] to 370 in-lb (41.8 N·m) - 410 in-lb (46.3 N·m).

SUBTASK 32-12-11-820-001

(6) Do this task: Main Landing Gear Trunnion Door Adjustment, TASK 32-12-00-910-807.

NOTE: If you installed the same door removed and the actuator rod length has not been disturbed, then the door adjustment task is not required.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-12-11-410-001

(1) Close the applicable access panels:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
551EB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel
651EB	Inboard Fixed Trailing Edge Panel

SUBTASK 32-12-11-640-003

(2) For the grease fittings for the trunnion door, do this task: Main Landing Gear Doors and Actuating Mechanisms Lubrication, TASK 12-21-15-640-802-002.

SUBTASK 32-12-11-410-002

WARNING OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

NOSE LANDING GEAR

1. General

A. This procedure contains scheduled maintenance task data.

B. This procedure has this task:

(1) General visual inspection of the nose landing gear.

TASK 32-21-00-210-801

2. General Visual Inspection of the Nose Landing Gear

(Figure 601)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
711	Nose Landing Gear

C. Procedure

SUBTASK 32-21-00-860-001

WARNING MAKE SURE THE LANDING GEAR DOWNLOCK PINS ARE INSTALLED. THIS WILL PREVENT ACCIDENTAL RETRACTION OF THE LANDING GEAR, INJURY TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-21-00-860-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-21-00-210-001

(3) Do a general visual inspection of these nose landing gear components for damage:

(a) Nose landing gear retract actuator mechanism

(b) Lock mechanism

(c) Landing gear downlock springs

(d) Uplock release actuator.

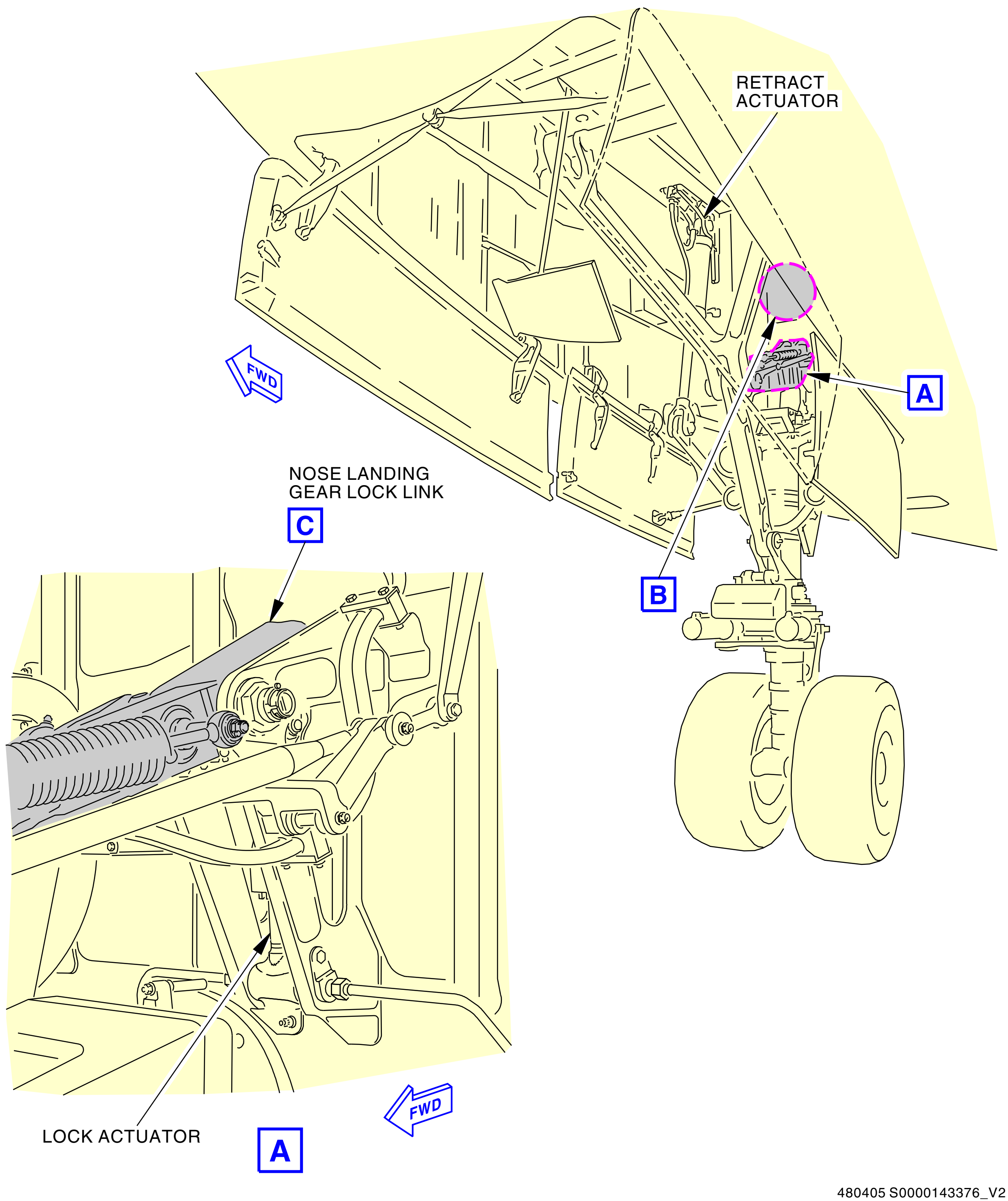
NOTE: The appearance of concentric ring marks on the chrome plated surface of the nose landing gear strut inner cylinder are considered normal and do not effect function or maintenance. The finish smoothness must still meet the requirements of the rest of the shock strut at 8 RA or smoother. If the smoothness requirements are exceeded, then general practices for blending and smoothing must be followed.

SUBTASK 32-21-00-860-003

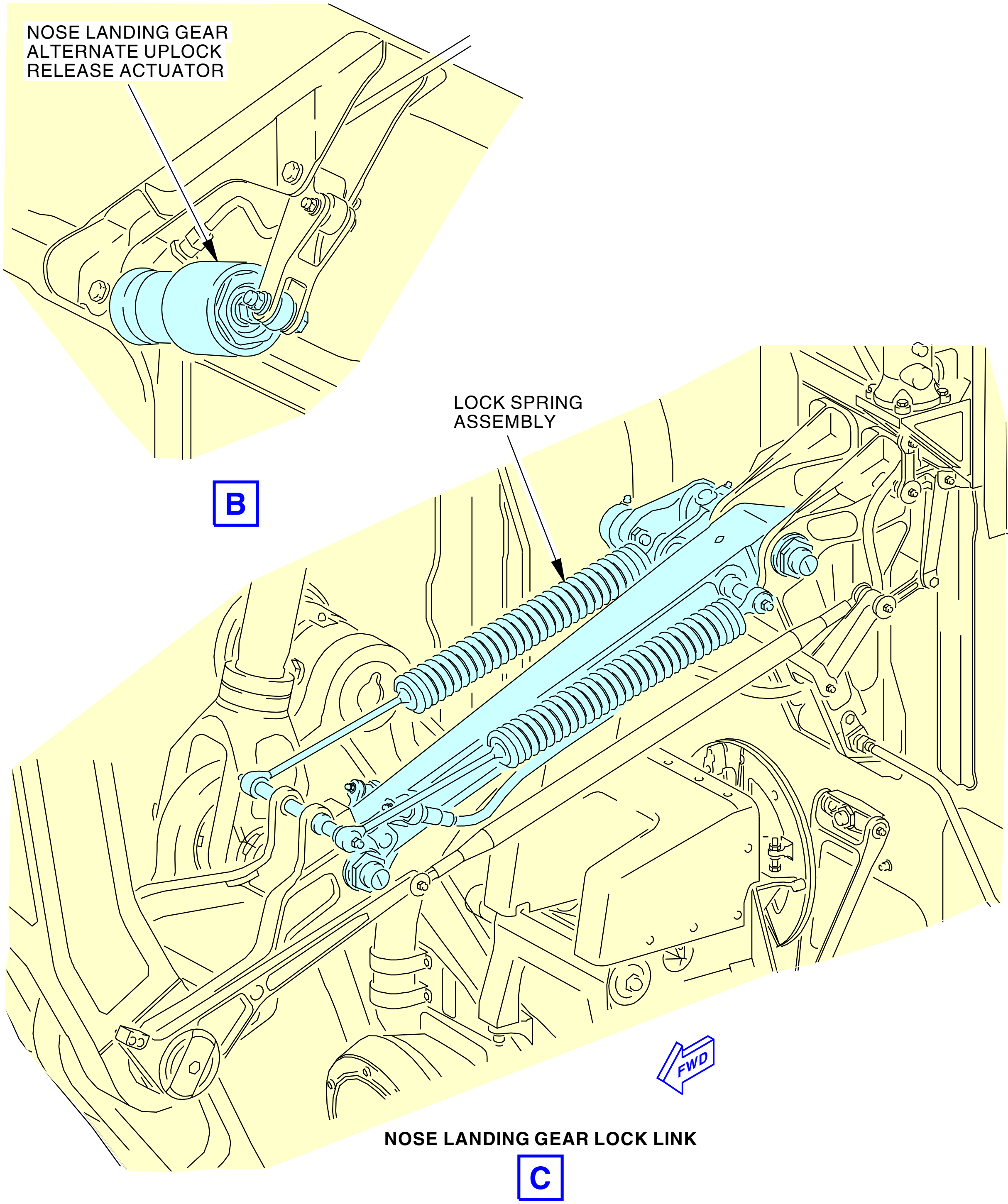
WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK



Nose Landing Gear General Visual (External)
Figure 601/32-21-00-990-801 (Sheet 1 of 2)



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Nose Landing Gear General Visual (External)
Figure 601/32-21-00-990-801 (Sheet 2 of 2)

NOSE LANDING GEAR - REMOVAL/INSTALLATION

1. **General**
   A. This procedure contains scheduled maintenance task data.
   B. This procedure has these tasks:
      (1) A removal of the nose landing gear
      (2) An installation of the nose landing gear.

TASK 32-21-01-000-801

2. **Nose Landing Gear Removal**

NOTE: This procedure is a scheduled maintenance task.

A. **General**
   (1) This task provides instructions for you to remove the nose landing gear from the airplane.

B. **References**

Reference	Title
07-11-02-580-801	Lift the Airplane Nose on Jacks (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-21-03-000-802	Nose Landing Gear Lock Link Removal (P/B 401)
33-47-00-710-803	Camera Light, NLG - Light Assembly Replacement (P/B 201)
53-13-01-000-801	Baffle Assembly Removal (P/B 401)

C. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1836	Puller - Trunnion Pin, NLG Part #: J32004-22 Supplier: 81205 Part #: J32004-23 Supplier: 81205
SPL-1853	Retainer Equipment, MLG/NLG Torsion Link Part #: J32054-91 Supplier: 81205 Part #: J32054-92 Supplier: 81205
SPL-1902	Dolly - Gear Transportation, NLG Part #: J32030-44 Supplier: 81205
SPL-1908	Hoist - Removal/Installation, NLG Part #: J32027-63 Supplier: 81205
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. **Location Zones**

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
711	Nose Landing Gear

E. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door

F. **Prepare for the Removal**

SUBTASK 32-21-01-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-21-01-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-21-01-860-001

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-21-01-010-002

(4) Remove the baffle assembly, do this task Baffle Assembly Removal, TASK 53-13-01-000-801 (if required).

SUBTASK 32-21-01-860-002

(5) Open these circuit breakers and install safety tags:

Ground Service/Handling Power Panel, P320

Row	Col	Number	Name
C	13	C23611	INTPH GND

Left Power Management Panel, P110

Row	Col	Number	Name
F	6	C23425	VOX RCDR

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	17	C28003	APU FUEL S/O VALVE
B	24	C23631	INTERPHONE-SERVICE
B	25	C23627	INTERPHONE-CAPTAIN

(Continued)

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
B	26	C23629	INTERPHONE-F/OBS
C	25	C23628	INTERPHONE-F/O

Standby Power Management Panel, P310

Row	Col	Number	Name
C	4	C26623	APU RMT FIRE IND/AUTO DISCH ARM
C	8	C31653	WEU L1
C	9	C31655	WEU L2
F	12	C23638	CAB INTPH PRI
F	13	C23639	CAB INTPH SEC
L	5	C26636	FIRE EXT APU

Open these circuit breakers and install safety tags:

Ground Service/Handling Power Panel, P320

Row	Col	Number	Name
J	11	C33517	NGL WW SVCE LTS

Left Power Management Panel, P110

Row	Col	Number	Name
C	25	C33479	L TAXI LT
D	24	C33478	R TAXI LT
F	5	C33471	L NLG LDG LT
H	26	C32600	PSEU 1 PRI PWR
M	19	C32617	LG TIRE PRESSURE INDICATOR
M	22	C32605	LG DOOR CLOSE GROUND ACCESS

Right Power Management Panel, P210

Row	Col	Number	Name
F	24	C33472	R NLG LDG LT
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR
F	1	C32631	LG BRAKE STATUS IND
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

Row	Col	Number	Name
F	21	C33498	CAMERA LTS

SUBTASK 32-21-01-020-043

(6) Do these steps to remove the light assembly of the NLG camera light (Figure 405):

(a) Disconnect the electrical connector [94].

(b) Remove the bolts [93] and washers [92] on the bracket.

(c) Keep the light assembly [91] safe to install later. If light assembly is damaged, do this task: Camera Light, NLG - Light Assembly Replacement, TASK 33-47-00-710-803.

SUBTASK 32-21-01-480-002

(7) To get access to the broken cable compensator:

Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-21-01-480-003

(8) Install the rigging pin NS4, from the rigging pin set, SPL-2532, in the broken cable compensator (Figure 401).

SUBTASK 32-21-01-020-001

(9) Remove the bolt [3] to disconnect the forward pivot link [1] from the aft pivot link [2] for the nose wheel steering.

SUBTASK 32-21-01-020-002

(10) Remove the bolt assembly [27] to disconnect the actuating assembly [25] from the aft door fitting [26] on the shock strut trunnion [24] (Figure 402).

NOTE: Do not change the length of the actuating assembly [25] when you disconnect them.

SUBTASK 32-21-01-020-003

(11) Use a rope to hold the doors [21] out of the work area.

SUBTASK 32-21-01-020-004

(12) Remove the screws [37] to open the junction box door [30] on the junction box [31].

SUBTASK 32-21-01-020-005

(13) Remove the bolts [34] to disconnect the electrical conduit fitting [36] from the junction box [31] in the wheel well for the nose landing gear.

SUBTASK 32-21-01-020-006

(14) Disconnect the electrical connectors [32] that are inside the junction box [31].

SUBTASK 32-21-01-020-007

(15) Install a cap on the electrical connectors [32].

SUBTASK 32-21-01-020-008

(16) Disconnect the electrical conduit clamps [23] for the electrical conduit [33].

SUBTASK 32-21-01-020-009

(17) Disconnect the hydraulic lines [42] from the wheel well at the fittings [44] on the shock strut trunnion [24].

SUBTASK 32-21-01-020-010

(18) Install caps on the hydraulic lines [42].

G. Nose Landing Gear Removal

SUBTASK 32-21-01-020-038

WARNING CLEAR THE AREA BELOW THE NOSE BEFORE YOU DEFLATE THE SHOCK STRUT. IF YOU DEFLATE SHOCK STRUT, THE NOSE CAN MOVE DOWN AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Deflate the shock strut [6] for the nose landing gear (Figure 404):

(a) Remove the cap [39C] from the upper air charging valve [40C].

WARNING: DO NOT REMOVE THE VALVE BODY UNTIL YOU DEFLATE THE SHOCK STRUT FULLY. THE AIR PRESSURE CAN BLOW THE VALVE BODY OUT AND CAUSE INJURIES TO PERSONNEL.

(b) Loosen the swivel nut [41C], for the upper air charging valve [40C], a maximum of two turns.

(c) Remove the cap [39A] from the lower air charging valve [40A].

WARNING: DO NOT REMOVE THE VALVE BODY UNTIL YOU DEFLATE THE SHOCK STRUT FULLY. THE AIR PRESSURE CAN BLOW THE VALVE BODY OUT AND CAUSE INJURIES TO PERSONNEL.

(d) Loosen the swivel nut [41A], for the lower air charging valve [40A], a maximum of two turns.

(e) Loosen the swivel nut [41A] fully after all of the pressure in the shock strut is released.

NOTE: The shock strut is fully deflated when the dimension "A" is 18.42 inches.

(f) Slowly loosen the oil relief valve [40B], on top of the shock strut [6], to remove the oil pressure from the shock strut.

SUBTASK 32-21-01-020-012

(2) Install the retainer equipment, SPL-1853, for the nose landing gear to hold the shock strut [6] in the compressed position.

SUBTASK 32-21-01-020-013

(3) Do this task: Lift the Airplane Nose on Jacks, TASK 07-11-02-580-801.

NOTE: Make sure there is enough room below the nose wheels for the NLG gear transportation dolly, SPL-1902.

SUBTASK 32-21-01-020-041

(4) Disconnect the rod end of the nose landing gear actuator [22] from the shock strut trunnion [24].

(a) Use the wrench kit, SPL-4133 to remove the pin [49] and the nut [51] (Figure 403).

NOTE: The thread protector from wrench kit, SPL-4133 can be installed on pin [49] before it is removed.

SUBTASK 32-21-01-020-015

(5) Use a rope to hold the nose landing gear actuator [22] out of the work area.

SUBTASK 32-21-01-020-016

(6) Remove the bolt [65], nut [62], cap assembly [60], cap [66], and the pin [64] to disconnect the lower drag strut [56] from the drag strut fitting [55] on the outer cylinder [58].

NOTE: Keep the hydraulic bracket [57] attached to the hydraulic lines [42].

SUBTASK 32-21-01-020-037

WARNING	MAKE SURE THAT YOU HOLD THE UPPER AND LOWER DRAG BRACE WHEN YOU REMOVE THE FORWARD LOCK LINK PIN. THE UPPER AND LOWER DRAG BRACE CAN MOVE AFTER THE FORWARD LOCK LINK PIN IS REMOVED AND CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(7) Use a rope to hold the drag strut assembly in position.

SUBTASK 32-21-01-020-017

(8) Do this task: Nose Landing Gear Lock Link Removal, TASK 32-21-03-000-802.

NOTE: This task will also disconnect the lower drag strut from the upper drag strut.

SUBTASK 32-21-01-480-004

(9) Install the NLG hoist, SPL-1908:

(a) Install the pin [80] to connect the upper drag strut [79] to the support [82].

(b) Lift the upper drag strut [79] and support [82] aft until the pin [83] can be installed to connect the support to the lock link fitting [84] on the aft wall of the nose wheel well.

(c) Install the pin [81] to connect the track [74] to the middle holes in the support [82].

(d) Lift the track [74] forward until the strap [77] can be installed over the top of the upper drag strut [79] and install the pin [78].

(e) Hang the NLG hoist, SPL-1908, from the hoist ring [75] on the track slide [76].

SUBTASK 32-21-01-480-005

(10) Install the NLG hoist, SPL-1908, on the nose landing gear.

(a) Install the lift bar [88] on the nose landing gear [86] such that the bar engages the flanges of the shock strut trunnion [24].

(b) Install the pin [87] to connect the lift bar [88] to the drag strut fitting [55] on the outer cylinder [58].

(c) Install the hoist hook through the ring on the lift bar [88].

SUBTASK 32-21-01-020-018

(11) Lift the nose landing gear [86] with the hoist until there is no weight from the nose landing gear on the trunnion pin assembly [73].

NOTE: The nose landing gear will raise up to approximately 20 degrees when the weight is no longer on the trunnion pin assembly [73].

SUBTASK 32-21-01-020-019

(12) Remove the trunnion pin assembly [73] to disconnect the nose landing gear [86] from the sidewalls of the wheel well:

(a) Remove the bolt [72], the washer [69], the nut [68], and the pin [67].

(b) Remove the trunnion pin assembly [73] to disconnect the nose landing gear [86] from the sidewalls of the wheel well.

NOTE: Make sure that you catch the washers [70] that are between the sidewalls of the wheel well and the nose landing gear trunnion.

1) Use the NLG trunnion pin puller, SPL-1836, to remove the trunnion pin assembly [73] if they are difficult to remove.

(c) Measure the thickness of the washers [70] that were between the sidewalls of the wheel well and the nose landing gear trunnion.

NOTE: The thickness of the washer stacks are special for each airplane.

SUBTASK 32-21-01-020-020

(13) Lift the nose landing gear [86] with the hoist until the trunnion is above the door hinges.

SUBTASK 32-21-01-020-021

(14) Move the nose landing gear forward in the wheel well.

SUBTASK 32-21-01-020-022

(15) Turn the nose landing gear [86] approximately 90 degrees such that it is clear of the wheel well sidewalls [71] and nose wheel well doors [21].

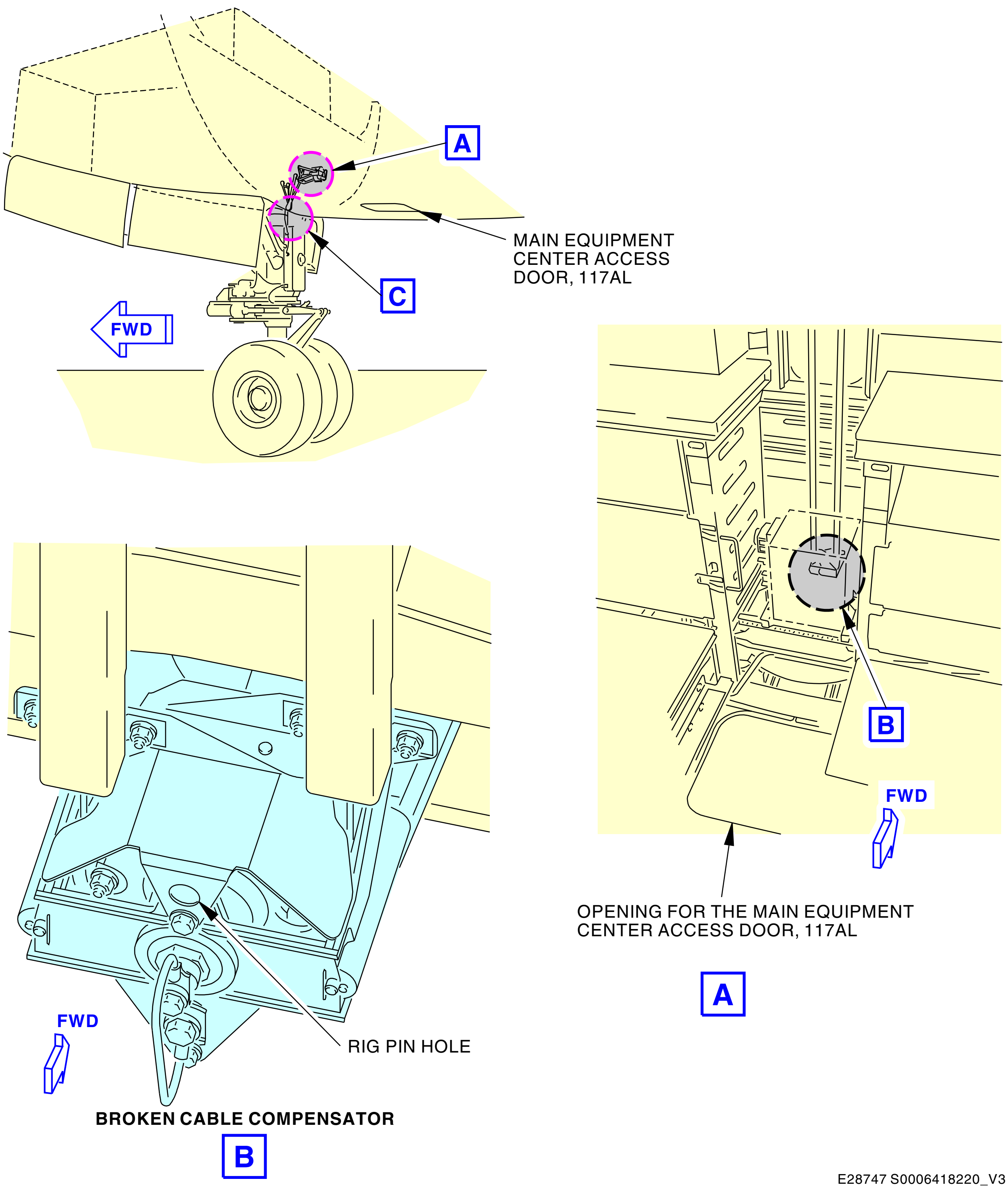
SUBTASK 32-21-01-020-023

(16) Lower the nose landing gear [86] on a NLG gear transportation dolly, SPL-1902.

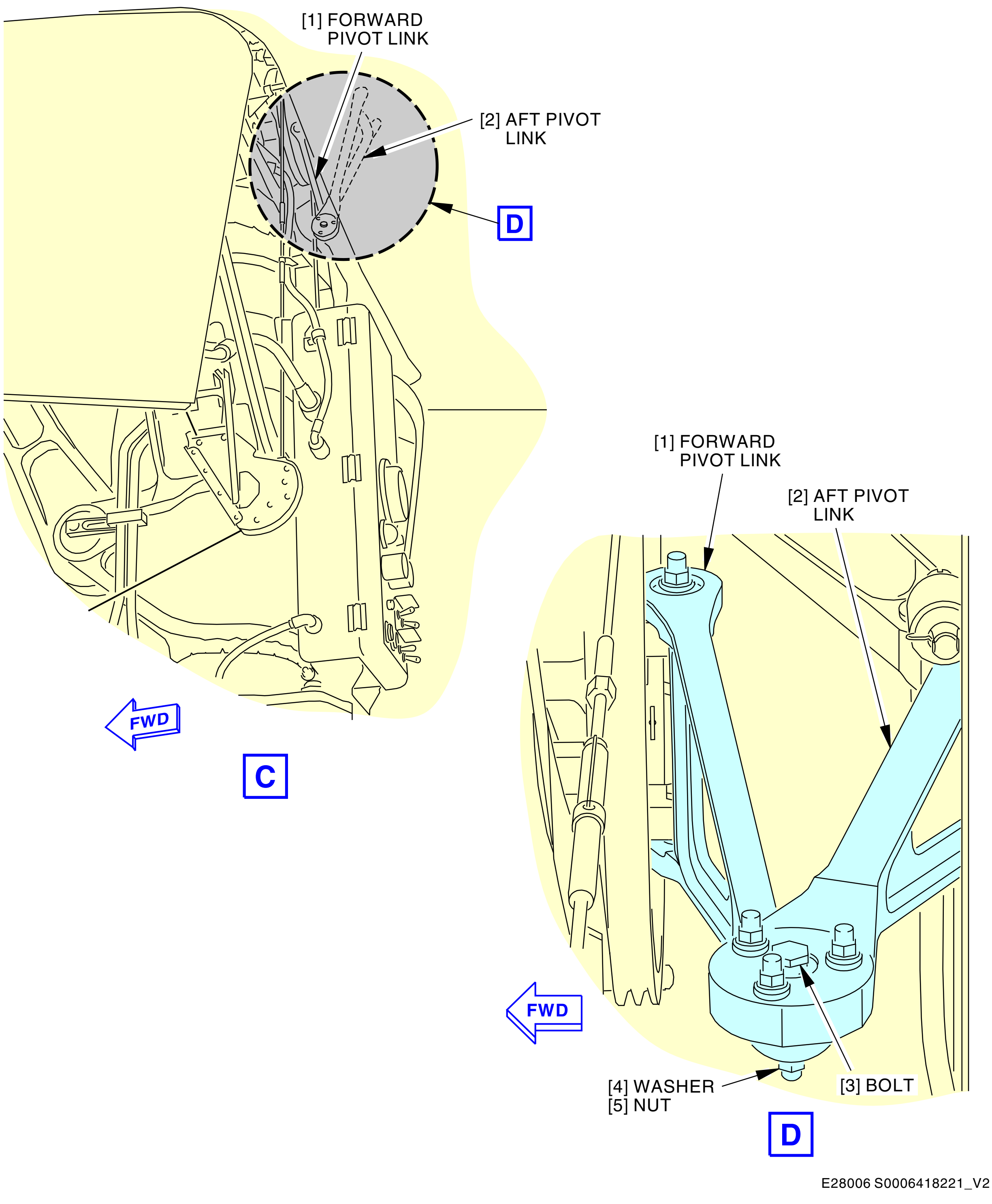
SUBTASK 32-21-01-020-024

(17) Remove the lift bar [88] from the nose landing gear [86].

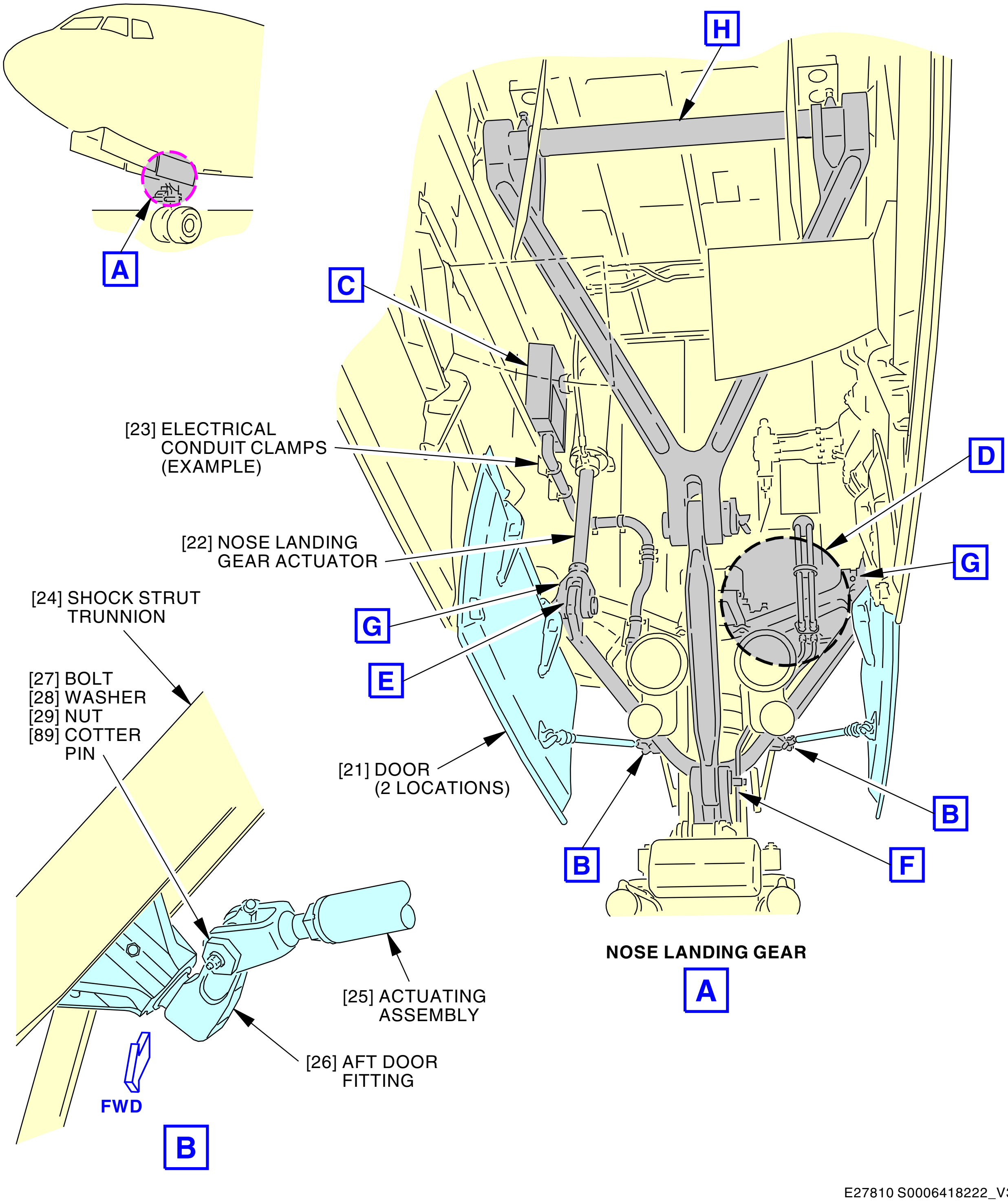
END OF TASK



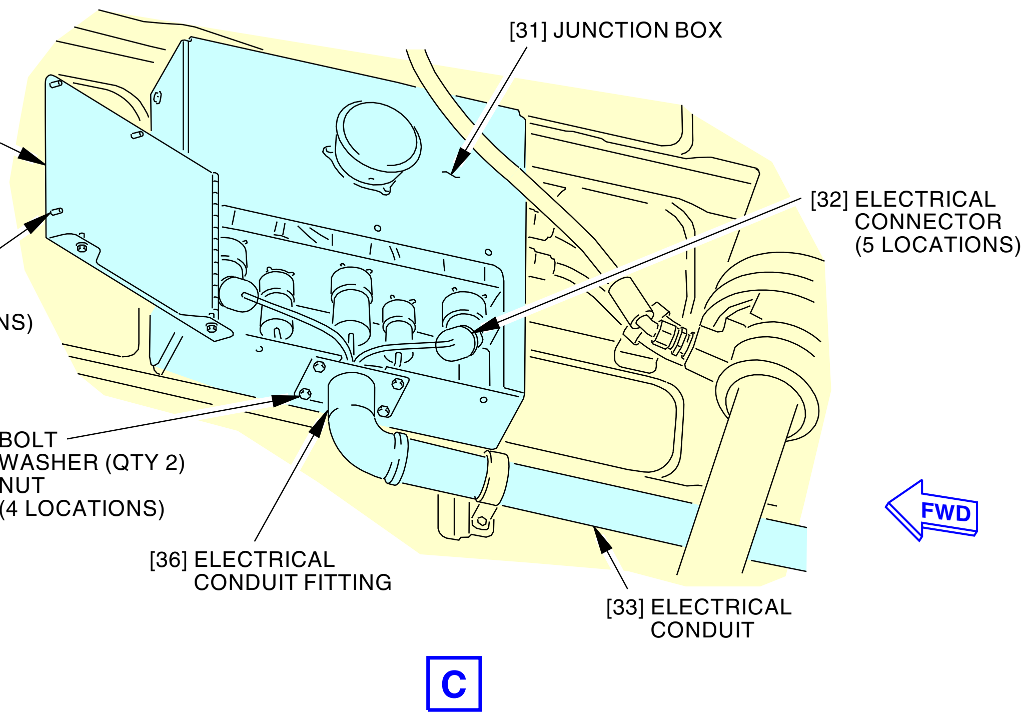
Nose Landing Gear Steering Installation
Figure 401/32-21-01-990-801 (Sheet 1 of 2)

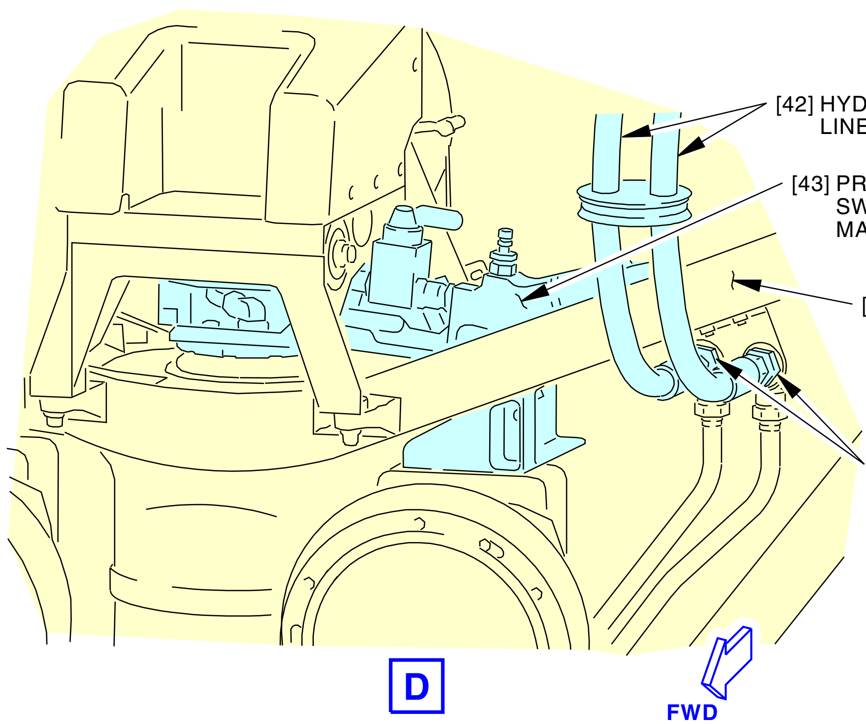


Nose Landing Gear Steering Installation
Figure 401/32-21-01-990-801 (Sheet 2 of 2)



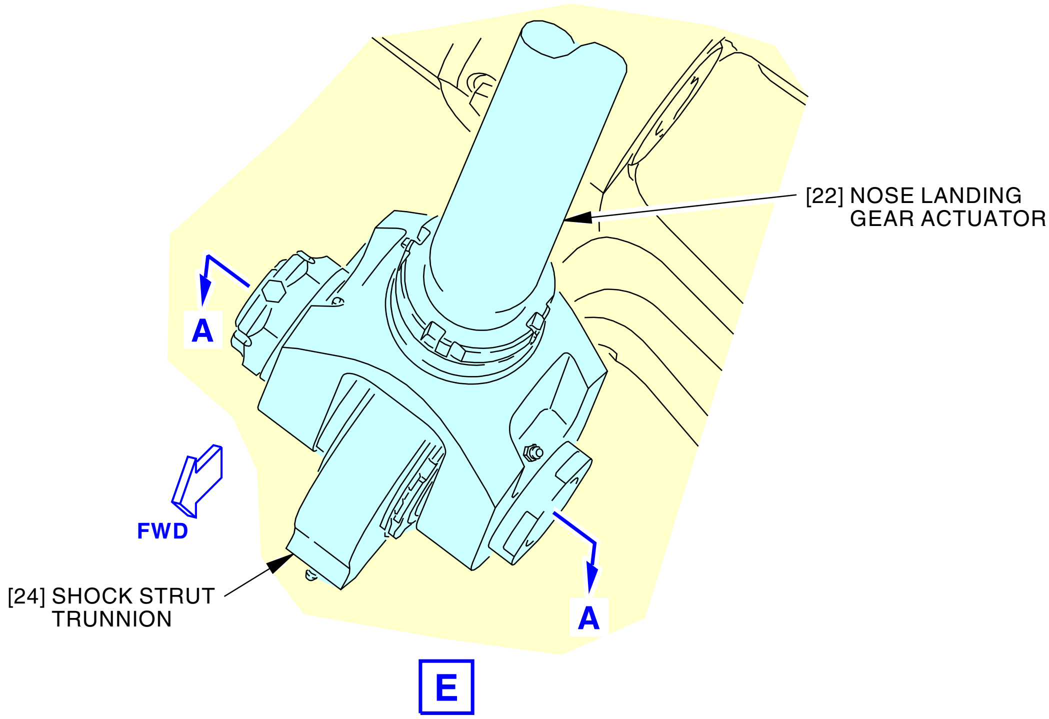
Nose Landing Gear Installation
Figure 402/32-21-01-990-802 (Sheet 1 of 6)

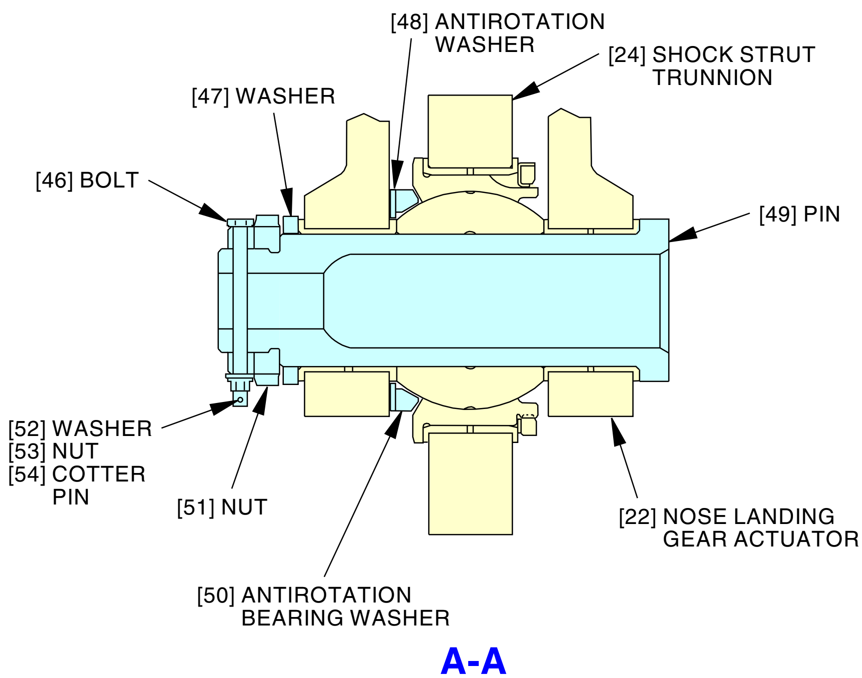




N01816 S0006418224_V2

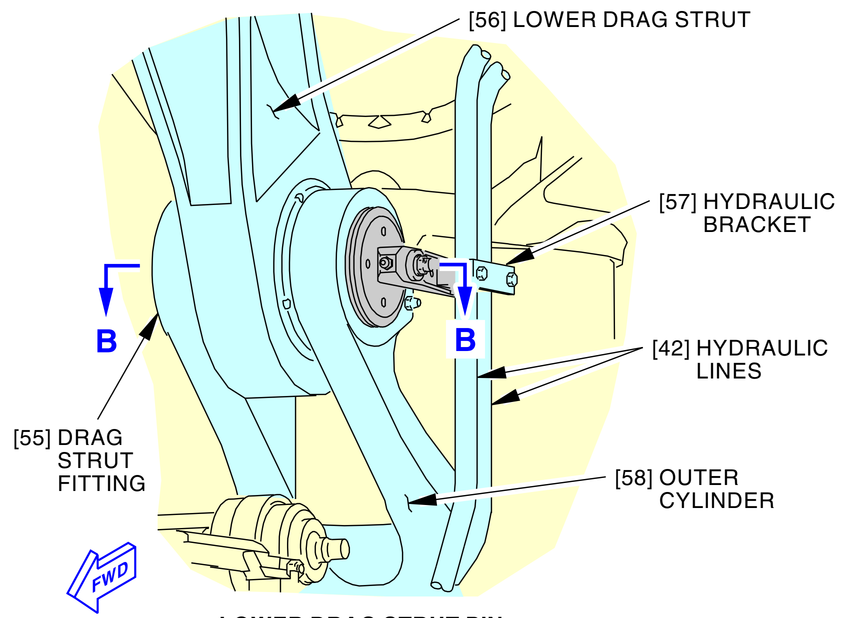
Nose Landing Gear Installation
Figure 402/32-21-01-990-802 (Sheet 2 of 6)





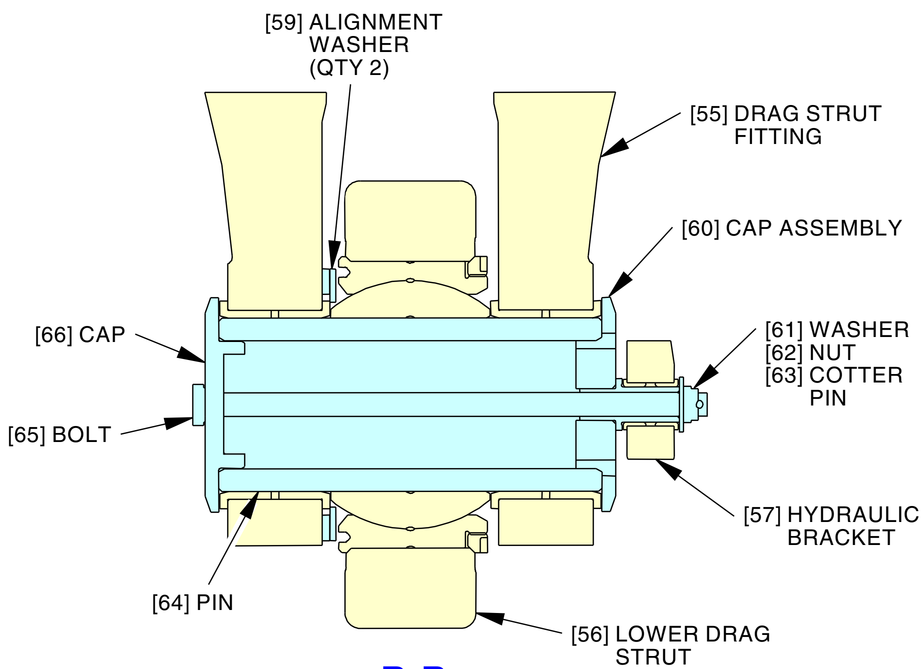
E28595 S0006418225_V2

Nose Landing Gear Installation
Figure 402/32-21-01-990-802 (Sheet 3 of 6)



LOWER DRAG STRUT PIN

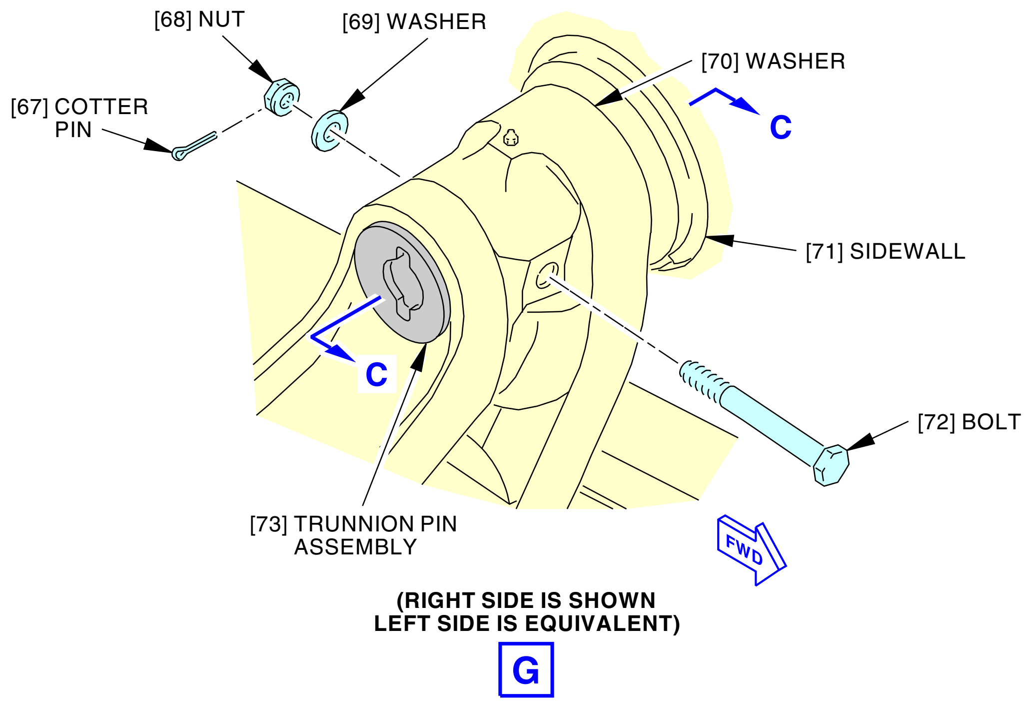
F

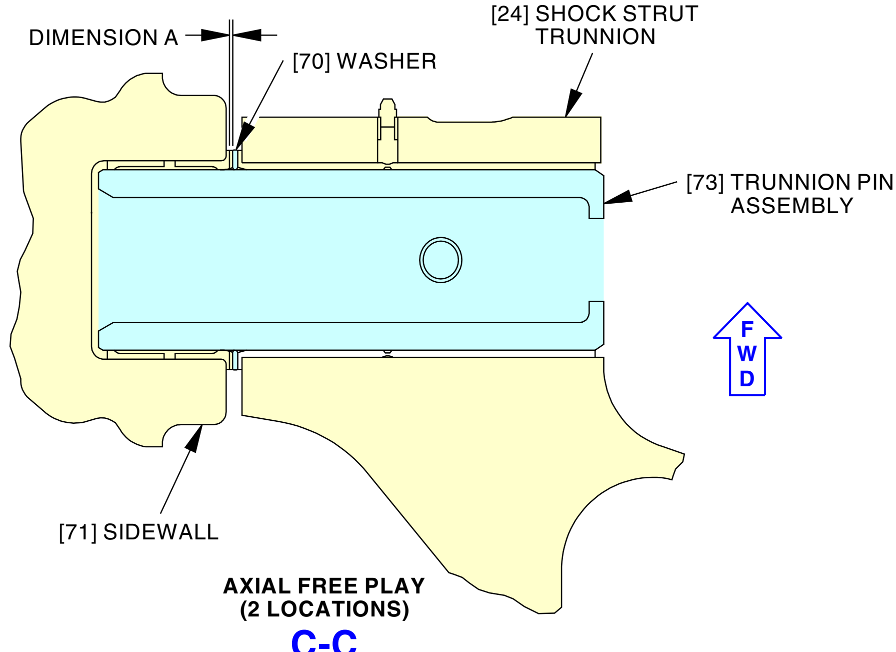


B-B

E28162 S0006418226_V3

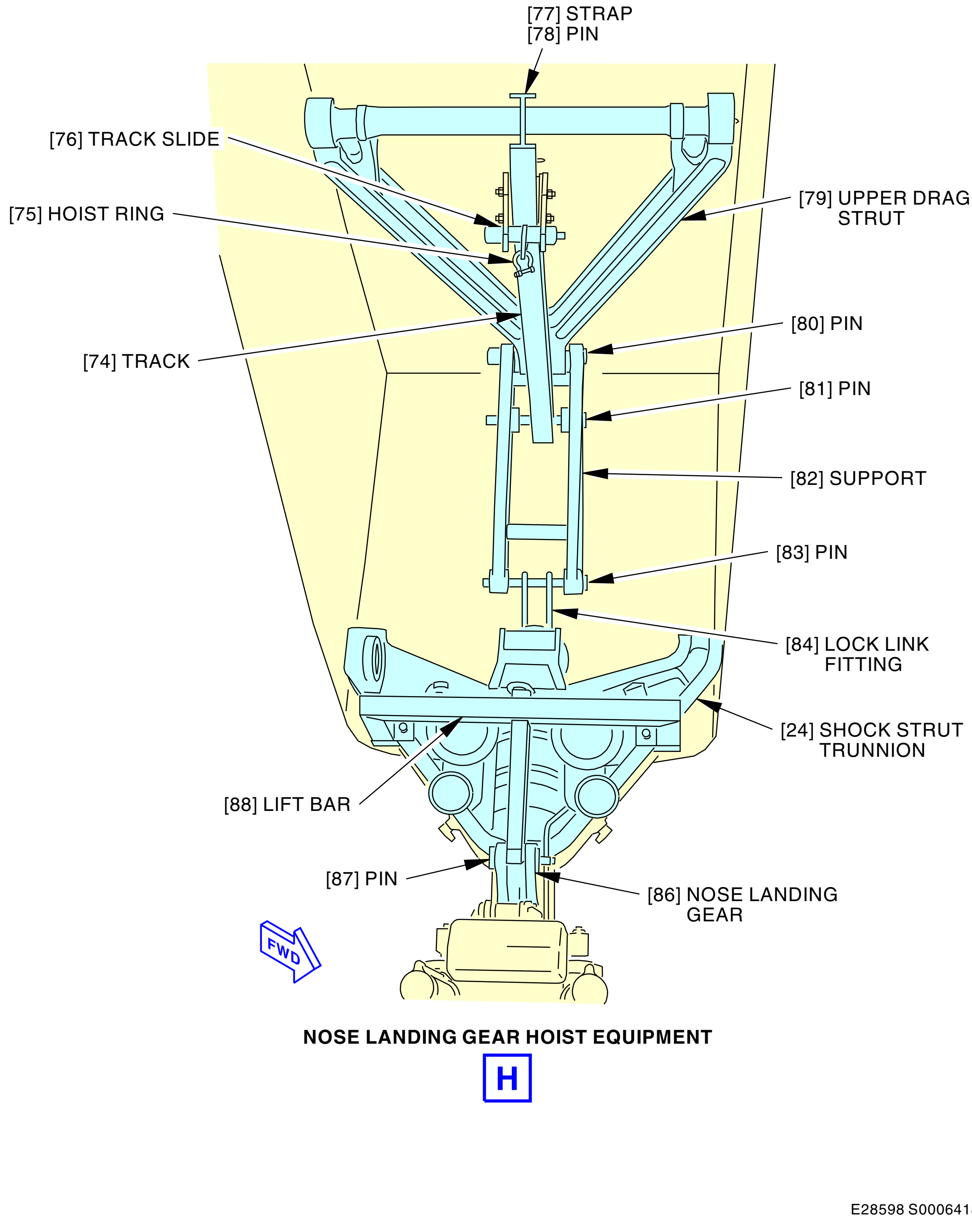
Nose Landing Gear Installation
Figure 402/32-21-01-990-802 (Sheet 4 of 6)



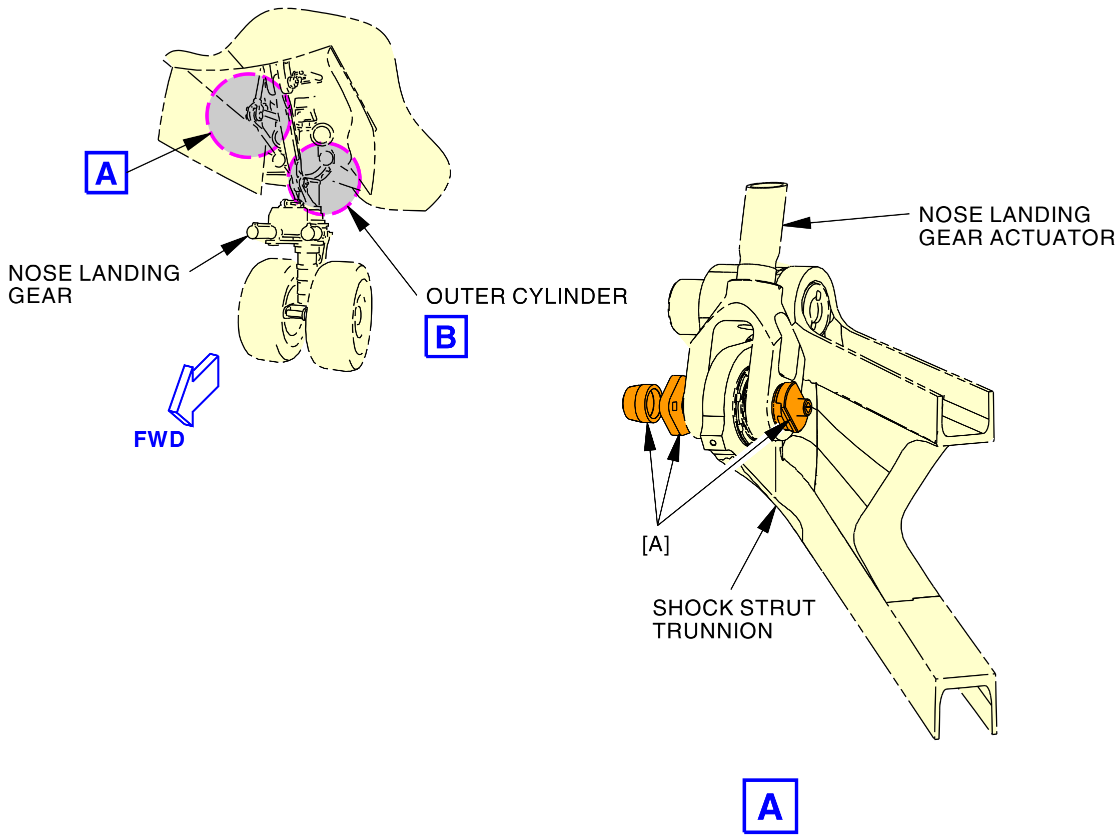


F82553 S0006418227_V3

Nose Landing Gear Installation
Figure 402/32-21-01-990-802 (Sheet 5 of 6)



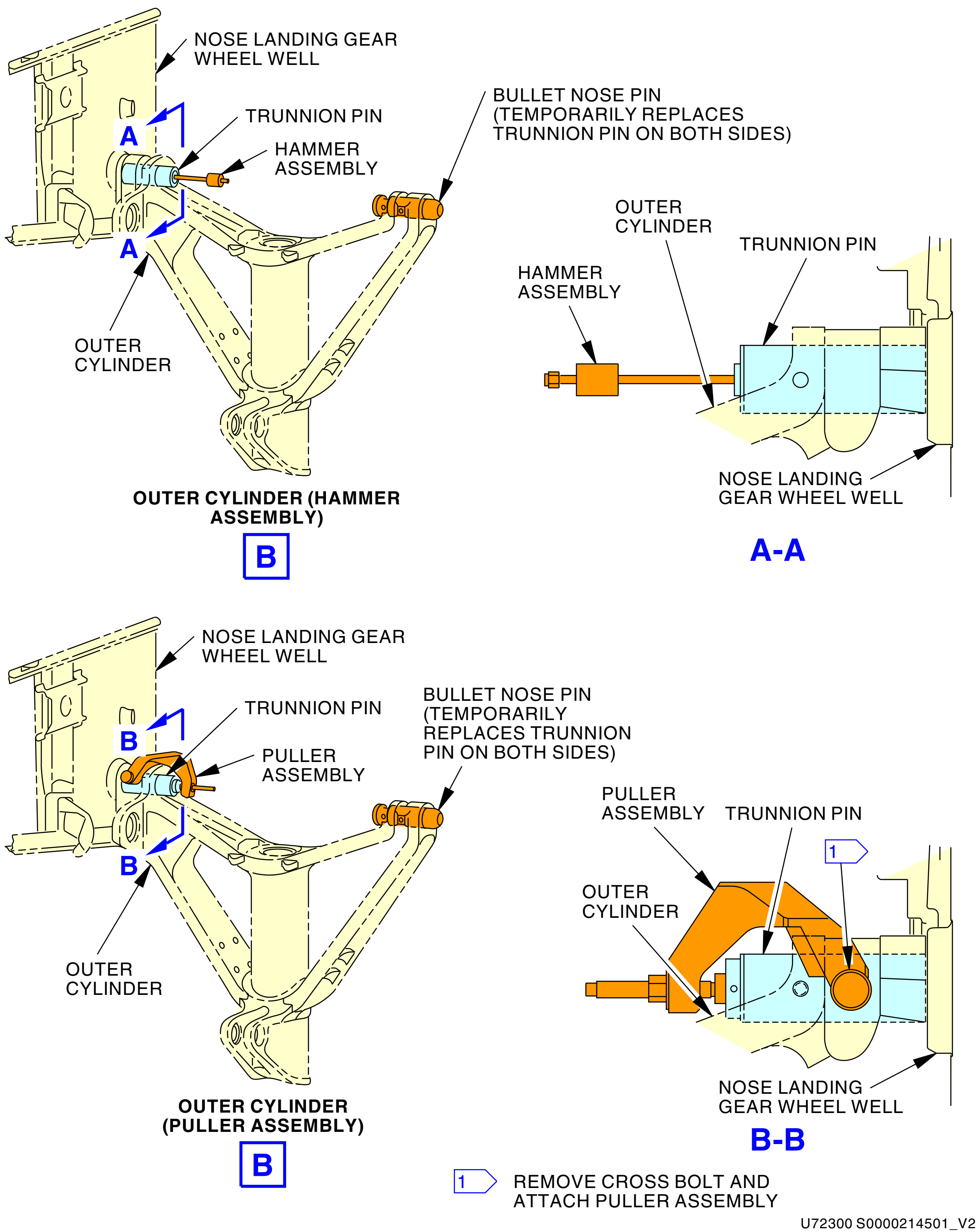
Nose Landing Gear Installation
Figure 402/32-21-01-990-802 (Sheet 6 of 6)



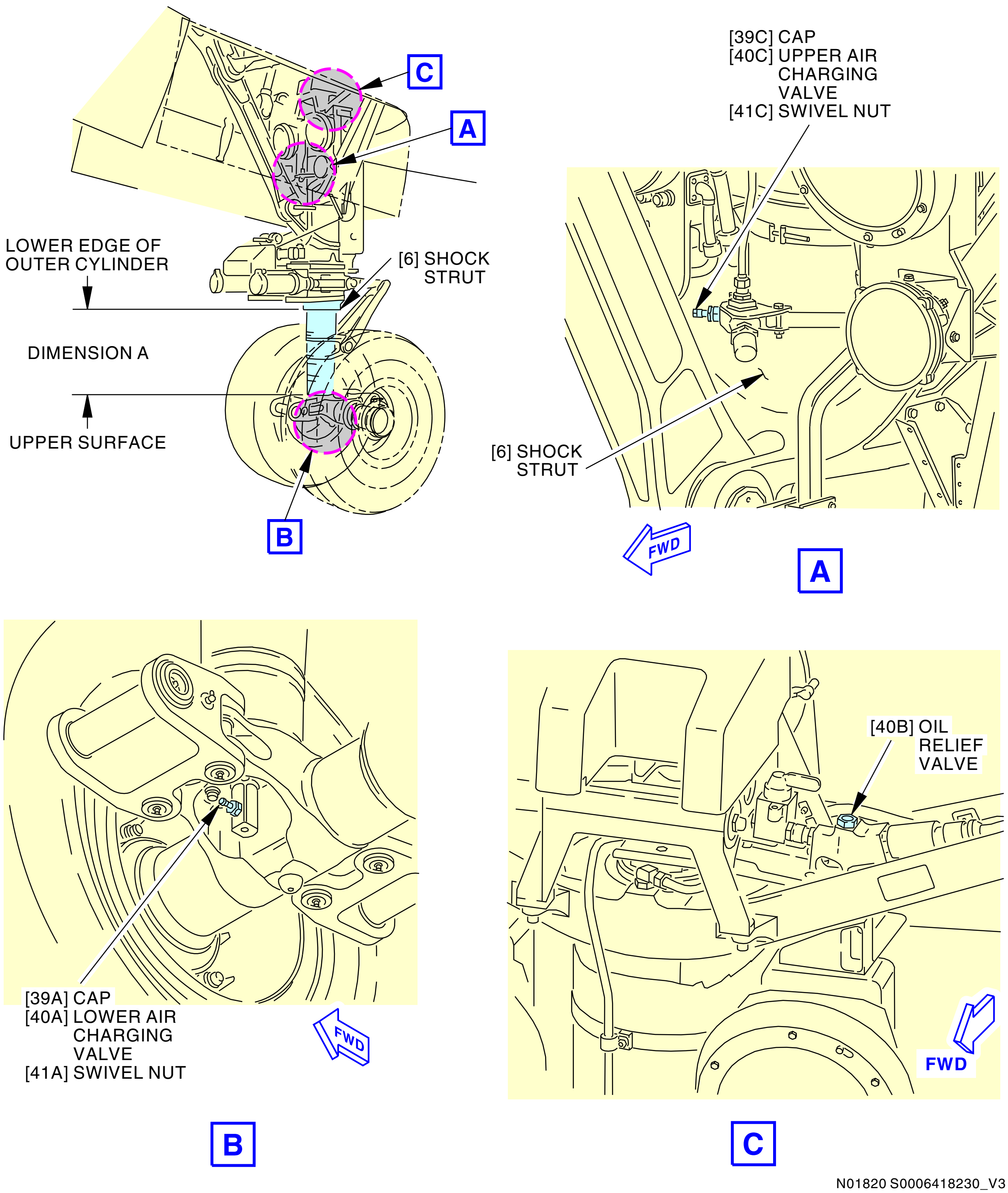
NOSE LANDING GEAR					
COMPONENT	WRENCH OR SOCKET (FOR NUT)	THREAD PROTECTOR	WRENCH (FOR PIN RETENTION)	USED ON AIRCRAFT PART	USAGE LOCATION
RETRACT ACTUATOR	J32085-7	J32085-22	J32085-9	293W2310 (NUT) 162W0100 (PIN)	[A]

J90730 S0000185087_V3

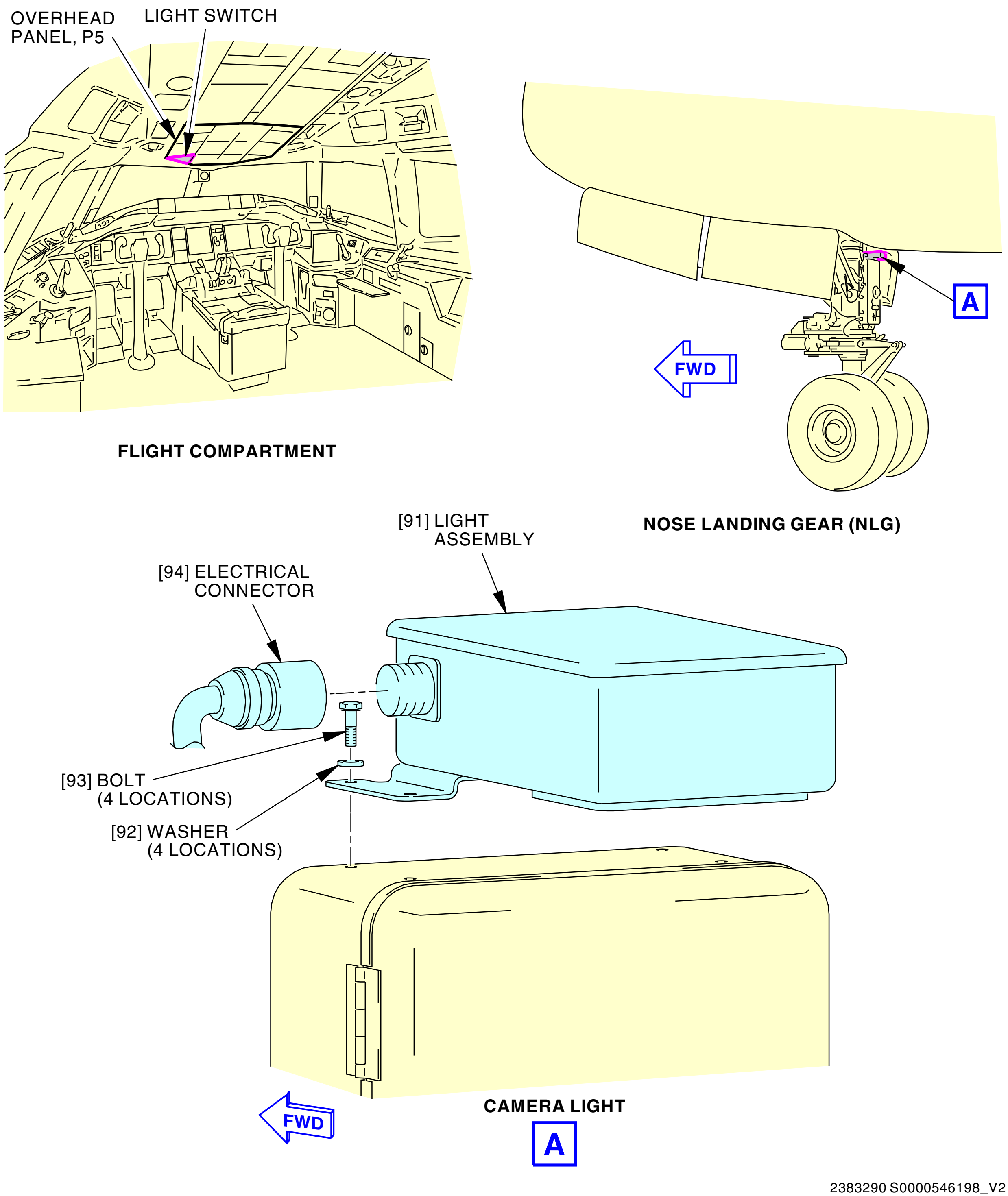
Special Tools for Nose Landing Gear Installation
Figure 403/32-21-01-990-804 (Sheet 1 of 2)



Special Tools for Nose Landing Gear Installation
Figure 403/32-21-01-990-804 (Sheet 2 of 2)



Nose Landing Gear Air Valve Installation
Figure 404/32-21-01-990-803



Camera Light, NLG - Light Assembly Installation
Figure 405/32-21-01-990-806

TASK 32-21-01-400-801

3. Nose Landing Gear Installation

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This Procedure installs the nose landing gear on the airplane.

B. References

Reference	Title
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-15-02-610-805-002	Nose Landing Gear Shock Strut Servicing (P/B 301)
12-21-12-640-801	Nose Landing Gear and Actuating Mechanism's Lower Components Lubrication (P/B 301)
20-10-22-120-801	Hand Clean Metal Surfaces with Abrasives (P/B 701)
20-11-00-910-801	Standard Torque Values (P/B 201)
23-41-00-700-801	Service Interphone System - Operational Test (P/B 501)
23-43-00-700-801	Ground Crew Call System - Operational Test (P/B 501)
23-51-00-730-801	Flight Interphone System - System Test (P/B 501)
24-22-00-860-805	Supply Electrical Power (P/B 201)
26-15-00-710-801	APU Fire Detection Operational Test (P/B 501)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-21-03-400-802	Nose Landing Gear Lock Link Installation (P/B 401)
32-30-01-720-802	Nose and Main Landing Gear Extension and Retraction Systems - Functional Test (Airplane on the Jacks) (P/B 501)
32-30-01-720-803	Nose Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks) (P/B 501)
32-35-00-720-801	Landing Gear Alternate Extension System - Operational Test (Airplane on the Jacks) (P/B 501)
32-44-00-710-801	Parking Brake System - Operational Test (P/B 501)
32-51-00-820-801	Nose Landing Gear Steering System Adjustment (P/B 501)
32-61-02-700-801	Test of the Proximity Sensors for the Nose Gear (P/B 201)
33-42-00-710-801	Landing, Runway Turnoff, and Taxi Lights - Operational Tests (P/B 501)
33-42-01-820-801	Nose Gear Landing Light - Light Beam Adjustment (P/B 201)
33-42-03-820-801	Taxi Light - Light Beam Adjustment (P/B 201)
33-47-00-710-803	Camera Light, NLG - Light Assembly Replacement (P/B 201)
53-13-01-400-801	Baffle Assembly Installation (P/B 401)
SSM 33-51-11	System Schematics Manual
SWPM 20-20-00	Standard Wiring Practices Manual
WDM 33-51-11	Wiring Diagram Manual

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meters - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: T477W Supplier: 01014 Opt Part #: M1B Supplier: 3AD17
SPL-1853	Retainer Equipment, MLG/NLG Torsion Link Part #: J32054-91 Supplier: 81205 Part #: J32054-92 Supplier: 81205
SPL-1902	Dolly - Gear Transportation, NLG Part #: J32030-44 Supplier: 81205
SPL-1908	Hoist - Removal/Installation, NLG Part #: J32027-63 Supplier: 81205
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

D. **Consumable Materials**

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
C00032	Coating - Protective Enamel, General Use	BMS10-60 Type I
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79 Type III
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
D00633	Grease - Aircraft General Purpose	BMS3-33
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

E. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
54	Pin	32-21-00-01B-115	ARO 001-016
63	Pin	32-21-02-01B-330	ARO ALL
67	Pin	32-21-02-02C-400	ARO ALL
86	Nose landing gear	32-21-01-02B-350	ARO ALL
89	Pin	32-22-55-05-210	ARO ALL

F. **Location Zones**

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
711	Nose Landing Gear

G. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door

H. **Nose Landing Gear Installation**

SUBTASK 32-21-01-420-001

(1) Move the NLG gear transportation dolly, SPL-1902, with the nose landing gear [86] attached, below the forward end of the track [74] (Figure 402).

SUBTASK 32-21-01-480-006

(2) Install the NLG hoist, SPL-1908, on the nose landing gear [86].

(a) Install the lift bar [88] on the nose landing gear [86] such that the bar engages the flanges of the shock strut trunnion [24].

(b) Install the pin [87] to connect the lift bar [88] to the drag strut fitting [55] on the outer cylinder [58].

(c) Install the hoist hook through the ring on the lift bar [88].

SUBTASK 32-21-01-020-025

(3) Lift the nose landing gear [86] with the NLG hoist, SPL-1908, until the shock strut trunnion [24] is above the door hinges.

NOTE: The shock strut trunnion [24] must be aligned forward and aft to move up in the wheel well.

SUBTASK 32-21-01-420-002

(4) Turn the nose landing gear [86] such that it is pointed forwards, and move it aft until the shock strut trunnion [24] is above the wheel well trunnion fittings.

SUBTASK 32-21-01-020-026

(5) Adjust the NLG hoist, SPL-1908, until the trunnion holes are aligned with the holes in the trunnion fittings in the wheel well.

SUBTASK 32-21-01-020-036

(6) Connect the nose landing gear [86] to the wheel well:

(a) Lubricate the chrome surfaces of the trunnion pin assembly [73] and the faces of the washer [70] with grease, D00013 or grease, D00633.

(b) Put the nose landing gear [86] in its position in the wheel well.

(c) Install the trunnion pin assembly [73] and the washer [70] that connect the nose landing gear [86] to the sidewalls [71] of the wheel well.

NOTE: Make sure the washers [70] are the thickness that you measured when you removed them.

1) Push the trunnion pin assembly [73] into the trunnion just until you can see it on the other side of the trunnion.

2) Put the washer [70] in its position between nose landing gear trunnion and the sidewalls [71] of the wheel well.

3) Continue with the trunnion pin assembly [73] until it is connected to the wheel well and the end of the pin is flush with the trunnion.

(d) Turn the trunnion pins to align the lock bolt holes.

(e) Lubricate the bolt [72], the washer [69], the nut [68], and the pin [67] with grease, D00013 or grease, D00633.

(f) Install the bolt [72], the washer [69], the nut [68], and the pin [67] to connect the trunnion pin assembly [73] to the trunnion.

SUBTASK 32-21-01-020-027

(7) Measure the total axial free play in the trunnion:

NOTE: If the total axial free play is not correct, this will not cause any damage to the landing gear structure, but there may be a loud noise during landing gear extension/retraction.

(a) Use a thickness gage to measure the clearance between the washers [70] and the bushing faces of the sidewall or the trunnion on the two sides of the nose landing gear (Dimension A) (Figure 402).

(b) Make sure the combined clearance of the two trunnions is 0.008 in. (0.20 mm)-0.015 in. (0.38 mm).

(c) Adjust the washer [70] thickness if it is necessary to get the correct clearance.

SUBTASK 32-21-01-420-003

(8) Lower the nose landing gear [86] with the NLG hoist, SPL-1908, until the hoist can be removed.

SUBTASK 32-21-01-420-004

(9) Remove the NLG hoist, SPL-1908.

SUBTASK 32-21-01-420-005

(10) Do this task: Nose Landing Gear Lock Link Installation, TASK 32-21-03-400-802.

NOTE: This task will connect the lower drag strut [56] to the upper drag strut [79] and the lock link.

SUBTASK 32-21-01-420-006

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(11) Apply Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237 to the end cap and the pin end surfaces, and apply grease, D00013 or grease, D00633, to the mating surfaces of the parts below:

(a) pin [64]

(b) alignment washer [59]

(c) cap [66]

(d) cap assembly [60]

(e) bolt [65]

(f) washer [61]

(g) nut [62]

(h) hydraulic bracket [57]

(i) pin [63]

SUBTASK 32-21-01-420-012

(12) Install these parts to connect the lower drag strut [56] to the drag strut fitting [55] on the outer cylinder [58]:

(a) pin [64]

(b) alignment washer [59]

(c) cap [66]

(d) cap assembly [60]

(e) bolt [65]

(f) washer [61]

(g) nut [62]

(h) hydraulic bracket [57]

(i) pin [63]

SUBTASK 32-21-01-420-007

(13) Apply grease, D00013 or grease, D00633, to these parts:

(a) pin [49]

(b) antirotation bearing washer [50]

(c) antirotation washer [48]

(d) washer [47]

(e) nut [51]

(f) bolt [46]

(g) washer [52]

(h) nut [53]

(i) cotter pin [54].

SUBTASK 32-21-01-420-013

(14) Install these parts to connect the rod end of the nose landing gear actuator [22] to the shock strut trunnion [24]:

(a) pin [49]

NOTE: The thread protector from the wrench kit, SPL-4133 can be reinstalled on pin [49] after grease, D00013 or grease, D00633 is applied.

(b) antirotation bearing washer [50]

(c) antirotation washer [48]

(d) washer [47]

(e) nut [51]

1) Use the wrench kit, SPL-4133 to tighten the nut [51] to 30 ft-lb (40.7 N·m)-50 ft-lb (67.8 N·m). If it is necessary, loosen the nut to the nearest castellation to align the holes for the bolt [46] (Figure 403).

(f) bolt [46]

(g) washer [52]

(h) nut [53]

(i) cotter pin [54].

SUBTASK 32-21-01-420-008

WARNING: DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING: USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(15) Apply Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237 to these parts (Figure 401):

(a) bolt [3]

(b) washer [4]

(c) nut [5].

SUBTASK 32-21-01-420-014

(16) Install these parts to connect the forward pivot link [1] to the aft pivot link [2] (Figure 401). Refer to Standard Torque Values, TASK 20-11-00-910-801:

(a) bolt [3]

(b) washer [4]

(c) nut [5].

SUBTASK 32-21-01-480-007

(17) Remove the rigging pin NS4 from the broken cable compensator and return it to the rigging pin set, SPL-2532.

SUBTASK 32-21-01-100-002

(18) Do the steps below before you connect the electrical conduit fitting [36] to the junction box [31]:

(a) Put the electrical conduit [33] and clamp [23] in the installed position with the clamps installed finger tight.

(b) Adjust the conduit to align the location bands with each clamp and to eliminate any twists in the conduit.

SUBTASK 32-21-01-100-001

(19) Do the steps below to help get a good electrical bond between the electrical conduit fitting [36] and the junction box [31]:

(a) To fully clean the mating surface of the electrical conduit fitting [36] and the junction box [31], do this task: Hand Clean Metal Surfaces with Abrasives, TASK 20-10-22-120-801.

SUBTASK 32-21-01-020-032

(20) Remove the caps from the electrical connector [32].

SUBTASK 32-21-01-020-033

(21) Put the electrical connector [32] through the hole in the bottom of the junction box [31] and connect them to the correct mating connector (Figure 402).

SUBTASK 32-21-01-020-034

(22) Fay surface seal the electrical conduit fitting [36] to the junction box [31] with sealant, A00247.

SUBTASK 32-21-01-390-001

(23) Apply a layer of the sealant, A00247 to the threads and the shank of each bolt [34].

NOTE: Do not let the sealant, A00247, dry before you install the bolt [34]. You must install the bolt [34] when the sealant, A00247, is wet.

SUBTASK 32-21-01-020-030

(24) Install the bolt [34] and the washer [35] and the nut [90], while the sealant, A00247 is wet to connect the electrical conduit fitting [36] to the junction box [31] in the wheel well.

SUBTASK 32-21-01-760-001

(25) Do a check of the resistance between the electrical conduit fitting [36] and junction box [31] with a intrinsically safe approved bonding meter, COM-1550.

NOTE: (SWPM 20-20-00) has instructions for measuring the bonding resistance.

(a) Make sure that the resistance is less than 0.005 ohms.

SUBTASK 32-21-01-020-035

(26) Apply a layer of primer, C00175 and then coating, C00032 to any exposed surface of the electrical conduit fitting [36] and the junction box [31].

SUBTASK 32-21-01-020-031

(27) Install the screw [37] and the washer [38] to close the junction box door [30] on the junction box [31].

SUBTASK 32-21-01-100-003

CAUTION: MAKE SURE THE CONDUITS ARE NOT TWISTED. RETRACTION OF THE LANDING GEAR CAN CAUSE DAMAGE TO THE CONDUITS IF THEY ARE TWISTED.

(28) Make sure the electrical conduit [33] is free of twists and that each location marker is aligned with each clamp, then tighten the clamps [23].

SUBTASK 32-21-01-420-009

(29) Connect the hydraulic lines [42] lubricated with hydraulic fluid, D00153, to the nose landing gear at the fittings [44] on the shock strut trunnion [24].

(a) Tighten the B-nuts on the hydraulic lines [42] to 700 ±35 in-lb (79 ±4 N·m).

SUBTASK 32-21-01-420-010

(30) Connect the aft door actuating assembly [25]:

(a) Install the bolt assembly [27], the washer [28], the nut [29] and the pins [89] to connect the actuating assembly [25] to the aft door fitting [26].

(b) Tighten the nut [29] to 275 in-lb (31.1 N·m).

(c) Apply more torque to align the nearest castellation in the nut [29] with the hole in the bolt assembly [27].

NOTE: Do not tighten the nut to more than 350 in-lb (39.5 N·m).

(d) Install the cotter pins [89].

I. Put the airplane back to its usual condition

SUBTASK 32-21-01-080-002

(1) Do this task: Lower the Airplane Off of the Jacks, TASK 07-11-01-580-805.

NOTE: You must lower the airplane before you service the nose landing gear shock strut. Leave the jacks in their location. Then you can easily lift the airplane again to perform the landing gear extension retraction test.

SUBTASK 32-21-01-410-002

(2) Install the baffle assembly. Do this task: Baffle Assembly Installation, TASK 53-13-01-400-801 (if removed).

SUBTASK 32-21-01-420-015

(3) Do these steps to install the light assembly of the Nose Landing Gear (NLG) camera light (Figure 405):

(a) Attach the kept light assembly [91]. If the light assembly is damaged, Do this task: Camera Light, NLG - Light Assembly Replacement, TASK 33-47-00-710-803.

(b) Install the washers [92] and bolts [93].

(c) Connect the electrical connector [94].

SUBTASK 32-21-01-480-008

(4) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-21-01-860-003

(5) Remove the safety tag and close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
F	21	C33498	CAMERA LTS

Remove the safety tags and close these circuit breakers:

Ground Service/Handling Power Panel, P320

Row	Col	Number	Name
C	13	C23611	INTPH GND

Left Power Management Panel, P110

Row	Col	Number	Name
F	6	C23425	VOX RCDR

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	17	C28003	APU FUEL S/O VALVE
B	24	C23631	INTERPHONE-SERVICE
B	25	C23627	INTERPHONE-CAPTAIN

(Continued)

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
B	26	C23629	INTERPHONE-F/OBS
C	25	C23628	INTERPHONE-F/O

Standby Power Management Panel, P310

Row	Col	Number	Name
C	4	C26623	APU RMT FIRE IND/AUTO DISCH ARM
C	8	C31653	WEU L1
C	9	C31655	WEU L2
F	12	C23638	CAB INTPH PRI
F	13	C23639	CAB INTPH SEC
L	5	C26636	FIRE EXT APU

Remove the safety tags and close these circuit breakers:

Ground Service/Handling Power Panel, P320

Row	Col	Number	Name
J	11	C33517	NGL WW SVCE LTS

Left Power Management Panel, P110

Row	Col	Number	Name
C	25	C33479	L TAXI LT
D	24	C33478	R TAXI LT
F	5	C33471	L NLG LDG LT
H	26	C32600	PSEU 1 PRI PWR
M	19	C32617	LG TIRE PRESSURE INDICATOR
M	22	C32605	LG DOOR CLOSE GROUND ACCESS

Right Power Management Panel, P210

Row	Col	Number	Name
F	24	C33472	R NLG LDG LT
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR
F	1	C32631	LG BRAKE STATUS IND
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

SUBTASK 32-21-01-080-001

(6) Remove the retainer equipment, SPL-1853, from the shock strut trunnion [24].

SUBTASK 32-21-01-600-001

(7) Do this task: Nose Landing Gear Shock Strut Servicing, TASK 12-15-02-610-805-002.

SUBTASK 32-21-01-860-004

(8) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-21-01-710-012

(9) Do a test of the light assembly [91] (Figure 405):

(a) At the overhead panel, P5, set the switch for the red anti-collision lights (beacons) to the on mode.

(b) At the P5 panel, set the switch for the camera lights to the on mode.

1) Make sure the light comes on.

(c) Set the switch for the camera lights to the off mode.

1) Make sure all the camera lights go off.

(d) Set the switch for the red anti-collision lights (beacons) to the off mode.

SUBTASK 32-21-01-710-001

(10) At the P40 panel on the nose landing gear, press the PRESS TO TEST button for the nose landing gear doors unsafe light and make sure the unsafe light for the nose wheel well comes on.

(a) If the light does not come on, check the nose landing gear electrical connections.

SUBTASK 32-21-01-710-002

(11) At the P40 panel on the nose landing gear, move the wheel well lights switch to the ON position and make sure the lights for the nose wheel well come on.

(a) If the lights do not come on, check the nose landing gear electrical connections.

SUBTASK 32-21-01-710-003

(12) Check the brake indication lights below the nose landing gear taxi lights. Do this task: Parking Brake System - Operational Test, TASK 32-44-00-710-801.

SUBTASK 32-21-01-710-004

(13) Do a check of the emergency lighting test switch on the nose landing gear (SSM 33-51-11 and WDM 33-51-11 thru 33-51-66).

(a) At the P40 panel on the nose landing gear, set the test switch for the emergency lights to the ON mode.

1) Make sure the exterior emergency lights come on.

2) Make sure the emergency lights go off automatically after one minute.

(b) If the light does not come on, check the nose landing gear electrical connections.

SUBTASK 32-21-01-710-005

(14) Do one of the tests that follows:

(a) Do this task: Nose Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks), TASK 32-30-01-720-803.

(b) Do this task: Nose and Main Landing Gear Extension and Retraction Systems - Functional Test (Airplane on the Jacks), TASK 32-30-01-720-802.

SUBTASK 32-21-01-710-006

(15) Do this task: Test of the Proximity Sensors for the Nose Gear, TASK 32-61-02-700-801.

SUBTASK 32-21-01-420-011

(16) Do this task: Nose Landing Gear Steering System Adjustment, TASK 32-51-00-820-801.

NOTE: You only need to adjust the steering cables that are on the nose landing gear.

SUBTASK 32-21-01-640-001

(17) Do this task: Nose Landing Gear and Actuating Mechanism's Lower Components Lubrication, TASK 12-21-12-640-801.

SUBTASK 32-21-01-720-001

(18) Do this task: Landing Gear Alternate Extension System - Operational Test (Airplane on the Jacks), TASK 32-35-00-720-801.

SUBTASK 32-21-01-710-007

(19) Do this task: Landing, Runway Turnoff, and Taxi Lights - Operational Tests, TASK 33-42-00-710-801.

SUBTASK 32-21-01-820-001

(20) Do this task: Nose Gear Landing Light - Light Beam Adjustment, TASK 33-42-01-820-801.

SUBTASK 32-21-01-820-002

(21) Do this task: Taxi Light - Light Beam Adjustment, TASK 33-42-03-820-801.

SUBTASK 32-21-01-730-001

(22) Do this task: Flight Interphone System - System Test, TASK 23-51-00-730-801.

SUBTASK 32-21-01-730-002

(23) Do this task: Service Interphone System - Operational Test, TASK 23-41-00-700-801.

SUBTASK 32-21-01-710-009

(24) Do this task: Ground Crew Call System - Operational Test, TASK 23-43-00-700-801.

SUBTASK 32-21-01-710-010

(25) Do this task: APU Fire Detection Operational Test, TASK 26-15-00-710-801.

SUBTASK 32-21-01-710-011

(26) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-21-01-410-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(27) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

NOSE LANDING GEAR DRAG STRUT ASSEMBLY - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has these tasks:

      (1) A removal of the drag strut assembly for the nose landing gear.

      (2) An installation of the drag strut assembly for the nose landing gear.

      (3) A removal of the lock link assembly for the nose landing gear.

      (4) An installation of the lock link assembly for the nose landing gear.

TASK 32-21-03-000-801

2. **Nose Landing Gear Drag Strut Assembly Removal**

   (Figure 401, Figure 402, Figure 403)

   A. General

   (1) This procedure provides instructions to remove the drag strut assembly for the nose landing gear.

   B. References

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   C. Tools/Equipment

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1838	Puller - Trunnion Pin, NLG Upper Drag Strut Part #: J32005-19 Supplier: 81205
SPL-1903	Adapter - Hoist, Nose Landing Gear Drag Strut Part #: J32025-29 Supplier: 81205 Opt Part #: J32025-1 Supplier: 81205

   D. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
711	Nose Landing Gear

   E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

F. Prepare for the Removal

SUBTASK 32-21-03-480-005

WARNING

MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-21-03-010-002

WARNING

OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-21-03-860-001

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-21-03-860-002

(4) Lift the nose of the airplane until the nose landing gear clears the ground (TASK 07-11-01-580-804).

G. Nose Landing Gear Drag Strut Assembly Removal

SUBTASK 32-21-03-480-001

(1) Install the nose landing gear drag strut hoist adapter, SPL-1903, and the hoist, SPL-1556.

SUBTASK 32-21-03-020-001

(2) Disconnect the electrical connectors from the lock sensors [31] and disconnect the sensor wiring on the lock link assembly [34], back to the aft wheel well bulkhead.

SUBTASK 32-21-03-020-002

(3) Remove the pin [10] to disconnect the lower drag strut [2] from the outer cylinder of the shock strut [6].

NOTE: Keep the hydraulic bracket [4] attached to the hydraulic lines [5].

SUBTASK 32-21-03-020-003

(4) Remove the pin assembly [57] to disconnect the lock actuator [58] from the aft lock link assembly [51].

SUBTASK 32-21-03-020-004

(5) Remove the bolt [53] to disconnect the spring cartridge [52] from the crank assembly [56].

NOTE: The spring cartridge [52] does not have a load on it.

SUBTASK 32-21-03-020-005

(6) Remove the bolt [40] to disconnect the sequence valve rod [32] from the forward input arm [43].

SUBTASK 32-21-03-020-016

(7) Remove the bolt [37], washer [38], bushing [67], washer [68], and nut [39] to disconnect the sequence valve idler [36] from the aft input arm [35].

SUBTASK 32-21-03-020-017

WARNING MAKE SURE THAT YOU INSTALL THE DOWNLOCK PIN ON THE NOSE LANDING GEAR. WITHOUT THE DOWNLOCK PIN, THE LOCK LINKS COULD FOLD AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(8) Remove the pin [62] to disconnect the aft lock link assembly [51] from the support fitting [63].

(a) You can safely disconnect the aft lock link assembly [51] as long as the nose downlock pin is installed in its position in the lock link assembly [34].

SUBTASK 32-21-03-020-006

(9) Use rope to hold the lower drag strut [2] and lock link assembly [34] to prevent damage to them and the drag brace assembly during removal.

SUBTASK 32-21-03-020-018

(10) Remove the pin [16], nut [15], washer [14], and antirotation bolt [18] to disconnect the upper drag strut pins [17] from the upper drag strut [1].

SUBTASK 32-21-03-020-024

(11) Remove the bolt [20], washer [21], and nut [22] to disconnect the target brackets [19] from each side of the upper drag strut [1].

NOTE: The target brackets [19] are removed to protect them from damage when the upper drag strut [1] is removed.

SUBTASK 32-21-03-010-001

(12) To get access to the upper drag strut pins [17], do this step:

(a) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

NOTE: The upper drag strut pins [17] are next to the forward side of the systems card file, behind the insulation.

SUBTASK 32-21-03-020-020

(13) Lift the upper drag strut [1] and lower drag strut [2], use the combination of the nose landing gear drag strut hoist adapter, SPL-1903, and the hoist, SPL-1556, to remove pressure from the upper drag strut pins [17].

SUBTASK 32-21-03-020-007

(14) Use the NLG upper drag strut trunnion pin puller, SPL-1838, to remove the upper drag strut pins [17] to disconnect the upper drag strut [1] from the nose wheel well sidewall [13].

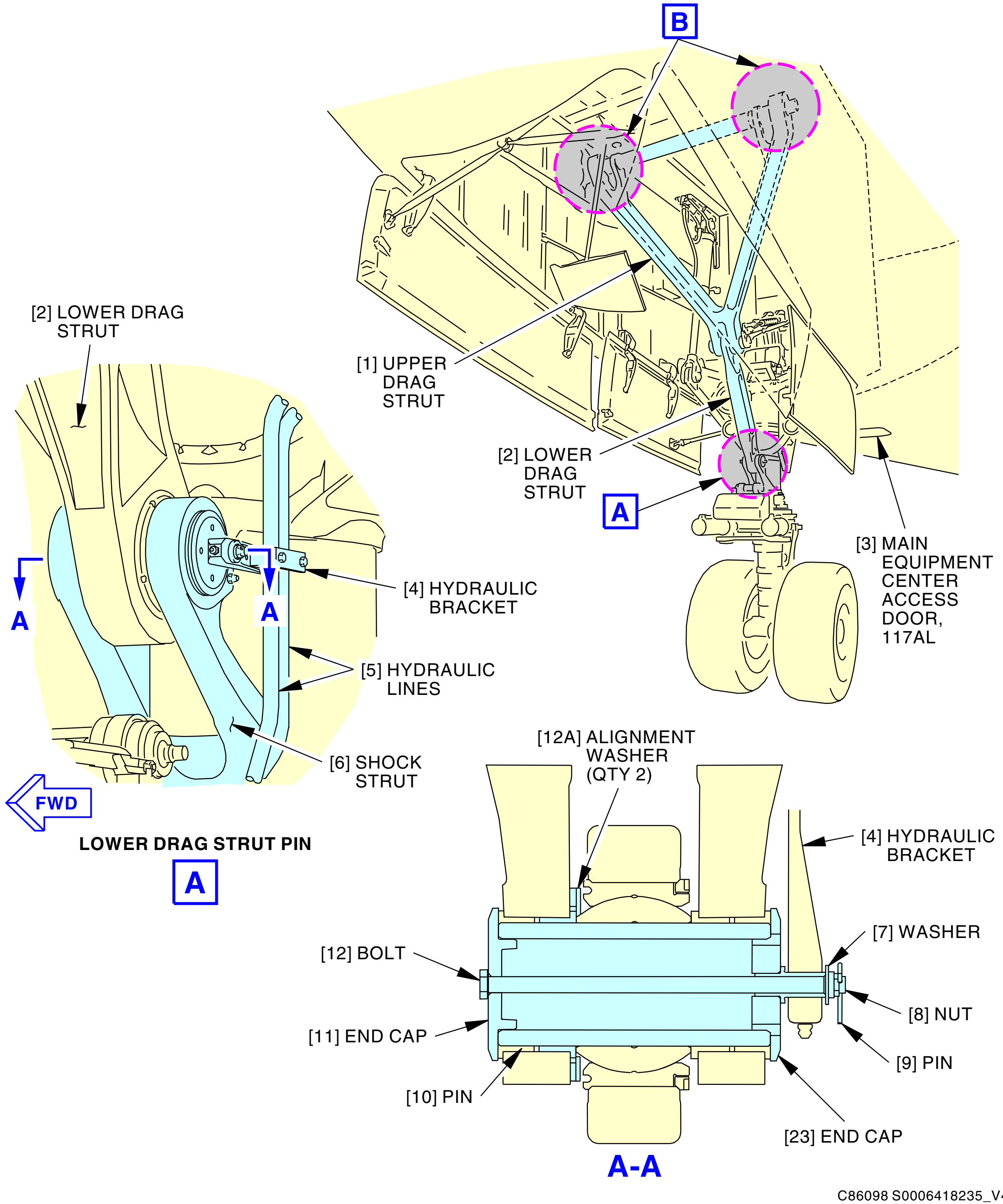
(a) After the first upper drag strut pin [17] is removed, replace it with the slug assembly.

(b) Remove the second upper drag strut pin [17] and the slug assembly.

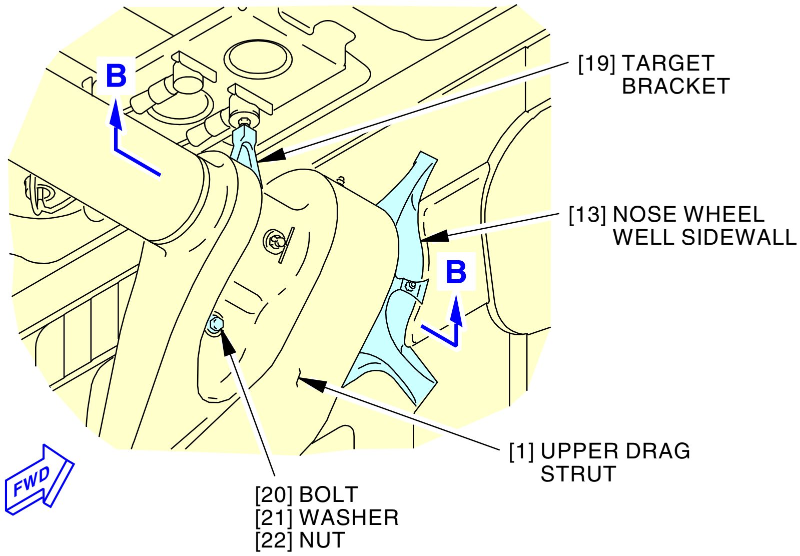
SUBTASK 32-21-03-020-008

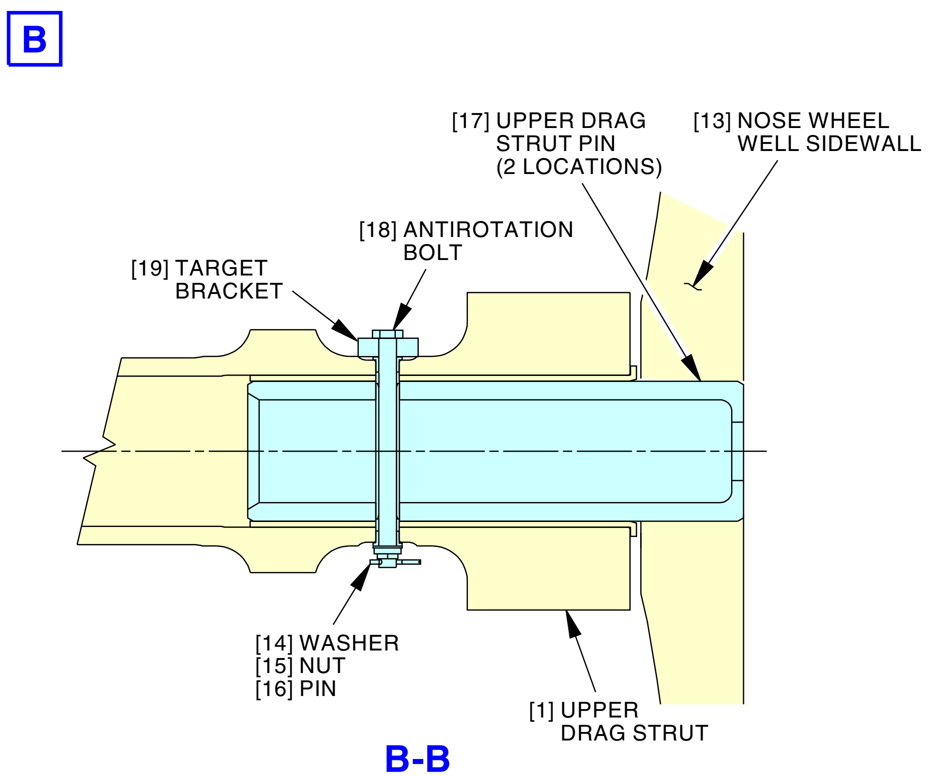
(15) Turn and remove the upper drag strut [1] and the lower drag strut [2].

END OF TASK



Nose Landing Gear Drag Strut Assembly Installation
Figure 401/32-21-03-990-801 (Sheet 1 of 3)





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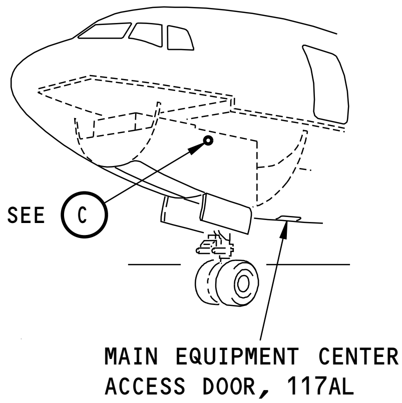
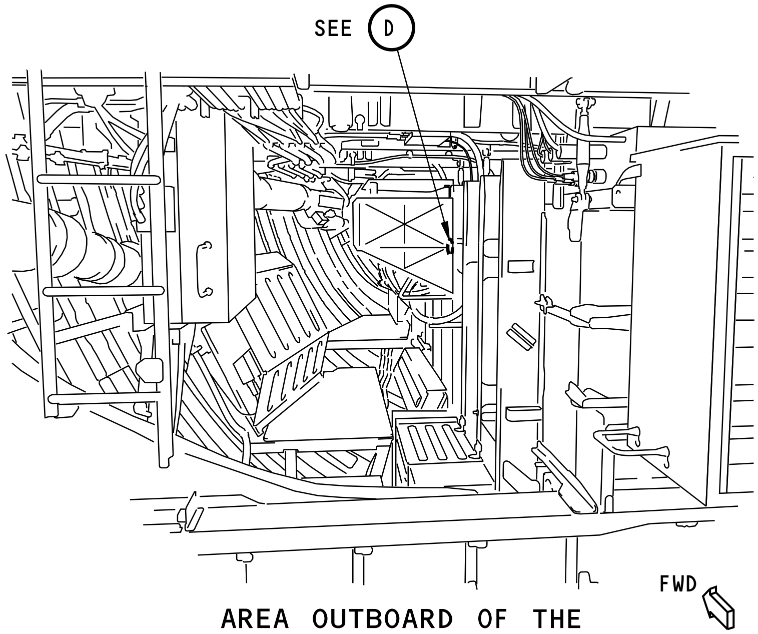
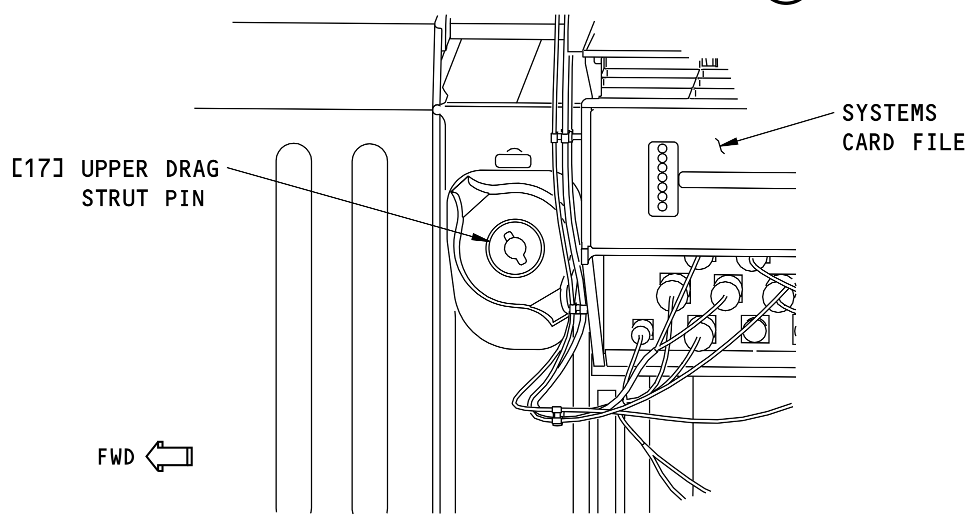
Nose Landing Gear Drag Strut Assembly Installation
Figure 401/32-21-03-990-801 (Sheet 2 of 3)





AREA OUTBOARD OF THE
NOSE LANDING GEAR WHEEL WELL
(LEFT SIDE SHOWN, RIGHT SIDE OPPOSITE)

C

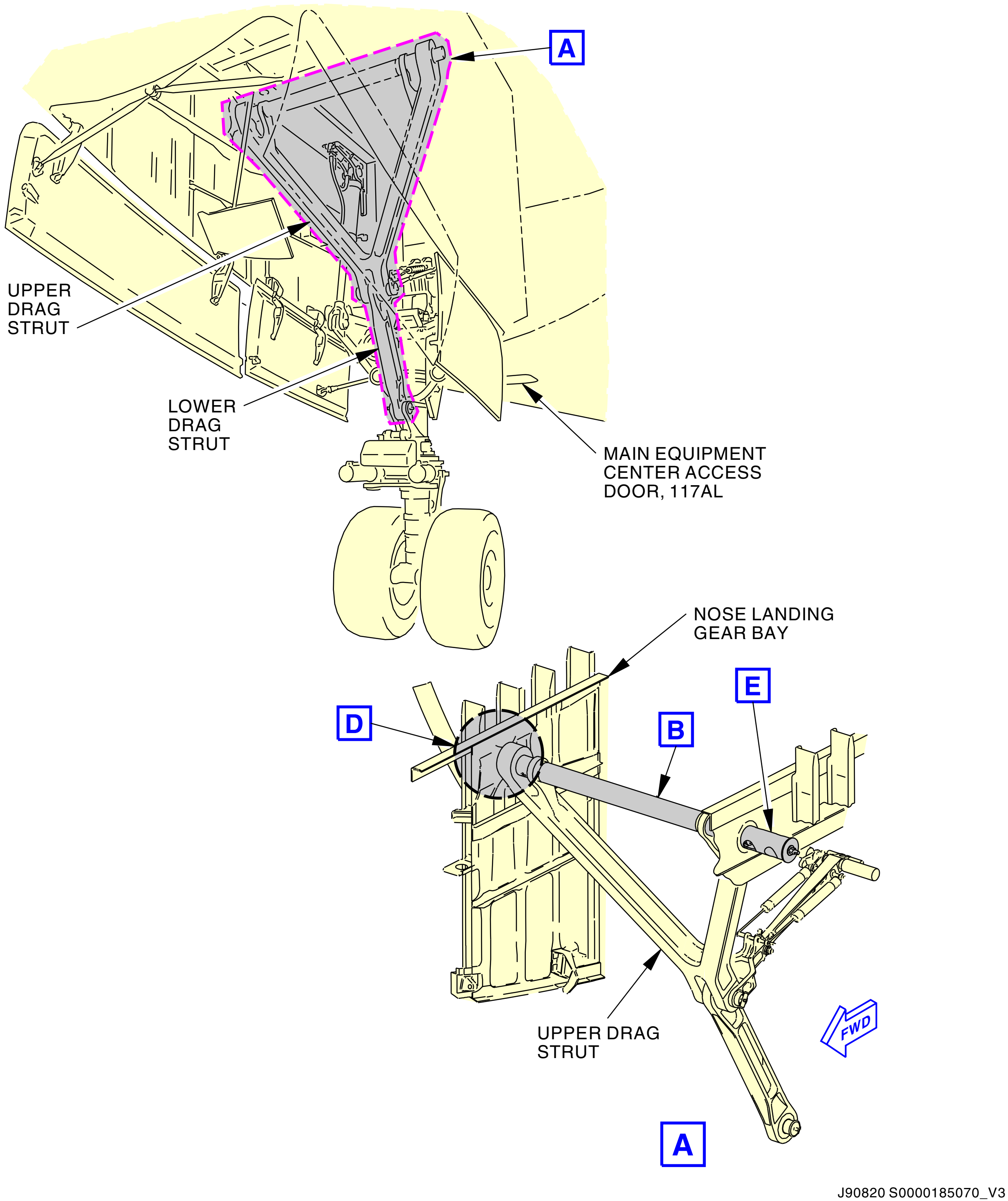


UPPER DRAG STRUT PIN
(LEFT SIDE SHOWN, RIGHT SIDE EQUIVALENT)

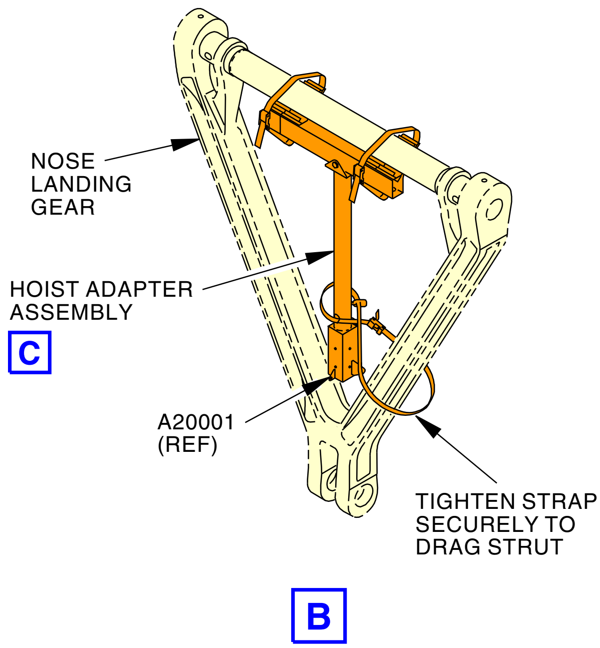
D

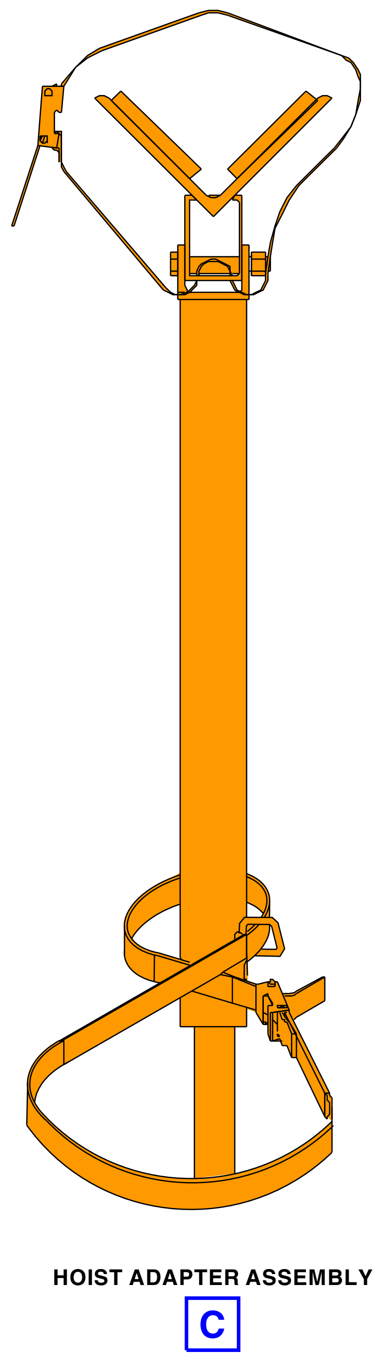
D01591 S0006418237_V1

Nose Landing Gear Drag Strut Assembly Installation
Figure 401/32-21-03-990-801 (Sheet 3 of 3)

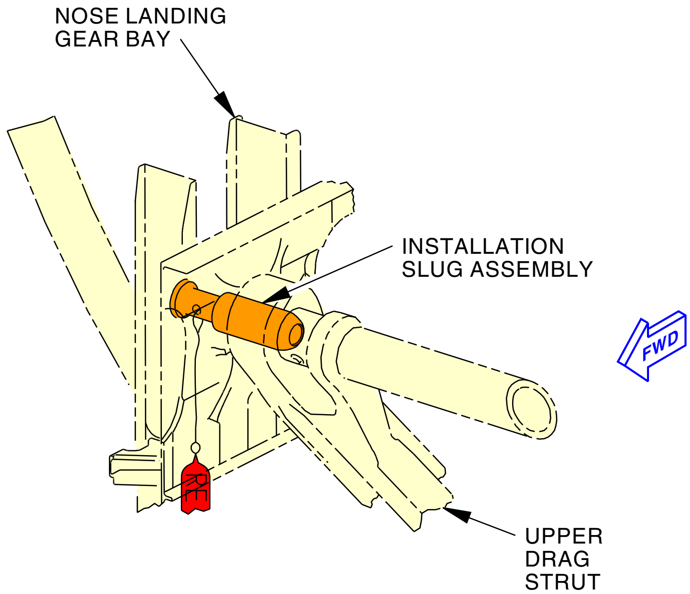


Nose Landing Gear Drag Strut Assembly Installation Tools
Figure 402/32-21-03-990-803 (Sheet 1 of 3)





Nose Landing Gear Drag Strut Assembly Installation Tools
Figure 402/32-21-03-990-803 (Sheet 2 of 3)



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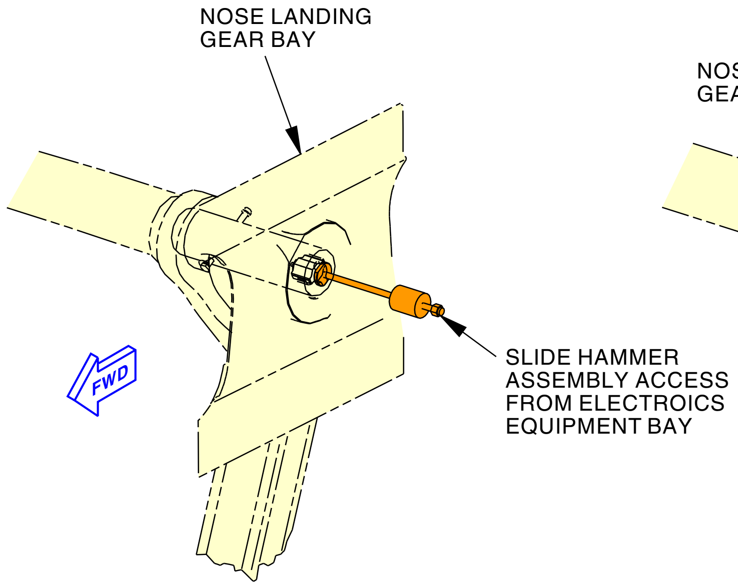
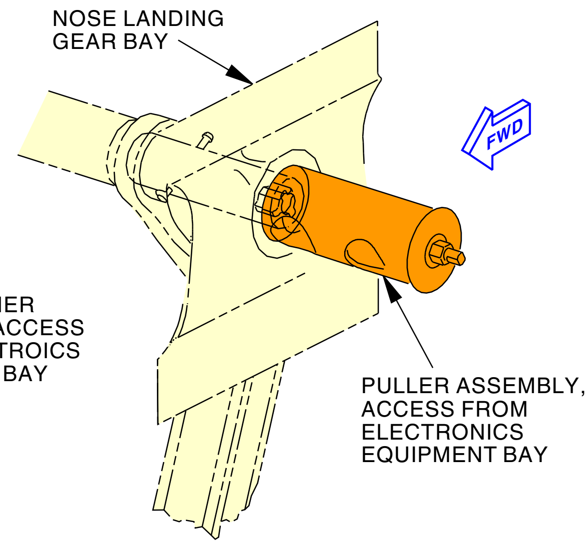


SLIDE HAMMER ASSEMBLY

E



PULLER ASSEMBLY

E

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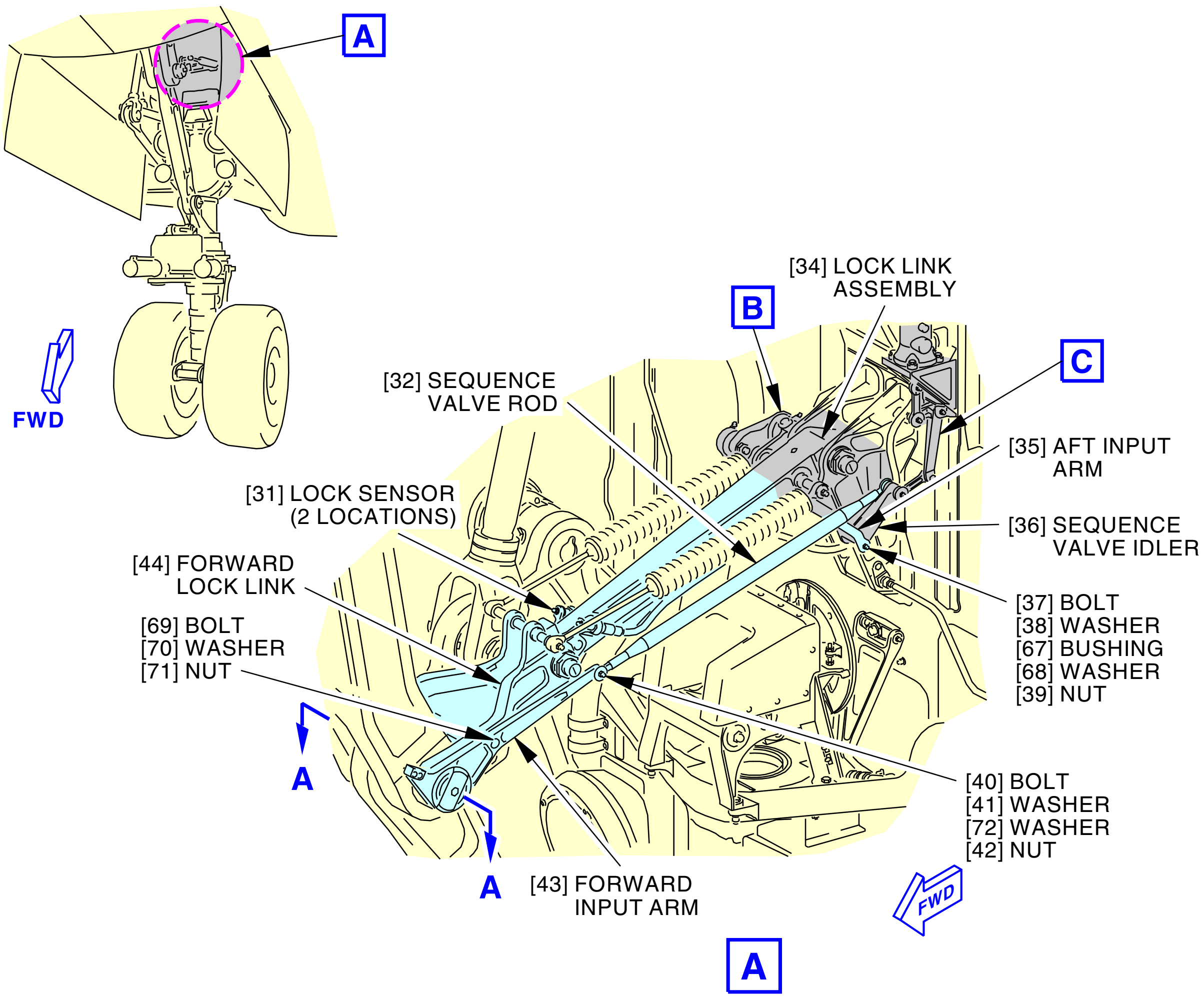
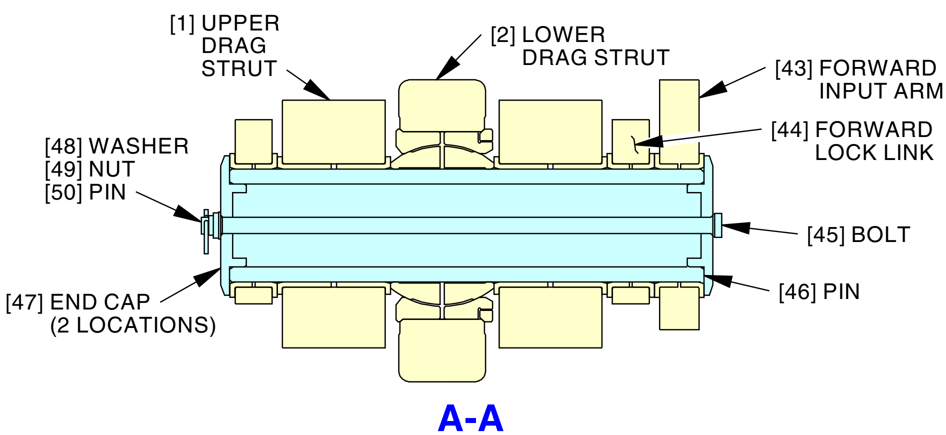
Nose Landing Gear Drag Strut Assembly Installation Tools
Figure 402/32-21-03-990-803 (Sheet 3 of 3)





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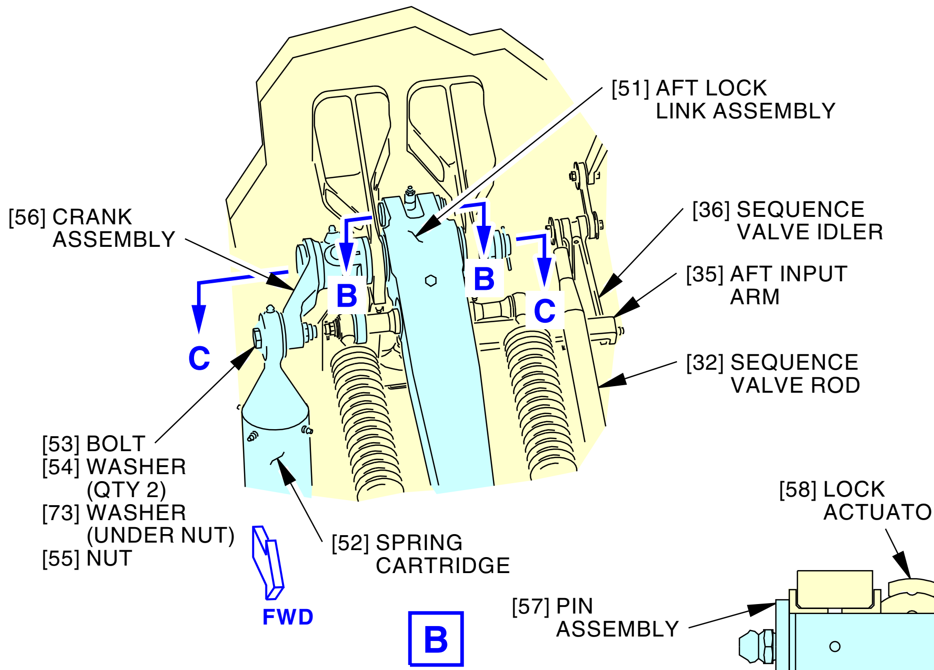
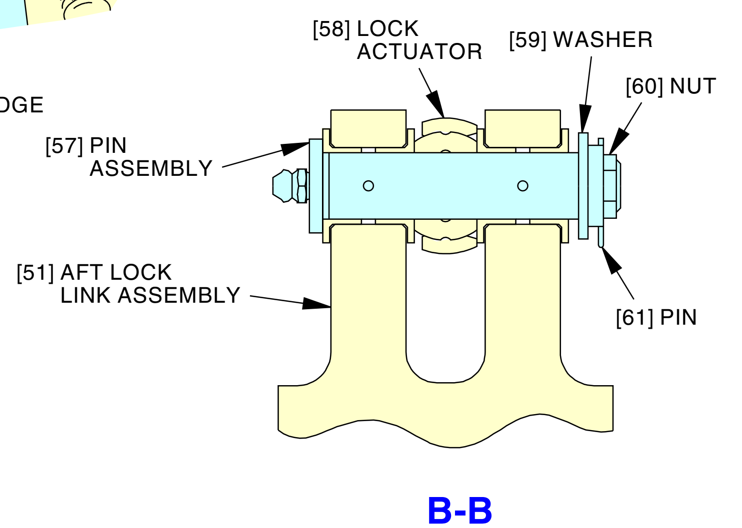
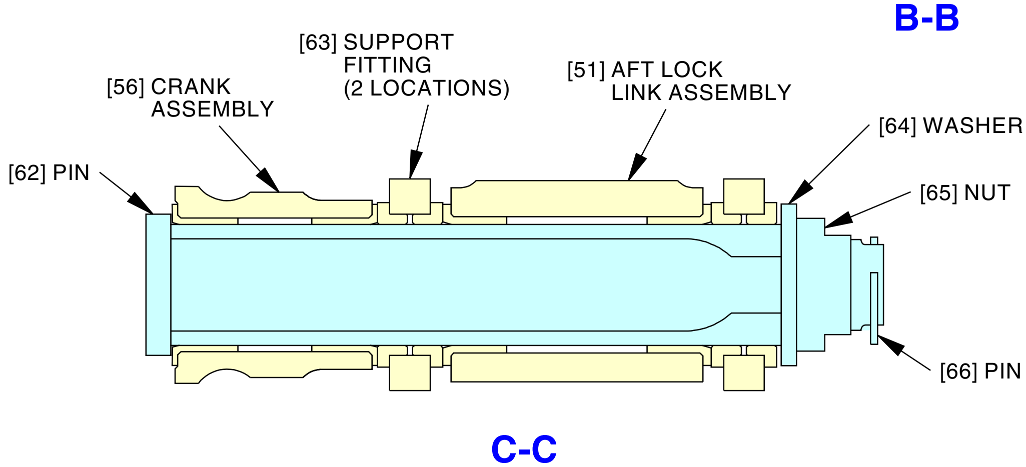
Nose Landing Gear Lock Link Assembly Installation
Figure 403/32-21-03-990-802 (Sheet 1 of 3)

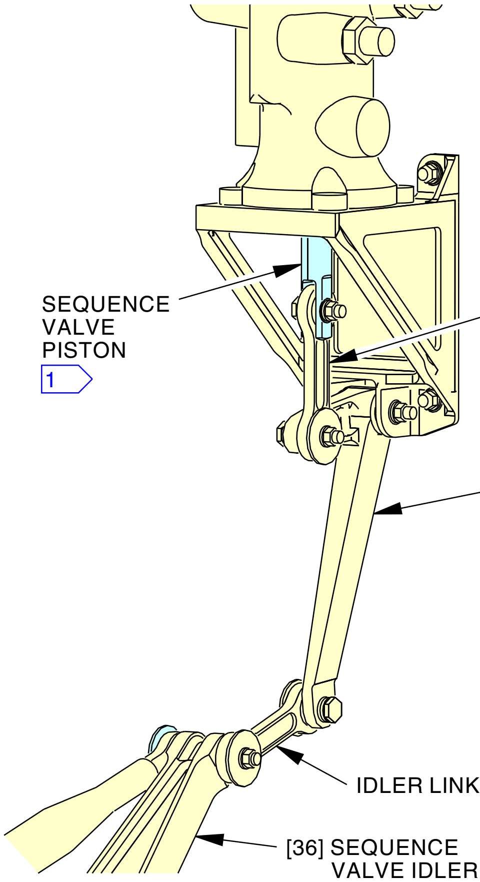






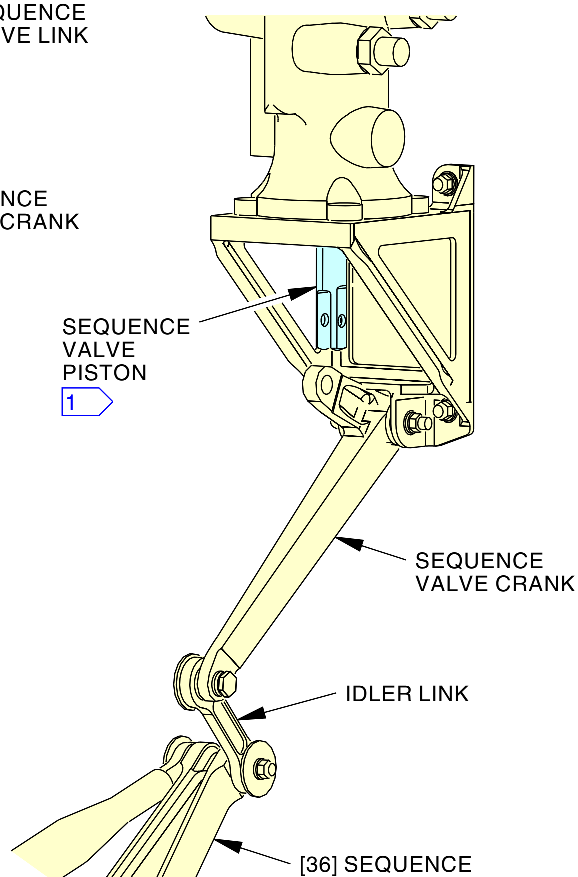
C87132 S0006418239_V3

Nose Landing Gear Lock Link Assembly Installation
Figure 403/32-21-03-990-802 (Sheet 2 of 3)



(CORRECT ORIENTATION)

C



(INCORRECT ORIENTATION)
(SEQUENCE VALVE LINK NOT SHOWN FOR CLARITY)

C

1 SEQUENCE VALVE PISTON IS IN THE FULLY EXTENDED POSITION WHEN THE SEQUENCE VALVE CRANK AND IDLER LINK ARE ASSEMBLED IN THE CORRECT ORIENTATION.

2620198 S0000627446_V1

Nose Landing Gear Lock Link Assembly Installation
Figure 403/32-21-03-990-802 (Sheet 3 of 3)

TASK 32-21-03-400-801

3. Nose Landing Gear Drag Strut Assembly Installation

(Figure 401, Figure 402, Figure 403)

A. General

(1) This procedure provides instructions to install the drag strut assembly for the nose landing gear.

B. References

Reference	Title
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-21-12-640-801	Nose Landing Gear and Actuating Mechanism's Lower Components Lubrication (P/B 301)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-30-01-720-803	Nose Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks) (P/B 501)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1903	Adapter - Hoist, Nose Landing Gear Drag Strut Part #: J32025-29 Supplier: 81205 Opt Part #: J32025-1 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Upper drag strut	32-21-02-01B-305	ARO ALL
2	Lower drag strut	32-21-02-01B-370	ARO ALL
9	Pin	32-21-02-01B-330	ARO ALL
16	Pin	32-21-02-01B-275	ARO ALL
61	Pin	32-21-02-01B-235	ARO ALL

(Continued)

AMM Item	Description	AIPC Reference	AIPC Effectivity
66	Pin	32-21-02-01B-190	ARO ALL

F. **Location Zones**

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
711	Nose Landing Gear

G. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door

H. **Nose Landing Gear Drag Strut Assembly Installation**

SUBTASK 32-21-03-480-002

(1) Make sure the downlock pin is in the lock link assembly [34].

SUBTASK 32-21-03-480-003

(2) Install the hoist, SPL-1556, and the nose landing gear drag strut hoist adapter, SPL-1903, on the upper drag strut [1] and lower drag strut [2].

SUBTASK 32-21-03-420-001

(3) Turn and lift the upper drag strut [1] and lower drag strut [2] into position in the wheel well.

SUBTASK 32-21-03-010-004

(4) To get access to the holes for the upper drag strut pin [17], do this step:

(a) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

NOTE: The holes for the upper drag strut pin [17] are located next to the forward side of the systems card file, behind the insulation.

SUBTASK 32-21-03-420-002

(5) Adjust the hoist, SPL-1556, to align the pin holes for the upper drag strut [1].

SUBTASK 32-21-03-420-007

(6) Do the steps that follow to connect the upper drag strut [1] to the nose wheel well sidewall [13]:

(a) Apply grease, D00013, or grease, D00633, to the chromed surfaces of upper drag strut pins [17], antirotation bolts [18], washers [14], nuts [15], and pins [16].

(b) Install the upper drag strut pins [17] through the hole in the nose wheel well sidewall [13] and in the upper drag strut [1].

(c) Turn the upper drag strut pins [17] to align the bolt holes for the antirotation bolts [18].

(d) Connect the target bracket [19] to the upper drag strut [1]:

1) Apply sealant, A00247, to the bolt [20], washer [21], and nut [22].

2) Install the bolt [20] in the upper drag strut [1] and target bracket [19].

3) Install the washer [21] and nut [22] on the bolt [20].

(e) Install the antirotation bolts [18] for each upper drag strut pin [17]:

1) Install the antirotation bolts [18] in the target bracket [19], upper drag strut [1], and upper drag strut pins [17].

2) Install the washers [14] and nuts [15] on the antirotation bolts [18].

3) Torque the nuts [15] to 95 in-lb (10.7 N·m) - 160 in-lb (18.1 N·m).

4) Install the cotter pins [16].

SUBTASK 32-21-03-420-008

(7) Connect the aft lock aft lock link assembly [51] to the support fitting [63]:

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(a) Apply Mastinox 6856 K, C00913, or Cor-Ban 27L Compound, G50237, to the threads and the thread relief of the pin [62], faces of the washer [64], and pin [66].

(b) Apply grease, D00013, or grease, D00633, to the chromed surface of the pin [62], nut [65], and crank assembly [56].

(c) Install the pin [62] in the crank assembly [56], support fitting [63], and aft lock link assembly [51].

(d) Install the washer [64] and nut [65] on the pin [62].

(e) Install the cotter pin [66].

SUBTASK 32-21-03-860-005

CAUTION	FULLY EXTEND THE SEQUENCE VALVE PISTON BEFORE YOU CONNECT THE IDLER LINK. IF YOU CONNECT THE IDLER LINK WHILE THE PISTON IS RETRACTED, DAMAGE TO THE AIRPLANE CAN OCCUR.

(8) Make sure that the sequence valve piston is in the fully extended position before the sequence valve idler [36] is connected to the aft input arm [35] (Figure 403, View C).

SUBTASK 32-21-03-420-003

(9) Connect the sequence valve idler [36] to the aft input arm [35]:

(a) Install the washer [38] on the bolt [37].

(b) Install the bolt [37] in the aft input arm [35] and sequence valve idler [36].

(c) Install the bushing [67], washer [68], and nut [39] on the bolt [37].

SUBTASK 32-21-03-420-009

(10) Connect the sequence valve rod [32] to the forward input arm [43]:

(a) Install the bolt [40] and washer [41] in the forward input arm [43] and sequence valve rod [32].

(b) Install the washer [72] and nut [42].

SUBTASK 32-21-03-420-010

(11) Connect the steering spring cartridge [52] to the crank assembly [56]:

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(a) Apply Mastinox 6856 K, C00913, or Cor-Ban 27L Compound, G50237, to the bolt [53], washers [54], washer [73], and nut [55].

(b) Install the one washer [54] on the bolt [53].

(c) Install the bolt [53] in the steering spring cartridge [52] and crank assembly [56].

(d) Install the other washer [54], washer [73], and nut [55].

SUBTASK 32-21-03-420-011

(12) Connect the lock actuator [58] to the aft lock link assembly [51]:

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(a) Apply Mastinox 6856 K, C00913, or Cor-Ban 27L Compound, G50237, to the threads and the thread relief of the pin assembly [57], faces of washer [59], and pin [61].

(b) Apply grease, D00013, or grease, D00633, to the chromed surface of the pin assembly [57] and nut [60].

(c) Install the pin assembly [57] in the aft lock link assembly [51] and lock actuator [58].

(d) Install the washer [59] and nut [60] on the pin assembly [57].

(e) Put the nut [60] in its position.

(f) Tighten the nut [60].

(g) Install the pin [61].

SUBTASK 32-21-03-420-012

(13) Connect the lower drag strut [2] to the outer cylinder of the shock strut [6]:

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(a) Apply Mastinox 6856 K, C00913, or Cor-Ban 27L Compound, G50237, to the end cap [11], end cap [23], and end surfaces of pin [10].

(b) Apply grease, D00013, or grease, D00633, to the chromed surface of the pin [10], faces of alignment washers [12A], bolt [12], and washer [7].

(c) Install the alignment washers [12A], pin [10] in the outer cylinder of the shock strut [6] and lower drag strut [2].

(d) Install the end cap [11] and end cap [23] on the pin [10].

(e) Install the bolt [12] through the end cap [11] and end cap [23].

(f) Install the hydraulic bracket [4] on the bolt [12].

(g) Install the washer [7] and nut [8] on the bolt [12].

(h) Install the pin [9].

SUBTASK 32-21-03-420-004

(14) Connect the electrical connectors to the lock sensors [31] and connect the sensor wiring to the lock link assembly [34].

NOTE: It is not necessary to adjust the lock sensors [31] if the sensors are not removed.

SUBTASK 32-21-03-080-001

(15) Remove the hoist, SPL-1556, and the nose landing gear drag strut hoist adapter, SPL-1903.

I. Put the Airplane Back to its Usual Condition

SUBTASK 32-21-03-010-005

(1) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-21-03-640-001

(2) For upper drag strut [1] and lower drag strut [2], do this task: Nose Landing Gear and Actuating Mechanism's Lower Components Lubrication, TASK 12-21-12-640-801.

SUBTASK 32-21-03-710-002

(3) Do this task: Nose Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks), TASK 32-30-01-720-803.

NOTE: You only need to do an operational test of the extension/retraction system. Do the applicable functional test, but do not measure the times that the functional test tells you to measure.

SUBTASK 32-21-03-080-002

(4) Do this task: Lower the Airplane Off of the Jacks, TASK 07-11-01-580-805.

SUBTASK 32-21-03-410-001

WARNING: OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(5) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

TASK 32-21-03-000-802

4. Nose Landing Gear Lock Link Removal

(Figure 401, Figure 402, Figure 403)

A. General

(1) This procedure provides instructions to remove the lock link assembly for the nose landing gear.

B. References

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
711	Nose Landing Gear

D. Prepare for the Removal

SUBTASK 32-21-03-480-006

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-21-03-010-003

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-21-03-860-003

(3) For the center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-21-03-860-004

(4) Lift the nose of the airplane until the nose landing gear clears the ground (TASK 07-11-01-580-804).

E. Nose Landing Lock Link Assembly Removal

SUBTASK 32-21-03-020-021

(1) Disconnect the electrical connectors from the lock sensors [31] and disconnect the sensor wiring on the lock link assembly [34], back to the aft wheel well bulkhead.

SUBTASK 32-21-03-020-009

(2) Remove the pin assembly [57] to disconnect the lock actuator [58] from the aft lock link assembly [51].

SUBTASK 32-21-03-020-010

(3) Remove the bolt [53] to disconnect the spring cartridge [52] from the crank assembly [56].

NOTE: The spring cartridge [52] does not have a load on it.

SUBTASK 32-21-03-020-011

(4) Remove the bolt [37], washer [38], bushing [67], washer [68], and nut [39] to disconnect the sequence valve idler [36] from the aft input arm [35].

SUBTASK 32-21-03-020-022

(5) Remove the bolt [69], washer [70], and nut [71] to disconnect the forward input arm [43] from the forward lock link [44].

SUBTASK 32-21-03-020-012

(6) Hold the lock lock link assembly [34] in its position.

SUBTASK 32-21-03-020-023

WARNING	MAKE SURE THAT YOU INSTALL THE DOWNLOCK PIN ON THE NOSE LANDING GEAR. WITHOUT THE DOWNLOCK PIN, THE LOCK LINKS COULD FOLD AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(7) Remove the pin [62] to disconnect the aft lock link assembly [51] from the support fitting [63].

NOTE: You can safely disconnect the aft lock link assembly [51] as long as the downlock pin is installed in its position in the lock link assembly [34].

SUBTASK 32-21-03-020-013

WARNING	MAKE SURE THAT YOU HOLD THE UPPER AND LOWER DRAG BRACE WHEN YOU REMOVE THE FORWARD LOCK LINK PIN. THE UPPER AND LOWER DRAG BRACE CAN MOVE AFTER THE FORWARD LOCK LINK PIN IS REMOVED AND CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(8) Hold upper drag strut [1] and lower drag strut [2].

SUBTASK 32-21-03-020-014

(9) Remove the pin [46] to disconnect the lock link assembly [34] from the upper drag strut [1] and lower drag strut [2].

NOTE: The forward input arm [43] and sequence valve rod [32] will hang from the sequence valve idler [36].

SUBTASK 32-21-03-020-015

(10) Remove the lock link assembly [34].

——— END OF TASK ———

TASK 32-21-03-400-802

5. Nose Landing Gear Lock Link Installation

(Figure 401, Figure 402, Figure 403)

A. General

(1) This procedure provides instructions to install the lock link assembly for the nose landing gear.

B. References

Reference	Title
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-21-12-640-802	Nose Landing Gear and Actuating Mechanism's Upper Components Lubrication (P/B 301)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-30-01-720-803	Nose Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks) (P/B 501)
32-51-05-400-801	Gear Up Centering Mechanism Installation (P/B 401)

C. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
34	Lock link assembly	32-21-02-01B-035	ARO ALL
50	Pin	32-21-02-01B-005	ARO ALL

(Continued)

AMM Item	Description	AIPC Reference	AIPC Effectivity
61	Pin	32-21-02-01B-235	ARO ALL
66	Pin	32-21-02-01B-190	ARO ALL

E. Location Zones

Zone	Area
711	Nose Landing Gear

F. Nose Landing Gear Lock Link Assembly Installation

SUBTASK 32-21-03-480-004

(1) Make sure the downlock pin is in the lock link assembly [34].

SUBTASK 32-21-03-420-005

(2) Put the lock link assembly [34] in the correct position for installation.

SUBTASK 32-21-03-420-006

(3) Install these parts to connect the forward lock link [44] to the upper drag strut [1] and lower drag strut [2]:

WARNING DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(a) Apply Mastinox 6856 K, C00913, or Cor-Ban 27L Compound, G50237, to the end caps [47] and end surfaces of the pin [46].

(b) Apply grease, D00013, or grease, D00633, to the chromed surface of the pin [46], bolt [45], washer [48], and nut [49].

(c) Install the pin [46] to connect the upper drag strut [1] to the lower drag strut [2] and forward input arm [43].

(d) Install the end caps [47] on the pin [46].

(e) Install the bolt [45] through the end caps [47].

(f) Install the washer [48] and nut [49] on the bolt [45].

(g) Install the pin [50] in the bolt [45].

SUBTASK 32-21-03-420-013

(4) Connect the aft lock link assembly [51] to the support fitting [63]:

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(a) Apply Mastinox 6856 K, C00913, or Cor-Ban 27L Compound, G50237, to the threads and thread relief of the pin [62], faces of washer [64], and pin [66].

(b) Apply grease, D00013, or grease, D00633, to the chromed surface of the pin [62], nut [65], and crank assembly [56].

(c) Install the pin [62] in the crank assembly [56], support fitting [63], and aft lock link assembly [51].

(d) Install the washer [64] and nut [65] on the pin [62].

(e) Tighten the nut [65].

(f) Install the pin [66].

SUBTASK 32-21-03-420-014

CAUTION	FULLY EXTEND THE SEQUENCE VALVE PISTON BEFORE YOU CONNECT THE IDLER LINK. IF YOU CONNECT THE IDLER LINK WHILE THE PISTON IS RETRACTED, DAMAGE TO THE AIRPLANE CAN OCCUR.

(5) Connect the sequence valve idler [36] to the aft input arm [35]:

(a) Make sure that the sequence valve piston is in the fully extended position (Figure 403, View C).

(b) Install the washer [38] on the bolt [37].

(c) Install the bolt [37] through the aft input arm [35] and sequence valve idler [36].

(d) Install the bushing [67], washer [68], and nut [39].

SUBTASK 32-21-03-420-015

(6) Connect the forward input arm [43] to the forward lock forward lock link [44].

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(a) Apply Mastinox 6856 K, C00913, or Cor-Ban 27L Compound, G50237, to the bolt [69], washer [70], and nut [71].

(b) Install the bolt [69] through the forward lock forward lock link [44] and forward input arm [43].

(c) Install the washer [70] and nut [71].

SUBTASK 32-21-03-420-016

(7) Connect the steering spring cartridge [52] to the crank assembly [56]:

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(a) Apply Mastinox 6856 K, C00913, or Cor-Ban 27L Compound, G50237, to the bolt [53], washers [54], and nut [55].

(b) Install one washer [54] on the bolt [53].

(c) Install the bolt [53] in the steering spring cartridge [52] and crank assembly [56].

(d) Install the other washer [54] and nut [55].

(8) If a new steering spring cartridge [52] is installed, adjust the spring cartridge [52] (TASK 32-51-05-400-801).

SUBTASK 32-21-03-420-017

(9) Connect the lock actuator [58] to the aft lock link assembly [51]:

WARNING: DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING: USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(a) Apply Mastinox 6856 K, C00913, or Cor-Ban 27L Compound, G50237, to the threads and the thread relief of the pin assembly [57], faces of the washer [59], and pin [61].

(b) Apply grease, D00013, or grease, D00633, to the chromed surface of the pin assembly [57] and nut [60].

(c) Install the pin assembly [57] in the aft lock link assembly [51] and lock actuator [58].

(d) Install the washer [59] and nut [60] on the pin assembly [57].

(e) Tighten the nut [60].

(f) Install the pin [61].

SUBTASK 32-21-03-420-018

(10) Connect the electrical connectors to the lock sensors [31] and connect the sensor wiring to the lock link assembly [34].

NOTE: It is not necessary to adjust the lock sensors [31] if the sensors are not removed.

G. Put the Airplane Back to its Usual Condition

SUBTASK 32-21-03-640-002

(1) For the lock link assembly [34], do this task: Nose Landing Gear and Actuating Mechanism's Upper Components Lubrication, TASK 12-21-12-640-802.

SUBTASK 32-21-03-710-001

(2) Do this task: Nose Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks), TASK 32-30-01-720-803.

NOTE: You only need to do an operational test of the extension/retraction system. Do the applicable functional test, but do not measure the times that the functional test tells you to measure.

SUBTASK 32-21-03-080-003

(3) Do this task: Lower the Airplane Off of the Jacks, TASK 07-11-01-580-805.

SUBTASK 32-21-03-410-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(4) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

NOSE LANDING GEAR LOCK SPRINGS - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has these tasks:

      (1) A removal of the lock springs for the nose landing gear

      (2) An installation of the lock springs for the nose gear.

   B. In this procedure these springs are referred to as the spring assemblies [1].

TASK 32-21-06-000-801

2. **Nose Landing Gear Lock Spring Removal**

   (Figure 401)

   A. General

   (1) This procedure removes the lock spring for the lock link on the nose landing gear. In this procedure the lock spring for the lock link is referred to as the spring assembly [1].

   B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   C. Tools/Equipment

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1872	Equipment - Removal/Installation, MLG and NLG Springs Part #: J32037-138 Supplier: 81205 Part #: J32037-139 Supplier: 81205 Opt Part #: J32037-120 Supplier: 81205 Opt Part #: J32037-122 Supplier: 81205 Opt Part #: J32037-123 Supplier: 81205

   D. Location Zones

Zone	Area
711	Nose Landing Gear

   E. Prepare for the Removal

   SUBTASK 32-21-06-480-001

   WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

   (1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-21-06-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-21-06-860-001

(3) For the center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

F. Nose Gear Lock Spring Removal

SUBTASK 32-21-06-020-001

WARNING	MAKE SURE THAT YOU REMOVE THE LEFT SPRING FIRST. IF NOT, SPRING ATTACH SHAFTS CAN DISENGAGE FROM THE LOCK LINK AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do the steps that follow to remove the left spring assembly [1] and then the right spring assembly [1]:

(a) Install the MLG and NLG springs equipment, SPL-1872, to remove the tension from the spring assembly [1].

(b) Remove the cotter pin [7], nut [3], and washer [6] to disconnect the aft end of the spring assembly [1] from the spring attach shaft [8].

(c) Remove the cotter pin [7], nut [3], and washer [6] to disconnect the forward end of the spring assemblies [1] from the spring attach shaft [4].

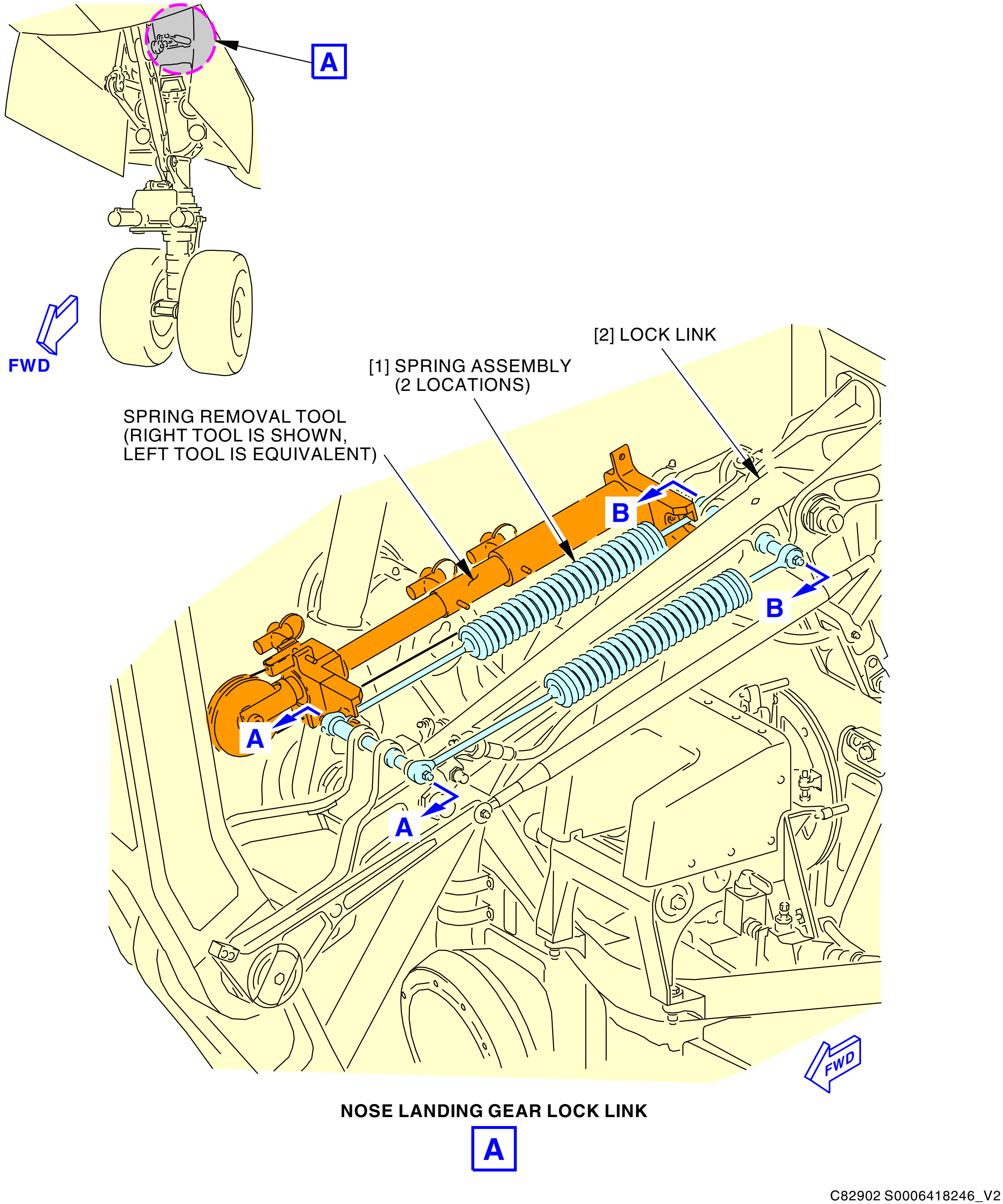
(d) Remove the spring assembly [1].

(e) Remove the MLG and NLG springs equipment, SPL-1872.

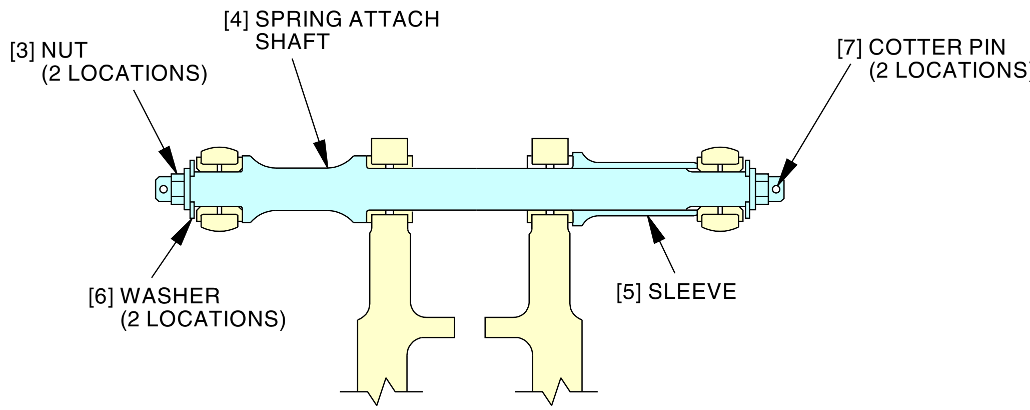
(f) Do these steps again for the right spring assembly [1], if it is necessary.

(g) If it is necessary, for the right spring assembly [1], remove the sleeves [5].

END OF TASK



Nose landing Gear Lock Springs Installation
Figure 401/32-21-06-990-801 (Sheet 1 of 2)



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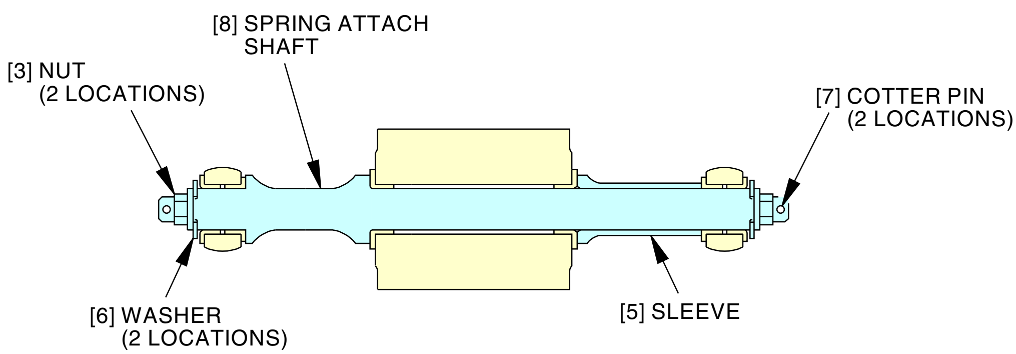
A-A



(AFT END)
B-B

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Nose landing Gear Lock Springs Installation
Figure 401/32-21-06-990-801 (Sheet 2 of 2)

TASK 32-21-06-400-801

3. Nose Landing Gear Lock Spring Installation

(Figure 401)

A. General

(1) This procedure installs the lock springs. In this procedure the lock spring for the lock link is referred to as the spring assembly [1].

B. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1872	Equipment - Removal/Installation, MLG and NLG Springs Part #: J32037-138 Supplier: 81205 Part #: J32037-139 Supplier: 81205 Opt Part #: J32037-120 Supplier: 81205 Opt Part #: J32037-122 Supplier: 81205 Opt Part #: J32037-123 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Spring assembly	32-21-02-01B-070	ARO ALL
7	Cotter pin	32-21-02-01B-040	ARO ALL

F. Location Zones

Zone	Area
711	Nose Landing Gear

G. Nose Gear Lock Spring Installation

SUBTASK 32-21-06-420-001

WARNING

MAKE SURE THAT YOU INSTALL THE RIGHT SPRING FIRST. DO NOT INSTALL THE LEFT SPRING FIRST. IF YOU DO NOT INSTALL THE RIGHT SPRING FIRST, SPRING ATTACH SHAFTS CAN DISENGAGE FROM THE LOCK LINK. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do the steps that follow to install the right spring assembly [1] and then the left spring assembly [1]:

(a) Put a spring assembly [1] in the MLG and NLG springs equipment, SPL-1872.

(b) Lubricate the spring attach shaft [4] and spring attach shaft [8] threads, sleeves [5], and washers [6] with grease, D00013, or grease, D00633.

(c) If they are not installed, install the spring attach shaft [4] and spring attach shaft [8].

NOTE: When the spring attach shaft [4] and spring attach shaft [8] are correctly installed the sleeves [5] will be on the right side, not the left side.

(d) On the right side, install the sleeves [5] on the spring attach shaft [4] and spring attach shaft [8].

(e) Install the forward end of the spring assembly [1] on the spring attach shaft [4].

(f) Install the washer [6] and nut [3] to hold the forward end of the spring assembly [1] to the spring attach shaft [4].

(g) Use the MLG and NLG springs equipment, SPL-1872, to align the aft end of the spring assembly [1] with the spring attach shaft [8].

(h) Install the washer [6] and nut [3] to hold the aft end of the spring assembly [1] to the spring attach shaft [8].

(i) Tighten the nuts [3] to 50 in-lb (5.6 N·m) - 75 in-lb (8.5 N·m).

(j) Remove the MLG and NLG springs equipment, SPL-1872.

(k) Install the cotter pins [7].

(l) Do these steps again for the left spring assembly [1] if it is necessary.

H. Put the Airplane Back to its Usual Condition

SUBTASK 32-21-06-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

NOSE LANDING GEAR TORSION LINKS - MAINTENANCE PRACTICES

1. **General**
   A. This procedure has these tasks:
      (1) A removal of the upper torsion link from the nose landing gear
      (2) An installation of the upper torsion link for the nose landing gear.
      (3) A removal of the lower torsion link from the nose landing gear
      (4) An installation of the lower torsion link for the nose landing gear.
      (5) The disconnection of the torsion links for the nose landing gear.
      (6) The connection of the torsion links for the nose landing gear.

TASK 32-21-11-000-801

2. **Nose Landing Gear Upper Torsion Link Removal**
   (Figure 201)

   A. **General**
      (1) This procedure supplies instructions to remove the upper torsion link.

   B. **References**

Reference	Title
20-10-23-000-801	Lockwire, Cotter Pins, and Lockrings - Removal (P/B 401)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   C. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205

   D. **Consumable Materials**

Reference	Description	Specification
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

   E. **Location Zones**

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

F. Prepare for the Removal

SUBTASK 32-21-11-480-004

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-21-11-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-21-11-860-003

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-21-11-480-001

WARNING	ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(4) Install the NLG towing lever pin, SPL-1499, for the towing lever in the metering valve for the nose wheel steering.

G. Nose Gear Upper Torsion Link Removal

SUBTASK 32-21-11-020-001

(1) Remove the bracket [8], with the latch plate, from the upper torsion link assembly [2].

(a) Remove the bolts [25], bolt [27], and washers [26] to disconnect the bracket [8] from the upper torsion link assembly [2].

1) Remove the bracket [8] with the electrical conduit [1] and the clamps attached.

(b) Remove the storage connector [28] from the upper torsion link assembly [2].

SUBTASK 32-21-11-020-002

(2) Pull the handles on the quick-disconnect [7] at the apex of the upper torsion link assembly [2] and lower torsion link assembly [3].

NOTE: This disconnects the upper torsion link assembly [2] from the lower torsion link assembly [3].

SUBTASK 32-21-11-020-024

(3) Remove the safety wire [32].

(a) Use the double-twist procedure to remove the MS20995C32 lockwire, G01048, between the bolts [33] (TASK 20-10-23-000-801).

(4) Remove the bolts [33], washers [35], and bracket assembly [34].

NOTE: Only one bracket assembly [34] needs to be removed.

SUBTASK 32-21-11-020-003

(5) Remove the cotter pin [14], the nut [15], and the washer [13].

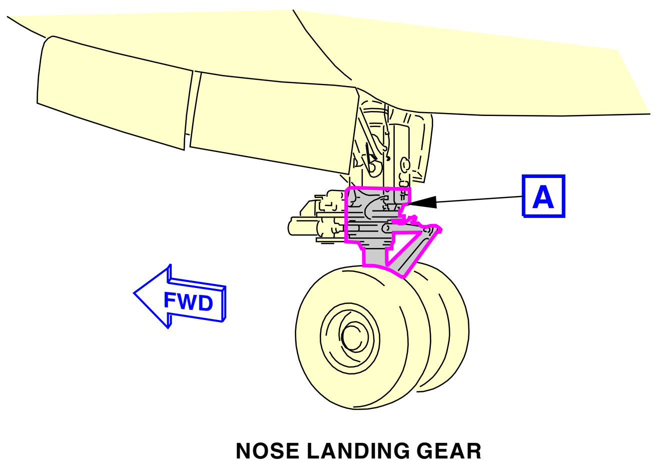
(6) If necessary, rotate the steering collar [9] about 45 degrees to the direction of the removed bracket assembly [34].

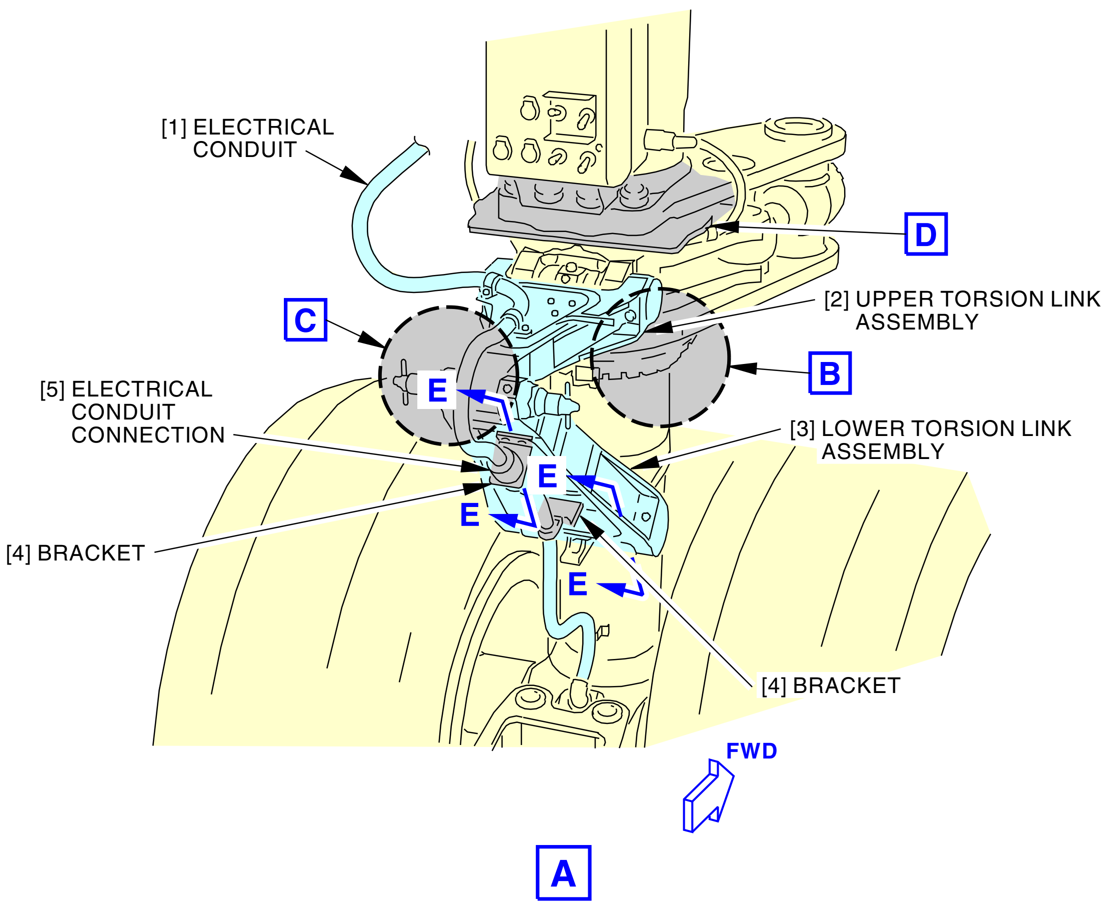
(7) Remove the lockbolt [10] to release the torsion link restraint pin [12].

SUBTASK 32-21-11-020-004

(8) Hold the upper torsion link assembly [2] and remove the torsion link restraint pin [12] to disconnect the upper torsion link assembly [2] from the steering collar [9].

END OF TASK





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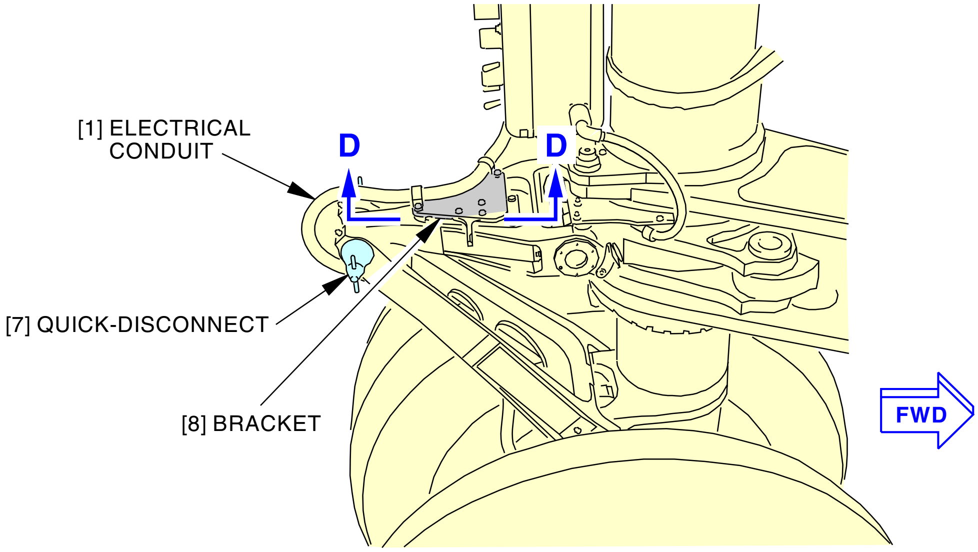
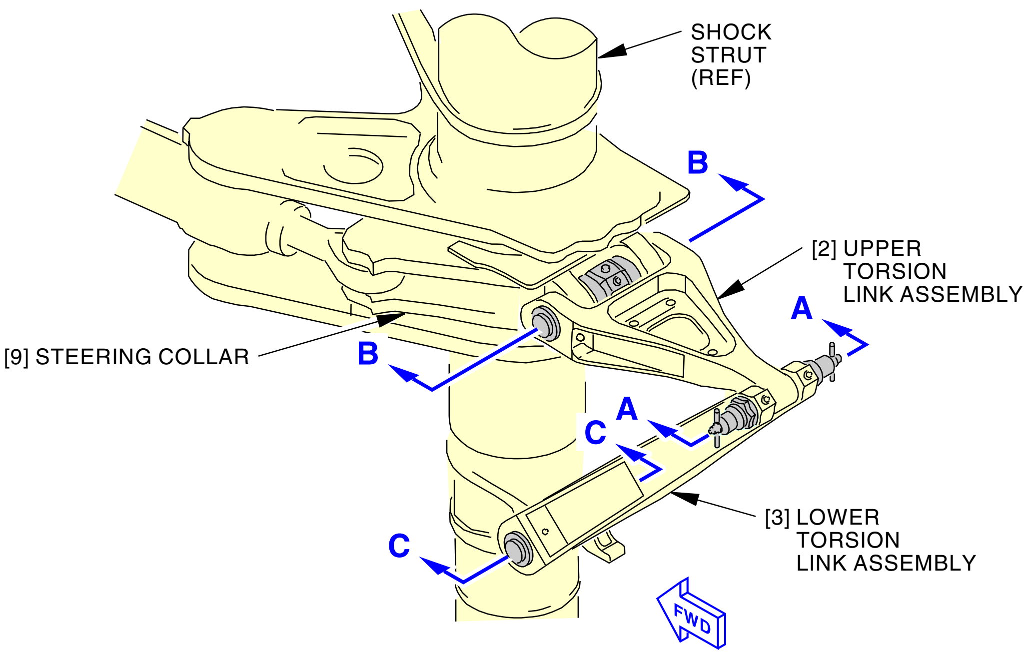
Nose Landing Gear Torsion Links
Figure 201/32-21-11-990-801 (Sheet 1 of 5)



BRACKET FOR THE UPPER TORSION LINK

B



TORSION LINKS

C 1

1 THE ELECTRICAL CONDUIT AND BRACKETS ARE NOT SHOWN.

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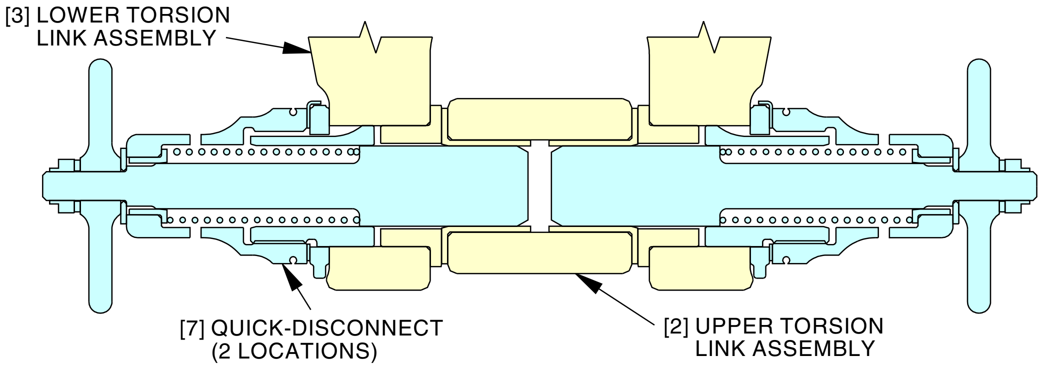
Nose Landing Gear Torsion Links
Figure 201/32-21-11-990-801 (Sheet 2 of 5)



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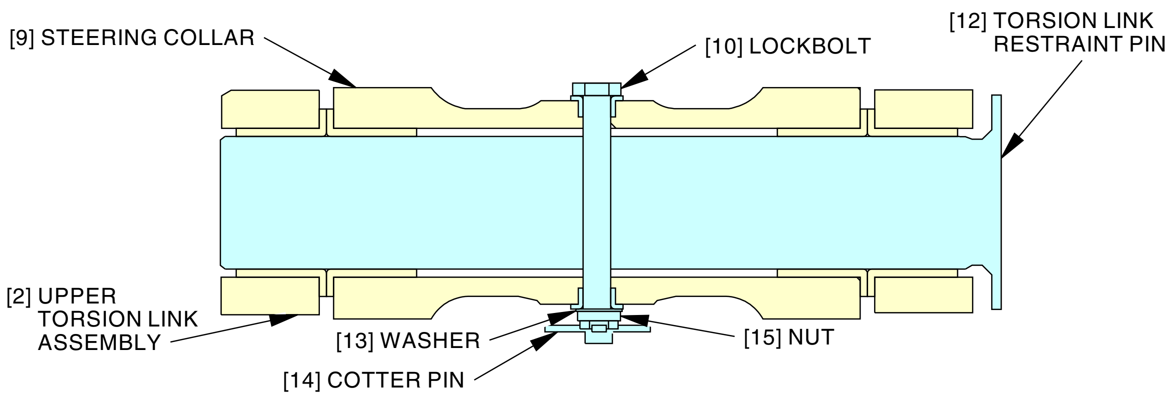

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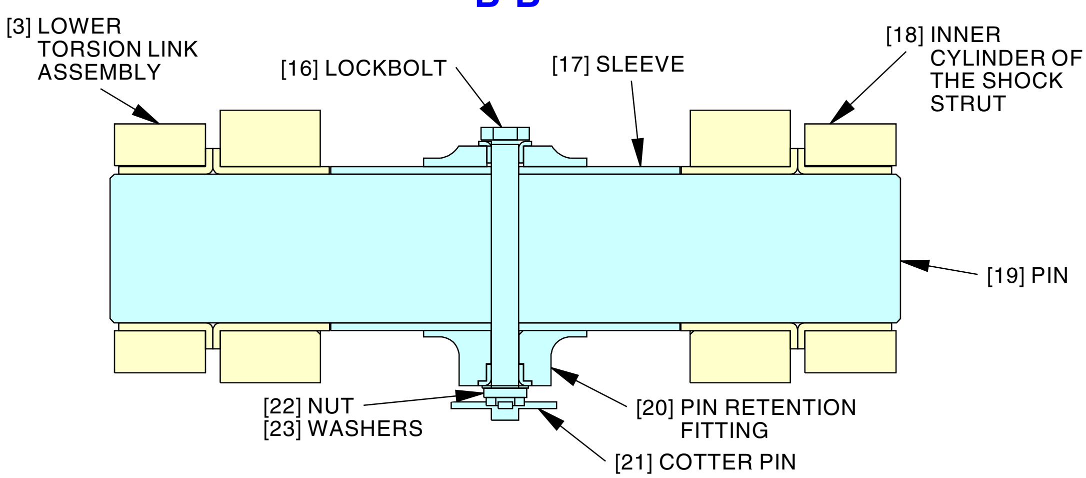

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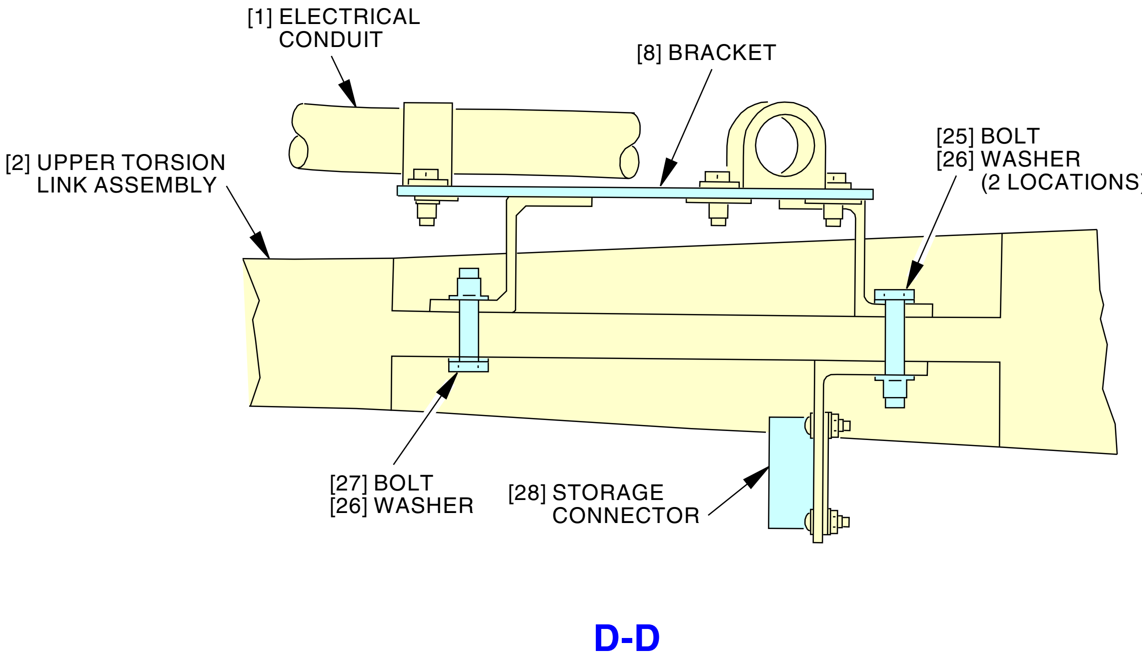
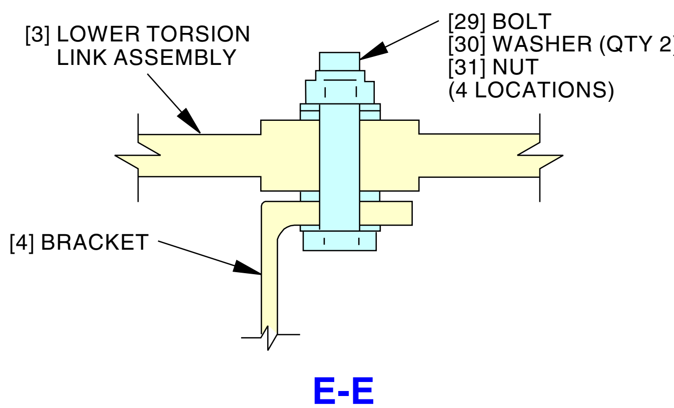
Nose Landing Gear Torsion Links
Figure 201/32-21-11-990-801 (Sheet 3 of 5)





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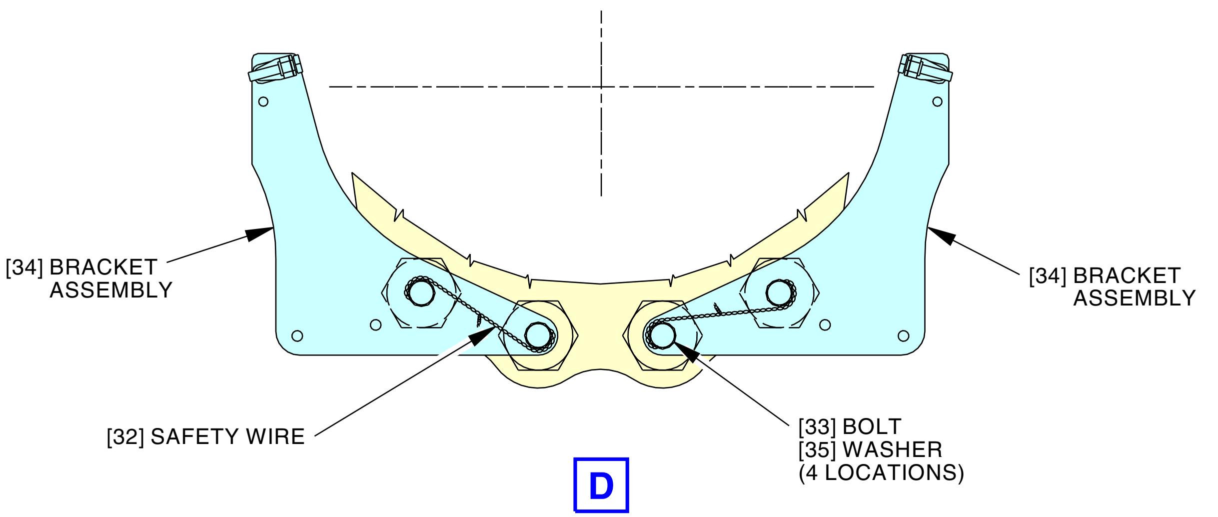
**Nose Landing Gear Torsion Links
Figure 201/32-21-11-990-801 (Sheet 4 of 5)**



Nose Landing Gear Torsion Links
Figure 201/32-21-11-990-801 (Sheet 5 of 5)

TASK 32-21-11-400-801

3. Nose Landing Gear Upper Torsion Link Installation

(Figure 201)

A. General

(1) This procedure supplies instructions to install the upper torsion link.

B. References

Reference	Title
12-21-12-640-801	Nose Landing Gear and Actuating Mechanism's Lower Components Lubrication (P/B 301)
20-10-23-400-801	Lockwire, Cotter Pins, and Lockrings - Installation (P/B 401)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
B00184	Solvent - Presealing, Cleaning Solvent	BMS11-7
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Upper torsion link assembly	32-21-02-02C-150	ARO ALL
14	Cotter pin	32-21-02-02C-005	ARO ALL

F. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

G. Nose Gear Upper Torsion Link Installation

SUBTASK 32-21-11-420-001

(1) Install the upper torsion link assembly [2] on the steering collar [9]:

(a) Apply grease, D00013 or grease, D00633, to the torsion link restraint pin [12].

(b) Put the upper torsion link assembly [2] in its position on the steering collar [9].

(c) Install the torsion link restraint pin [12] to connect the upper torsion link assembly [2] to the steering collar [9].

WARNING USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(d) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913, to the lockbolt [10], washer [13], nut [15], and cotter pin [14].

(e) Install the lockbolt [10], washer [13] and nut [15] in the torsion link restraint pin [12].

(f) Tighten the nut [15] to 95 in-lb (10.7 N·m)–160 in-lb (18.1 N·m).

(g) If removed, apply sealant, A00247, to the bolts [33] and washers [35].

(h) If removed, install the bolts [33], washers [35], and bracket assembly [34].

(i) Tighten the bolts [33] to 112 in-lb (12.7 N·m)–137 in-lb (15.5 N·m).

(j) Use the double-twist procedure to install a MS20995C32 lockwire, G01048, between the bolts [33] (TASK 20-10-23-400-801).

(k) Install the cotter pin [14].

1) If it is necessary, loosen the nut [15] to the nearest castellation to align the holes for cotter pin [14].

SUBTASK 32-21-11-420-002

(2) Connect the upper torsion link assembly [2] and the lower torsion link assembly [3]:

(a) Apply grease, D00013 or grease, D00633, to the shafts of the quick-disconnect [7] which connect with the holes in the lower torsion link assembly [3].

(b) Pull the handles on the quick-disconnect [7].

(c) Align the apex holes in the upper torsion link assembly [2] and lower torsion link assembly [3].

(d) Release the handles on the quick-disconnect [7].

> **CAUTION**
> MAKE SURE THAT YOU FULLY SEAT THE SHAFTS OF THE QUICK-DISCONNECT IN THE LOWER TORSION LINK. IF YOU DO NOT SEAT THE SHAFTS, IT CAN DISCONNECT THE TORSION LINKS. THIS CAN CAUSE THE LOSS OF NOSE WHEEL STEERING.

(e) Push on the handles of the quick-disconnect [7] to make sure the shafts are fully seated in the lower torsion link assembly [3].

SUBTASK 32-21-11-420-003

(3) Install the bracket [8], with the latch plate, on the upper torsion link assembly [2]:

(a) Use solvent, B00184, to clean the surface of the upper torsion link assembly [2] where the bracket [8] will attach.

(b) Put the bracket [8] on the upper torsion link assembly [2].

1) Install the bracket [8] with the electrical conduit [1] and the clamps attached.

(c) Make sure the electrical conduit [1] is not twisted.

(d) Install the washers [26] on the bolts [25] and the bolt [27].

(e) Install the bolt [27] to connect the bracket [8] to the upper torsion link assembly [2].

(f) Put the storage connector [28] in its location on the bottom of the upper torsion link assembly [2].

(g) Install the bolts [25] through the bracket [8], the upper torsion link assembly [2], and into the storage connectors [28].

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-21-11-640-001

(1) For the grease fittings on the upper torsion link assembly [2], do this task: Nose Landing Gear and Actuating Mechanism's Lower Components Lubrication, TASK 12-21-12-640-801.

SUBTASK 32-21-11-080-001

(2) Remove the NLG towing lever pin, SPL-1499, for the towing lever from the metering valve for nose wheel steering.

SUBTASK 32-21-11-410-001

> **WARNING**
> OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

——— END OF TASK ———

TASK 32-21-11-000-802

4. Nose Landing Gear Lower Torsion Link Removal

(Figure 201)

A. General

(1) This procedure supplies instructions to remove the lower torsion link.

B. References

Reference	Title
07-11-02-580-801	Lift the Airplane Nose on Jacks (P/B 201)

(Continued)

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-45-02-000-801	Nose Landing Gear Wheel and Tire Assembly Removal (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205

D. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

E. Prepare for the Removal

SUBTASK 32-21-11-480-005

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-21-11-010-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-21-11-860-004

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-21-11-480-002

WARNING	ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(4) Install the NLG towing lever pin, SPL-1499, for the towing lever in the metering valve for the nose wheel steering.

SUBTASK 32-21-11-480-007

(5) Lift the axle of the nose landing gear, do this task: Lift the Airplane Nose on Jacks, TASK 07-11-02-580-801.

SUBTASK 32-21-11-020-005

(6) Remove the left or right wheel and tire of the nose landing gear, do this task: Nose Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-02-000-801.

F. Nose Gear Lower Torsion Link Removal

SUBTASK 32-21-11-020-015

(1) Disconnect the brackets [4] from the lower torsion link assembly [3].

(a) Remove the bolts [29], washers [30], and nuts [31] to disconnect the brackets [4] from the lower torsion link assembly [3].

1) Remove the brackets [4] with the electrical conduit [1] and the clamps attached.

SUBTASK 32-21-11-020-007

(2) Pull the handles on the quick-disconnect [7] at the apex of the torsion links.

NOTE: This disconnects the lower lower torsion link assembly [3] from the upper torsion link assembly [2].

SUBTASK 32-21-11-020-008

(3) Lift the upper torsion link assembly [2] until the uplatch lever engages the latch, and holds it up.

SUBTASK 32-21-11-020-025

(4) Remove the cotter pin [21], nut [22], and washer [23].

SUBTASK 32-21-11-020-009

(5) Remove the lockbolt [16] to release the pin [19] for the lower torsion link assembly [3].

SUBTASK 32-21-11-020-010

(6) Hold the lower torsion link assembly [3] and remove the pin [19], sleeve [17], and pin retention fitting [20] to disconnect the lower torsion link assembly [3] from the inner cylinder of the shock strut [18].

——— END OF TASK ———

TASK 32-21-11-400-802

5. Nose Landing Gear Lower Torsion Link Installation

(Figure 201)

A. General

(1) This procedure supplies instructions to install the lower torsion link.

B. **References**

Reference	Title
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-21-12-640-801	Nose Landing Gear and Actuating Mechanism's Lower Components Lubrication (P/B 301)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-45-02-400-801	Nose Landing Gear Wheel and Tire Assembly Installation (P/B 401)

C. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205

D. **Consumable Materials**

Reference	Description	Specification
B00184	Solvent - Presealing, Cleaning Solvent	BMS11-7
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

E. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Lower torsion link assembly	32-21-02-02C-155	ARO ALL
21	Cotter pin	32-21-02-02C-005	ARO ALL

F. **Location Zones**

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

G. **Nose Gear Lower Torsion Link Installation**

SUBTASK 32-21-11-420-004

CAUTION

INSTALL THE LOWER TORSION LINK WITH THE STIFFENING WEB AT THE TOP END IN THE FORWARD DIRECTION. THE INCORRECT INSTALLATION WILL CAUSE DAMAGE TO THE AIRCRAFT.

(1) Install the lower torsion link assembly [3] on the inner cylinder of the shock strut [18]:

(a) Apply grease, D00013 or grease, D00633, to the pin [19], sleeve [17], and pin retention fitting [20].

(b) Put the lower torsion link assembly [3] in the correct position on the inner cylinder of the inner cylinder of the shock strut [18].

(c) Install the pin [19], sleeve [17], and pin retention fitting [20] to connect the lower torsion link assembly [3] and the inner cylinder of the shock strut [18].

WARNING USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(d) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913, to the lockbolt [16], washer [23], nut [22], and cotter pin [21].

(e) Install the lockbolt [16], washer [23], and nut [22] in the torsion link pin assembly.

(f) Tighten the nut [22] to 95 in-lb (10.7 N·m)-160 in-lb (18.1 N·m).

(g) If it is necessary, loosen the nut [22] to the nearest castellation to align the hole for the cotter pin [21].

(h) Install the cotter pin [21].

SUBTASK 32-21-11-420-005

(2) Connect the upper torsion link assembly [2] and lower torsion link assembly [3]:

(a) Release the upper torsion link assembly [2] from the latch.

(b) Apply grease, D00013 or grease, D00633, to the shafts of the quick-disconnect [7] which connect with the holes in the lower torsion link assembly [3].

(c) Pull the handles on the quick-disconnect [7].

(d) Align the apex holes in the upper torsion link assembly [2] and lower torsion link assembly [3].

(e) Release the handles of the quick-disconnect [7] to connect the upper torsion link assembly [2] and lower torsion link assembly [3].

CAUTION MAKE SURE THAT YOU FULLY SEAT THE SHAFTS OF THE QUICK-DISCONNECT IN THE LOWER TORSION LINK. IF YOU DO NOT SEAT THE SHAFTS, IT CAN DISCONNECT THE TORSION LINKS. THIS CAN CAUSE THE LOSS OF NOSE WHEEL STEERING.

(f) Push on the handles of the quick-disconnect [7] to make sure the shafts are fully seated in the lower torsion link assembly [3].

SUBTASK 32-21-11-420-006

(3) Install the electrical conduit brackets [4] for the lower torsion link assembly [3].

(a) Use solvent, B00184 to clean the surface of the lower torsion link assembly [3] where the brackets [4] will attach.

(b) Install the washers [30] on the bolts [29].

(c) Put the brackets [4] on the lower torsion link assembly [3].

(d) Make sure the electrical conduit [1] is not twisted.

(e) Install the bolts [29] to connect the brackets [4] to the lower torsion link assembly [3].

(f) Install the washers [30] and the nut [31] on the bolts [29].

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-21-11-420-007

(1) Do this task: Nose Landing Gear Wheel and Tire Assembly Installation, TASK 32-45-02-400-801.

SUBTASK 32-21-11-080-002

(2) Do this task: Lower the Airplane Off of the Jacks, TASK 07-11-01-580-805.

SUBTASK 32-21-11-640-002

(3) For the grease fittings on lower torsion link assembly [3], do this task: Nose Landing Gear and Actuating Mechanism's Lower Components Lubrication, TASK 12-21-12-640-801.

SUBTASK 32-21-11-080-003

(4) Remove the NLG towing lever pin, SPL-1499, for the towing lever from the metering valve for nose wheel steering.

SUBTASK 32-21-11-410-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(5) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

——— END OF TASK ———

TASK 32-21-11-000-803

6. Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage

(Figure 201)

A. General

(1) This procedure provides instructions to disconnect the torsion links.

B. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205

D. **Location Zones**

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
711	Nose Landing Gear

E. **Prepare for Disconnection**

SUBTASK 32-21-11-480-006

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-21-11-480-003

WARNING ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(2) Install the NLG towing lever pin, SPL-1499 for the towing lever in the metering valve for the nose wheel steering.

SUBTASK 32-21-11-860-001

(3) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

Row	Col	Number	Name
M	19	C32617	LG TIRE PRESSURE INDICATOR

F. **Nose Gear Torsion Link Disconnection**

SUBTASK 32-21-11-020-011

(1) Disconnect the electrical conduit [1] for the torsion links at the electrical conduit connection [5].

SUBTASK 32-21-11-020-012

(2) Pull the handles on the quick-disconnect [7] at the apex of the upper torsion link assembly [2] and lower torsion link assembly [3].

NOTE: This disconnects the upper torsion link assembly [2] from the lower torsion link assembly [3].

SUBTASK 32-21-11-020-016

(3) Lift the upper torsion link assembly [2] until the uplatch lever engages the latch, and the upper torsion link assembly [2] is held up.

SUBTASK 32-21-11-020-017

(4) Connect the electrical conduit [1] for the torsion links to the storage connectors [28] located on the bottom of the upper torsion link assembly [2].

——— END OF TASK ———

TASK 32-21-11-400-803

7. Nose Landing Gear Torsion Link Connection

(Figure 201)

A. General

(1) This procedure provides instructions to connect the torsion links.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33

D. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
711	Nose Landing Gear

E. Nose Gear Torsion Link Connection

SUBTASK 32-21-11-020-018

(1) Disconnect the electrical conduit [1] for the torsion links from the storage connectors [28] located on the bottom of the upper torsion link assembly [2].

SUBTASK 32-21-11-020-014

(2) Release the upper torsion link assembly [2] from the latch.

SUBTASK 32-21-11-420-008

(3) Connect the upper torsion link assembly [2] and lower torsion link assembly [3]:

(a) Apply grease, D00013 or grease, D00633, to the shafts of the quick-disconnect [7] which connect with the holes in the lower torsion link assembly [3].

(b) Pull the handles on the quick-disconnect [7].

(c) Align the apex holes in the upper torsion link assembly [2] and lower torsion link assembly [3].

(d) Release the handles of the quick-disconnect [7].

CAUTION MAKE SURE THAT YOU FULLY SEAT THE SHAFTS OF THE QUICK-DISCONNECT IN THE LOWER TORSION LINK. IF YOU DO NOT SEAT THE SHAFTS, IT CAN DISCONNECT THE TORSION LINKS. THIS CAN CAUSE THE LOSS OF NOSE WHEEL STEERING.

(e) Push on the handles of the quick-disconnect [7] to make sure the shafts are fully seated in the lower torsion link assembly [3].

SUBTASK 32-21-11-420-009

(4) Connect the electrical conduit for the torsion links:

(a) Make sure the electrical conduit [1] is not twisted.

SUBTASK 32-21-11-860-002

(5) Remove the safety tag and close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
M	19	C32617	LG TIRE PRESSURE INDICATOR

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-21-11-080-004

(1) Remove the NLG towing lever pin, SPL-1499, for the towing lever from the metering valve for nose wheel steering.

——— END OF TASK ———

NOSE LANDING GEAR TOW FITTING - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has these tasks:

      (1) A removal of the tow fitting from the nose landing gear.

      (2) An installation of the tow fitting on the nose landing gear.

      (3) A removal of the tow pin from the nose landing gear.

      (4) An installation of the tow pin on the nose landing gear.

   B. Some airplanes may have aft and forward tow fittings, the tasks that follow apply to the aft tow fitting if the airplane has one.

TASK 32-21-12-000-801

2. **Nose Landing Gear Tow Fitting Removal**
   (Figure 401)

   A. General

      (1) This procedure supplies instructions to remove the tow fitting (fitting assembly [1]).

   B. References

Reference	Title
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   C. Location Zones

Zone	Area
711	Nose Landing Gear

   D. Prepare for the Removal

   SUBTASK 32-21-12-480-001

   WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

      (1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

   SUBTASK 32-21-12-010-001

   WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

      (2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

   E. Nose Gear Tow Fitting Removal

   SUBTASK 32-21-12-020-005

      (1) Remove these parts:

         (a) The pins [6].

         (b) The nuts [5].

(c) The washers [7].

(d) The bolts [3] and the washers [15].

(e) The end caps [4].

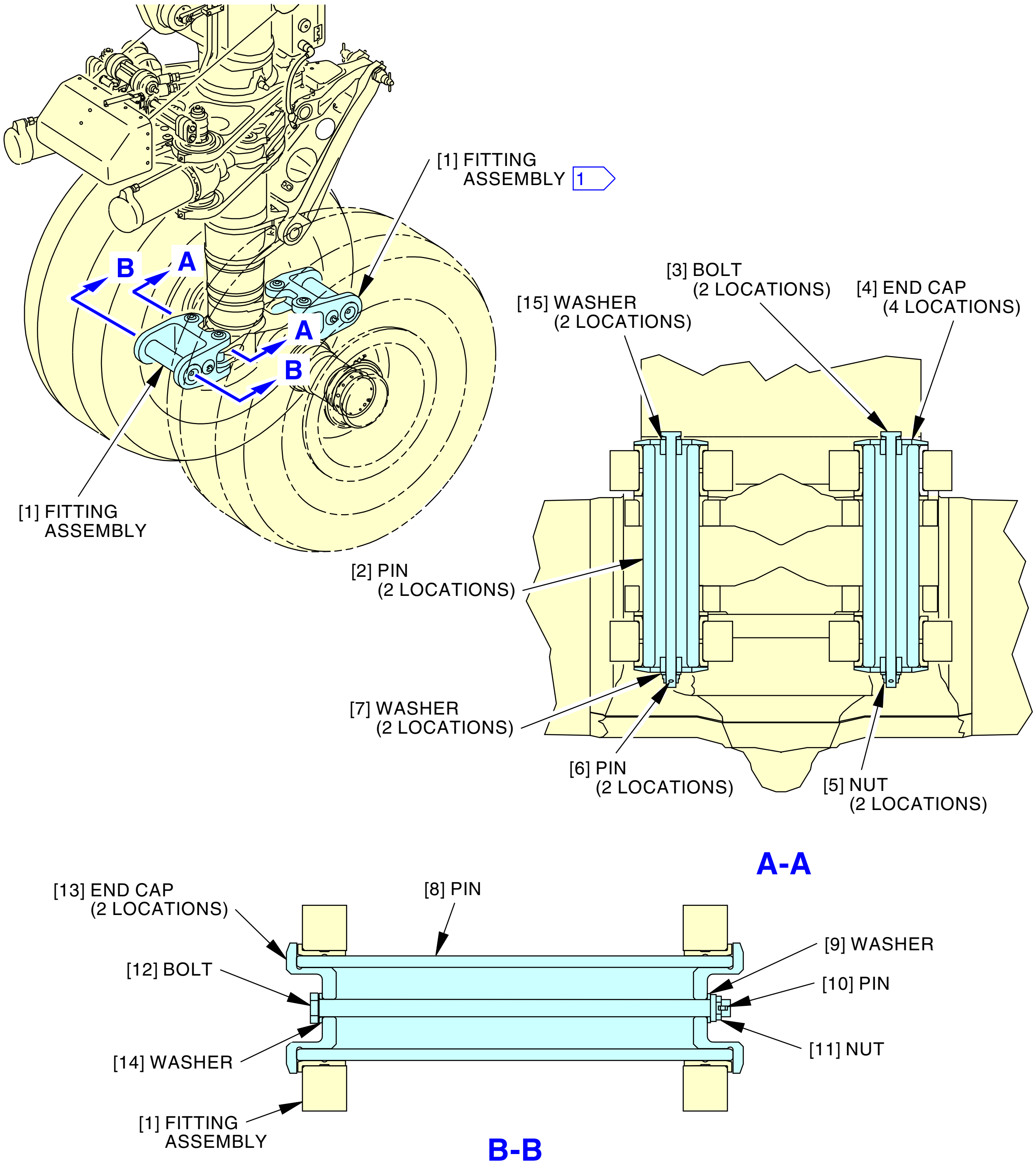
SUBTASK 32-21-12-020-001

(2) Remove the pins [2] to disconnect the fitting assembly [1] from the inner cylinder of the shock strut.

SUBTASK 32-21-12-020-002

(3) Remove the fitting assembly [1].

END OF TASK



1 AIRPLANES WITH AFT TOW FITTING ASSEMBLY

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Nose Landing Gear Tow Pin Installation
Figure 401/32-21-12-990-801

TASK 32-21-12-400-801

3. Nose Landing Gear Tow Fitting Installation

(Figure 401)

A. General

(1) This procedure supplies instructions to install the tow fitting.

B. References

Reference	Title
12-21-12-640-801	Nose Landing Gear and Actuating Mechanism's Lower Components Lubrication (P/B 301)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

C. Consumable Materials

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Fitting assembly	32-21-02-02C-189	ARO ALL
6	Pin	32-21-02-02C-160	ARO ALL

E. Location Zones

Zone	Area
711	Nose Landing Gear

F. Nose Gear Tow Fitting Installation

SUBTASK 32-21-12-640-001

(1) Apply grease, D00013 or grease, D00633 to these parts:

(a) The chrome surfaces of pins [2] and the mating surfaces on the strut and fitting assembly [1].

(b) The faces of the washers [15].

(c) The shank and threads of the bolt [3].

SUBTASK 32-21-12-640-005

(2) Do the steps that follow to install the fitting assembly [1]:

(a) Hold the fitting assembly [1] in its position.

(b) Install the pins [2].

(c) Install the end caps [4] on the pin [2].

(d) Install the washers [15] on the bolts [3].

(e) Install the bolts [3].

(f) Install the washers [7].

(g) Install the nuts [5].

(h) Tighten the nuts [5] to 30 in-lb (3.4 N·m) - 50 in-lb (5.6 N·m).

(i) If it is necessary, loosen the nuts [5] to the nearest castellation to align the holes for the pins [6].

(j) Install the pins [6].

SUBTASK 32-21-12-160-001

(3) Remove the unwanted grease.

SUBTASK 32-21-12-640-002

(4) For the grease fittings on the fitting assembly [1], do this task: Nose Landing Gear and Actuating Mechanism's Lower Components Lubrication, TASK 12-21-12-640-801.

G. Put the Airplane Back to its Usual Condition

SUBTASK 32-21-12-410-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

TASK 32-21-12-000-802

4. Nose Landing Gear Tow Pin Removal

(Figure 401)

A. General

(1) This procedure supplies instructions to remove the tow pin (pin [8]).

B. References

Reference	Title
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
711	Nose Landing Gear

D. Prepare for the Removal

SUBTASK 32-21-12-480-002

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-21-12-010-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

E. Nose Gear Tow Pin Removal

SUBTASK 32-21-12-020-003

(1) Do this task: Nose Landing Gear Tow Fitting Removal, TASK 32-21-12-000-801.

SUBTASK 32-21-12-020-006

(2) Remove these parts:

(a) The pin [10].

(b) The nut [11].

(c) The washer [9].

(d) The bolt [12] and the washer [14].

(e) The end caps [13].

SUBTASK 32-21-12-020-004

(3) Remove the pin [8].

END OF TASK

TASK 32-21-12-400-802

5. Nose Landing Gear Tow Pin Installation

(Figure 401)

A. General

(1) This procedure supplies instructions to install the tow pin (pin [8]).

B. References

Reference	Title
12-21-12-640-801	Nose Landing Gear and Actuating Mechanism's Lower Components Lubrication (P/B 301)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

C. Consumable Materials

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
10	Pin	32-21-02-02C-200	ARO ALL

E. Location Zones

Zone	Area
711	Nose Landing Gear

F. Nose Gear Tow Pin Installation

SUBTASK 32-21-12-640-006

(1) Apply grease, D00013 or grease, D00633 to these parts:

(a) The chrome surfaces of the pin [8] and the mating surfaces on the fitting assembly [1].

(b) The faces of the washer [9] and the washer [14].

(c) The shanks and threads of the bolt [12].

SUBTASK 32-21-12-640-007

(2) Install these parts:

(a) The pin [8].

(b) The end caps [13].

(c) The washer [14] on the bolt [12].

(d) The bolt [12].

(e) The washer [9].

(f) The nut [11].

(g) Tighten the nut [11] to 95 in-lb (10.7 N·m) - 160 in-lb (18.1 N·m).

(h) If it is necessary, loosen the nut [11] to the nearest castellation to align the holes for the pin [10].

(i) Install the pin [10].

SUBTASK 32-21-12-160-002

(3) Remove the unwanted grease.

SUBTASK 32-21-12-640-004

(4) Do this task: Nose Landing Gear Tow Fitting Installation, TASK 32-21-12-400-801.

SUBTASK 32-21-12-640-003

(5) For the grease fittings on the fitting assembly [1], do this task: Nose Landing Gear and Actuating Mechanism's Lower Components Lubrication, TASK 12-21-12-640-801.

G. Put the Airplane Back to its Usual Condition

SUBTASK 32-21-12-410-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

NOSE LANDING GEAR SHOCK STRUT INNER CYLINDER - REMOVAL/INSTALLATION

1. **General**
   A. This procedure provides instructions to do these tasks:
      (1) Removal of the NLG Shock Strut Inner Cylinder.
      (2) Installation of the NLG Shock Strut Inner Cylinder.

TASK 32-21-24-960-801

2. **Remove the NLG Shock Strut Inner Cylinder**

   A. **General**
      (1) This task provides instructions to remove the shock strut inner cylinder for the nose landing gear.
      (2) The NLG inner cylinder hoist equipment, SPL-1890, or similar should be used to support the inner cylinder as it is removed from the outer cylinder.

   B. **References**

Reference	Title
07-11-02-580-801	Lift the Airplane Nose on Jacks (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-21-11-000-803	Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage (P/B 201)
32-21-25-960-806-002	Replace the Active Seals with the Spare Seals (P/B 201)

   C. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1829	Valve - Drain, Landing Gear Shock Strut Oil Part #: J32060-1 Supplier: 81205 Opt Part #: A32066-1 Supplier: 81205
SPL-1833	Wrench - Spanner, NLG Gland Nut Part #: A32045-92 Supplier: 81205
SPL-1841	Equipment - Replacement, NLG Lower Seal Part #: J32009-49 Supplier: 81205 Opt Part #: J32009-29 Supplier: 81205 Opt Part #: J32009-45 Supplier: 81205
SPL-1890	Hoist Equipment - Removal/Installation, NLG Inner Cylinder Part #: J32073-21 Supplier: 81205
STD-1110	Container - Hydraulic Fluid Resistant, 5 Gallon (19 Liter)
STD-1140	Hose - Flexible, 1/2 Inch ID, BMS 3-11 Resistant, 10 Foot

   D. **Location Zones**

Zone	Area
711	Nose Landing Gear

E. Prepare for the Removal

SUBTASK 32-21-24-480-001

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-21-24-860-001

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-21-24-020-002

(3) Deflate the shock strut for the nose landing gear (Figure 401):

(a) Remove the cap [20] for the upper air charging valve [25].

WARNING	DO NOT REMOVE THE VALVE BODY UNTIL YOU DEFLATE THE SHOCK STRUT FULLY. THE AIR PRESSURE CAN BLOW THE VALVE BODY OUT AND CAUSE INJURIES TO PERSONNEL.

(b) Loosen the swivel nut [21], on the upper air charging valve [25], a maximum of two turns.

(c) Remove the cap [22] for the lower air charging valve [26].

WARNING	DO NOT REMOVE THE VALVE BODY UNTIL YOU DEFLATE THE SHOCK STRUT FULLY. THE AIR PRESSURE CAN BLOW THE VALVE BODY OUT AND CAUSE INJURIES TO PERSONNEL.

(d) Loosen the swivel nut [19], on the lower air charging valve [26], a maximum of two turns.

(e) Loosen the swivel nut [19], on the lower air charging valve [26], fully when all of the pressure in the shock strut [2] is released.

(f) Slowly loosen the oil relief valve [3], on top of the shock strut [2], to remove the oil pressure from the shock strut.

SUBTASK 32-21-24-680-001

(4) Drain the oil from the shock strut [2] for the nose landing gear:

(a) Remove the cap assy [18] from the oil charging valve [10].

(b) Put a 5 gallon (19 liter) hydraulic fluid resistant container, STD-1110, in a position to catch the shock strut fluid when the oil charging valve is loosened.

(c) Install the drain equipment on the oil charging valve [10]:

1) Install the tool, landing gear shock strut drain valve, SPL-1829, on the oil charging valve [10] to drain the shock strut.

2) If you drain the shock strut [2] with a quicker method, do the steps that follow:

a) Cut a length of plastic ten foot hose (1/2 inch ID), STD-1140, long enough to reach the container on the floor.

b) Insert a small allen wrench in the end of the length of tubing, such that the end of the long part of the allen wrench is flush with the end of the tube and the short part penetrates the side wall of the tube.

c) Install the ten foot hose (1/2 inch ID), STD-1140, on the oil charging valve [10] such that the allen wrench goes into the check valve and holds it open to drain the hydraulic fluid.

(d) Remove the drain equipment when you have removed all of the shock strut oil.

F. Remove the Shock Strut Inner Cylinder

SUBTASK 32-21-24-020-003

(1) Remove the oil charging valve [10].

NOTE: This will allow you to install the retainer plug for the lower centering cam.

SUBTASK 32-21-24-420-001

WARNING	MAKE SURE THAT YOU INSTALL THE CAM LOCK IN THE HOLE FOR THE OIL CHARGING VALVE. IF YOU DO NOT INSTALL THE CAM LOCK, THE LOWER CENTERING CAM CAN FALL OUT OF THE OUTER CYLINDER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(2) Install the cam retainer plug [56], from NLG lower seal replacement equipment, SPL-1841, in the hole for the oil charging valve [10] to keep the lower centering cam [15] in its position.

NOTE: The lower centering cam is difficult to install when it moves out of the outer cylinder.

SUBTASK 32-21-24-020-004

(3) Do this task: Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage, TASK 32-21-11-000-803.

SUBTASK 32-21-24-480-002

(4) Lift the nose of the airplane to approximately 21 in. (533 mm), so you can install the puller assembly [51] on the inner cylinder [12] (TASK 07-11-02-580-801).

NOTE: Make sure the jack will be able to lift the nose approximately 40 in. (1016 mm).

SUBTASK 32-21-24-020-005

CAUTION	MAKE SURE THAT THE SCRAPER RING DOES NOT COME OUT OF THE GLAND NUT. IF THE GLAND NUT MOVES DOWN THE INNER CYLINDER WITHOUT THE RETAINER AROUND IT, THE SCRAPER RING CAN COME OUT OF THE GLAND NUT. IF YOU DO NOT HAVE A SPLIT SCRAPER AVAILABLE, YOU NEED TO CUT THE SCRAPER TO INSTALL IT AGAIN OR DISCONNECT THE INNER CYLINDER.

(5) Disconnect the gland nut [13] from the outer cylinder [8]:

(a) Remove the bolt [29], washer [30], lock plate [27], and the lock plate [28] to release the gland nut [13].

(b) Use the NLG gland nut spanner wrench, SPL-1833, to disconnect the gland nut [13] from the outer cylinder [8].

NOTE: Keep the gland nut in its position against the outer cylinder after you have disconnected it from the outer cylinder.

(c) Lift the nose of the airplane with the nose jack until you can install the gland nut retainer [54] on the gland nut [13].

NOTE: This will make sure the scraper ring for the gland nut does not come out of its groove.

(d) Install the gland nut retainer [54], from NLG lower seal replacement equipment, SPL-1841, on the gland nut [13].

1) If the scraper ring [24] came out of the gland nut [13], try to push it back in the gland nut.

a) Use the two piece seal inserter, from NLG lower seal replacement equipment, SPL-1841, to compress and push the scraper into the gland nut.

(e) Move the gland nut [13] down the inner cylinder [12].

SUBTASK 32-21-24-800-001

(6) If you were referred by the TASK 32-21-25-960-806-002, you must use the puller assembly to remove the lower bearing.

SUBTASK 32-21-24-020-006

CAUTION	MOVE THE INNER CYLINDER AND OUTER CYLINDER APART TO REMOVE THE LOWER BEARING CARRIER. IF YOU REMOVE THE CARRIER WITHOUT THE PULLER ASSEMBLY, DAMAGE TO THE SHOCK STRUT COMPONENTS CAN OCCUR.

(7) If you will use the puller assembly [51] to remove the lower bearing carrier [23], do the steps that follow:

(a) Loosely install the puller assembly [51], from NLG lower seal replacement equipment, SPL-1841, around the inner cylinder [12].

1) Do not tighten the puller assembly.

(b) Install the three pins [52] through the holes in the bottom of the puller assembly [51] and into the lower bearing carrier [23].

(c) Lower the nose landing gear with the nose jack until the gland nut retainer [54] is approximately 0.5 in. (12.7 mm) from the pins [52] (TASK 07-11-02-580-801).

(d) Tighten the puller assembly [51].

(e) Install the strap [53] around the axle of the nose landing gear and connect the ends to the rings on the puller assembly [51].

(f) Lift the nose of the airplane with the nose jack.

NOTE: This will pull the lower bearing carrier out of the outer cylinder.

(g) Remove the puller assembly [51] and the strap [53].

(h) Push the lower bearing carrier [23] down the inner cylinder [12] until it rests on the gland nut retainer [54] for the gland nut.

(i) If you were referred by the TASK 32-21-25-960-806-002, stop here, you now have access to the lower bearing seals.

(j) Wind a piece of rope (or cloth) around the inner cylinder [12] just below the outer cylinder [8] and hold it with tension.

NOTE: This will prevent the centering cam from moving down when you remove the cam retainer plug.

(k) Remove the cam retainer plug [56] for the lower centering cam [15].

NOTE: The centering cam will move down the inner cylinder and rest on the rope.

(l) Move the lower centering cam [15] down the inner cylinder [12] until it rests on the lower bearing carrier [23].

SUBTASK 32-21-24-020-007

(8) Connect the NLG inner cylinder hoist equipment, SPL-1890, to the inner and outer cylinders and the upper drag brace (Figure 403):

(a) Connect a 15 ft (4.6 m) and a 3 ft (0.9 m) sling to the top cross bar of the upper drag brace.

1) Connect the 15 ft (4.6 m) sling to a ratchet cable puller (come-along).

2) Connect the ratchet cable puller to the sling link.

3) Connect a ratchet cable puller to the end of the 3 ft (0.9 m) sling.

(b) Connect a 12 ft (3.7 m) sling to the outer cylinder, at the location below the drag brace attachment lugs.

1) Connect the 12 ft (3.7 m) sling to the ratchet cable puller that is connected to the 3 ft (0.9 m) sling.

(c) Connect a 12 ft (3.7 m) sling around the forward tow fitting.

1) Connect the ends of the sling to the shackle.

(d) Connect a 3 ft (0.9 m) sling around the chrome of the inner cylinder.

1) Connect the ends of the sling to the shackle.

2) Connect the shackle to the sling link.

SUBTASK 32-21-24-020-008

(9) Move the inner cylinder [12] and outer cylinder [8] apart:

NOTE: If you did not remove the lower bearing carrier with the puller assembly, this procedure will push the lower bearing carrier out as the cylinders move apart.

(a) Make sure the cam retainer plug [56] is removed from the outer cylinder [8].

(b) Remove the downlock pin for the nose landing gear (TASK 32-00-30-480-801).

(c) Push up on the lock link [1] to move it from the locked overcenter position.

NOTE: You will need to roll the inner cylinder forward as you do this to keep the lock link unlocked.

1) You can tie a rope to the lock links [1] and then put it over the upper drag strut to help move the lock links overcenter.

WARNING	HOLD THE INNER CYLINDER WITH A ROPE BEFORE YOU CONNECT OR DISCONNECT THE CYLINDERS. IF YOU DO NOT HOLD THE INNER CYLINDER IN ITS POSITION, IT WILL FALL. THE INNER CYLINDER IS HEAVY AND CAN CAUSE INJURIES TO PERSONNEL OR DAMAGE TO EQUIPMENT.

(d) Move the nose landing gear forward, while using the ratchets connected to the slings to control the inner cylinder, until the inner cylinder [12] is removed from the outer cylinder [8]:

1) Put the seal protector [55] from NLG lower seal replacement equipment, SPL-1841, on the gland nut threads in the outer cylinder [8].

NOTE: The seal protector will help protect the upper bearing when the inner cylinder is disconnected.

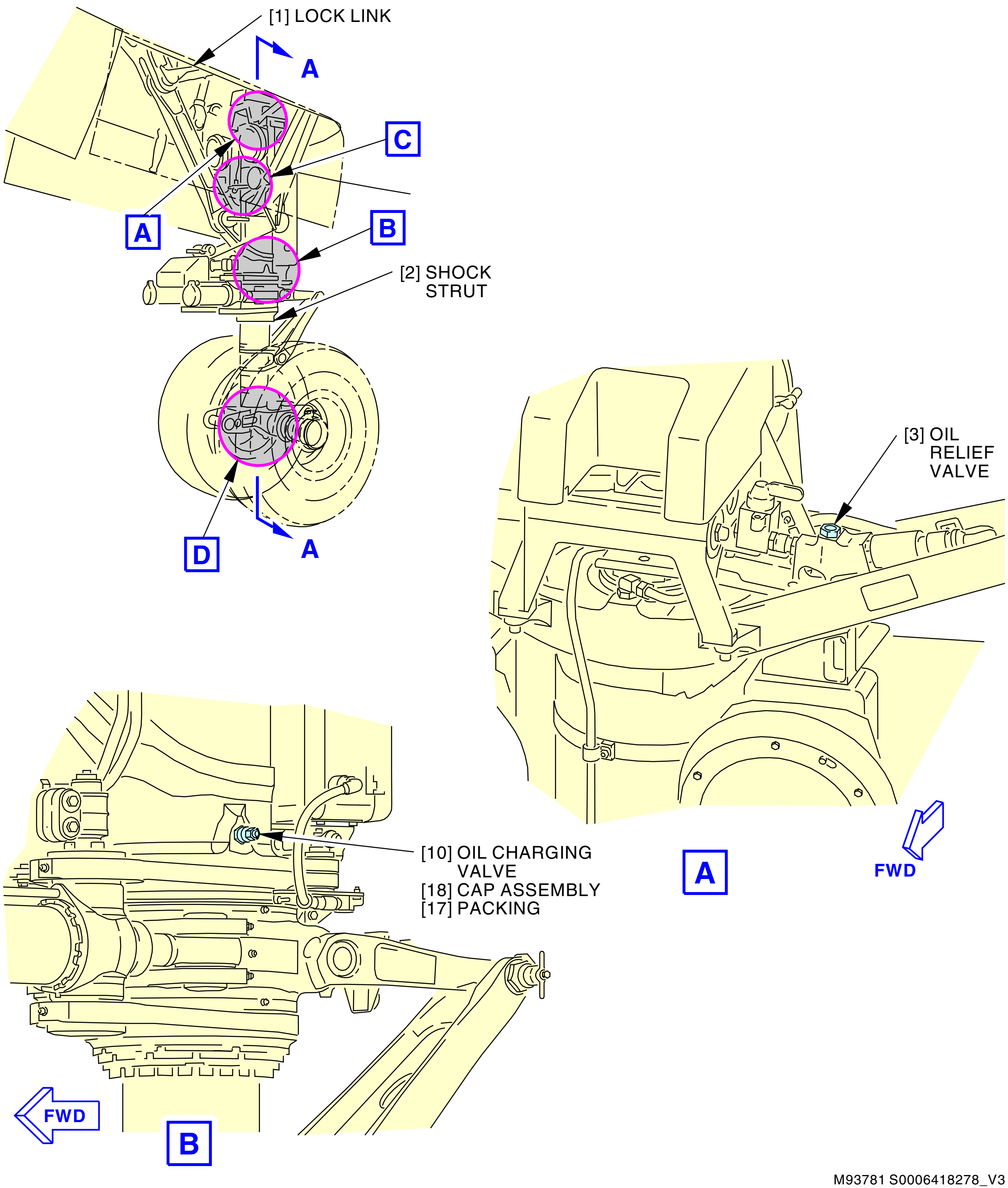
(e) Disconnect the inner cylinder [12] from the outer cylinder [8].

SUBTASK 32-21-24-020-009

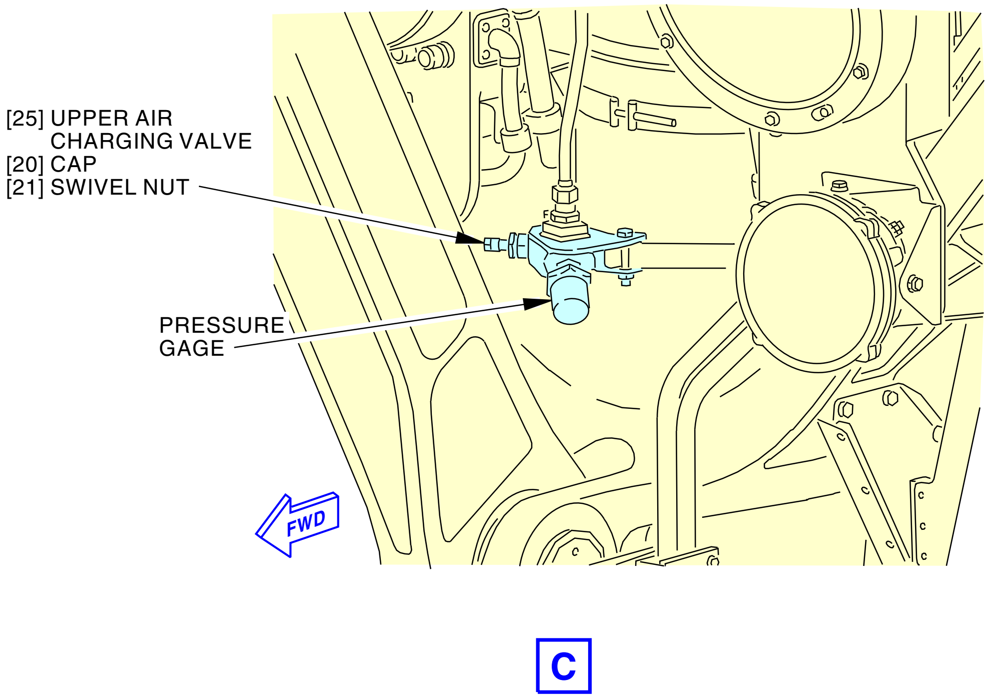
(10) Lower the inner cylinder [12] on to a padded work table so it is easier to work.

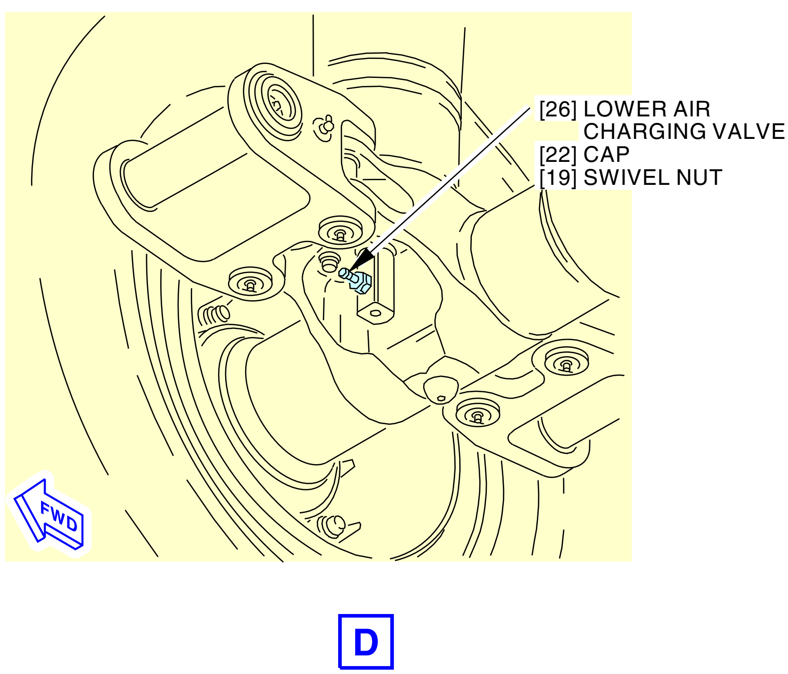
NOTE: The inner cylinder is full of shock strut fluid.

END OF TASK



NLG Shock Strut Inner Cylinder Installation
Figure 401/32-21-24-990-802 (Sheet 1 of 4)





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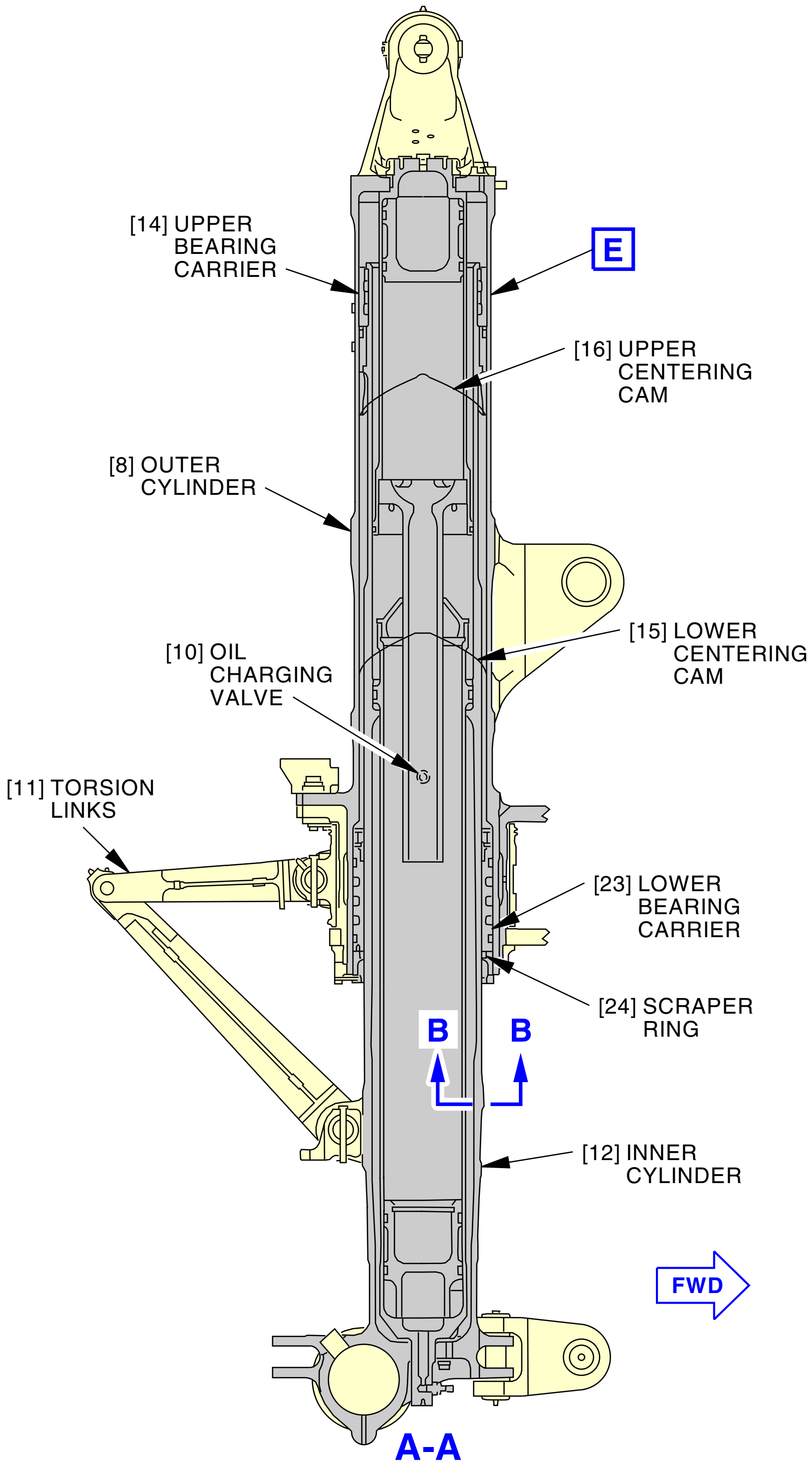
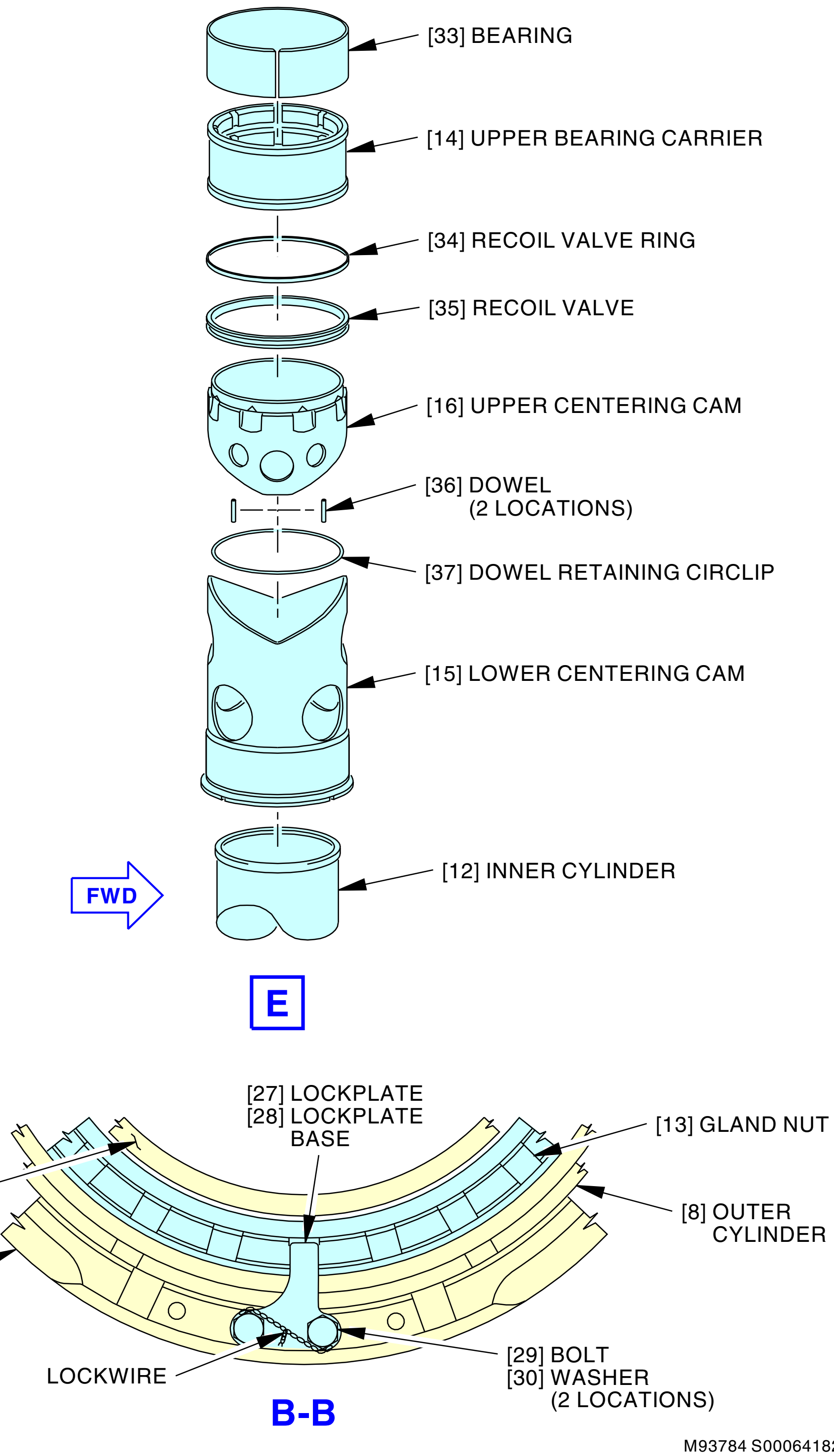
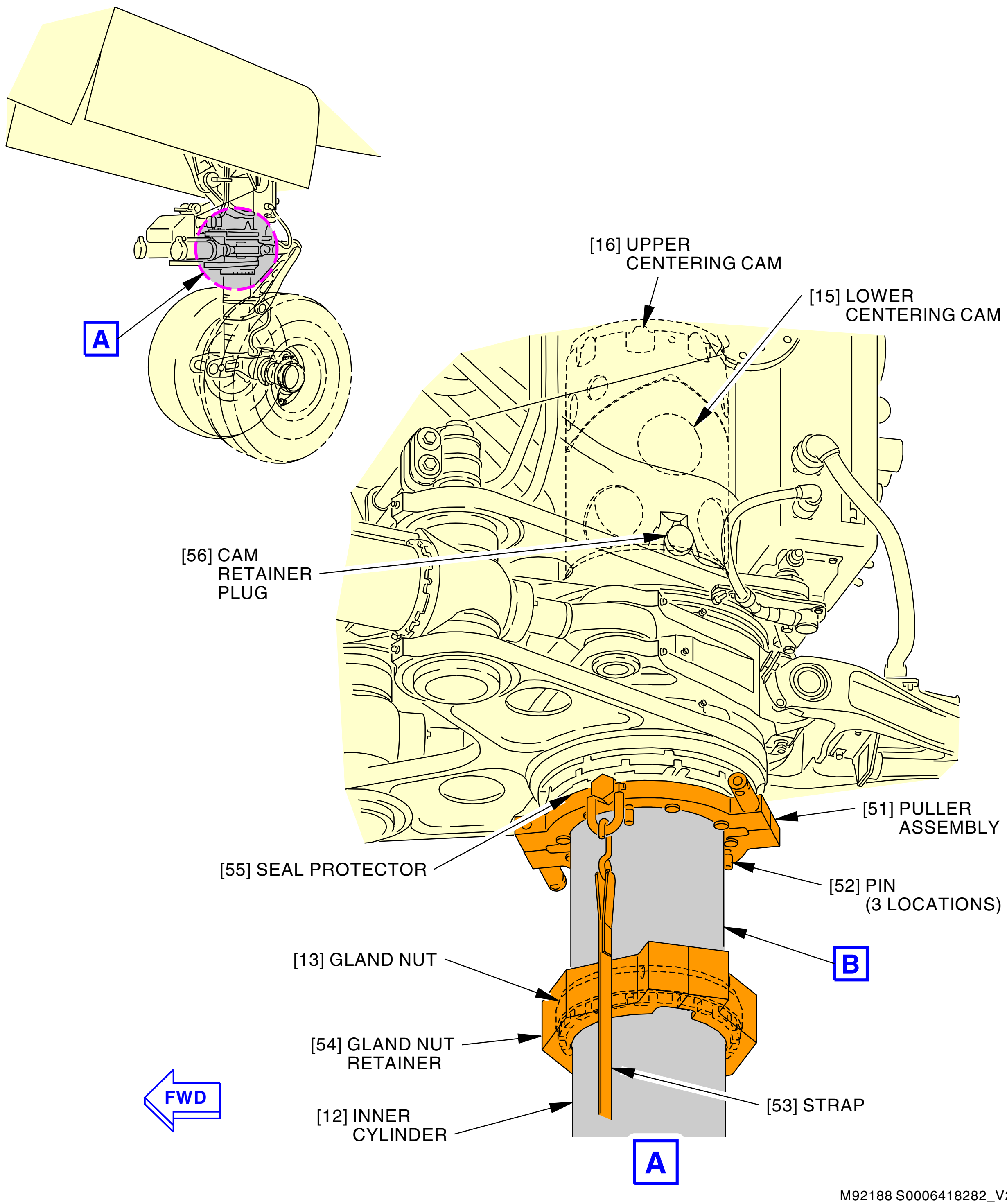
NLG Shock Strut Inner Cylinder Installation
Figure 401/32-21-24-990-802 (Sheet 2 of 4)



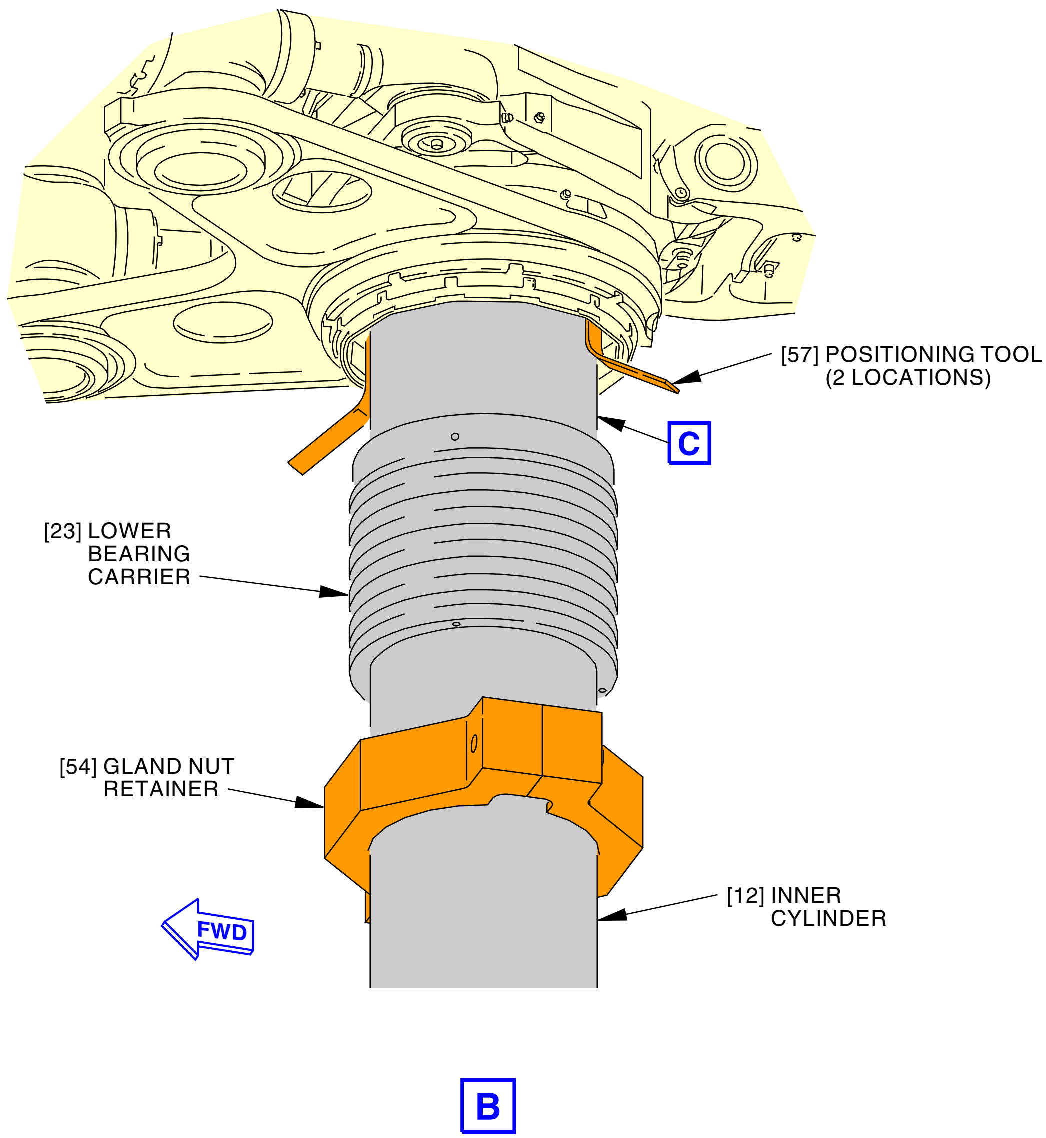
NLG Shock Strut Inner Cylinder Installation
Figure 401/32-21-24-990-802 (Sheet 3 of 4)



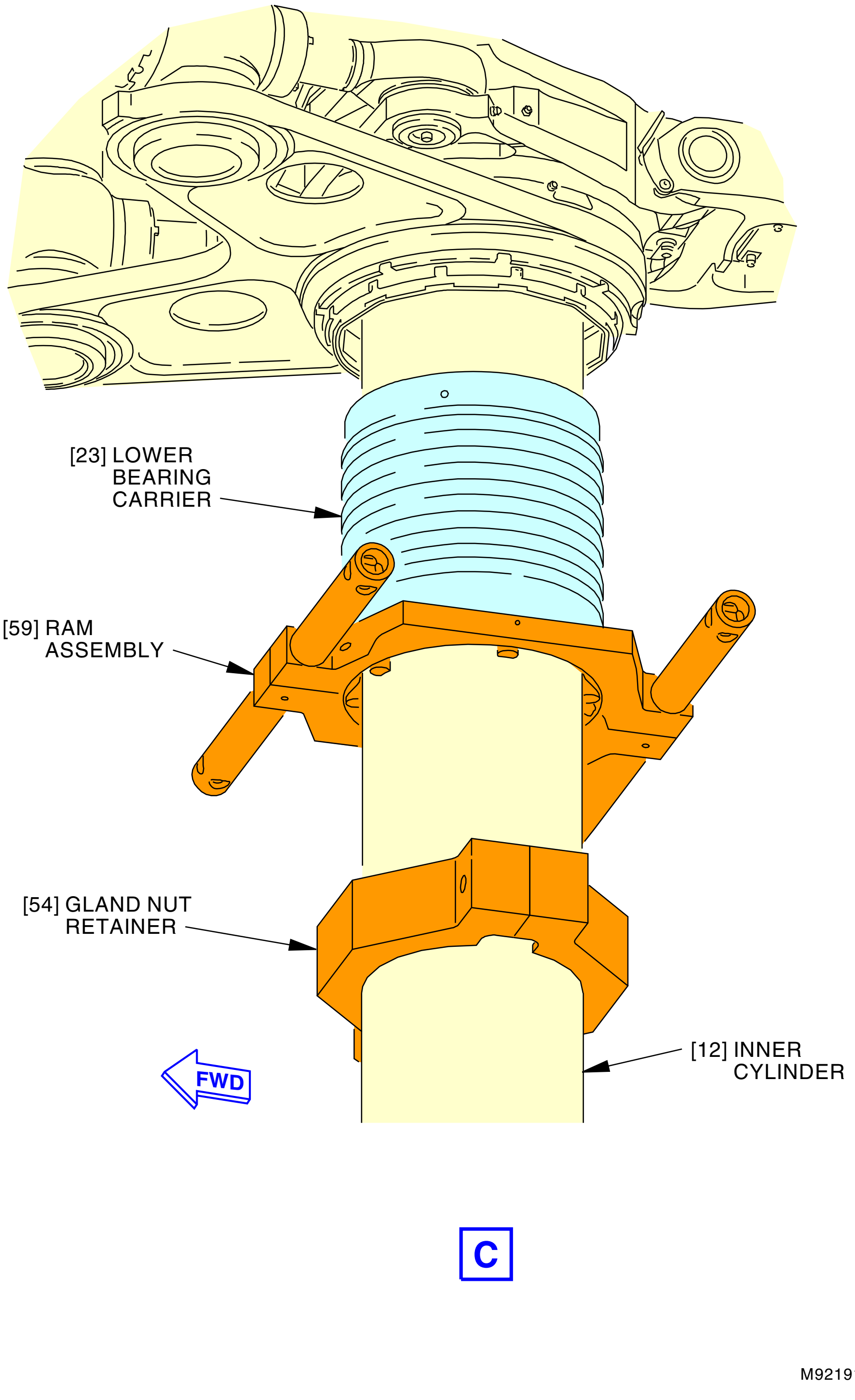
NLG Shock Strut Inner Cylinder Installation
Figure 401/32-21-24-990-802 (Sheet 4 of 4)



NLG Lower Bearing Puller Equipment
Figure 402/32-21-24-990-803 (Sheet 1 of 3)



NLG Lower Bearing Puller Equipment
Figure 402/32-21-24-990-803 (Sheet 2 of 3)



NLG Lower Bearing Puller Equipment
Figure 402/32-21-24-990-803 (Sheet 3 of 3)

TASK 32-21-24-960-802

3. Install the NLG Shock Strut Inner Cylinder

A. General

(1) This procedure provides instructions to install the shock strut inner cylinder for the nose landing gear.

(2) The NLG inner cylinder hoist equipment, SPL-1890, or similar should be used to support the inner cylinder as it is installed in the outer cylinder.

B. References

Reference	Title
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-15-02-610-805-002	Nose Landing Gear Shock Strut Servicing (P/B 301)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-21-11-400-803	Nose Landing Gear Torsion Link Connection (P/B 201)
32-21-25-960-806-002	Replace the Active Seals with the Spare Seals (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1833	Wrench - Spanner, NLG Gland Nut Part #: A32045-92 Supplier: 81205
SPL-1841	Equipment - Replacement, NLG Lower Seal Part #: J32009-49 Supplier: 81205 Opt Part #: J32009-29 Supplier: 81205 Opt Part #: J32009-45 Supplier: 81205
SPL-1890	Hoist Equipment - Removal/Installation, NLG Inner Cylinder Part #: J32073-21 Supplier: 81205
SPL-4600	Shock Strut Equipment, NLG component maintenance (All 777s except -300ER)

D. Consumable Materials

Reference	Description	Specification
A00226	Compound - Tamper-Proof Putty	BMS8-45
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00467	Fluid - Landing Gear Shock Strut	BMS3-32 Type II
D00633	Grease - Aircraft General Purpose	BMS3-33
D50022	Fluid - Landing Gear Shock Strut (Specifically For Preservation)	BMS3-32 Type I
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995
G02438	Wrap - Tie - TY24M (TY-RAP)	

(Continued)

Reference	Description	Specification
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38
G50346	Compound - Corrosion Preventive	BMS3-26 Type 2

E. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
12	Inner cylinder	32-21-02-02C-715	ARO ALL
24	Ring	32-21-02-02C-550	ARO ALL

F. **Location Zones**

Zone	Area
711	Nose Landing Gear

G. **Install the Shock Strut Inner Cylinder.**

SUBTASK 32-21-24-800-002

(1) If you were referred by the TASK 32-21-25-960-806-002, go to the step "Make sure the seal protector is on the gland nut threads of the outer cylinder [8]".

SUBTASK 32-21-24-400-001

(2) If installation of the metering pin [39] is required, do the following steps:

(a) Install the seal [42] and back-up rings [43] on the metering pin [39].

(b) Apply compound, G50346, to the primed surfaces of the metering pin [39].

(c) Apply fluid, D50022, or fluid, D00467, to the threads of the retaining nut [40].

(d) Place the retaining ring [41] on the shoulder of the metering pin [39].

(e) Using Shock Strut Equipment, SPL-4600, (retainer nut wrench J32061-2) and install the retaining nut [40] on the metering pin [39].

1) Compress the retaining ring [41].

2) Tighten the retaining nut [40] to hold the retaining ring [41] in a compressed condition.

(f) Install the metering pin [39] into the inner cylinder [12].

(g) Loosen the retaining nut [40] to allow the retaining ring [41] to expand into the groove in the inner cylinder [12].

(h) Tighten the retainer nut to 75 ft-lb (101.7 N·m) - 100 ft-lb (135.6 N·m).

SUBTASK 32-21-24-900-001

(3) Install the new gland nut scraper ring [24] on the gland nut [13] if there is any sign of damage or wear:

NOTE: The gland nut scraper ring prevents dirt and debris from entering the shock strut when the inner and outer cylinder compress.

(a) Remove the gland nut [13] from the inner cylinder [12] and gland nut retainer [54].

(b) Install the new scraper ring [24] in its groove in the gland nut [13].

SUBTASK 32-21-24-420-002

(4) If the bearing [33] does not fit tightly around the upper bearing carrier [14] halves, then do the steps that follow:

(a) Hold the bearing [33] tightly around the upper bearing carrier [14] halves.

NOTE: You can use a TY24M (TY-RAP) tie wrap, G02438, to do this.

(b) Wrap tape around the bottom of the bearing [33], such that the adhesive side is on the outside, and leave a length of tape approximately 3 ft (0.9 m) long that hangs down.

(c) Remove the TY24M (TY-RAP) tie wrap, G02438, if used.

SUBTASK 32-21-24-420-003

WARNING HOLD THE INNER CYLINDER WITH A ROPE BEFORE YOU CONNECT OR DISCONNECT THE CYLINDERS. IF YOU DO NOT HOLD THE INNER CYLINDER IN ITS POSITION, IT WILL FALL. THE INNER CYLINDER IS HEAVY AND CAN CAUSE INJURIES TO PERSONNEL OR DAMAGE TO EQUIPMENT.

(5) Put the inner cylinder [12] in the correct position for installation into the outer cylinder [8].

SUBTASK 32-21-24-420-004

CAUTION BE CAREFUL WHEN YOU INSTALL THE INNER CYLINDER INTO THE OUTER CYLINDER. YOU CAN CAUSE DAMAGE TO THE UPPER AND LOWER BEARINGS AND TO THE SURFACE OF THE INNER CYLINDER.

CAUTION DO NOT USE TOO MUCH FORCE WHEN YOU INSTALL THE INNER CYLINDER INTO THE OUTER CYLINDER. THIS CAN CAUSE DAMAGE TO BEARINGS.

(6) Move the nose landing gear aft while you put the inner cylinder [12] into the outer cylinder [8].

(a) Use the come-along to lower the outer cylinder [8] as you slowly roll the inner cylinder [12] aft to connect it.

(b) Look through the hole in the outer cylinder for the oil charging valve [10] to see when the upper bearing carrier [14] is on the chrome of the inner cylinder.

(c) When you can see the top of the inner cylinder [12], pull on the length of tape to remove it from the upper bearing.

1) Make sure that all of the tape is removed and there is not any remaining in the shock strut.

(d) Continue to install the inner cylinder [12] until the lower centering cam [15] is almost to the bottom of the outer cylinder [8].

SUBTASK 32-21-24-420-005

(7) Remove the rope from the lock link [1] and push down on the lock link [1] to move it into the locked overcenter position.

NOTE: You may need to roll the inner cylinder slightly forward or aft to allow the lock links to move fully down.

SUBTASK 32-21-24-480-003

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(8) To install the downlock pins in the nose landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-21-24-420-006

(9) Remove the slings, shackle, sling link and lever hoist.

SUBTASK 32-21-24-420-007

(10) Install the lower centering cam [15]:

(a) Draw a vertical line on the lower centering cam [15] from the middle of the small hole for the retainer plug up to the top of the centering cam.

(b) Use the positioning tool [57] for the centering cam to push the lower centering cam [15] into the outer cylinder [8].

(c) Look through the hole in the outer cylinder for the oil charging valve [10], to see the line that you drew on the lower centering cam, to keep the lower centering cam aligned.

(d) Install the cam retainer plug [56] in the hole for the oil charging valve [10] to prevent movement of the lower centering cam [15].

SUBTASK 32-21-24-480-004

(11) Put the seal protector [55], from NLG lower seal replacement equipment, SPL-1841, on the gland nut threads in the outer cylinder [8] if it is not installed.

SUBTASK 32-21-24-420-008

(12) Move the lower bearing carrier [23] up the inner cylinder [12] into the outer cylinder [8].

(a) Install the ram assembly [59] below the lower bearing (Figure 402).

(b) Hit the lower bearing carrier [23] lightly with the ram assembly [59] to push it up into the correct position in the outer cylinder [8].

1) Make sure the static seals stay in their position as the lower bearing is installed.

(c) Remove the ram assembly [59] assembly.

(d) If you cannot install the lower bearing carrier [23] with the ram assembly [59], you can use a floor jack to compress the shock strut [2] such that the bearing carrier moves into the outer cylinder [8].

NOTE: You can remove the wheel and tire assemblies for better mobility of the inner cylinder.

SUBTASK 32-21-24-020-010

(13) Remove the seal protector [55].

SUBTASK 32-21-24-020-011

(14) Remove the cam retainer plug [56].

SUBTASK 32-21-24-020-012

(15) Remove the gland nut retainer [54].

SUBTASK 32-21-24-640-001

WARNING: USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(WARNING PRECEDES)

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(16) Apply a thin layer of Cor-Ban 27L Compound, G50237, or Mastinox 6856 K, C00913, to the threads and the thread relief of the gland nut [13].

SUBTASK 32-21-24-420-009

(17) Install the gland nut [13]:

(a) Move the gland nut [13] up to the outer cylinder [8] and engage the threads.

(b) Use the NLG gland nut spanner wrench, SPL-1833, for the gland nut [13] to tighten the gland nut to 125 ft-lb (169 N·m) - 150 ft-lb (203 N·m).

SUBTASK 32-21-24-420-010

(18) Install the lock plate [28] and lock plate [27] for the gland nut [13]:

(a) Apply a thin layer of grease, D00013, or grease, D00633, to the shank and threads of bolt [29] and washer [30].

(b) Install the lock plate [27] and lock plate [28] in the holes which will put the tab of the lock plate [27] as close to a gland nut [13] slot as possible.

NOTE: If it is necessary, loosen the gland nut [13] slightly to align slot in the gland nut [13] with the lock plate [27].

(c) Install the bolt [29] and washer [30].

(d) Tighten the bolt [29] to 67 in-lb (7.6 N·m) - 82 in-lb (9.3 N·m).

(e) Install MS20995C32 lockwire, G01048, on the bolt [29].

SUBTASK 32-21-24-420-011

(19) Install the oil charging valve [10]:

(a) Apply a thin layer of fluid, D00467, to the new packing [17].

(b) Remove and discard the old packing [17].

(c) Install the new packing [17] on the oil charging valve [10].

(d) Install the oil charging valve [10] and tighten it to 22 ft-lb (29.8 N·m) - 25 ft-lb (33.9 N·m).

(e) Install MS20995C32 lockwire, G01048, on the oil charging valve [10].

(f) Install the cap assy [18] loosely.

NOTE: You tighten it in the shock strut servicing task.

(g) Apply compound, A00226, to the oil charging valve [10].

NOTE: Apply it to make sure the seal made by the compound, A00226, must break if the oil charging valve [10] is loosened.

SUBTASK 32-21-24-080-001

(20) Lower the airplane nose and remove the jacks (TASK 07-11-01-580-805).

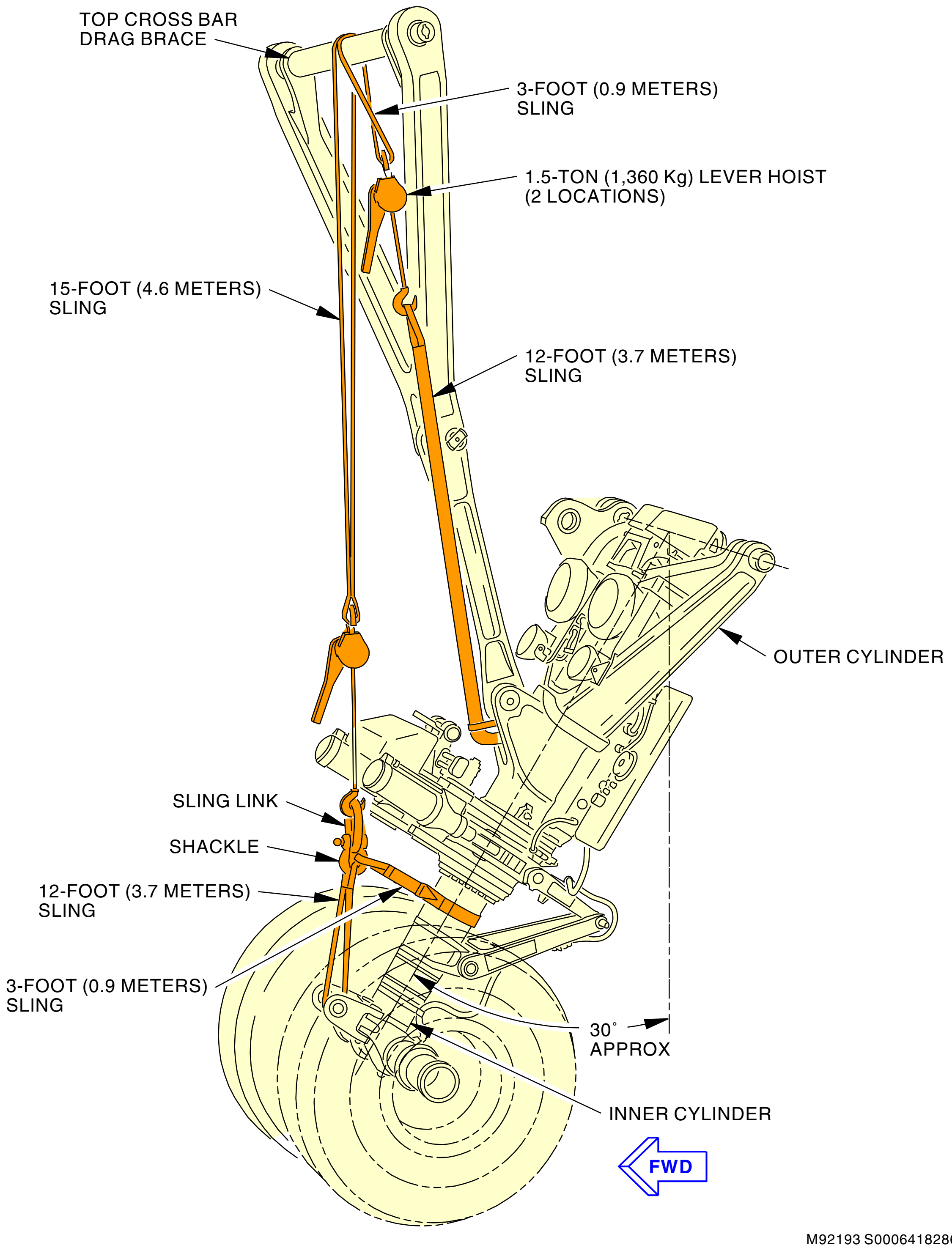
SUBTASK 32-21-24-420-012

(21) Do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-11-400-803.

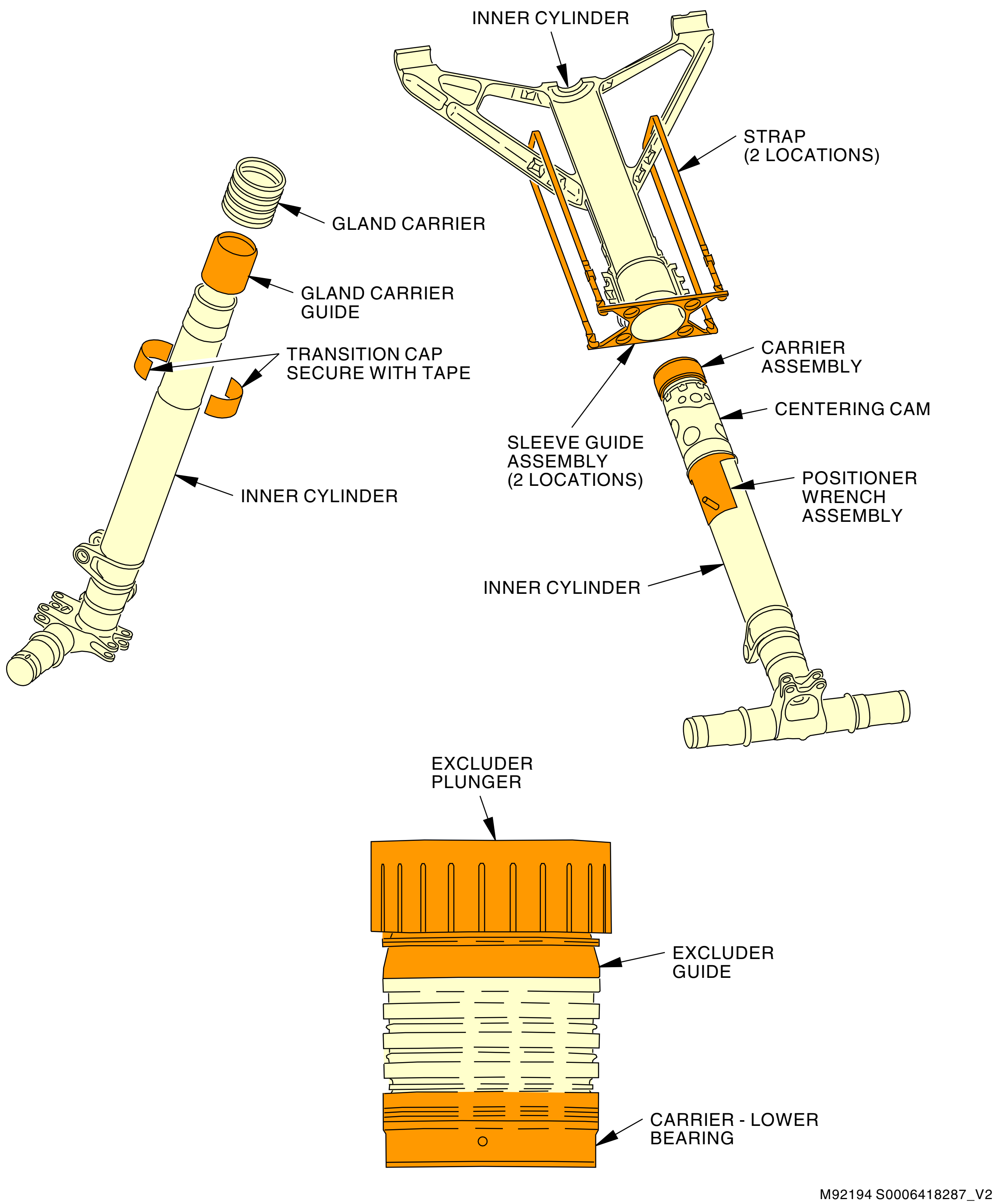
SUBTASK 32-21-24-600-001

(22) Do this task: Nose Landing Gear Shock Strut Servicing, TASK 12-15-02-610-805-002.

END OF TASK



NLG Inner Cylinder Hoist Equipment
Figure 403/32-21-24-990-804 (Sheet 1 of 2)



NLG Inner Cylinder Hoist Equipment
Figure 403/32-21-24-990-804 (Sheet 2 of 2)

NOSE LANDING GEAR SHOCK STRUT INNER CYLINDER - MAINTENANCE PROCEDURES

1. General

A. This procedure describes the removal and installation of the air and oil check valves.

TASK 32-21-24-000-801

2. Air and Oil Check Valves - Removal

A. General

(1) This task includes the steps to remove the air and oil check valves.

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1841	Equipment - Replacement, NLG Lower Seal Part #: J32009-49 Supplier: 81205 Opt Part #: J32009-29 Supplier: 81205 Opt Part #: J32009-45 Supplier: 81205

C. Remove the Air and Oil Check Valves

SUBTASK 32-21-24-020-014

(1) Upper and Lower Air Valve Removal:

(a) Remove cap [1] from air valve [2].

WARNING DO NOT REMOVE THE VALVE BODY UNTIL YOU DEFLATE THE SHOCK STRUT FULLY. THE AIR PRESSURE CAN BLOW THE VALVE BODY OUT AND CAUSE INJURIES TO PERSONNEL.

(b) Loosen the swivel nut [3] for a maximum of two turns.

NOTE: Fluid in the shock strut can have bubbles when you release the pressure. Deflate the shock strut slowly to prevent the leakage of the fluid through the air valve [2].

(c) Loosen the swivel nut [3] fully when all of the pressure in the shock strut is released.

(d) Remove and inspect the air valve [2].

(e) Discard the air valve [2] if it is damaged.

SUBTASK 32-21-24-020-015

(2) Oil Check Valve Removal:

CAUTION INSTALL THE CAM RETAINER PLUG QUICKLY AFTER YOU REMOVE THE OIL CHECK VALVE. HYDRAULIC FLUID WILL FLOW OUT OF THE SHOCK STRUT WHEN YOU REMOVE THE VALVE.

(3) Remove the oil check valve [6] and packing [7].

NOTE: This will allow you to install the retainer plug for the lower centering cam.

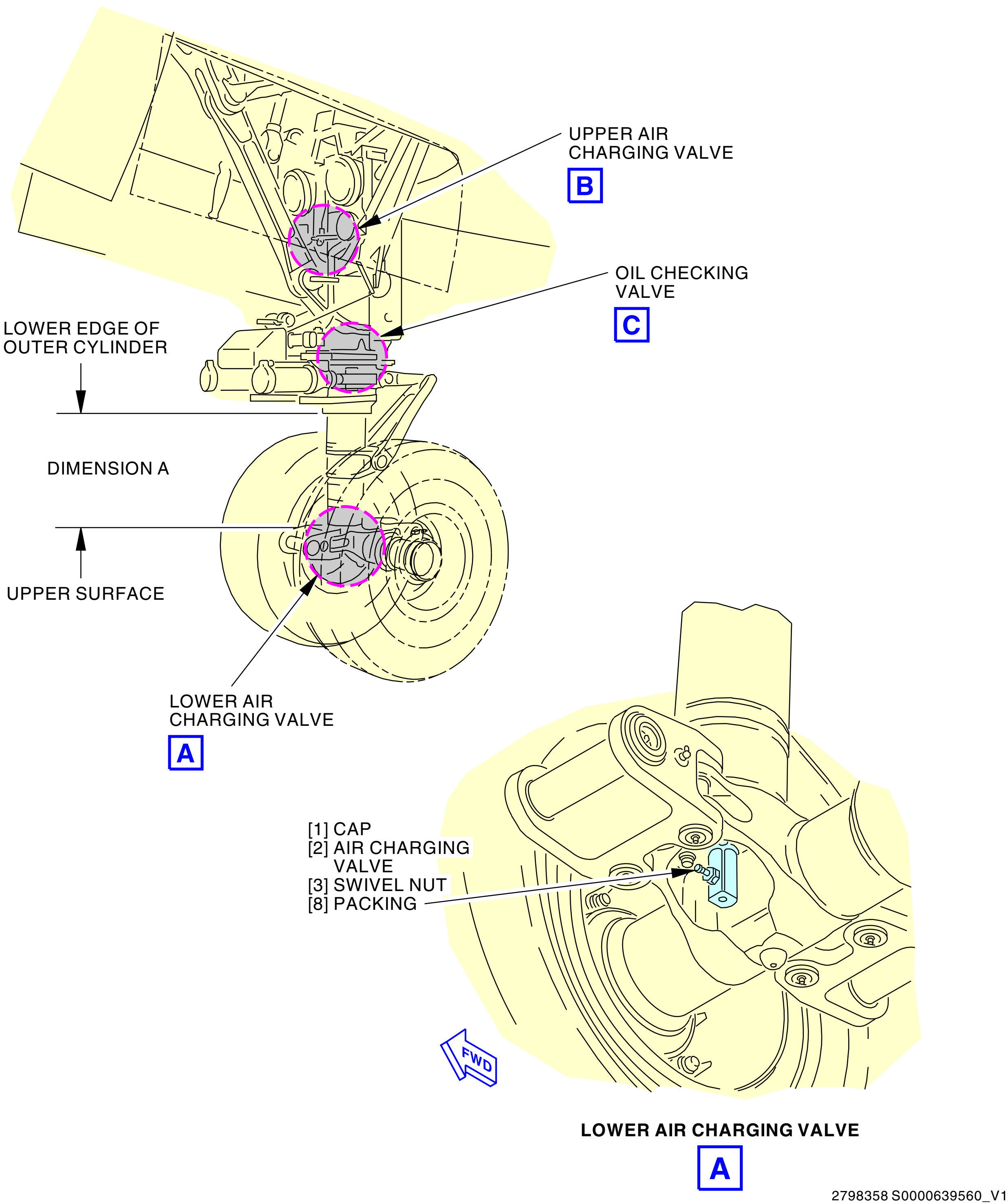
(a) Discard the oil check valve [6] if it is damaged and discard packing [7].

WARNING	MAKE SURE THAT YOU INSTALL THE CAM LOCK IN THE HOLE FOR THE OIL CHARGING VALVE. IF YOU DO NOT INSTALL THE CAM LOCK, THE LOWER CENTERING CAM CAN FALL OUT OF THE OUTER CYLINDER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

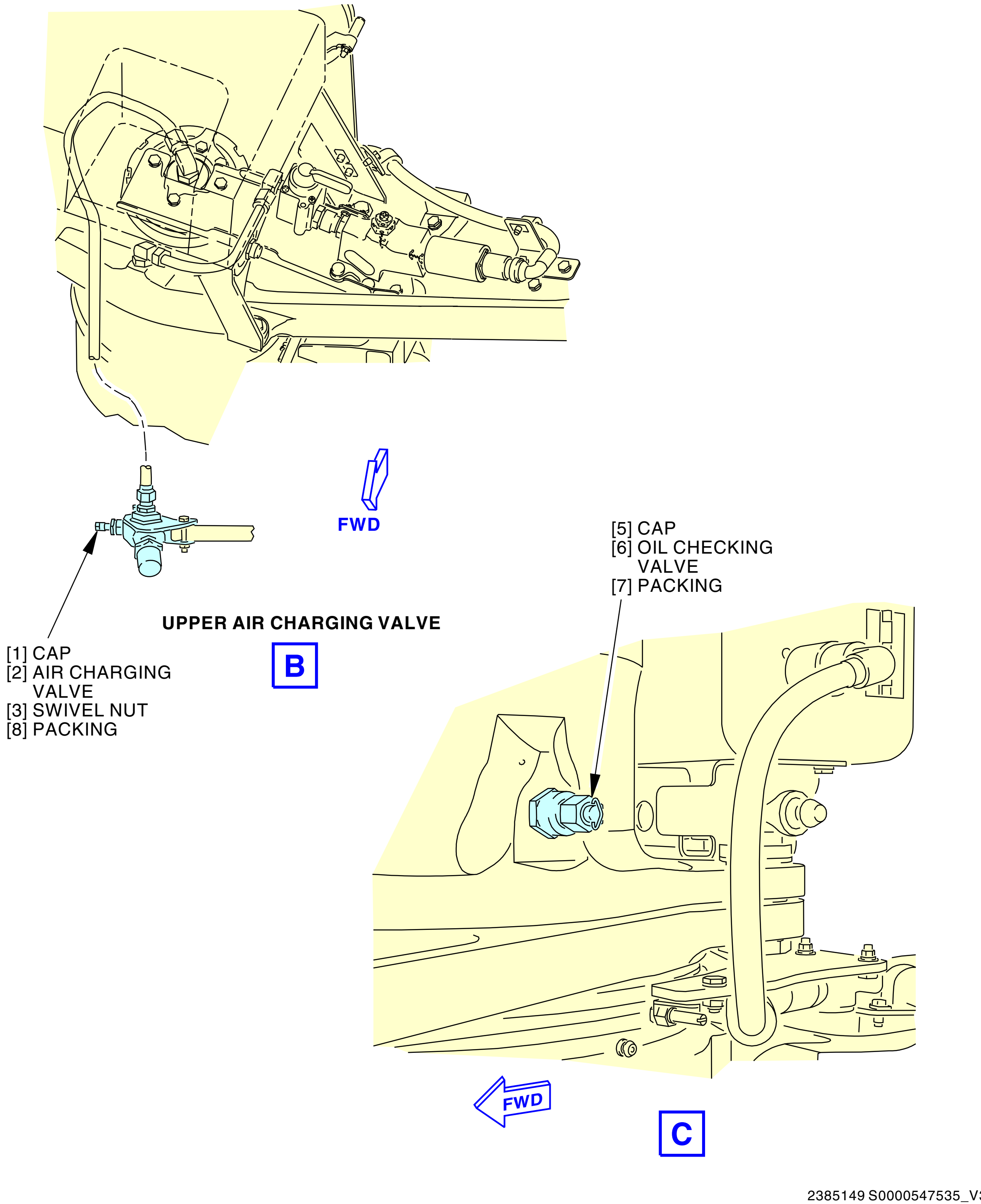
(4) Install the cam retainer plug, from NLG lower seal replacement equipment, SPL-1841, in the hole for the oil check valve [6] to keep the lower centering cam in its position

NOTE: The lower centering cam is difficult to install if it moves out of the cylinder of the shock strut.

——— END OF TASK ———



Air and Oil Check Valves
Figure 201/32-21-24-990-805 (Sheet 1 of 2)



Air and Oil Check Valves
Figure 201/32-21-24-990-805 (Sheet 2 of 2)

TASK 32-21-24-400-801

3. Air and Oil Check Valve Installation

A. General

(1) This task includes the steps to install the air and check valves.

B. Consumable Materials

Reference	Description	Specification
A00226	Compound - Tamper-Proof Putty	BMS8-45
D00467	Fluid - Landing Gear Shock Strut	BMS3-32 Type II
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

C. Install the Air and Oil check Valves

SUBTASK 32-21-24-420-014

(1) Upper and Lower Air valve installation:

(a) Install the air valve [2]:

1) Apply a thin layer of fluid, fluid, D00467 to new packing [8].

NOTE: New air valves have packings included.

2) Install the new packing [8].

3) Install the air valve [2].

4) Make sure that the air valve [2] body is tightened to 11 ft-lb (14.9 N·m)-13 ft-lb (17.6 N·m).

5) Make sure that the swivel nut [3] is tightened to 5 ft-lb (6.8 N·m)-7 ft-lb (9.5 N·m).

(b) Make sure the cap [1] is installed for the air valve [2].

(c) Apply tamper proof compound, A00226 to air valve [2], then if moved, it will cause the seal to break.

SUBTASK 32-21-24-420-015

(2) Oil check valve installation:

(a) Install the oil check valve [6]:

1) Apply a thin layer of fluid, fluid, D00467 to the new packing [7].

2) Install the new packing [7] on the oil check valve [6].

3) Install the oil check valve [6] and tighten it to 22 ft-lb (29.8 N·m)-25 ft-lb (33.9 N·m).

4) Install MS20995C32 lockwire, G01048 on the oil check valve [6].

5) Install the cap [5] and tighten it to 50 in-lb (5.6 N·m)-70 in-lb (7.9 N·m).

6) Apply tamper proof compound, A00226 to oil check valve [6], then if moved, it will cause the seal to break.

NOTE: Apply it to make sure the seal made by compound, A00226 must break if the oil check valve [6] is loosened.

END OF TASK

NOSE LANDING GEAR SHOCK STRUT SEALS - MAINTENANCE PRACTICES

1. General

A. This procedure provides instructions to do the tasks that follow:

(1) Replacement of the active seals with the spare seals on the lower bearing carrier.

(2) Installation of a new dynamic seal, new static seal, and new spare seals.

(3) Installation of new seals for the upper air chamber.

(4) Installation of new seals for the lower air chamber.

B. Make sure all working areas, tools, and your hands are clean when you handle the elastomer seals. Some greases can cause the elastomer seals to swell too much. This can cause the seals to leak.

TASK 32-21-25-960-806-002

2. Replace the Active Seals with the Spare Seals

(Figure 201, Figure 202, Figure 203)

A. General

(1) This task replaces the active seals and the static seals with the spare seals on the nose landing gear lower bearing carrier.

(2) For this task you will pull the lower bearing carrier out of the outer cylinder and replace the active seals with the spare seals that are already installed.

B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-21-24-960-801	Remove the NLG Shock Strut Inner Cylinder (P/B 401)
32-21-24-960-802	Install the NLG Shock Strut Inner Cylinder (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1888	Installation Tool, NLG Seal Part #: 4769-5009-0180 Supplier: 26303
SPL-1889	Removal Equipment, NLG and MLG Dynamic Seal Part #: J32072-49 Supplier: 81205 Part #: J32072-50 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00467	Fluid - Landing Gear Shock Strut	BMS3-32 Type II
D00589	Lubricant - Hydraulic Assembly - AFS-682	
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
18	Spare dynamic seal	32-21-02-02C-670	ARO ALL
20	Active static seal	32-21-02-02C-680	ARO ALL
21	Backup ring	32-21-02-02C-685	ARO ALL
25	Backup ring	32-21-02-02C-690	ARO ALL
26	Pin	32-21-02-02C-660	ARO ALL

F. Location Zones

Zone	Area
711	Nose Landing Gear

G. Prepare for the Removal

SUBTASK 32-21-25-480-015-002

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-21-25-860-005-002

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-21-25-420-044-002

(3) To access the lower bearing carrier, do this task: Remove the NLG Shock Strut Inner Cylinder, TASK 32-21-24-960-801.

(a) Do not remove the inner cylinder, the task is accomplished when the lower bearing is lowered out of the inner cylinder.

H. Procedure to Replace the Active Static and Active Dynamic Seal with the Spare Seals

SUBTASK 32-21-25-900-028-002

(1) Make sure that your hands are clean when you handle the elastomer seals.

NOTE: Some greases can cause the elastomer seals to swell too much. This can cause the seals to leak.

(2) Replace the active static seal with a spare seal (Figure 201):

(a) Remove the two backup rings [25] from around the active static seal [20].

(b) Make sure the backup rings [25] are serviceable:

1) Replace the old backup rings [25] with new backup rings [25] if there are nicks, scratches or other damage.

NOTE: It is recommended to replace all the old back-up rings with new backup rings.

a) If new backup rings [25] are not available, use the old backup rings [25] only after a full inspection.

(c) Cut the active static seal [20] from its outer groove in the lower bearing carrier [23].

(d) Move a spare static seal [22] out of the spare seal groove in the lower bearing carrier [23].

(e) Wipe the spare static seal [22] and the backup rings [25] to remove any unwanted assembly lubricant or hydraulic fluid.

(f) Put the spare static seal [22] and the backup rings [25] in the static seal groove on the lower bearing carrier [23]:

1) Put the white backup rings [25] on the spare static seal [22] with the rounded edge of the backup rings [25] against the seal.

2) Install the black backup rings [25] with the split of the black backup rings [25] in opposite positions on the diameter of the lower bearing carrier [23] as of the split of the white backup rings [25].

SUBTASK 32-21-25-020-053-002

(3) Remove the spare seal carrier [58]:

(a) Remove the pins [26] for the spare seal carrier [58].

(b) Move the spare seal carrier [58] and the lower bearing carrier [23] apart to get access to the spare dynamic seal [18] and the active dynamic seal [19].

SUBTASK 32-21-25-900-029-002

(4) Make sure that your hands are clean when you handle the elastomer seals.

NOTE: Some greases can cause the elastomer seals to swell too much. This can cause the seals to leak.

(5) Replace the active dynamic seal [19] with the spare seal:

(a) Remove the active dynamic seal [19] from the inside groove of the lower bearing carrier [23]:

1) If there is a three piece capped seal in the dynamic location, use these steps to remove it:

a) Put the cap edge cutter, from removal equipment, SPL-1889, on the edge of the lower bearing carrier [23].

<1> Make sure the blade on the cutter is visible before you use it.

b) Push the cutter counter-clockwise around the edge of the lower bearing carrier [23] to cut the edge off the dynamic seal cap.

c) Screw the extractor tool into the elastic part of the active dynamic seal [19].

NOTE: The back up ring will protect the bearing carrier from the extractor.

d) Lift up on the extractor to pull the active dynamic seal [19] from the lower bearing carrier [23].

(b) Cut the active dynamic seal [19] from the inner cylinder [12].

(c) Remove the backup ring [25] and cap for the active dynamic seal [19] from the lower bearing carrier [23].

(d) Move the spare dynamic seal [18] off of the spare seal carrier [58] and move it down onto the inner cylinder [12].

NOTE: The round sealing surface of the seal must be against the chrome on the inner cylinder.

(e) Remove the backup rings [21] from the lower bearing carrier [23].

(f) Apply a thin layer of fluid, D00467 or AFS-682 lubricant, D00589 to the spare dynamic seal [18] and the backup rings [21].

NOTE: The AFS-682 lubricant, D00589 will help keep the backup rings [21] in their positions.

(g) Install the spare dynamic seal [18]:

NOTE: The spare seal is assembled one piece at a time in the groove for the dynamic seal.

1) Use NLG seal installation tool, COM-1888, to help you install the seal and the backup rings [25].
2) Install a black backup ring [21] in the groove for the active dynamic seal [19].
3) Install a white backup ring [21], with the split in an opposite position on the diameter of the inner cylinder [12] as the black backup ring [21], and with the rounded edge facing up.
4) Make sure the backup rings [21] are tight against the inner cylinder [12].
5) Install the spare dynamic seal [18] in the groove, with the rounded edge against the inner cylinder [12].
6) Install the other white backup ring [21] in the groove with the rounded edge facing the spare dynamic seal [18].
7) Install the other black backup ring [21] in the groove, with the split in an opposite position on the diameter of the inner cylinder [12] as the white backup ring [21].
8) Make sure the seal assembly is together, without any twists or bulges, as shown in View E, Figure 201.
   a) You can use NLG seal installation tool, COM-1888 (or equivalent) to make sure that you installed the seal assembly correctly.

SUBTASK 32-21-25-420-045-002

(6) Install the spare seal carrier [58] on the lower bearing carrier [23]:

(a) Move the spare seal carrier [58] down on the lower bearing carrier [23].

(b) Install the retainer pins [26] for the spare seal carrier [58] to connect the spare seal carrier [58] to the lower bearing carrier [23].

NOTE: The holes in the spare seal carrier are for venting purposes, when you install the pins [26] in the lower bearing carrier, the pins do not engage the holes in the spare seal carrier.

I. Put the Airplane Back to Its Usual Condition.

SUBTASK 32-21-25-420-046-002

(1) Carefully push the seal protector [55] between the outer cylinder [8] and the inner cylinder [12].

NOTE: The seal protector will expand and press against the outer cylinder, this will protect the active static seal [20] from the gland nut threads.

SUBTASK 32-21-25-020-054-002

(2) Do this task: Install the NLG Shock Strut Inner Cylinder, TASK 32-21-24-960-802.

SUBTASK 32-21-25-640-006-002

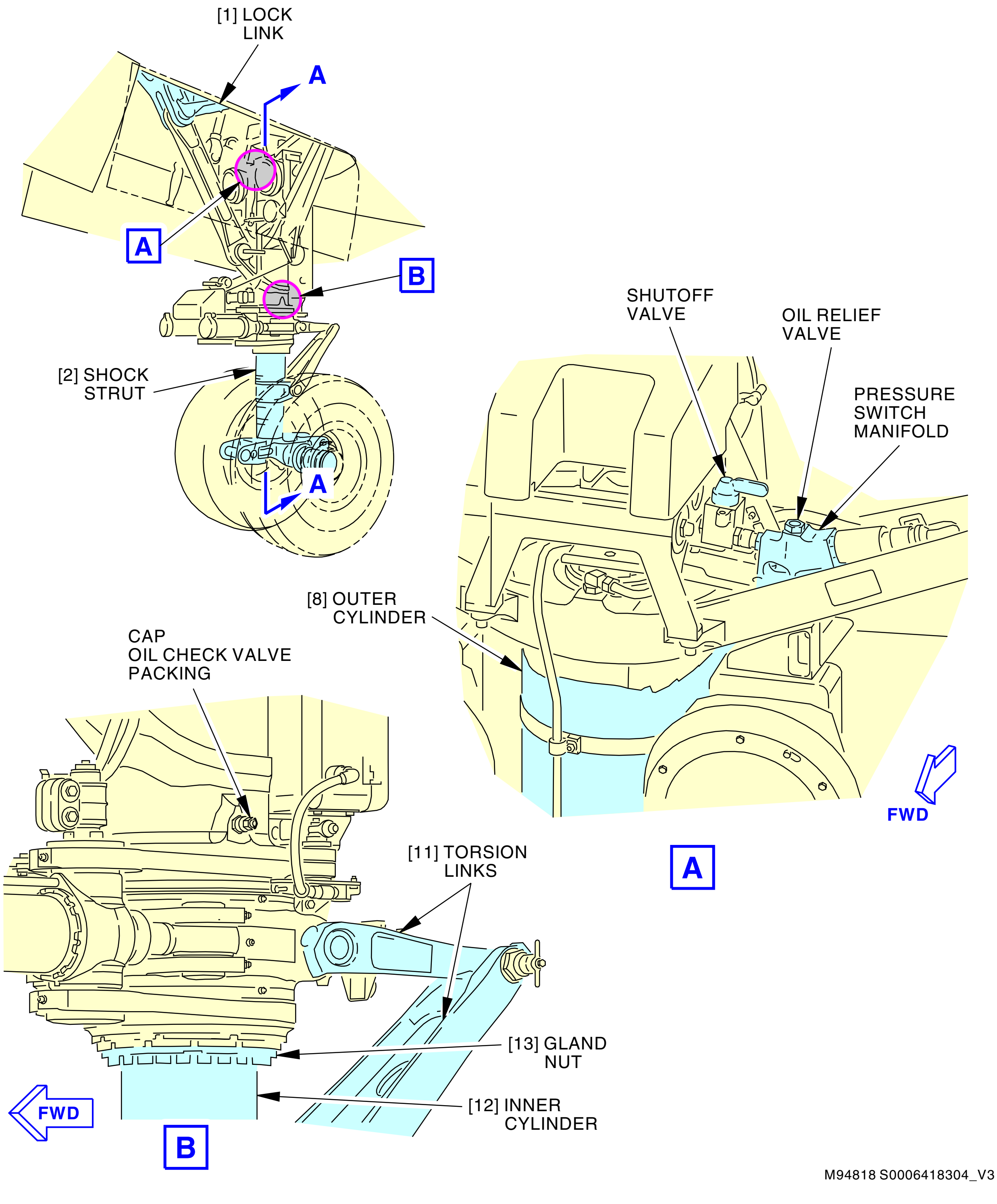
WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(WARNING PRECEDES)

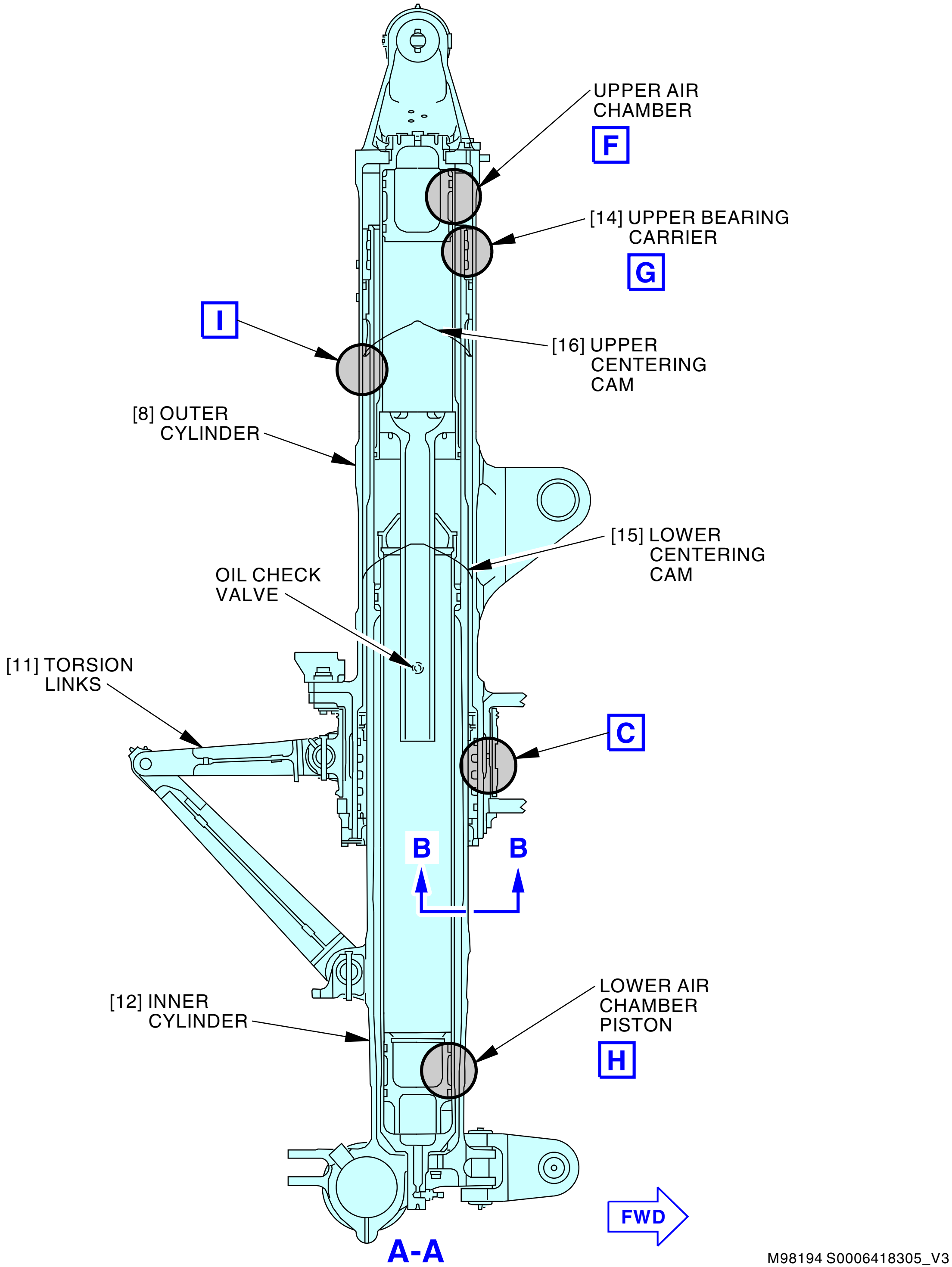
WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) Apply a thin layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the threads and the thread relief of the gland nut [13].

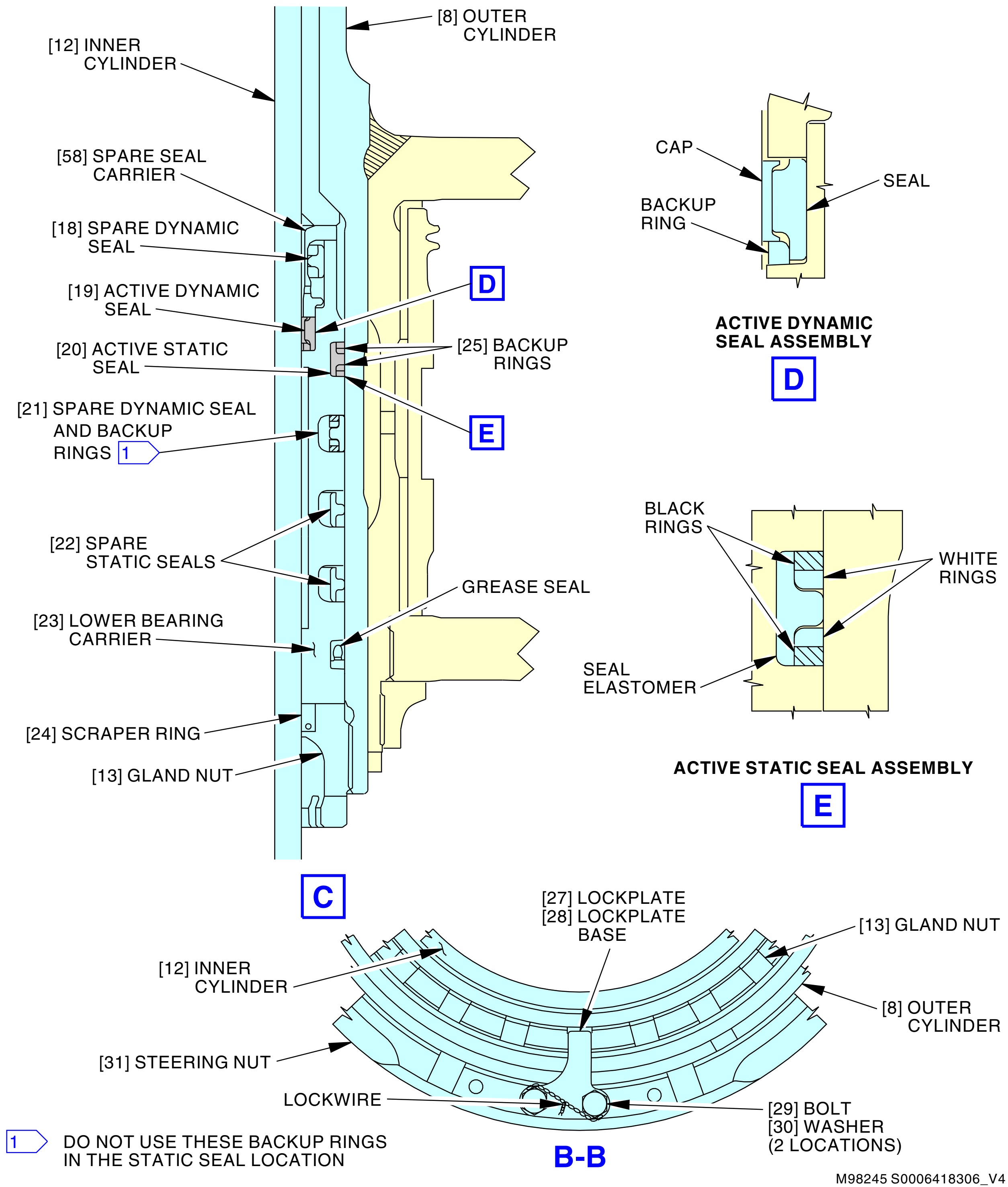
END OF TASK



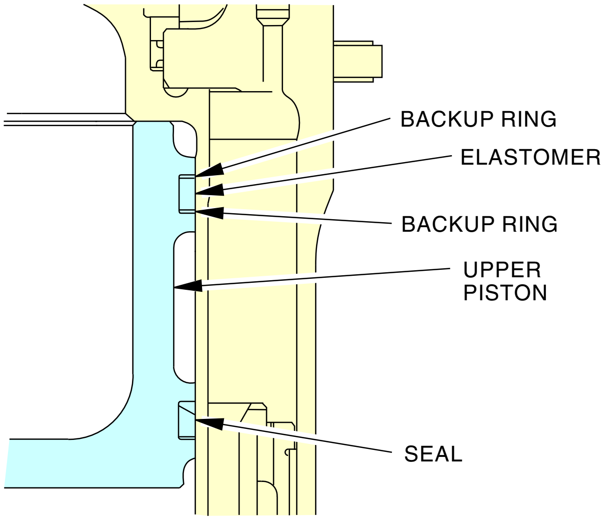
Active Seal Replacement with the Spare Seals
Figure 201/32-21-25-990-807-002 (Sheet 1 of 5)



Active Seal Replacement with the Spare Seals
Figure 201/32-21-25-990-807-002 (Sheet 2 of 5)

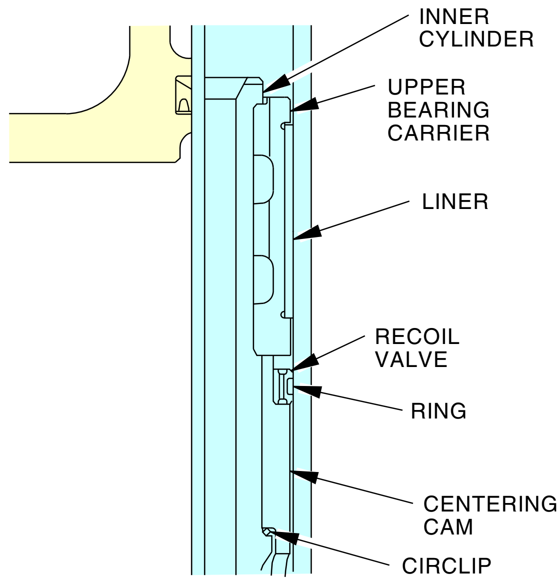


Active Seal Replacement with the Spare Seals
Figure 201/32-21-25-990-807-002 (Sheet 3 of 5)



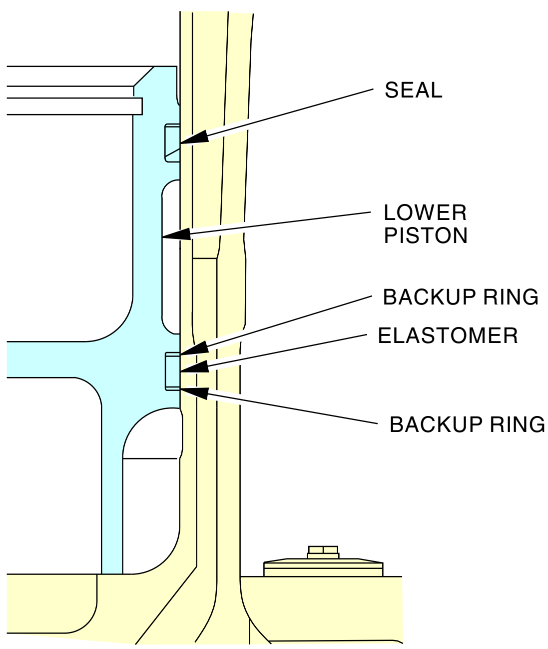
UPPER AIR CHAMBER PISTON

F



UPPER BEARING

G



LOWER AIR CHAMBER PISTON

H

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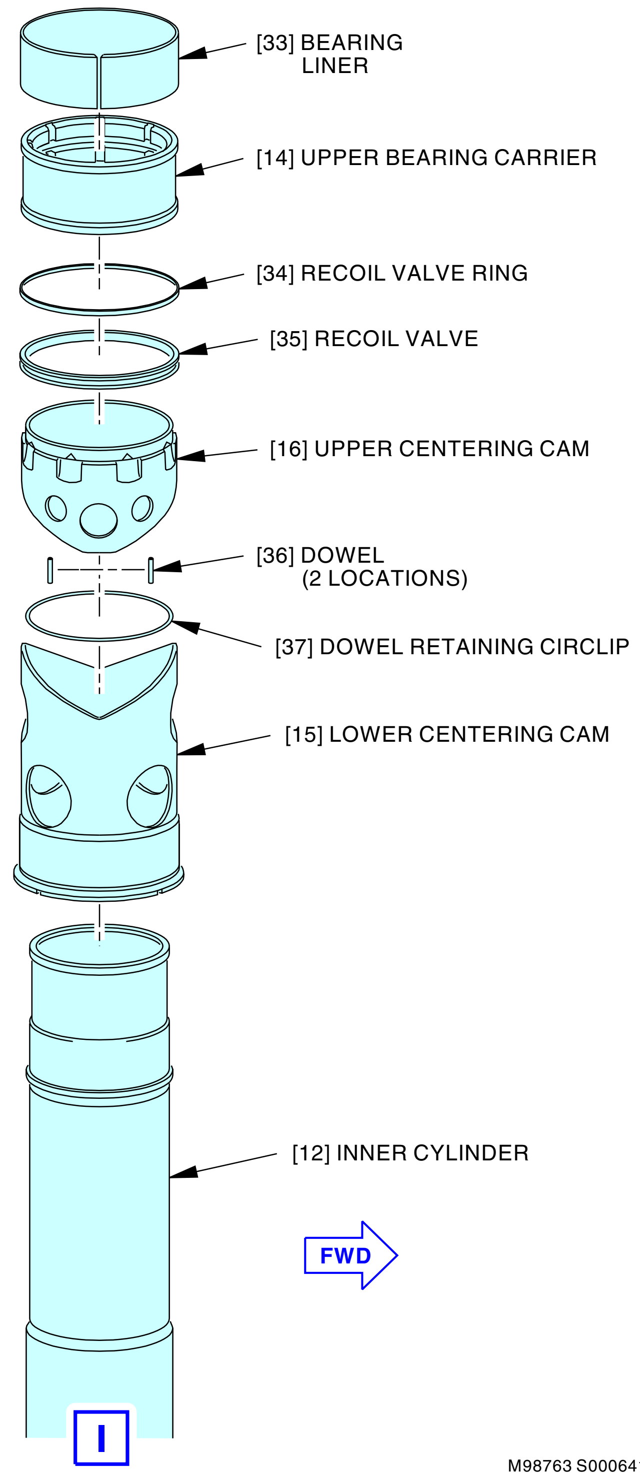
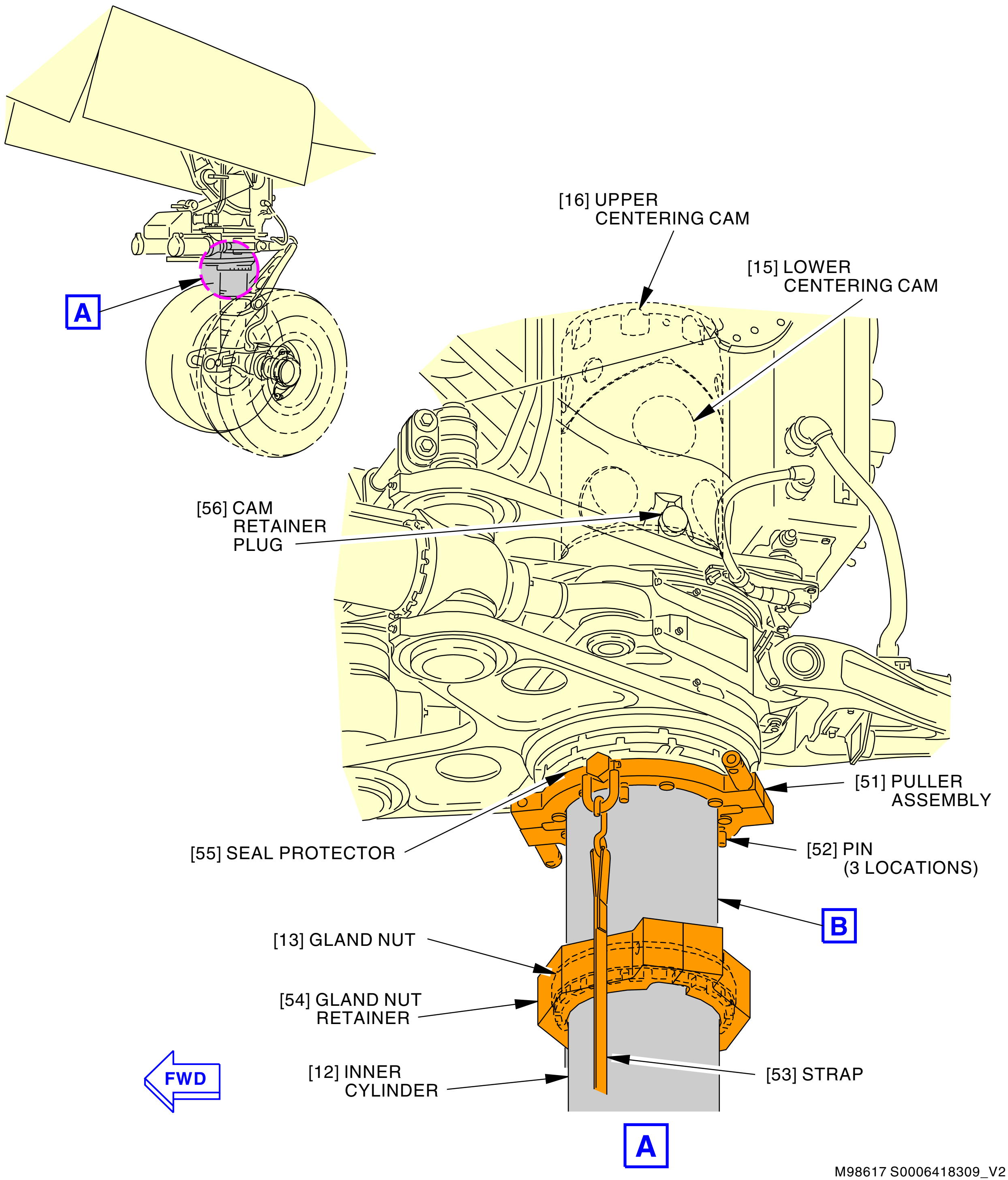
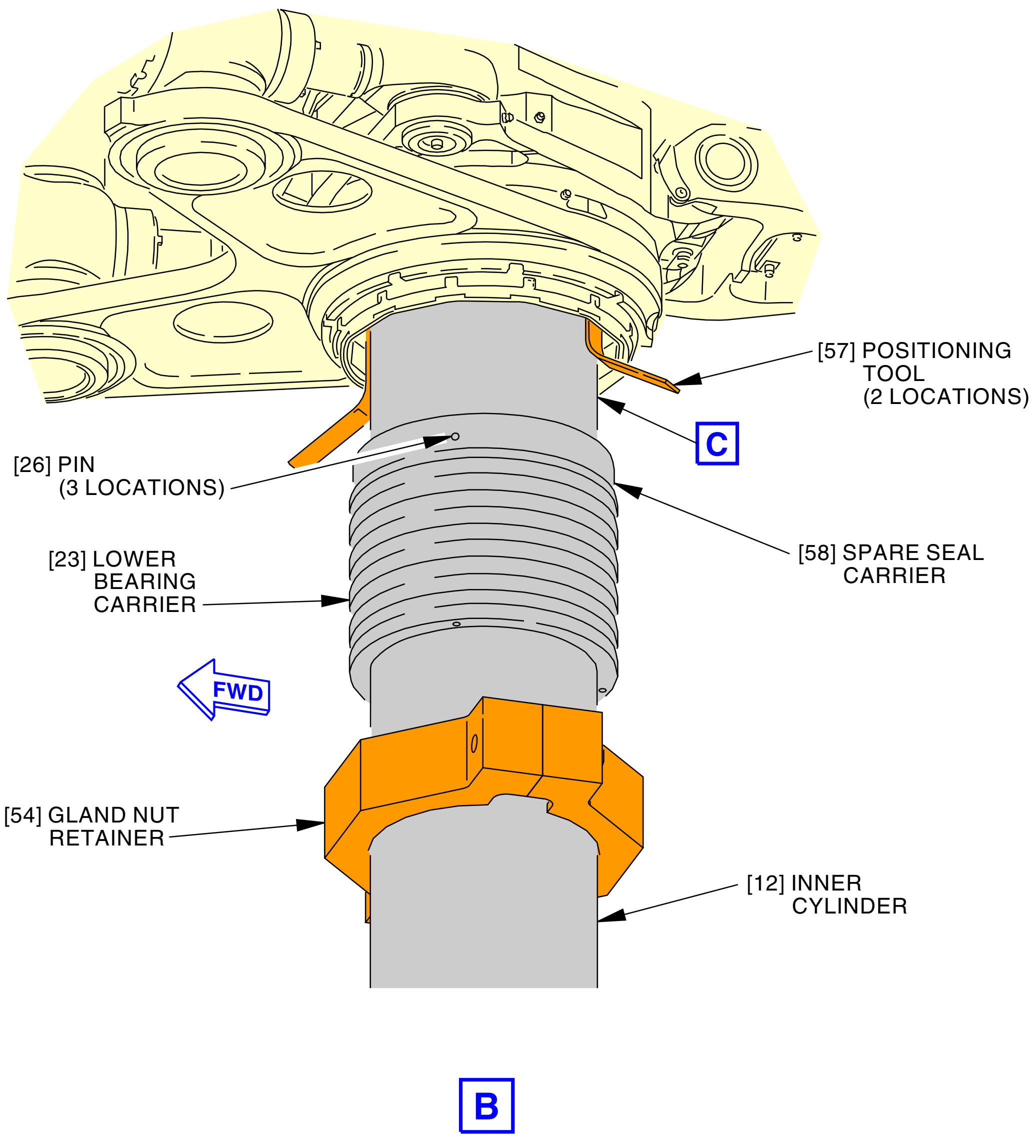
Active Seal Replacement with the Spare Seals
Figure 201/32-21-25-990-807-002 (Sheet 4 of 5)



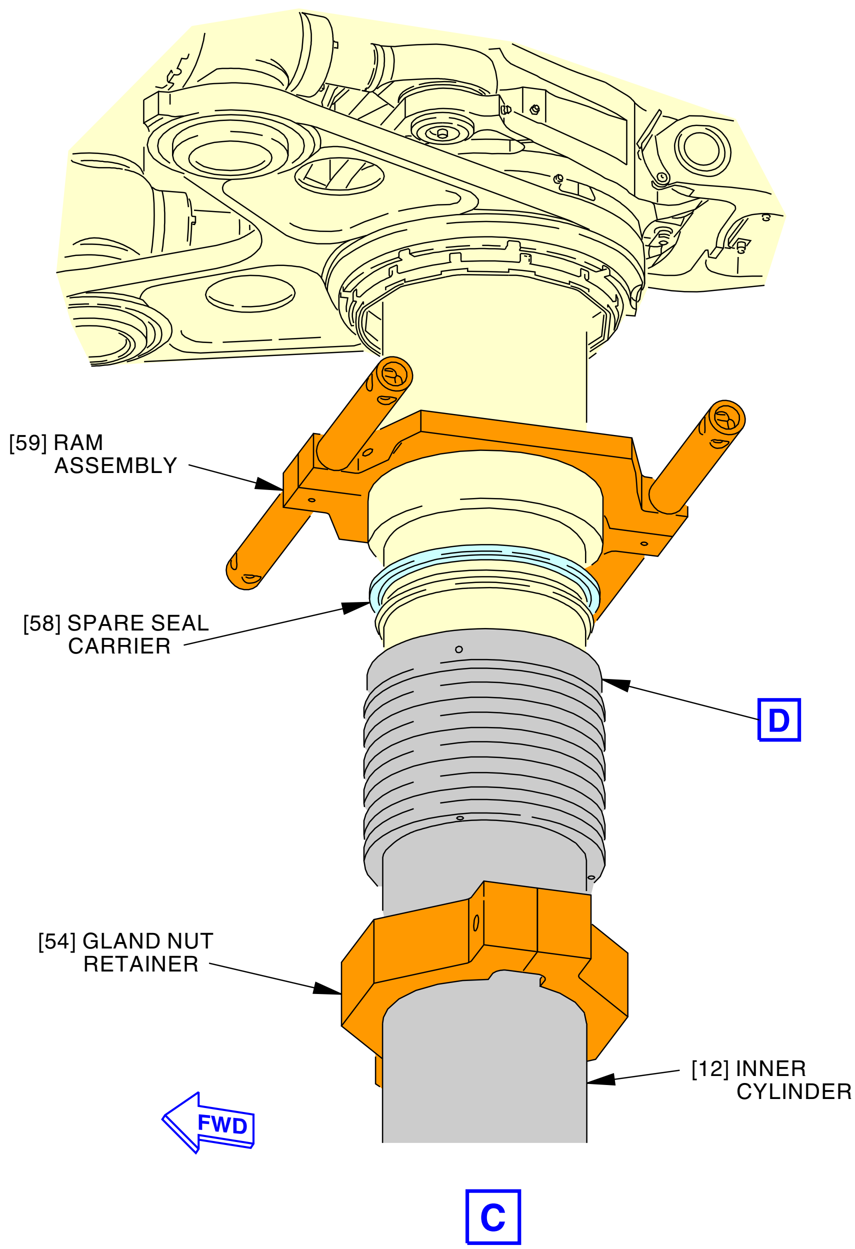
Active Seal Replacement with the Spare Seals
Figure 201/32-21-25-990-807-002 (Sheet 5 of 5)



NLG Lower Bearing Puller Equipment
Figure 202/32-21-25-990-808-002 (Sheet 1 of 4)



NLG Lower Bearing Puller Equipment
Figure 202/32-21-25-990-808-002 (Sheet 2 of 4)



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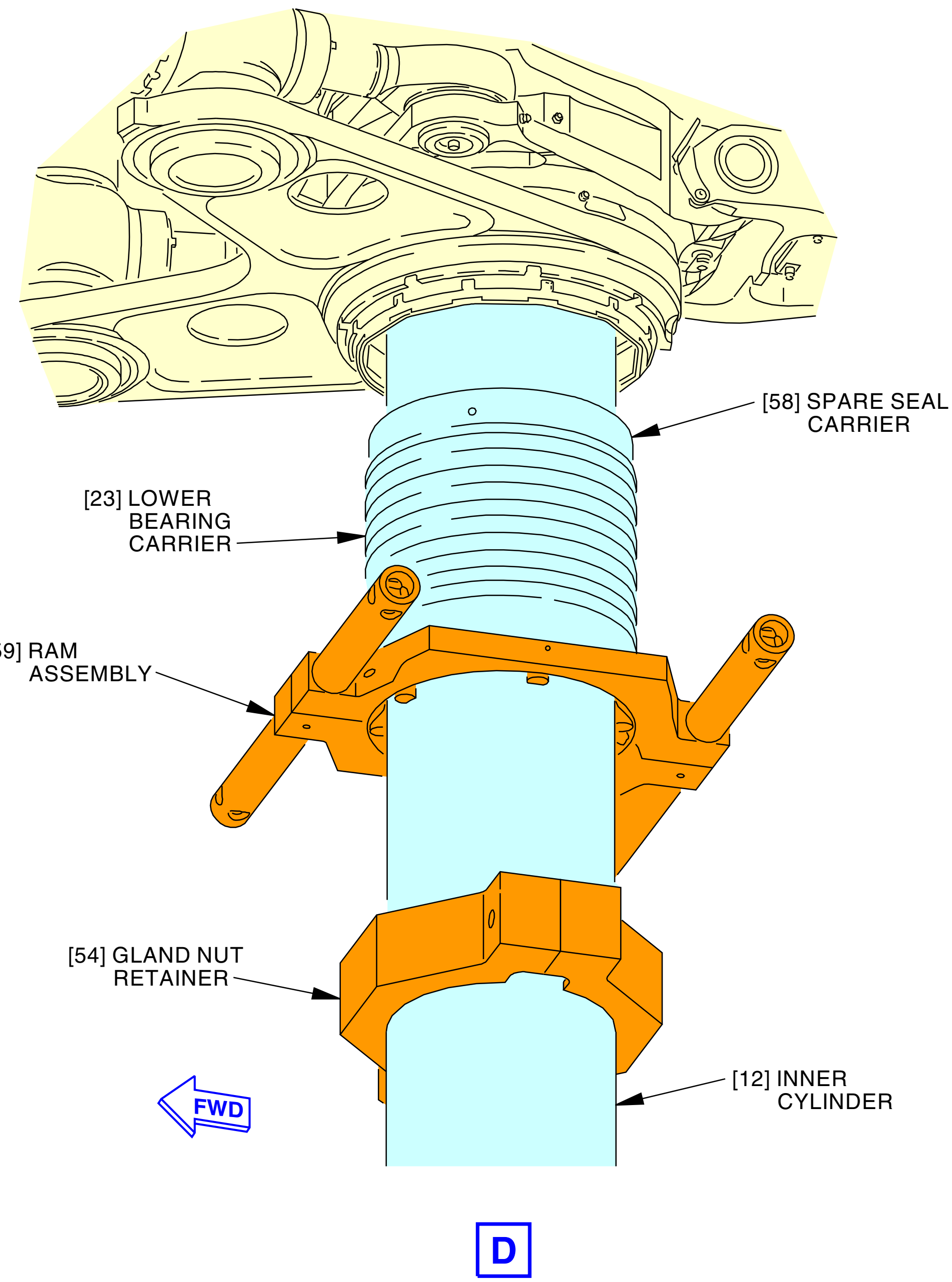
NLG Lower Bearing Puller Equipment
Figure 202/32-21-25-990-808-002 (Sheet 3 of 4)



NLG Lower Bearing Puller Equipment
Figure 202/32-21-25-990-808-002 (Sheet 4 of 4)

TASK 32-21-25-960-807-002

3. Replace the Active Seals, Spare Seals and the Gland Nut Scraper Ring

(Figure 201, Figure 202, Figure 203)

A. General

(1) This task provides instructions to replace the active seals, spare seals and the gland nut scraper ring on the nose landing gear lower bearing carrier.

(2) To complete this task it is necessary for you to disconnect the inner cylinder from the outer cylinder.

(3) The NLG inner cylinder hoist equipment, SPL-1890 (J32073), or similar should be used to support the inner cylinder as it is removed from the outer cylinder.

B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-21-24-960-801	Remove the NLG Shock Strut Inner Cylinder (P/B 401)
32-21-24-960-802	Install the NLG Shock Strut Inner Cylinder (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1841	Equipment - Replacement, NLG Lower Seal Part #: J32009-49 Supplier: 81205 Opt Part #: J32009-29 Supplier: 81205 Opt Part #: J32009-45 Supplier: 81205
SPL-1890	Hoist Equipment - Removal/Installation, NLG Inner Cylinder Part #: J32073-21 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
D00467	Fluid - Landing Gear Shock Strut	BMS3-32 Type II
D00589	Lubricant - Hydraulic Assembly - AFS-682	
G02438	Wrap - Tie - TY24M (TY-RAP)	

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
18	Spare dynamic seal	32-21-02-02C-670	ARO ALL
19	Active dynamic seal	32-21-02-02C-675	ARO ALL
20	Active static seal	32-21-02-02C-680	ARO ALL
21	Backup ring	32-21-02-02C-685	ARO ALL
22	Spare static seal	32-21-02-02C-695	ARO ALL
24	Scraper ring	32-21-02-02C-550	ARO ALL
25	Backup ring	32-21-02-02C-690	ARO ALL

F. **Location Zones**

Zone	Area
711	Nose Landing Gear

G. **Prepare for the Replacement**

SUBTASK 32-21-25-480-016-002

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-21-25-860-006-002

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-21-25-020-055-002

(3) Do this task, do this task: Remove the NLG Shock Strut Inner Cylinder, TASK 32-21-24-960-801.

SUBTASK 32-21-25-020-056-002

(4) Lower the inner cylinder [12] on to a padded work table so it is easier to work.

NOTE: The inner cylinder is full of shock strut fluid.

SUBTASK 32-21-25-020-057-002

(5) Remove the upper bearing carrier [14] and recoil valve assembly from the top of the inner cylinder [12]:

(a) Remove the bearing liner [33] from the upper bearing carrier [14].

1) Pull the bearing apart slightly and slide it up and off the upper bearing carrier [14].

2) Check the condition of the bearing surface that contacts the outer cylinder chrome:

a) The appearance of approximately 10 percent of the bronze exposed on the bearing surface, that contacts the outer cylinder chrome, indicates normal bearing wear.

b) When 40 - 50 percent of the bronze is exposed, the bearing approaches its half life.

c) If 75 percent of the bronze is visible on the bearing surface, a measurement of the wall thickness is recommended. The bearing should be replaced when the wall thickness measures 0.116 in. (2.95 mm) or less.

(b) Remove the upper bearing carrier [14] halves from the inner cylinder [12].

(c) Remove the recoil valve [35] from the upper centering cam [16].

SUBTASK 32-21-25-020-058-002

(6) Remove the upper centering cam [16] from the inner cylinder [12].

(a) Remove the dowel retaining circlip [37] and the dowel [36] from the inner cylinder [12].

SUBTASK 32-21-25-020-059-002

(7) Remove the lower centering cam [15] from the inner cylinder [12].

SUBTASK 32-21-25-020-060-002

(8) Move the lower bearing carrier [23] up and off of the inner cylinder [12].

(a) Check the condition of the bearing surface that contacts the inner cylinder chrome:

1) The appearance of approximately 10 percent of the bronze exposed on the bearing surface, that contacts the inner cylinder chrome, indicates normal bearing wear.

2) When 40 - 50 percent of the bronze is exposed, the bearing approaches its half life.

3) If 75 percent of the bronze is visible on the bearing surface, a measurement of the wall thickness is recommended. The bearing should be replaced when the wall thickness measures 0.116 in. (2.95 mm) or less.

H. Procedure to Replace the active dynamic seal, the active static seal, the spare seals, and the gland nut scraper ring.

SUBTASK 32-21-25-900-030-002

(1) Install the new scraper ring [24] on the gland nut [13] if there is any sign of damage or wear:

NOTE: The scraper ring [24] prevents dirt and debris from entering the shock strut when the inner and outer cylinder compress.

(a) Remove the gland nut [13] from the inner cylinder [12] and gland nut retainer [54].

(b) Install the new scraper ring [24] in its groove in the gland nut [13].

SUBTASK 32-21-25-900-031-002

(2) Install the gland nut [13] on the inner cylinder [12]:

(a) Make sure the gland nut [13] is in the gland nut retainer [54].

CAUTION	MAKE SURE THAT THE CASTELLATED EDGE OF THE GLAND NUT POINTS DOWN WHEN YOU INSTALL THE GLAND NUT. IF YOU INSTALL THE GLAND NUT INCORRECTLY, THE STRUT WILL DEFLATE. A DEFLATED OR FLAT STRUT CAN CAUSE DAMAGE DURING LANDING.

(b) Install the gland nut [13] on the inner cylinder [12].

SUBTASK 32-21-25-900-032-002

(3) Use the excluder plunger [75] and excluder guide [76] (NLG inner cylinder hoist equipment, SPL-1890 (J32073)), to install the new excluder [17] on the lower bearing carrier [23], if there is any sign of damage or wear:

NOTE: The excluder [17] prevents grease from entering the shock strut when the gland nut [13] is lubricated at the zerk fitting.

(a) Install the new excluder [17] in its groove in the lower bearing carrier [23].

SUBTASK 32-21-25-900-033-002

(4) Replace the active static seal [20] (Figure 201):

(a) Make sure that your hands are clean when you handle the elastomer seals.

NOTE: Some greases can cause the elastomer seals to swell too much. This can cause the seals to leak.

(b) Remove the two backup rings [25] from around the active static seal [20].

(c) Make sure the backup rings [25] are serviceable:

1) Replace the old backup rings [25] with new backup rings [25] if there are nicks, scratches or other damage.

NOTE: It is recommended to replace all the old back-up rings with new backup rings.

a) If new backup rings [25] are not available, use the old backup rings [25] only after a full inspection.

(d) Remove the active static seal [20] from its outer groove in the lower bearing carrier [23].

(e) Apply a thin layer of fluid, D00467 or AFS-682 lubricant, D00589 to the new active static seal [20] and the backup rings [25].

NOTE: The AFS-682 lubricant, D00589 will help keep the backup rings [25] in their positions.

(f) Install the new active static seal [20] and the backup rings [25] in the static seal groove on the lower bearing carrier [23]:

1) Install the white backup rings [25] on the spare static seal [22] with the rounded edge of the backup rings [25] against the seal.

2) Install the black backup rings [25] with the split of the black backup rings [25] in opposite positions on the diameter of the lower bearing carrier [23] as of the split of the white backup rings [25].

SUBTASK 32-21-25-900-034-002

(5) Replace the spare static seals [22]:

(a) Make sure that your hands are clean when you handle the elastomer seals.

NOTE: Some greases can cause the elastomer seals to swell too much. This can cause the seals to leak.

(b) Wipe the spare static seal [22] and the backup rings [25] to remove any unwanted assembly lubricant or hydraulic fluid.

(c) Install the new spare static seals [22] on the lower bearing carrier [23].

NOTE: The spare static seals [22] should be installed as shown in View C, Figure 201.

SUBTASK 32-21-25-900-035-002

(6) Install the new backup ring [21] in their groove on the lower bearing carrier [23].

SUBTASK 32-21-25-900-036-002

(7) Replace the active dynamic seal [19] and the spare dynamic seal [18]:

(a) Remove the pins [26] for the spare seal carrier [58].

(b) Remove the spare seal carrier [58] from the lower bearing carrier [23].

(c) Install a spare dynamic seal [18] if there is not a spare seal on the spare seal carrier [58]:

1) Apply a thin layer of fluid, D00467 or AFS-682 lubricant, D00589 to the spare dynamic seal [18].

2) Install the spare dynamic seal [18] on the spare seal carrier [58] as shown in View C, Figure 201.

(d) Remove the active dynamic seal [19] from the inside groove of the lower bearing carrier [23].

(e) Apply a thin layer of fluid, D00467 or AFS-682 lubricant, D00589 to the new active dynamic seal [19].

(f) Install the active dynamic seal [19], as shown in View D, (Figure 201), in the inner groove of the lower bearing carrier [23].

1) Make sure the backup ring [21] and the wide seal edge is toward the bottom of the inner cylinder [12].

(g) Make sure the seal fits smoothly in its location.

1) Put bulges on opposite side of the inside diameter of the carrier to make the installation easier.

(h) Put the spare seal carrier [58] in its position on the lower bearing carrier [23].

(i) Install the pins [26] for the spare seal carrier [58] to connect the spare seal carrier [58] to the lower bearing carrier [23].

NOTE: The holes in the spare seal carrier are for venting purposes, when you install the pins [26] in the lower bearing carrier [23], the pins do not engage the holes in the spare seal carrier.

SUBTASK 32-21-25-900-037-002

(8) Install the lower bearing carrier [23]:

(a) Install the seal guide tooling, from NLG lower seal replacement equipment, SPL-1841, on the inner cylinder [12].

1) If the tooling is not available, you can wrap a sheet of mylar around the inner cylinder [12].

a) Only wrap the mylar around one time.

2) Lubricate the inner cylinder [12] and the seal guide tool with fluid, D00467.

CAUTION	MAKE SURE THAT THE BACK-UP RING, THE CAP AND THE SEAL STAY TOGETHER WHILE YOU INSTALL THE LOWER BEARING CARRIER. IF THE BACK-UP RING, THE CAP AND THE SEAL MOVE APART, THEY WILL NOT INSTALL CORRECTLY. THIS CAN CAUSE DAMAGE TO THE SEAL AND THE BACK-UP RING.

(b) Install the lower bearing carrier [23] on the inner cylinder [12] and push it down as far as possible.

(c) Use the ram assembly [59], from NLG lower seal replacement equipment, SPL-1841, to move the lower bearing carrier [23] on the chrome of the inner cylinder [12]:

(d) Move the lower bearing carrier [23] down to the bottom of the inner cylinder [12].

SUBTASK 32-21-25-900-038-002

(9) Install the lower centering cam [15] on the inner cylinder [12].

(a) Turn the centering cam so the small hole next the dowel is on the left side of the inner cylinder [12].

(b) Draw a vertical line on the lower centering cam [15] from the middle of the small hole for the retainer plug up to the top of the lower centering cam [15].

NOTE: This line will help you align the lower centering cam when you install it.

SUBTASK 32-21-25-900-039-002

(10) Install the upper centering cam [16]:

(a) Install the dowel retaining circlip [37] on the inner cylinder [12] just above the edge for the upper centering cam [16].

(b) Apply AFS-682 lubricant, D00589, or equivalent, to the dowels [36] to help keep them in their position.

(c) Install the dowels [36] in their grooves on the inner cylinder [12] just above the dowel retaining circlip [37] (not underneath it).

(d) Install the upper centering cam [16] on the inner cylinder [12] and on the dowels [36].

SUBTASK 32-21-25-900-040-002

(11) Install the recoil valve [35], the upper bearing carrier [14], and the bearing liner [33].

(a) Install the recoil valve [35] on the top of the upper centering cam [16].

(b) Install the upper bearing carrier [14] halves on the inner cylinder [12].

(c) Install the bearing liner [33] on the upper bearing carrier [14] halves.

NOTE: If the bearing liner [33] does not fit tight around the upper bearing carrier [14], it will be necessary to hold the bearing closed during inner cylinder installation.

1) Hold the bearing liner [33] tightly around the upper bearing carrier [14].

NOTE: You can use a TY24M (TY-RAP) tie wrap, G02438 to do this.

2) Wrap tape around the bottom of the bearing liner [33], such that the adhesive side is on the outside, and leave a length of tape approximately 3 ft (0.9 m) long that hangs down.

a) Do not put the adhesive side towards the bearing surface.

3) Remove the TY-RAP if you installed one.

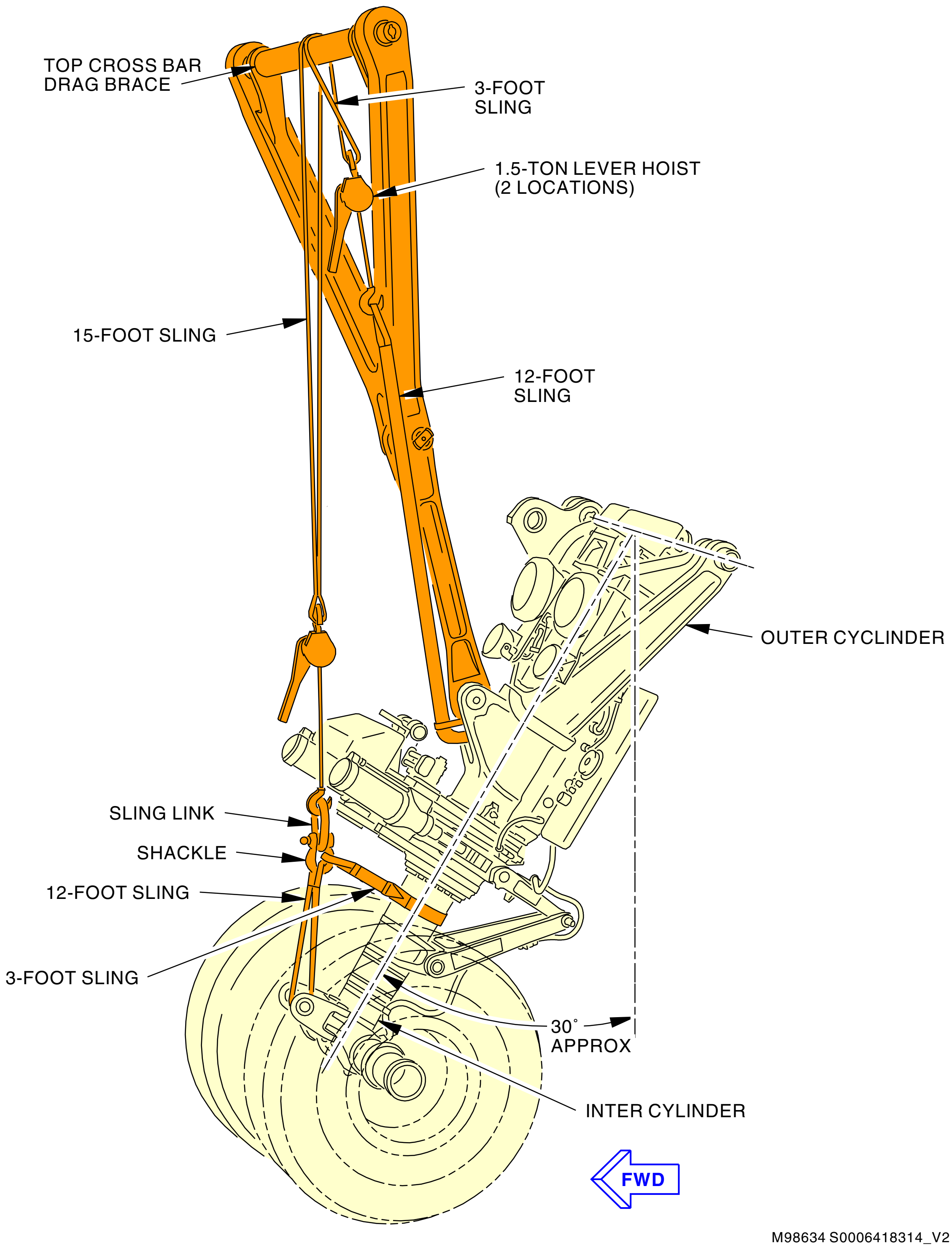
SUBTASK 32-21-25-420-050-002

(12) Put the inner cylinder [12] in the correct position for the installation in the outer cylinder [8].

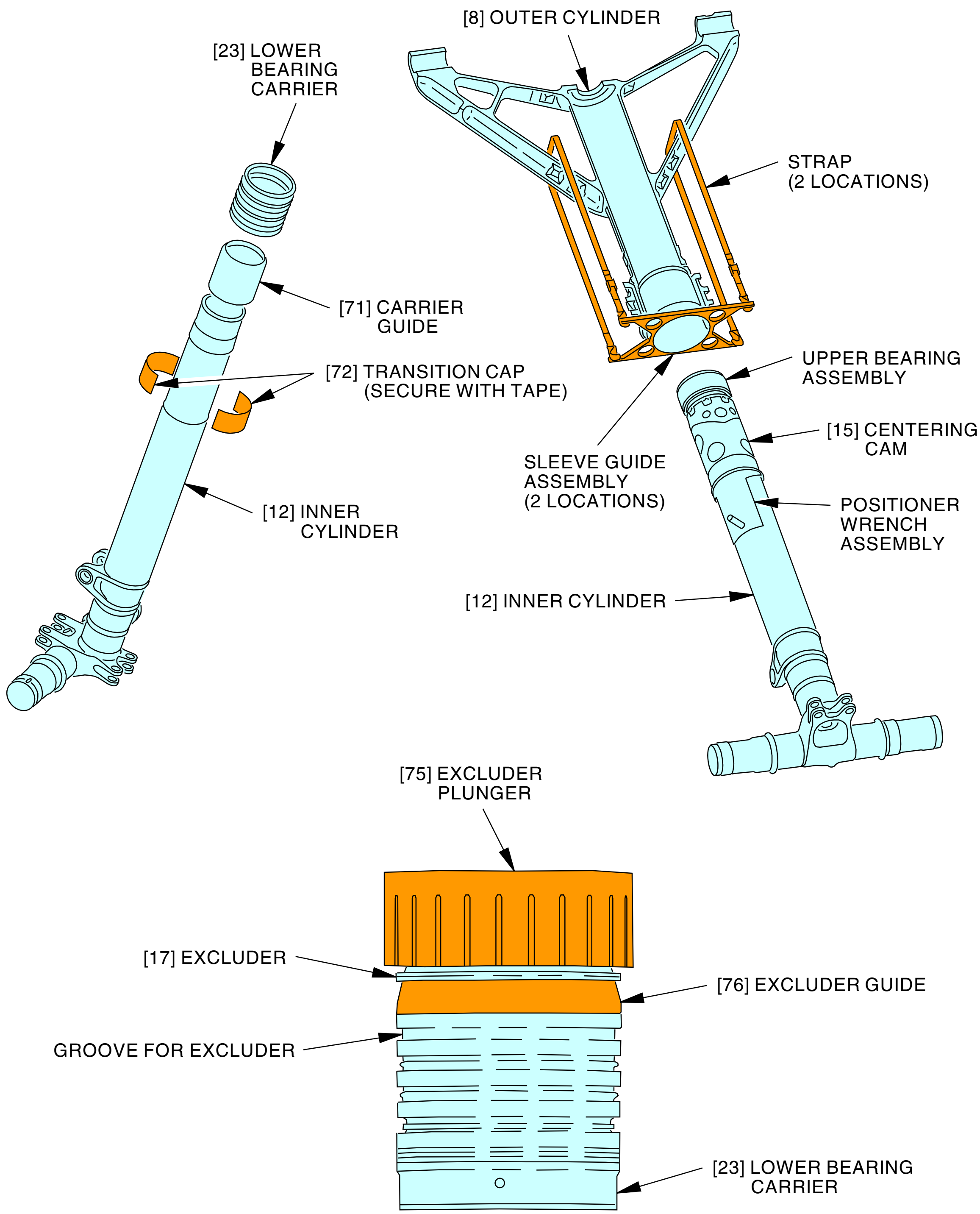
SUBTASK 32-21-25-080-008-002

(13) Do this task: do this task: Install the NLG Shock Strut Inner Cylinder, TASK 32-21-24-960-802.

END OF TASK



NLG Inner Cylinder Hoist Equipment (SPL-1890)
Figure 203/32-21-25-990-809-002 (Sheet 1 of 2)



NLG Inner Cylinder Hoist Equipment (SPL-1890)
Figure 203/32-21-25-990-809-002 (Sheet 2 of 2)

NOSE LANDING GEAR SHOCK STRUT SEALS - INSPECTION/CHECK

1. General

A. This procedure supplies instructions to check the nose landing gear shock strut for hydraulic leaks.

TASK 32-21-25-210-801

2. Nose Landing Gear Shock Strut Seal Leakage Check

A. General

(1) This task gives the instructions to make sure a shock strut is serviceable when you find fluid leakage on the inner cylinder.

NOTE: During the initial landing cycles of a new landing gear it is usual to have hydraulic fluid streaks on the shock strut. These streaks are caused by hydraulic fluid applied to the shock strut seals during seal installation and will stop after more landing cycles occur. These streaks are different from the actual continuous drips that are the indication of shock strut seal leakage.

(2) It is acceptable to operate the aircraft with a missing section of the energizer ring or other damaged to the scraper ring. The scraper ring should be replaced with a new solid or split scraper ring at the earliest maintenance opportunity to avoid excessive damage to the dynamic seal. If you do not have a split scraper ring available, you can cut a solid scraper ring or the damaged scraper ring to re-install it (TASK 32-21-25-360-801).

NOTE: The installation of a split scraper ring is also a temporary repair and should also be replaced at the earliest maintenance opportunity.

B. References

Reference	Title
05-51-01-210-801	Phase IA Inspection (P/B 201)
05-51-01-210-803-002	Phase I Inspection (P/B 201)
09-11-00-580-801	Maintenance Towing (P/B 201)
12-15-02-610-804-002	Nose Landing Gear Shock Strut Fluid Check (P/B 301)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-21-25-360-801	Replace the Gland Nut Scraper Ring with a Split Scraper Ring (P/B 801)

C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
711	Nose Landing Gear

D. Shock Strut Seal Leak Inspection

SUBTASK 32-21-25-480-009

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-21-25-210-007

(2) Inspect the shock struts for leakage.

SUBTASK 32-21-25-210-008

(3) If you find leakage of the shock strut fluid on the inner cylinder, do the steps that follow to make sure the shock strut is serviceable:

(a) Check for leaks for 5 minutes:

1) Wipe the surface of the inner cylinder with a clean cloth to remove all of the fluid from the leak.

2) Monitor the inner cylinder where it meets the outer cylinder for 5 minutes.

a) Make sure the extension of the inner cylinder does not change during this time.

3) Make a record of the location and the number of drops which come from the seals during the 5 minutes.

(b) Tow the airplane to cause movement between the inner cylinder and the outer cylinder, do this task: Maintenance Towing, TASK 09-11-00-580-801.

NOTE: The minimum distance the airplane must be moved is two airplane lengths.

(c) Check for leaks for 5 minutes:

1) Wipe the surface of the inner cylinder with a clean cloth to remove all of the fluid from the leak.

2) Monitor the inner cylinder where it meets the outer cylinder for 5 minutes.

a) Make sure the extension of the inner cylinder does not change during this time.

3) Make a record of the location and the number of drops which come from the seals during the 5 minutes.

(d) Calculate the average of the number of drops which came from the seals during both of the 5 minute measurements.

SUBTASK 32-21-25-210-009

(4) If the leakage stopped, do the steps that follow:

(a) Continue to monitor the strut for leakage on subsequent landings.

1) If you see more signs of leakage, do the entire leak check procedure again.

NOTE: If you find a continuous leakage flow on subsequent landings the shock strut is not serviceable.

CAUTION	IF THE AIRPLANE MADE A LANDING WITH A DEFLATED OR FLAT STRUT, DO THE HARD LANDING INSPECTION. MAKE SURE THAT NO DAMAGE OCCURRED. A DEFLATED OR FLAT STRUT CAN CAUSE DAMAGE DURING A LANDING.

(b) If you do not find leakage on subsequent landings, examine the fluid level of the shock strut within 3 days or 10 flight cycles, (TASK 12-15-02-610-804-002).

NOTE: If the leakage has stopped, there is no addition action necessary.

1) If the shock strut has low pressure or is deflated, do this task: Phase IA Inspection, TASK 05-51-01-210-801 or Phase I Inspection, TASK 05-51-01-210-803-002.

SUBTASK 32-21-25-210-010

(5) If there was leakage but the average was less than 20 drops during the two 5 minute periods, do the steps that follow:

NOTE: 20 drops is equal to 1.0 cc.

(a) Continue to monitor the strut for leakage on subsequent landings until you replace the seals.

1) If the leakage continues or increases, do the entire seal leak check procedure again.

CAUTION IF THE AIRPLANE MADE A LANDING WITH A DEFLATED OR FLAT STRUT, DO THE HARD LANDING INSPECTION. MAKE SURE THAT NO DAMAGE OCCURRED. A DEFLATED OR FLAT STRUT CAN CAUSE DAMAGE DURING A LANDING.

(b) If you do not find leakage on subsequent landings, examine the fluid level of the shock strut within 3 days or 10 flight cycles, (TASK 12-15-02-610-804-002).

1) If the shock strut has low pressure or is deflated, do this task: Phase IA Inspection, TASK 05-51-01-210-801 or Phase I Inspection, TASK 05-51-01-210-803-002.

(c) Continue to monitor the fluid level of the shock strut at no more than 3 day or 10 flight cycle intervals, until you replace the seals, (TASK 12-15-02-610-804-002).

SUBTASK 32-21-25-210-011

(6) If the average leakage was more than 20 drops during the two 5 minute periods, but was not continuous, do the steps that follow:

NOTE: 20 drops is equal to 1.0 cc.

CAUTION IF THE AIRPLANE MADE A LANDING WITH A DEFLATED OR FLAT STRUT, DO THE HARD LANDING INSPECTION. MAKE SURE THAT NO DAMAGE OCCURRED. A DEFLATED OR FLAT STRUT CAN CAUSE DAMAGE DURING A LANDING.

(a) Do this task: Nose Landing Gear Shock Strut Fluid Check, TASK 12-15-02-610-804-002.

1) If the shock strut has low pressure or is deflated, do this task: Phase IA Inspection, TASK 05-51-01-210-801 or Phase I Inspection, TASK 05-51-01-210-803-002.

(b) Continue to monitor the fluid level of the shock strut after each flight until you replace the seals.

SUBTASK 32-21-25-210-012

(7) If the fluid leaked continuously during the 5 minute period, the shock strut is not serviceable and you must replace the shock strut seals.

END OF TASK

NOSE LANDING GEAR SHOCK STRUT SEALS - REPAIRS

1. General

A. This task supplies instructions to disconnect the gland nut to replace a damaged scraper ring.

TASK 32-21-25-360-801

2. Replace the Gland Nut Scraper Ring with a Split Scraper Ring

A. General

(1) This task provided instructions to replace a damaged gland nut scraper ring with a split scraper ring.

(2) It is acceptable to operate the aircraft with a missing section of the energizer ring or other damage to the scraper ring. The scraper ring should be replaced with a new solid scraper ring or split scraper ring at the earliest maintenance opportunity to avoid excessive damage to the dynamic seal. If you do not have a split scraper ring available, you can cut a solid scraper ring or the damaged scraper ring to re-install it.

NOTE: The installation of a split scraper ring is also a temporary repair and should be replaced when the nose landing gear is disassembled for other maintenance or overhaul.

B. References

Reference	Title
07-11-02-580-801	Lift the Airplane Nose on Jacks (P/B 201)
12-15-02-610-805-002	Nose Landing Gear Shock Strut Servicing (P/B 301)
32-00-10-100-802	Landing Gear Inner Cylinder Chrome Cleaning (P/B 701)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1833	Wrench - Spanner, NLG Gland Nut Part #: A32045-92 Supplier: 81205
SPL-1841	Equipment - Replacement, NLG Lower Seal Part #: J32009-49 Supplier: 81205 Opt Part #: J32009-29 Supplier: 81205 Opt Part #: J32009-45 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
A00226	Compound - Tamper-Proof Putty	BMS8-45
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00467	Fluid - Landing Gear Shock Strut	BMS3-32 Type II
D00633	Grease - Aircraft General Purpose	BMS3-33
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
24	Scraper ring	32-21-02-02C-550	ARO ALL
32	Packing	32-21-02-02C-470	ARO ALL

F. Location Zones

Zone	Area
711	Nose Landing Gear

G. Prepare for the Procedure

SUBTASK 32-21-25-480-017

> **WARNING**
> MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-21-25-020-062

(2) Deflate the shock strut for the nose landing gear (Figure 801):

(a) Remove the cap [20] for the upper air charging valve [11].

> **WARNING**
> DO NOT REMOVE THE VALVE BODY UNTIL YOU DEFLATE THE SHOCK STRUT FULLY. THE AIR PRESSURE CAN BLOW THE VALVE BODY OUT AND CAUSE INJURIES TO PERSONNEL.

(b) Loosen the swivel nut [17], on the upper air charging valve [11], a maximum of two turns.

(c) Remove the cap [19] for the lower air charging valve [14].

> **WARNING**
> DO NOT REMOVE THE VALVE BODY UNTIL YOU DEFLATE THE SHOCK STRUT FULLY. THE AIR PRESSURE CAN BLOW THE VALVE BODY OUT AND CAUSE INJURIES TO PERSONNEL.

(d) Loosen the swivel nut [18], on the lower air charging valve [14], a maximum of two turns.

(e) Loosen the swivel nut [18], on the lower air charging valve [14], fully when all of the pressure in the shock strut [2] is released.

(f) Slowly loosen the oil relief valve [3], on top of the shock strut [2], to remove the oil pressure from the shock strut.

> **CAUTION**
> INSTALL THE CAM RETAINER PLUG QUICKLY AFTER YOU REMOVE THE OIL CHECK VALVE. HYDRAULIC FLUID WILL FLOW OUT OF THE SHOCK STRUT WHEN YOU REMOVE THE VALVE.

(g) Remove the oil charging valve [15].

NOTE: This will allow you to install the retainer plug for the lower centering cam.

WARNING: MAKE SURE THAT YOU INSTALL THE CAM LOCK IN THE HOLE FOR THE OIL CHARGING VALVE. IF YOU DO NOT INSTALL THE CAM LOCK, THE LOWER CENTERING CAM CAN FALL OUT OF THE OUTER CYLINDER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(h) Install the cam retainer plug [56], from NLG lower seal replacement equipment, SPL-1841, in the hole for the oil charging valve [15] to keep the lower centering cam in its position.

NOTE: The lower centering cam is difficult to install if it moves out of the outer cylinder of the shock strut [2].

SUBTASK 32-21-25-020-063

(3) Disconnect the gland nut [13] from the outer cylinder:

(a) Remove the bolt [29], washer [30], the lock plate [27], and the lock plate [28] to release the gland nut [13].

(b) Use the NLG gland nut spanner wrench, SPL-1833 to disconnect the gland nut [13] from the outer cylinder [8].

(c) Move the gland nut [13] down the inner cylinder [12].

SUBTASK 32-21-25-020-064

(4) Remove the damaged scraper ring [24] from the gland nut [13].

NOTE: If additional clearance is desired, do this task: Lift the Airplane Nose on Jacks, TASK 07-11-02-580-801.

SUBTASK 32-21-25-020-065

(5) Apply fluid, D00467 to the new split scraper ring [24].

SUBTASK 32-21-25-020-066

(6) Install the new split scraper ring [24] in the gland nut [13].

(a) If you do not have a split scraper ring [24], you can cut the damaged scraper ring to re-install it.

NOTE: This is a temporary fix only. The damaged scraper ring should be replaced with a split or solid scraper ring at the earliest opportunity.

(b) If you will operate the aircraft with a damaged scraper ring, before each flight and until a new scraper ring is installed, do this task: Landing Gear Inner Cylinder Chrome Cleaning, TASK 32-00-10-100-802.

SUBTASK 32-21-25-640-007

WARNING: USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(WARNING PRECEDES)

WARNING DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(7) Apply a thin layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the threads and the thread relief of the gland nut [13].

SUBTASK 32-21-25-420-051

(8) Install the gland nut [13]:

(a) Move the gland nut [13] up to the outer cylinder [8] and engage the threads.

(b) Use the NLG gland nut spanner wrench, SPL-1833 for the gland nut [13] to tighten the gland nut [13] to 125 ft-lb (169 N·m)-150 ft-lb (203 N·m).

SUBTASK 32-21-25-420-057

(9) Install the lock plate [28] and lock plate [27] for the gland nut [13]:

(a) Apply a thin layer of grease, D00633 to the shank and threads of bolt [29] and washer [30].

(b) Install the lock plate [27] and lock plate [28] in the holes which will put the tab of the lock plate [27] as close to a gland nut [13] slot as possible.

NOTE: If it is necessary, loosen the gland nut [13] slightly to align slot in the gland nut [13] with the lock plate [27].

(c) Install the bolt [29] and washer [30].

(d) Tighten the bolt [29] to 67 in-lb (7.6 N·m)-82 in-lb (9.3 N·m).

(e) Install MS20995C32 lockwire, G01048 on the bolt [29].

SUBTASK 32-21-25-420-054

(10) Prepare to install the oil charging valve [15]:

(a) Remove and discard the old packing [32].

(b) Apply a thin layer of fluid, D00467 on the new packing [32].

(c) Install the new packing [32] on the valve.

SUBTASK 32-21-25-080-009

CAUTION MAKE SURE THAT YOU REMOVE THE CAM RETAINER PLUG FROM THE OUTER CYLINDER. IF YOU DO NOT REMOVE THE PLUG, DAMAGE WILL OCCUR TO THE OUTER CYLINDER AND THE LOWER CENTERING CAM.

CAUTION MAKE SURE YOU INSTALL THE OIL VALVE QUICKLY AFTER YOU REMOVE THE CAM RETAINER PLUG. HYDRAULIC FLUID WILL FLOW OUT OF THE SHOCK STRUT WHEN YOU REMOVE THE VALVE.

(11) Remove the cam retainer plug [56].

SUBTASK 32-21-25-420-056

(12) Install the oil charging valve [15]:

(a) Install the valve and tighten it to 22 ft-lb (29.8 N·m)-25 ft-lb (33.9 N·m).

(b) Install the cap assembly [16] loosely.

NOTE: You will tighten it in the shock strut servicing task.

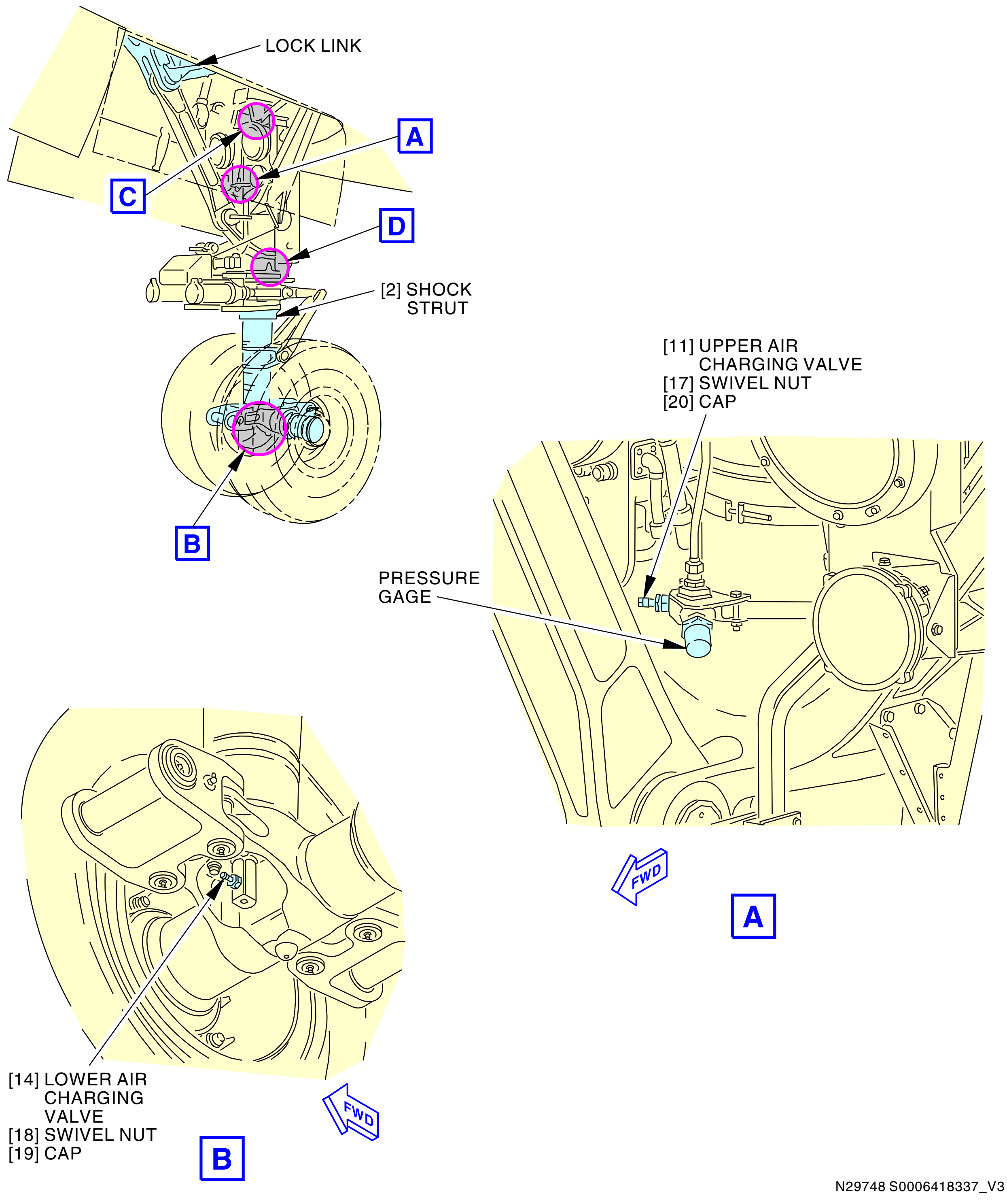
(c) Apply compound, A00226 to the valve.

NOTE: Apply it to make sure the seal made by the compound, A00226 must break if the valve becomes loose.

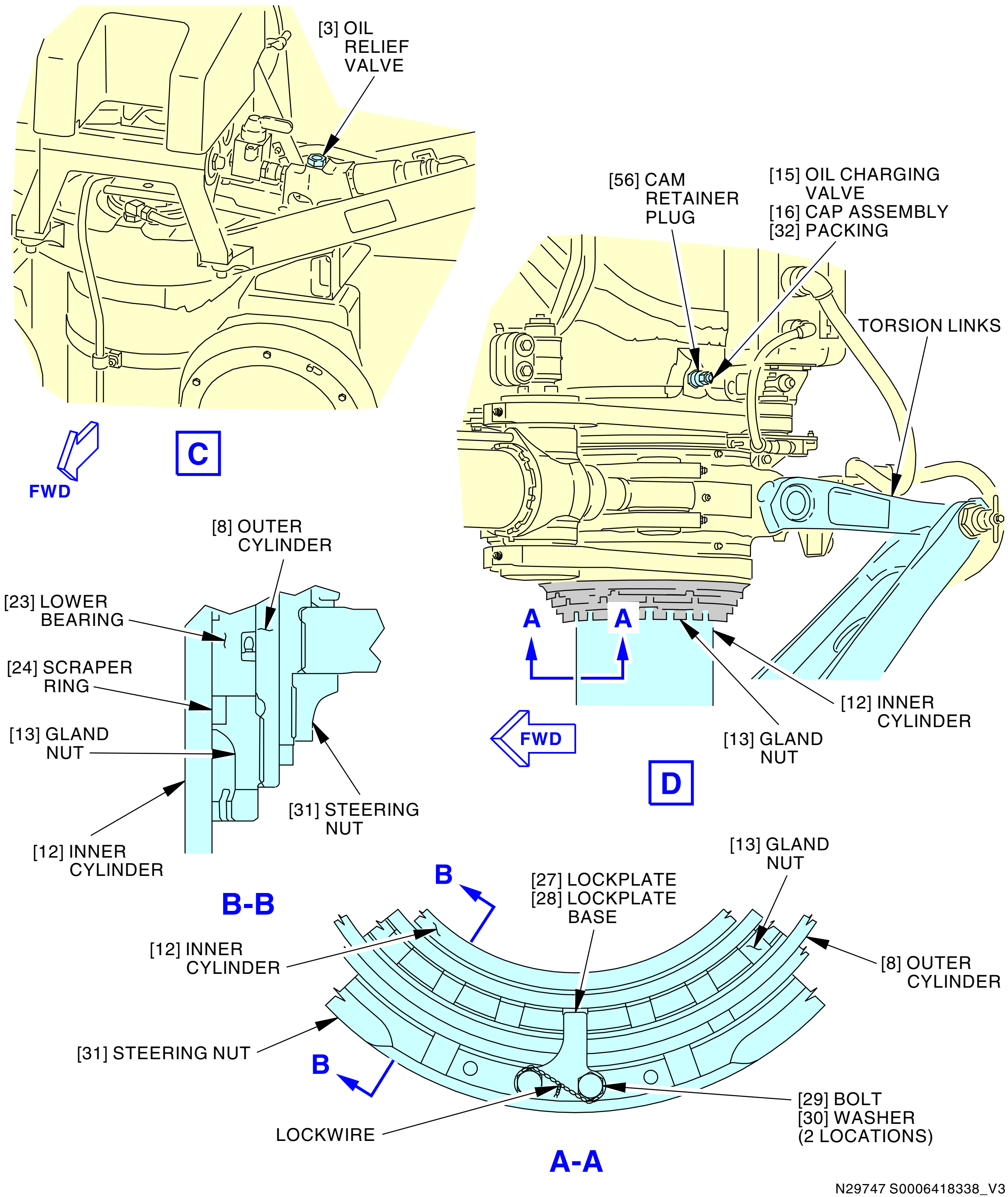
SUBTASK 32-21-25-600-007

(13) Do this task: Nose Landing Gear Shock Strut Servicing, TASK 12-15-02-610-805-002.

END OF TASK



NLG Shock Strut Inner Cylinder Installation
Figure 801/32-21-25-990-811 (Sheet 1 of 2)



NLG Shock Strut Inner Cylinder Installation
Figure 801/32-21-25-990-811 (Sheet 2 of 2)

NOSE LANDING GEAR SHOCK STRUT (AIR CHAMBER) CYLINDERS - REMOVAL/INSTALLATION

1. General

A. This procedure provides instructions to do these tasks:

(1) A removal of the upper cylinder assembly for the nose landing gear

(2) An installation of the upper cylinder assembly for the nose landing gear

(3) A removal of the lower cylinder assembly for the nose landing gear

(4) An installation of the lower cylinder assembly for the nose landing gear

TASK 32-21-28-020-801

2. Nose Landing Gear Upper Cylinder Assembly Removal

A. References

Reference	Title
27-48-07-000-804	Nose Gear Pressure Transducer Manifold Assembly Removal (P/B 401)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-21-24-960-801	Remove the NLG Shock Strut Inner Cylinder (P/B 401)
32-51-05-000-801	Gear Up Centering Mechanism Removal (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-5746	Equipment - Shock Strut Part #: J32084-1 Supplier: 81205

C. Remove the Upper Cylinder Assembly for the Nose Landing Gear

SUBTASK 32-21-28-490-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-21-28-490-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-21-28-864-001

(3) For the center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-21-28-020-001

(4) Remove the inner cylinder from the nose landing gear shock strut (TASK 32-21-24-960-801).

SUBTASK 32-21-28-030-001

(5) Do this task:Gear Up Centering Mechanism Removal, TASK 32-51-05-000-801.

SUBTASK 32-21-28-030-002

(6) Do this task: Nose Gear Pressure Transducer Manifold Assembly Removal, TASK 27-48-07-000-804.

SUBTASK 32-21-28-030-003

(7) To remove the upper air chamber cylinder [1] assembly, do these steps:

(a) Remove the bolts [2] and the lockplate [3].

(b) Use the nut wrench from shock strut equipment, SPL-5746 to loosen the retainer nut [4] a maximum of one turn.

(c) Attach the reaction wrench from shock strut equipment, SPL-5746 to the upper chamber .

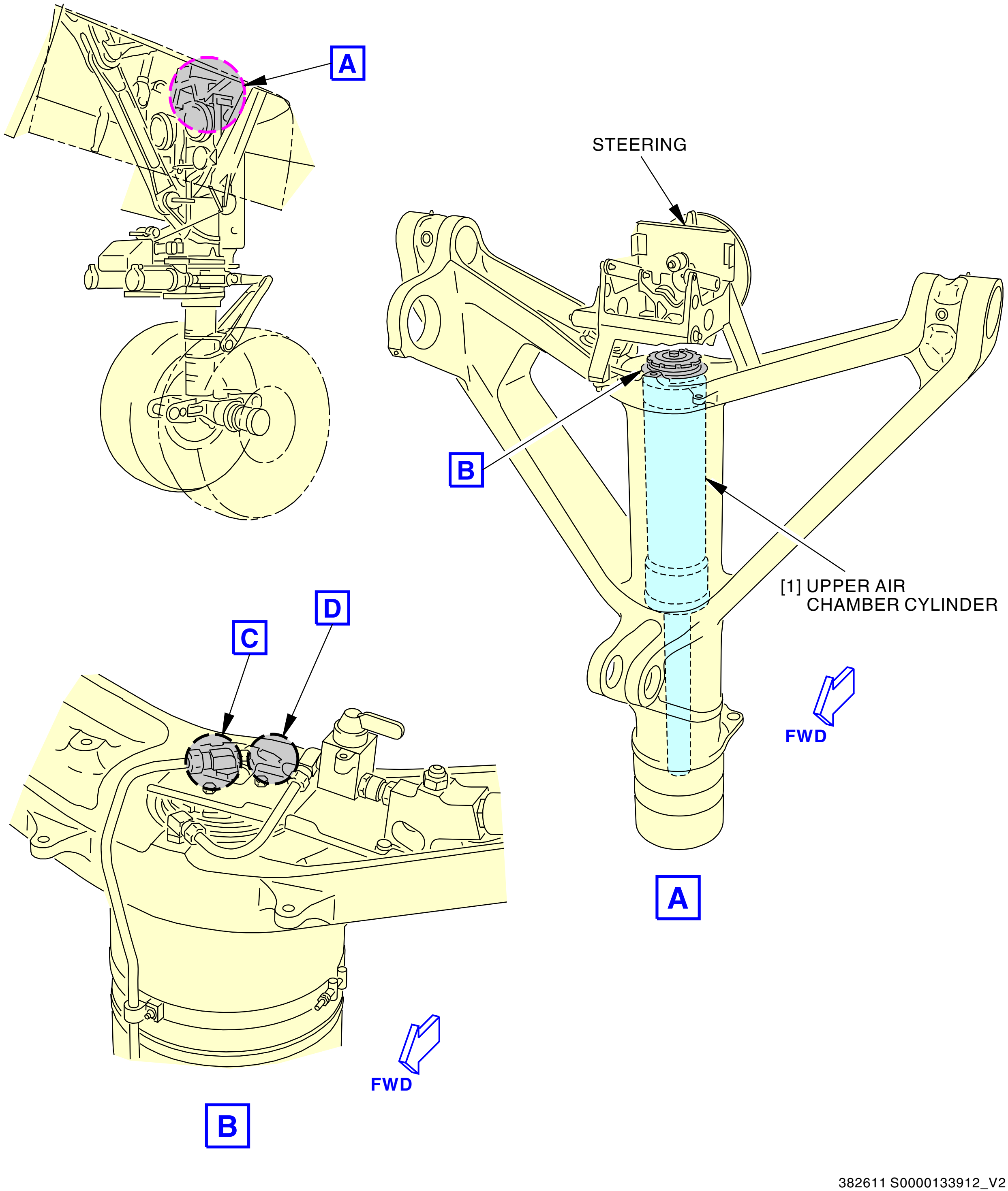
(d) Remove the retainer nut [4] and washer [5].

NOTE: The index bar assembly in conjunction with the reaction wrench assembly from the shock strut equipment, SPL-5746 can be used to keep the upper air chamber cylinder [1] from turning.

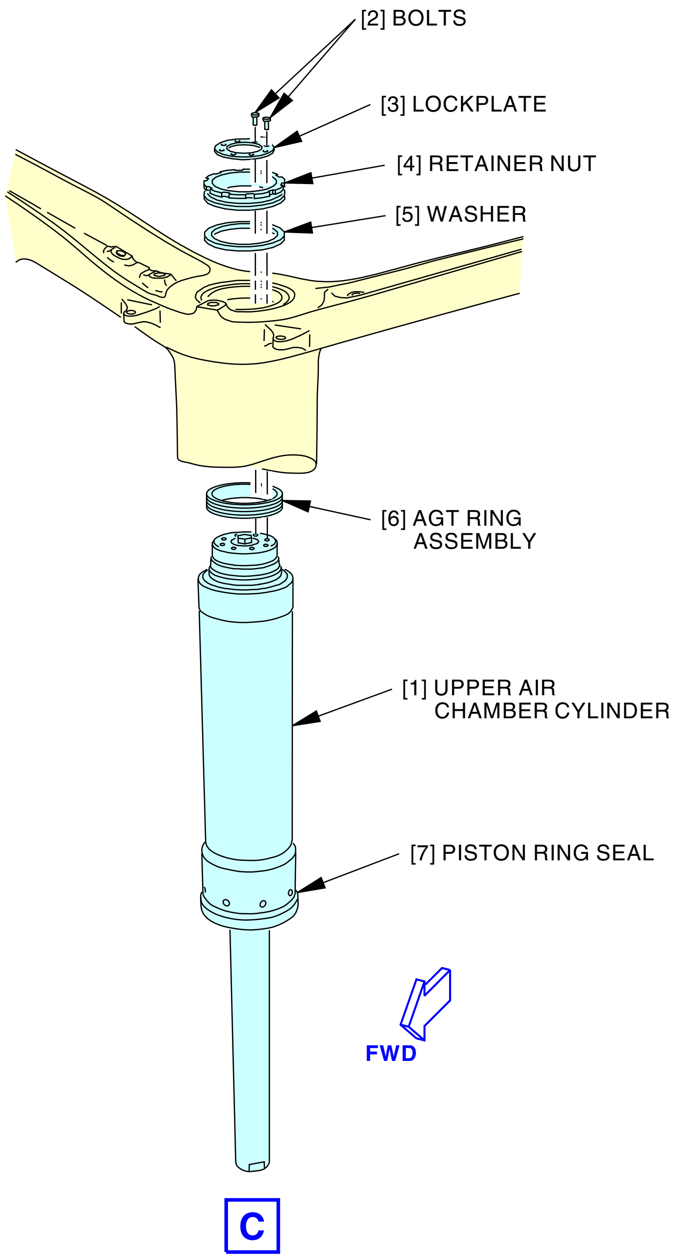
(e) Use the reaction wrench assembly from the shock strut equipment, SPL-5746 to lower the upper air chamber cylinder [1] assembly until it is out of the shock strut.

(f) Remove the AGT ring assembly [6].

END OF TASK



Nose Landing Gear Upper Air Chamber Assembly Installation
Figure 401/32-21-28-990-801 (Sheet 1 of 3)



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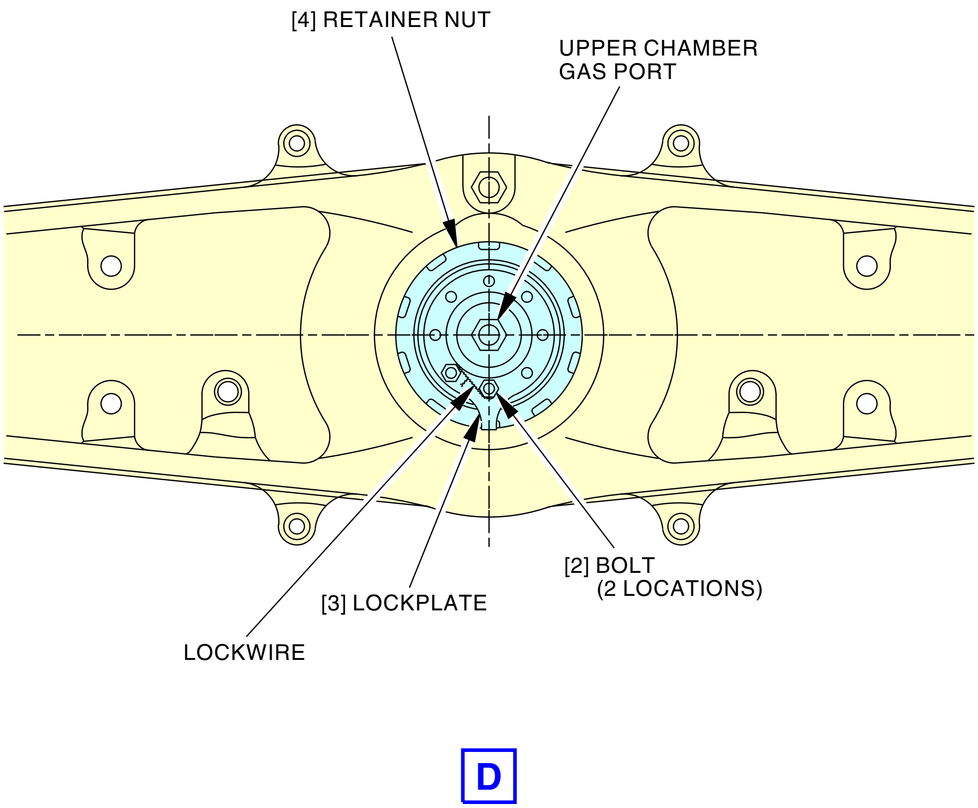
Nose Landing Gear Upper Air Chamber Assembly Installation
Figure 401/32-21-28-990-801 (Sheet 2 of 3)



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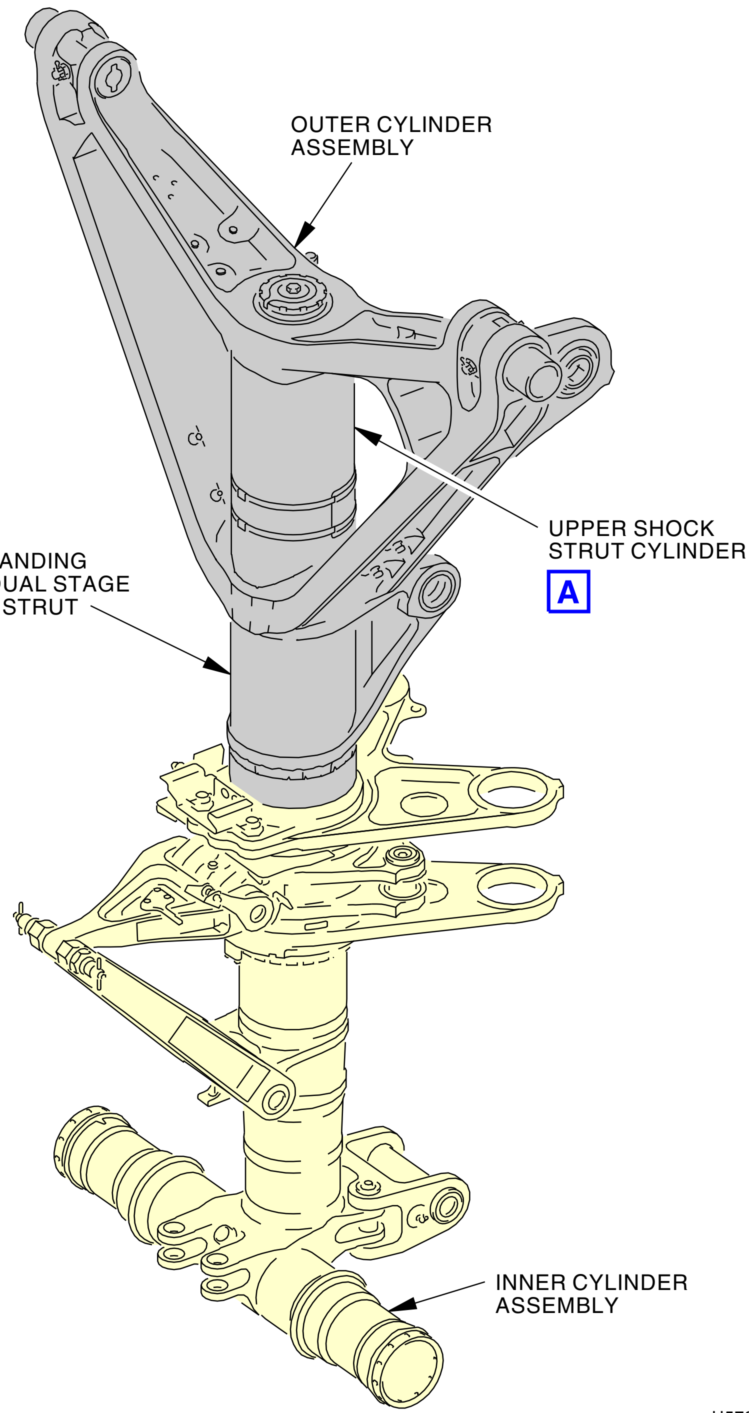
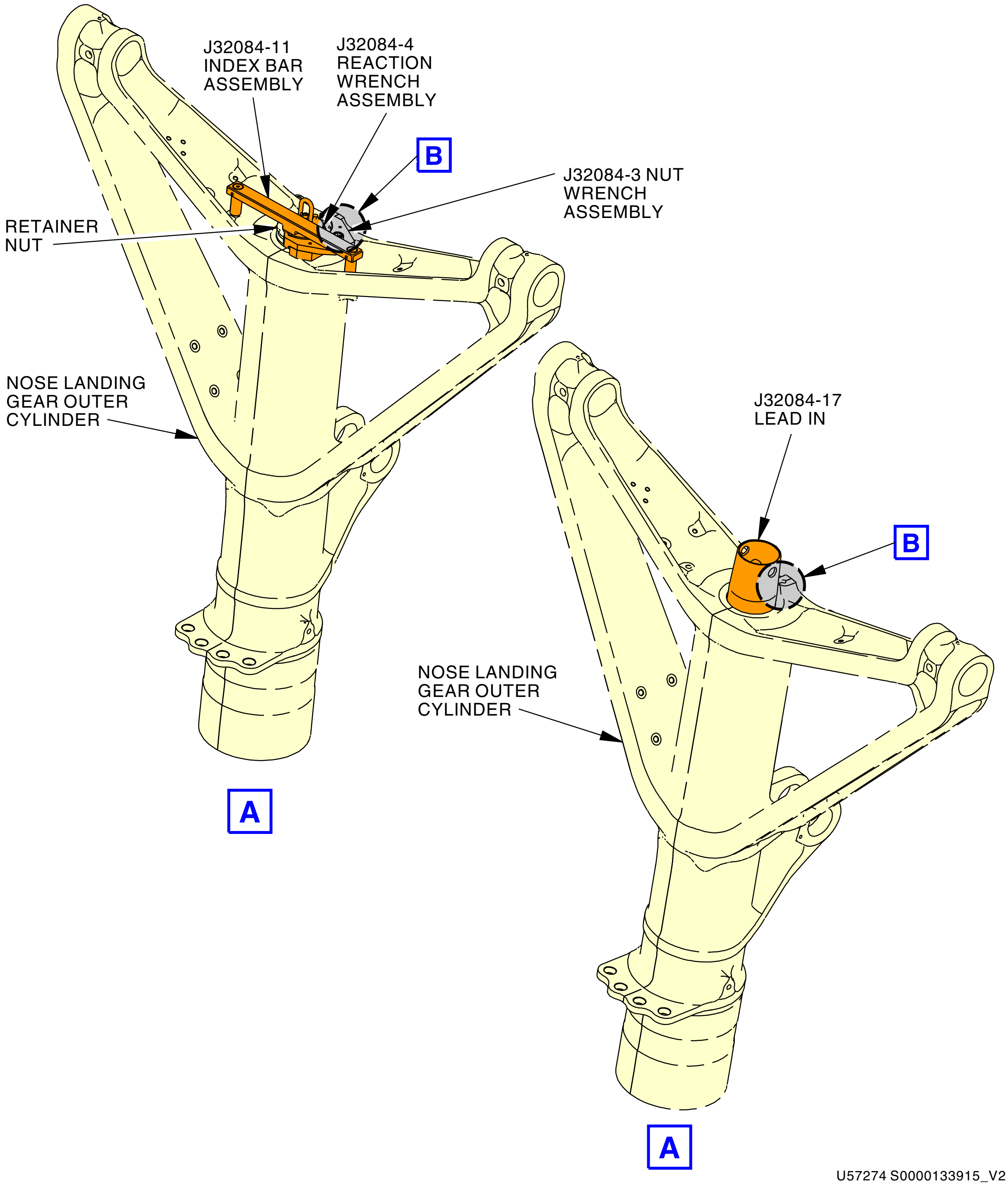
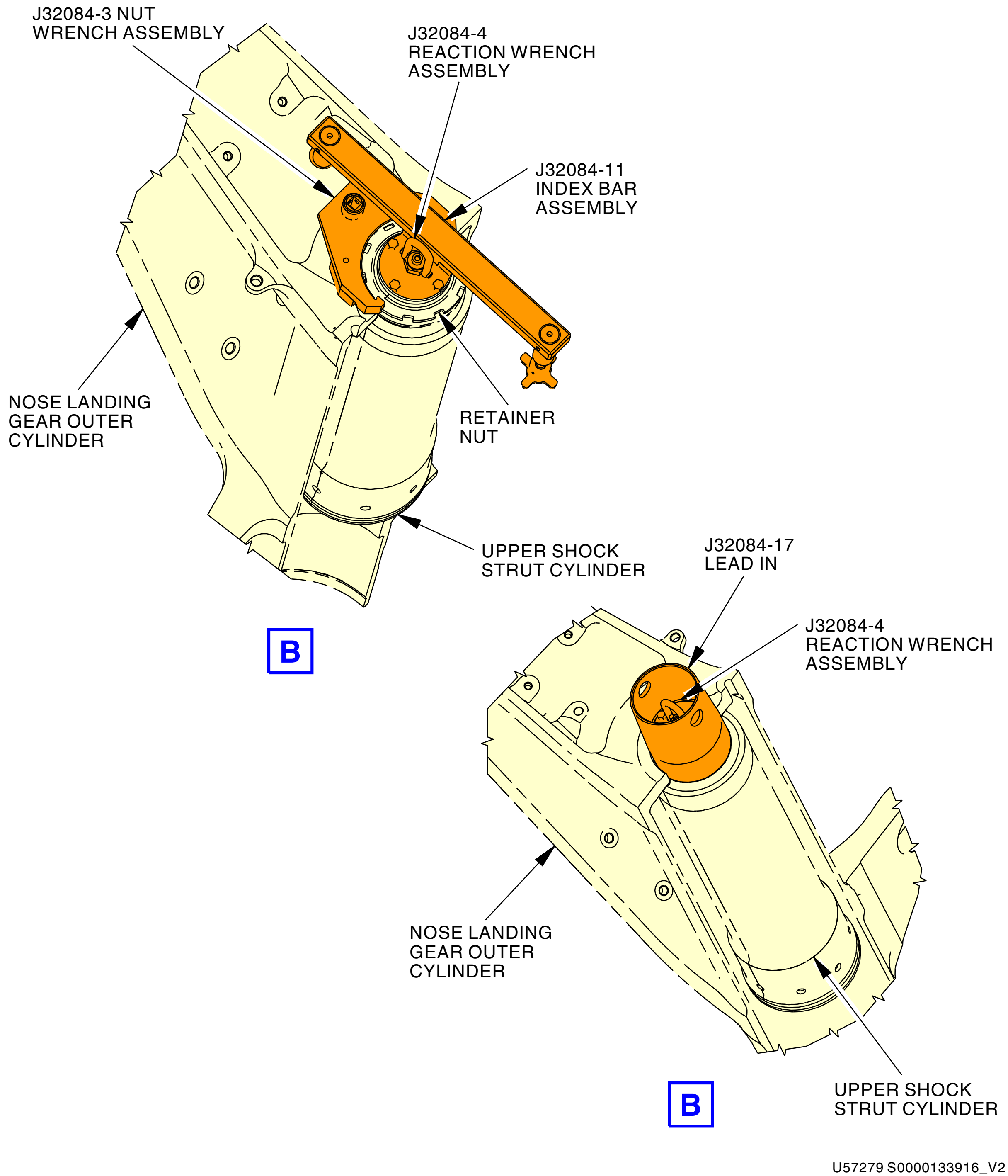
Nose Landing Gear Upper Air Chamber Assembly Installation
Figure 401/32-21-28-990-801 (Sheet 3 of 3)



Nose Landing Gear Upper Air Chamber Assembly Equipment
Figure 402/32-21-28-990-805 (Sheet 1 of 3)



Nose Landing Gear Upper Air Chamber Assembly Equipment
Figure 402/32-21-28-990-805 (Sheet 2 of 3)



Nose Landing Gear Upper Air Chamber Assembly Equipment
Figure 402/32-21-28-990-805 (Sheet 3 of 3)

TASK 32-21-28-420-801

3. Nose Landing Gear Upper Cylinder Assembly Installation

A. General

(1) This procedure provides instructions to install the upper air chamber cylinder [1] for the nose landing gear.

B. References

Reference	Title
27-48-07-400-802	Nose Gear Pressure Transducer Manifold Assembly Installation (P/B 401)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-21-24-960-802	Install the NLG Shock Strut Inner Cylinder (P/B 401)
32-51-05-400-801	Gear Up Centering Mechanism Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-5746	Equipment - Shock Strut Part #: J32084-1 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
D50022	Fluid - Landing Gear Shock Strut (Specifically For Preservation)	BMS3-32 Type I
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Upper air chamber cylinder	32-21-02-02C-560	ARO ALL

F. Install the Upper Air Chamber Cylinder Assembly

SUBTASK 32-21-28-420-001

(1) Install the upper air chamber cylinder [1] into the outer cylinder

(a) If not installed, install the piston ring seal [7] onto the upper air chamber cylinder [1].

(b) Use the lead in and reaction wrench assembly from the shock strut equipment, SPL-5746 to lift and hold the upper air chamber cylinder [1] in position in the outer cylinder.

1) Remove the lead in from the upper air chamber cylinder [1].

(c) Breifly immerse or coat the AGT ring assembly [6] in fluid, D50022.

WARNING USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(d) Lubricate the shank and threads of bolts [2], the mating surface of washer [5] with grease, D00633 or grease, D00013 or Cor-Ban 27L Compound, G50237.

1) Remove any unwanted grease, D00633 or grease, D00013 or Cor-Ban 27L Compound, G50237.

WARNING USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(e) Apply a thin layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the mating surfaces of the AGT ring assembly [6], the retainer nut [4], and the lockplate [3].

1) Remove any unwanted Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913.

(f) Install the AGT ring assembly [6], and the washer [5] on the upper air chamber cylinder [1].

(g) Do the following steps to install the retainer nut [4]:

1) Place the retainer nut [4] in position over the upper air chamber cylinder [1].

2) Install the index bar assembly from shock strut equipment, SPL-5746 and use in conjunction with the reaction wrench assembly to line up the holes in the upper air chamber cylinder [1] (Figure 401 or Figure 402).

3) Use the nut wrench from shock strut equipment, SPL-5746 to torque the retainer nut [4] to 50 ft-lb (68 N·m)-75 ft-lb (102 N·m).

4) Loosen if necessary to install lockplate [3] as shown in Figure 401 (Sheet 3).

NOTE: It is important to install the lockplate [3]

correctly so that the hydraulic pressure switch can be installed correctly.

(h) Install the lockplate [3].

(i) Install the bolts [2] in two of the three holes farthest from datum axis A-B (Figure 401 (Sheet 3)

(j) Torque the bolts [2] to 30 in-lb (3 N·m)-40 in-lb (5 N·m).

1) Apply MS20995C32 lockwire, G01048 to the bolts [2] using the double twist method.

G. **Put the Airplane back to its Usual Condition**

SUBTASK 32-21-28-420-003

(1) Do this task: Nose Gear Pressure Transducer Manifold Assembly Installation, TASK 27-48-07-400-802.

SUBTASK 32-21-28-420-004

(2) Do this task: Gear Up Centering Mechanism Installation, TASK 32-51-05-400-801.

SUBTASK 32-21-28-420-002

(3) Install the inner cylinder into the nose landing gear shock strut (TASK 32-21-24-960-802).

SUBTASK 32-21-28-090-002

(4) Remove the landing gear door safety pins (TASK 32-00-15-080-801).

——— END OF TASK ———

TASK 32-21-28-020-802

4. Nose Landing Gear Lower Cylinder Assembly Removal

A. **References**

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-21-24-960-801	Remove the NLG Shock Strut Inner Cylinder (P/B 401)

B. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-5746	Equipment - Shock Strut Part #: J32084-1 Supplier: 81205

C. **Remove the Lower Cylinder Assembly for the Nose Landing Gear**

SUBTASK 32-21-28-490-003

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-21-28-490-004

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-21-28-864-002

(3) For the center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-21-28-020-002

(4) Remove the inner cylinder from the nose landing gear shock strut (TASK 32-21-24-960-801).

SUBTASK 32-21-28-030-004

(5) To remove the lower air chamber cylinder [8] assembly, do these steps:

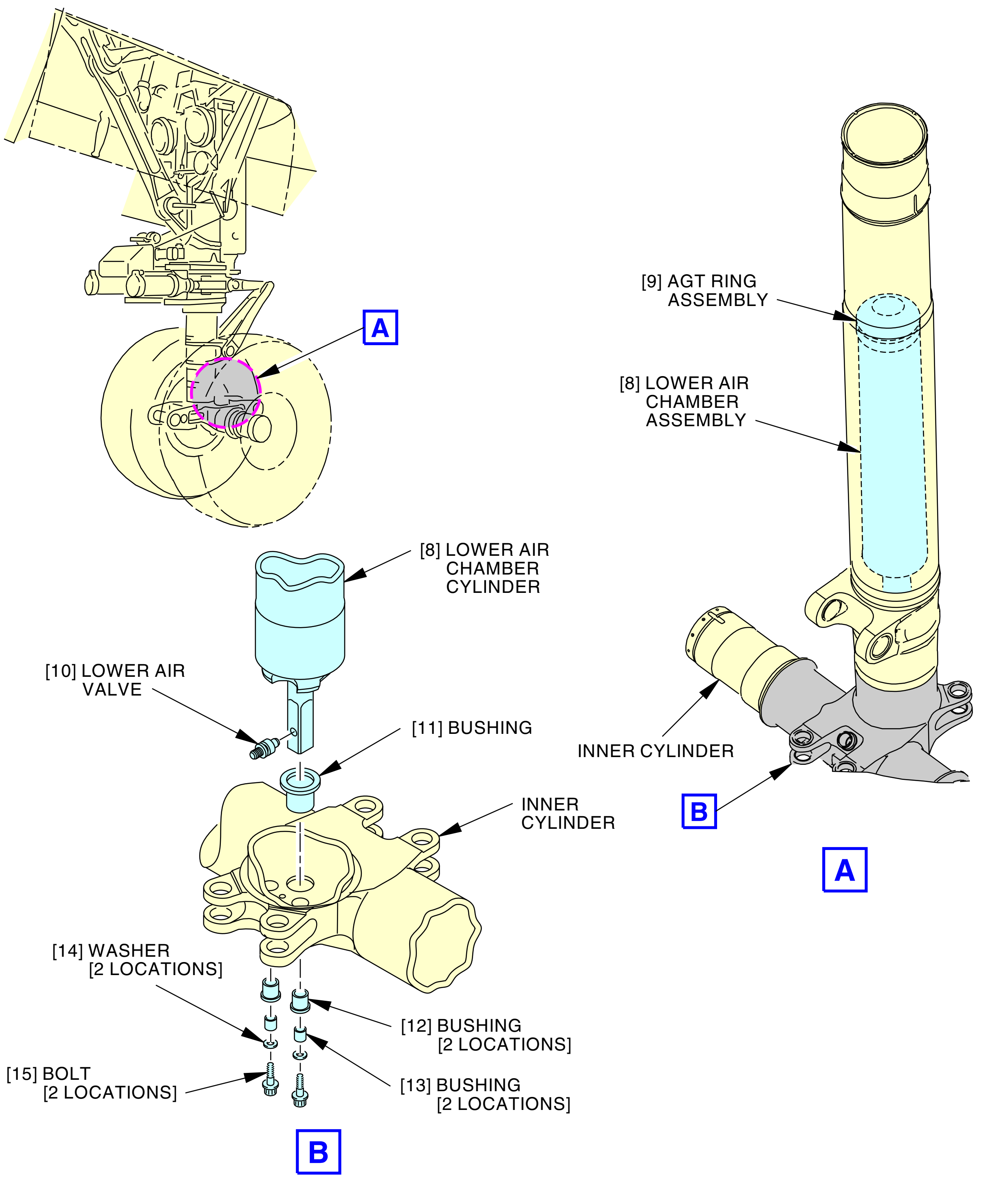
(a) Remove the bolts [15], the washers [14], the bushings [13], the bushing [12], and the bushing [11] from the shock strut inner cylinder.

(b) Remove the lower air valve [10] from the lower air chamber cylinder [8].

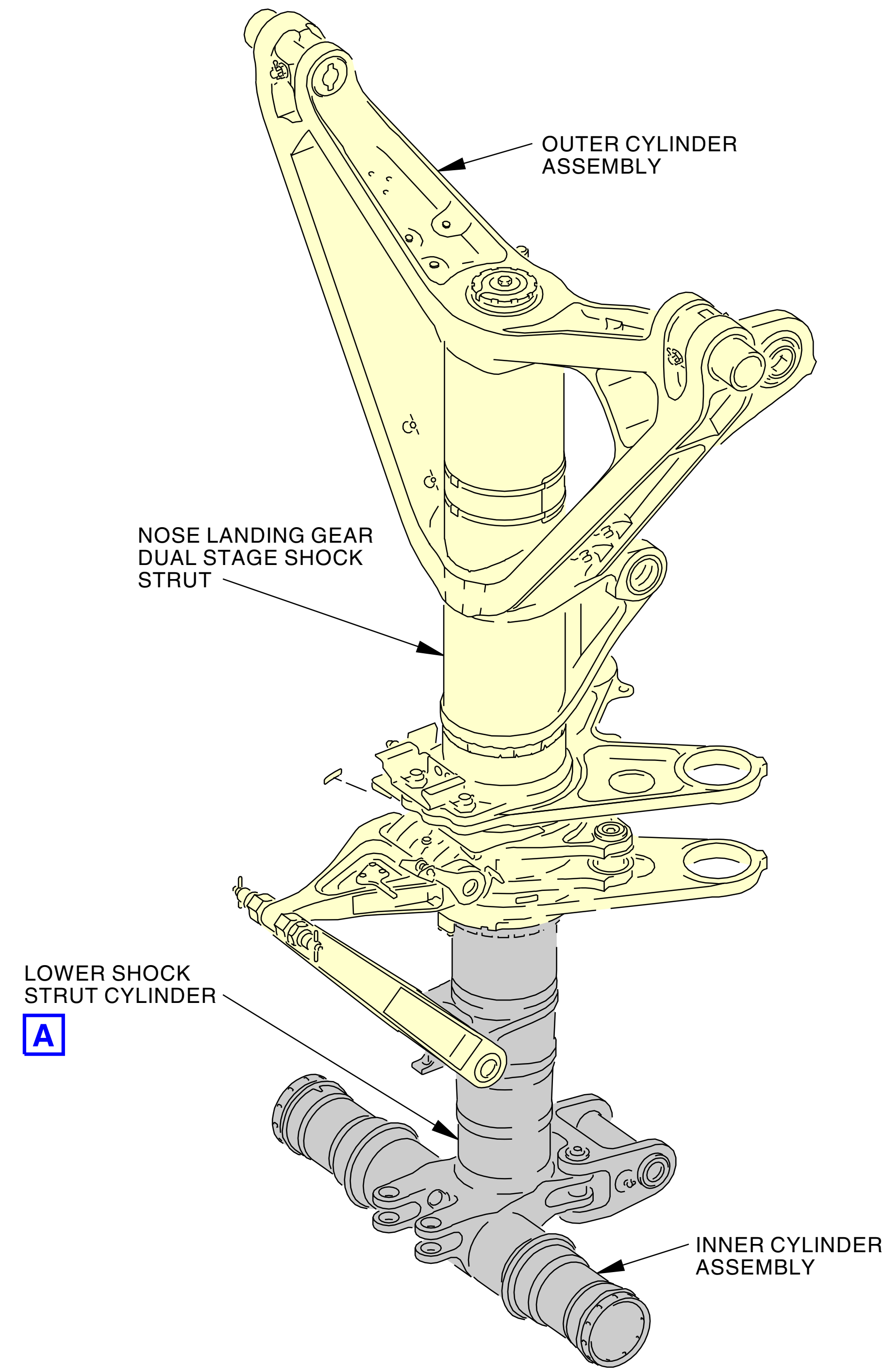
(c) Attach the second stage extraction assembly from the shock strut equipment, SPL-5746 under the orifice plate on the lower air chamber cylinder [8].

1) Use the second stage extraction assembly to lift the lower air chamber cylinder [8] assembly out of the inner shock strut.

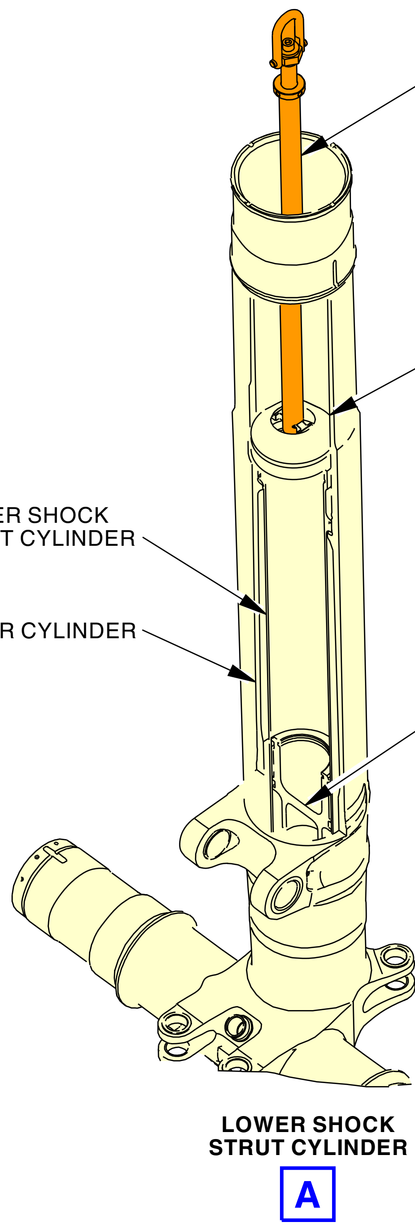
END OF TASK



Nose Landing Gear Lower Air Chamber Assembly Installation
Figure 403/32-21-28-990-803



Nose Landing Gear Lower Air Chamber Assembly Equipment
Figure 404/32-21-28-990-804 (Sheet 1 of 2)



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Nose Landing Gear Lower Air Chamber Assembly Equipment
Figure 404/32-21-28-990-804 (Sheet 2 of 2)

TASK 32-21-28-420-802

5. Nose Landing Gear Lower Cylinder Assembly Installation

A. General

(1) The purpose of this procedure is to install the nose landing gear lower air chamber cylinder [8]

B. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-21-24-960-802	Install the NLG Shock Strut Inner Cylinder (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-5746	Equipment - Shock Strut Part #: J32084-1 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
D00467	Fluid - Landing Gear Shock Strut	BMS3-32 Type II
D50022	Fluid - Landing Gear Shock Strut (Specifically For Preservation)	BMS3-32 Type I
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
8	Lower air chamber cylinder	32-21-02-02C-255	ARO ALL

F. Install the Lower Air Chamber Cylinder Assembly

SUBTASK 32-21-28-420-010

(1) Install the lower air chamber cylinder [8] into the inner cylinder.

(a) If no AGT Ring Assembly [9] is installed, briefly immerse or coat a AGT Ring Assembly [9] and install onto the lower air chamber cylinder [8].

(b) Install the bushing [11] into the inner cylinder.

(c) Install the second stage extraction assembly from the shock strut equipment, SPL-5746, onto the lower air chamber cylinder [8].

1) Use the second stage extraction assembly to lower the lower air chamber cylinder [8] into the inner cylinder.

(d) Install the bushings [12], the bushings [13], the washers [14], and the bolts [15] through the inner cylinder and into the lower air chamber cylinder [8].

1) Torque the bolts [15] to 10 ft-lb (14 N·m) - 25 ft-lb (34 N·m).

2) Use MS20995C32 lockwire, G01048, to secure the bolts [15].

(e) Install the lower air valve [10] on the lower air chamber cylinder [8]:

1) Apply fluid, D50022, or fluid, D00467, to the threads of the lower air valve [10].

2) Tighten the lower air valve [10] body to 11 ft-lb (15 N·m) - 13 ft-lb (18 N·m).

a) Tighten the swivel nut on the valve to 5 ft-lb (7 N·m) - 7 ft-lb (9 N·m).

G. Put the Airplane Back to its Usual Condition

SUBTASK 32-21-28-420-005

(1) Install the inner cylinder into the nose landing gear shock strut (TASK 32-21-24-960-802).

SUBTASK 32-21-28-090-003

(2) Remove the landing gear door safety pins (TASK 32-00-15-080-801).

——— END OF TASK ———

NOSE LANDING GEAR SHOCK STRUT (AIR CHAMBER) CYLINDERS - REPAIRS

1. General

A. This procedure contains instructions to do these tasks:

(1) A task to replace the seals on the piston for the upper air chamber cylinder

(2) A task to replace the seals on the piston for the lower air chamber cylinder

TASK 32-21-28-360-801

2. Replace the Seals on the Floating Piston for the Upper Air Chamber Cylinder

A. General

(1) This procedure provides instructions to replace the seals on the upper air chamber floating piston.

B. References

Reference	Title
32-21-28-020-801	Nose Landing Gear Upper Cylinder Assembly Removal (P/B 401)
32-21-28-420-801	Nose Landing Gear Upper Cylinder Assembly Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-5746	Equipment - Shock Strut Part #: J32084-1 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
D00467	Fluid - Landing Gear Shock Strut	BMS3-32 Type II
D00589	Lubricant - Hydraulic Assembly - AFS-682	
D50022	Fluid - Landing Gear Shock Strut (Specifically For Preservation)	BMS3-32 Type I
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	AGT ring assembly	32-21-02-02C-590	ARO ALL
4	Piston ring seal	32-21-02-02C-580	ARO ALL

F. Prepare to Replace the Seals

SUBTASK 32-21-28-020-003

(1) Do this task: Nose Landing Gear Upper Cylinder Assembly Removal, TASK 32-21-28-020-801.

G. Replace the Floating Piston Seals

SUBTASK 32-21-28-020-004

(1) Do the following steps to remove the floating piston [2] from the upper air chamber cylinder [1].

(a) Remove the bolts [6] and the locking tab [5].

(b) Use the pin wrench and the reaction wrench assembly from the shock strut equipment, SPL-5746 to remove the metering pin [7].

(c) Use the push rod assembly from the shock strut equipment, SPL-5746 to push out the floating piston [2].

SUBTASK 32-21-28-960-001

(2) Do the following steps to replace the AGT ring assembly [3] and the piston ring seal [4].

(a) Remove the AGT ring assembly [3] and the piston ring seal [4] from the floating piston [2].

(b) Briefly immerse or coat the new AGT ring assembly [3] in fluid, D00467 or fluid, D50022.

(c) Use the portable press assembly and the first stage lead ins from shock strut equipment, SPL-5746 to install the AGT ring assembly [3] and the piston ring seal [4] onto the floating piston [2].

1) If necessary, use AFS-682 lubricant, D00589 to help install seals.

(d) The sizing rings from the shock strut equipment, SPL-5746 can be used to return the AGT ring assembly [3] and the piston ring seal [4] to their original size after being placed on the floating piston [2].

SUBTASK 32-21-28-420-006

(3) Do the following steps to assemble the upper air chamber cylinder.

(a) If necessary, use the upper lead in from the shock strut equipment, SPL-5746 to help install the floating piston [2] into the upper air chamber cylinder [1].

(b) Apply fluid, D00467 or fluid, D50022

to the threads of the metering pin [7].

(c) Install the metering pin [7] into the upper air chamber cylinder [1].

1) Use the pin wrench and the reaction wrench assembly from the shock strut equipment, SPL-5746 to tighten the metering pin [7] to 40-60 ft-lbs.

2) Back off to align the nearest hole in the upper air chamber cylinder [1].

(d) Install the locking tab [5] and the bolts [6].

1) Tighten the bolts to 67-82 in-lbs.

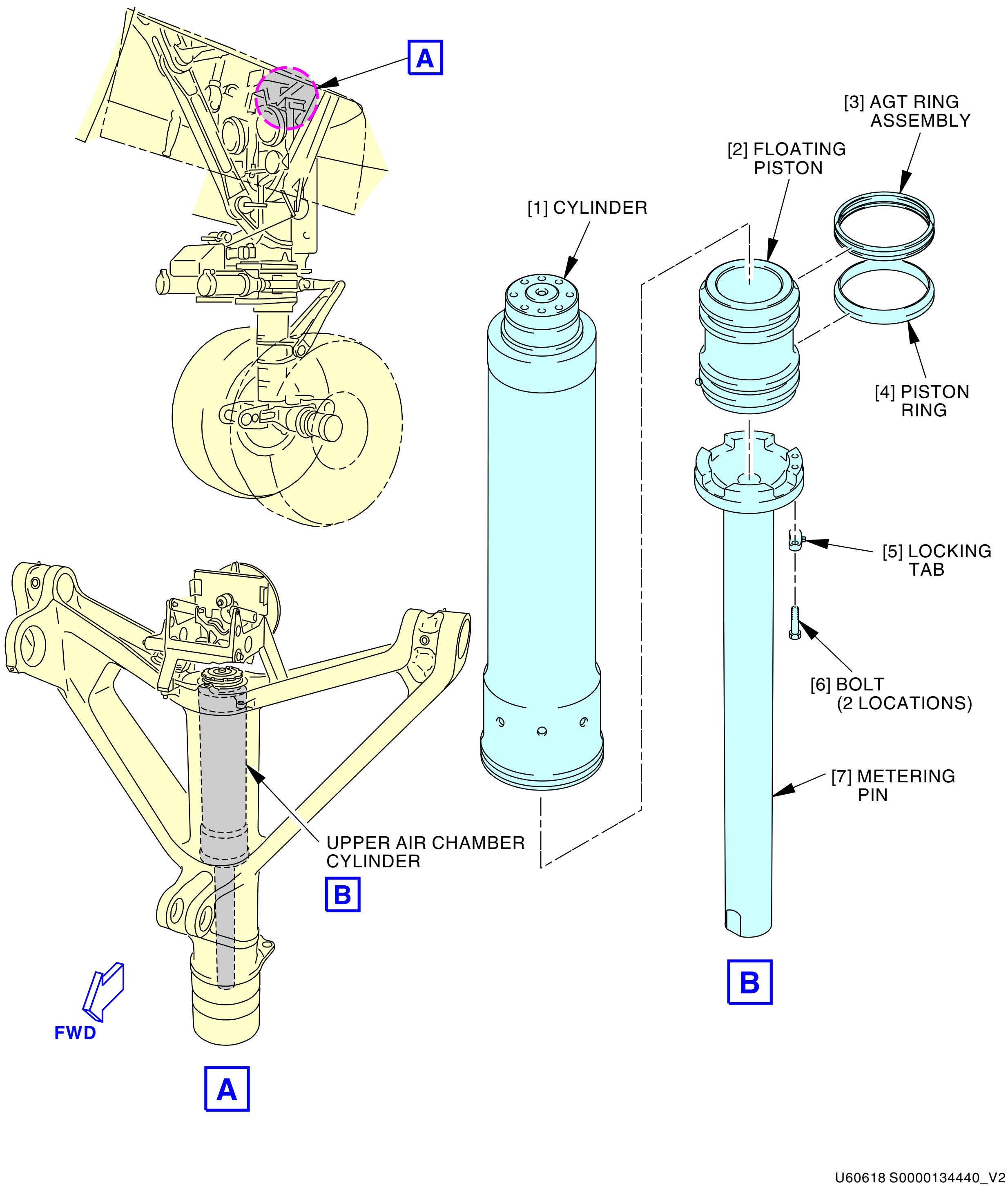
2) Use MS20995C32 lockwire, G01048 to secure the bolts [6].

H. Put the Airplane Back to its Usual Condition

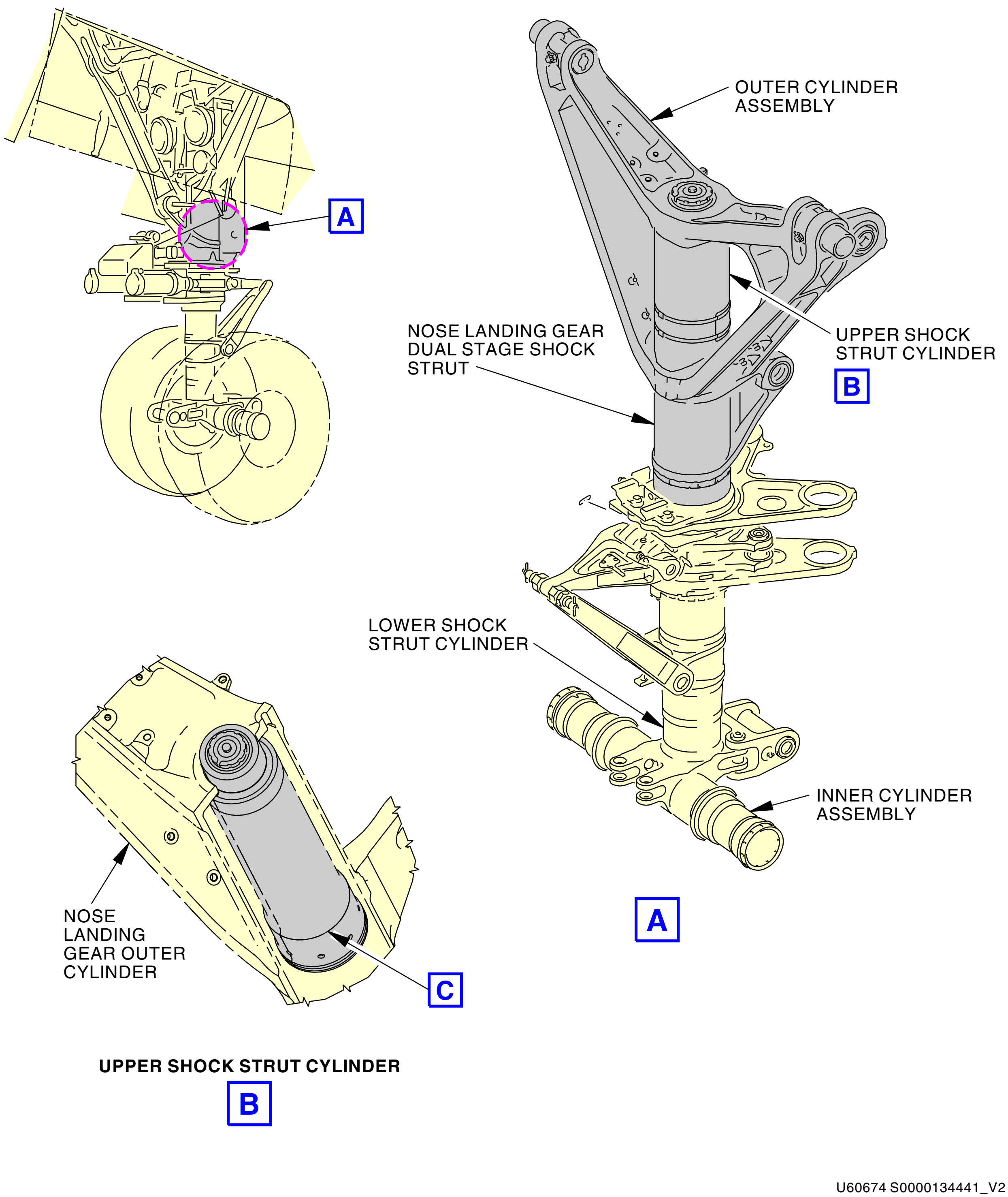
SUBTASK 32-21-28-420-007

(1) Do this task: Nose Landing Gear Upper Cylinder Assembly Installation, TASK 32-21-28-420-801

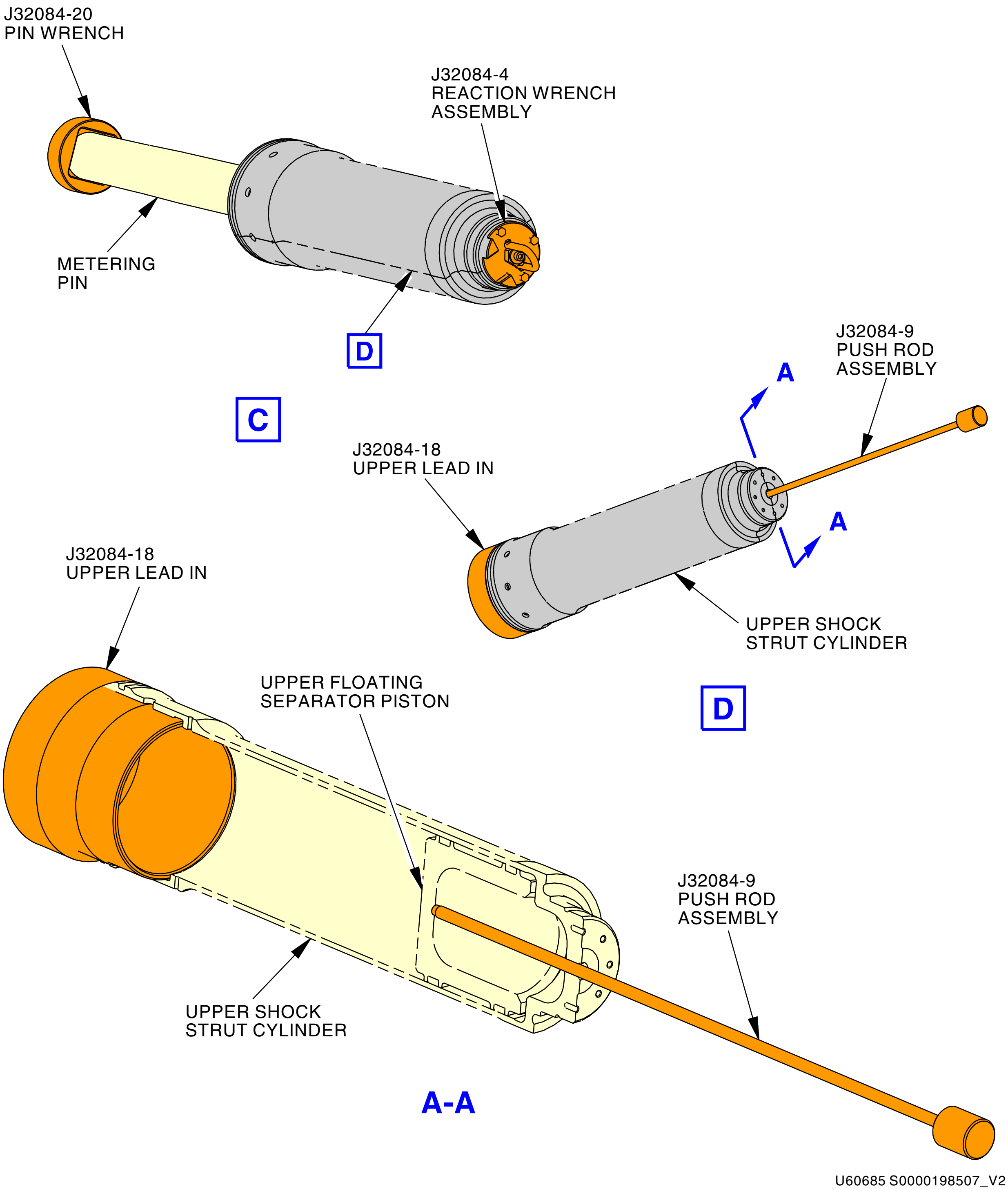
END OF TASK



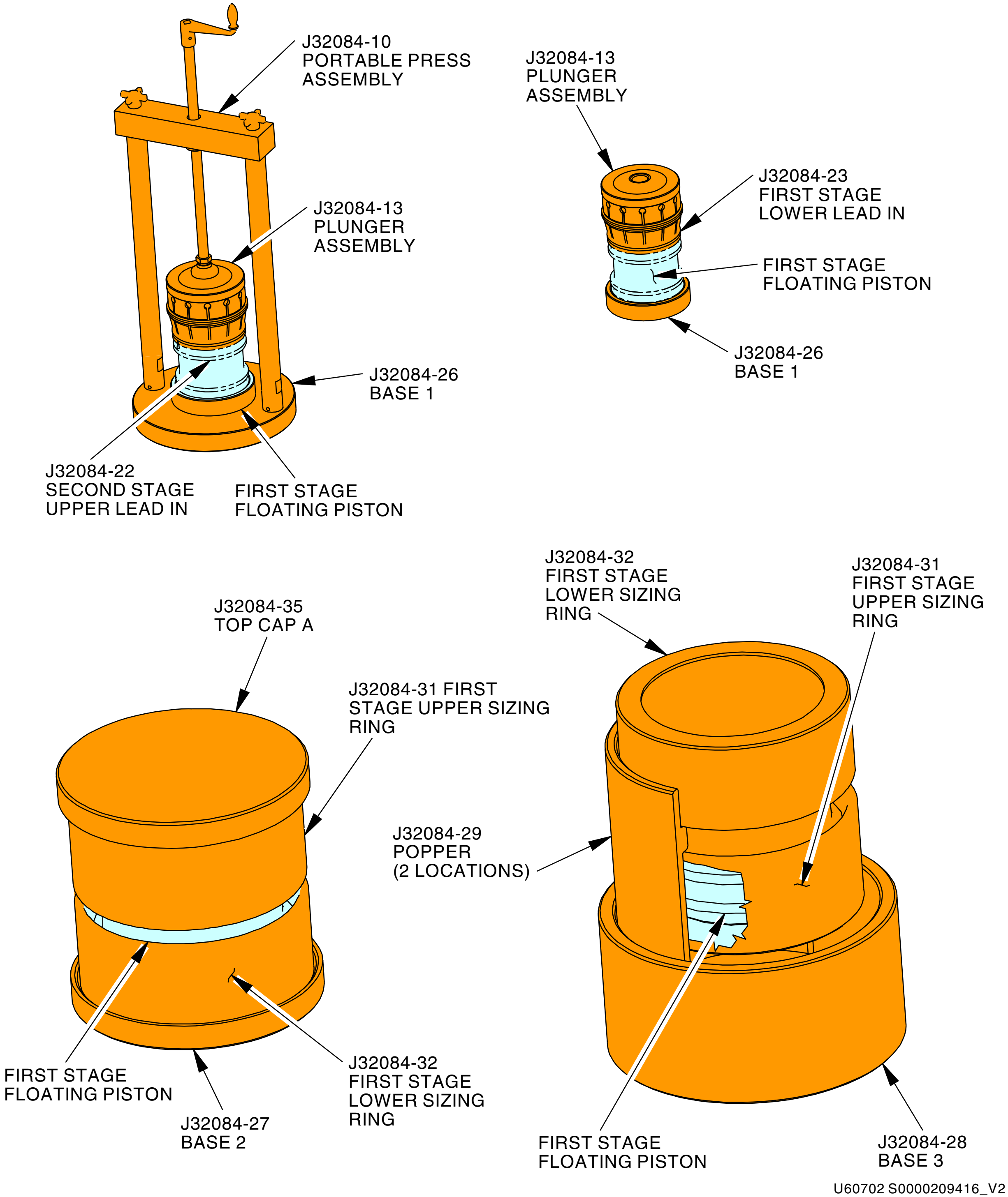
Nose Landing Gear Upper Cylinder Floating Piston Seal Replacement
Figure 801/32-21-28-990-806



Upper Cylinder Floating Piston Seal Replacement Equipment
Figure 802/32-21-28-990-807 (Sheet 1 of 3)



Upper Cylinder Floating Piston Seal Replacement Equipment
Figure 802/32-21-28-990-807 (Sheet 2 of 3)



Upper Cylinder Floating Piston Seal Replacement Equipment
Figure 802/32-21-28-990-807 (Sheet 3 of 3)

TASK 32-21-28-360-802

3. Replace the Seals on the Floating Piston for the Lower Air Chamber Cylinder

A. General

(1) This procedure provides instructions to replace the seals on the lower air chamber floating piston.

B. References

Reference	Title
32-21-28-020-802	Nose Landing Gear Lower Cylinder Assembly Removal (P/B 401)
32-21-28-420-802	Nose Landing Gear Lower Cylinder Assembly Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-5746	Equipment - Shock Strut Part #: J32084-1 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
D00467	Fluid - Landing Gear Shock Strut	BMS3-32 Type II
D00589	Lubricant - Hydraulic Assembly - AFS-682	
D50022	Fluid - Landing Gear Shock Strut (Specifically For Preservation)	BMS3-32 Type I

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
11	AGT ring assembly	32-21-02-02C-280	ARO ALL
12	Piston ring seal	32-21-02-02C-270	ARO ALL

F. Prepare to Replace the Seals

SUBTASK 32-21-28-020-005

(1) Do this task: Nose Landing Gear Lower Cylinder Assembly Removal, TASK 32-21-28-020-802

G. Replace the Floating Piston Seals

SUBTASK 32-21-28-020-006

(1) Do the following steps to remove the floating piston [10] from the lower air chamber cylinder [9].

(a) Use a torque wrench and the plate wrench from the shock strut equipment, SPL-5746 to remove the orifice plate [8].

(b) Remove the lock ring [13].

(c) Use the puller assembly from the shock strut equipment, SPL-5746 to remove the floating piston [10].

SUBTASK 32-21-28-960-002

(2) Do the following steps to replace the AGT ring assembly [11] and the piston ring seal [12] on the lower air chamber cylinder [9].

(a) Remove the AGT ring assembly [11] and the piston ring seal [12] from the floating piston [10].

(b) Briefly immerse or coat the new AGT ring assembly [11] in fluid, D00467 or fluid, D50022.

(c) Use the portable press assembly and the second stage lead ins from shock strut equipment, SPL-5746 to install the AGT ring assembly [11] and the floating piston [10] onto the floating piston [10].

1) If necessary, use AFS-682 lubricant, D00589 to help install seals.

(d) The sizing rings from the shock strut equipment, SPL-5746 can be used to return the AGT ring assembly [11] and the piston ring seal [12] to their normal size after being placed onto the floating piston [10].

SUBTASK 32-21-28-420-008

(3) Do the following steps to assemble the lower air chamber cylinder assembly.

(a) Using the lower lead in and the puller assembly from the shock strut equipment, SPL-5746 put the floating piston [10] in the lower air chamber cylinder [9].

(b) Apply a layer of fluid, D00467 or fluid, D50022

to the threads of the orifice plate [8].

(c) Install the lock ring [13] onto the orifice plate [8].

(d) Install the orifice plate [8] onto the lower air chamber cylinder [9].

1) Make sure that the lock ring [13] is in the slots on the lower air chamber cylinder [9].

2) Use the plate wrench assembly to torque the orifice plate [8] to 25–75 ft-lbs.

a) There must be a zero gap between the orifice plate [8] and the lock ring [13].

(e) Locally crack the flanges of the lock ring [13] into both slots of the orifice plate [8] using the punch from the shock strut equipment, SPL-5746.

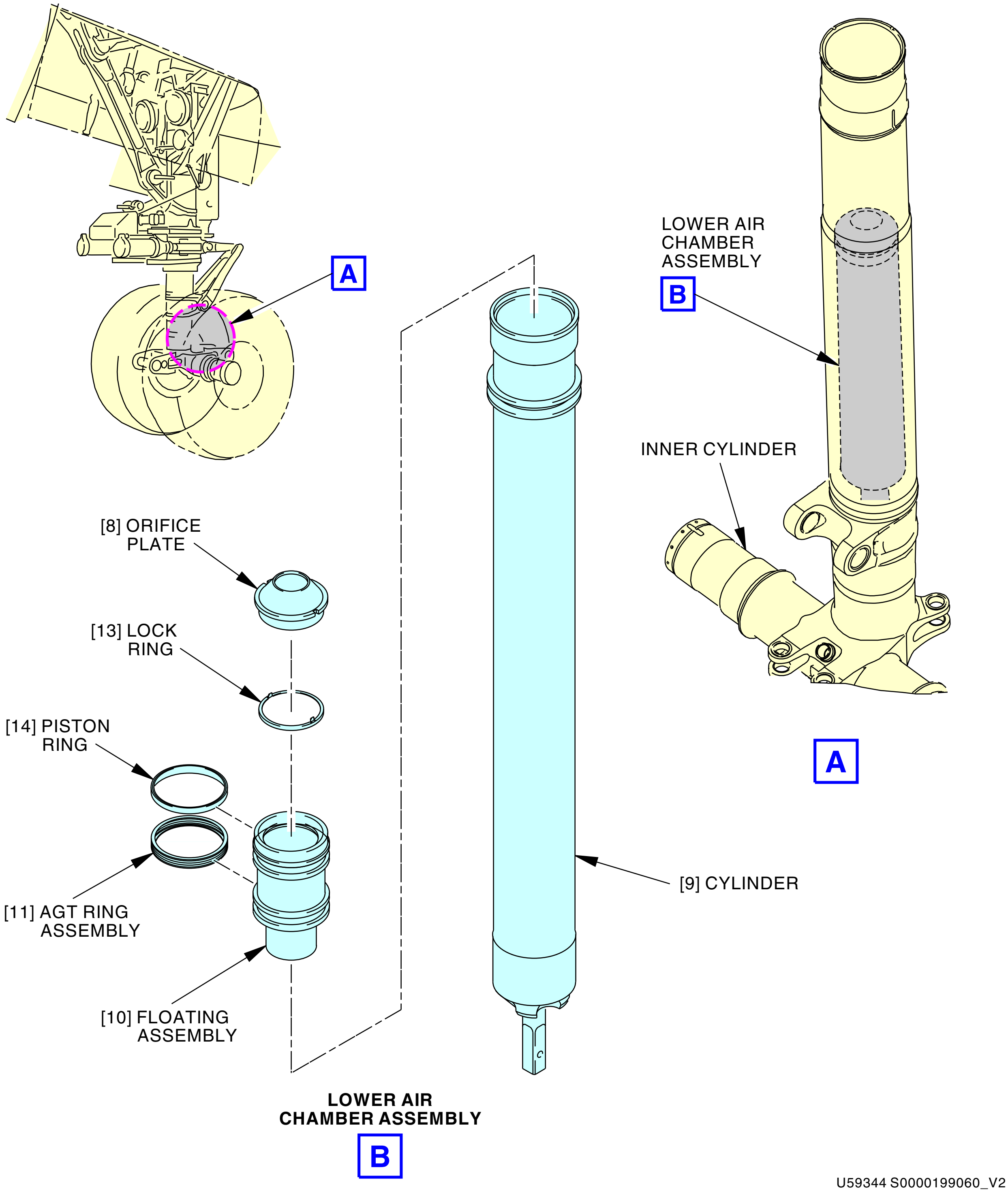
1) Make sure that the lock ring [13] is physically cracked along both edges of the grove.

H. Put the Airplane Back to its Usual Condition

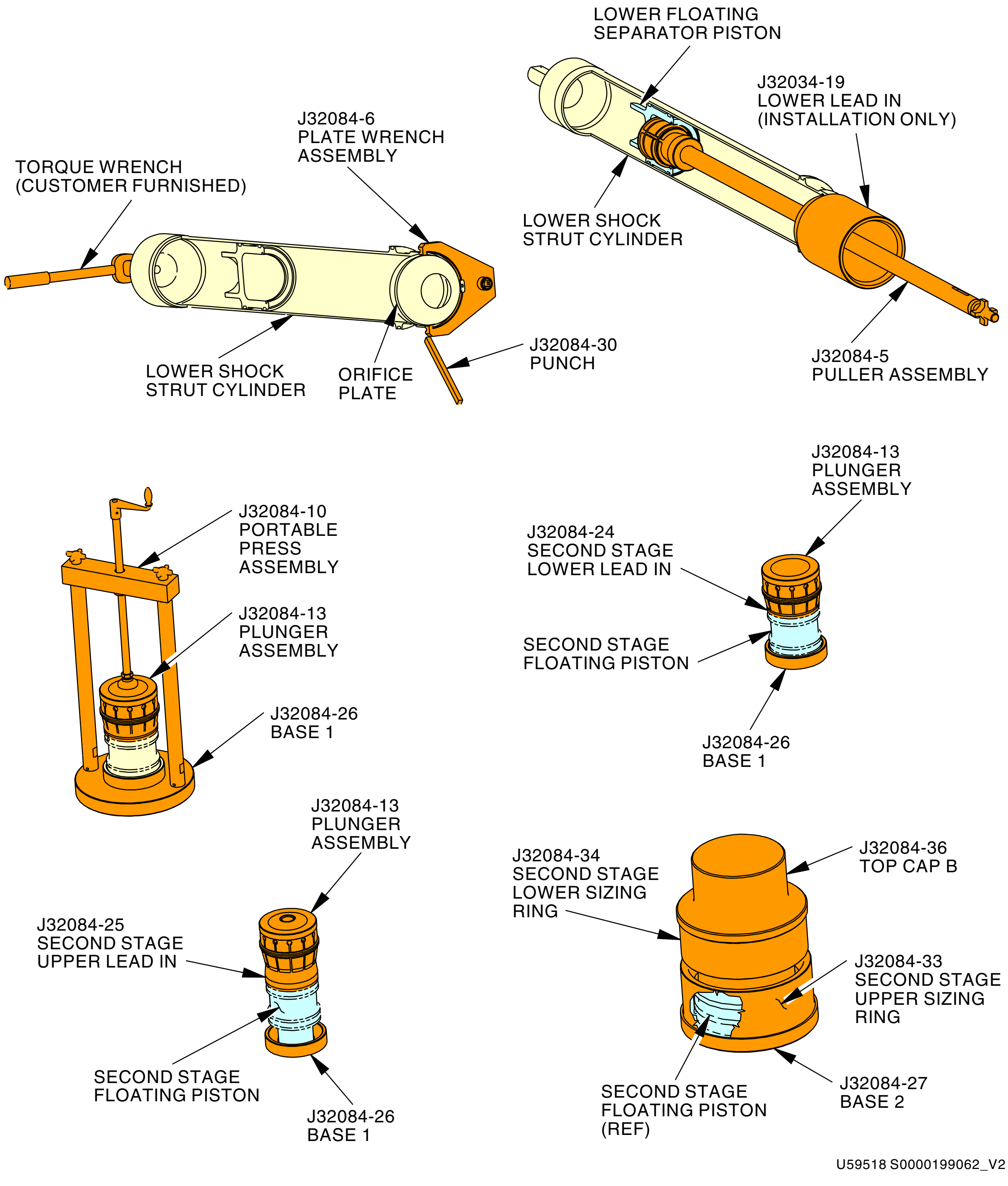
SUBTASK 32-21-28-420-009

(1) Do this task: Nose Landing Gear Lower Cylinder Assembly Installation, TASK 32-21-28-420-802.

——— END OF TASK ———



Nose Landing Gear Lower Cylinder Floating Piston Seal Replacement
Figure 803/32-21-28-990-808



**Lower Cylinder Floating Piston Seal Replacement Equipment
Figure 804/32-21-28-990-809**

NOSE LANDING GEAR SHOCK STRUT UPPER AIR CHAMBER PRESSURE INDICATOR - REMOVAL/ INSTALLATION

1. General

A. This procedure provides instructions to install the Nose Landing Gear Pressure Indicator.

TASK 32-21-29-020-801

2. Remove the Nose Landing Gear Pressure Indicator

(Figure 401)

A. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Remove the Pressure Indicator

SUBTASK 32-21-29-490-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-21-29-490-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-21-29-860-001

(3) For the center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-21-29-030-001

(4) Remove the nitrogen from the nose landing gear upper air chamber.

(a) Remove the cap [3] from the upper air charging valve [1].

WARNING DO NOT REMOVE THE VALVE BODY UNTIL YOU DEFLATE THE SHOCK STRUT FULLY. THE AIR PRESSURE CAN BLOW THE VALVE BODY OUT AND CAUSE INJURIES TO PERSONNEL.

(b) Loosen the swivel nut [4], for the upper air charging valve [1], a maximum of two turns.

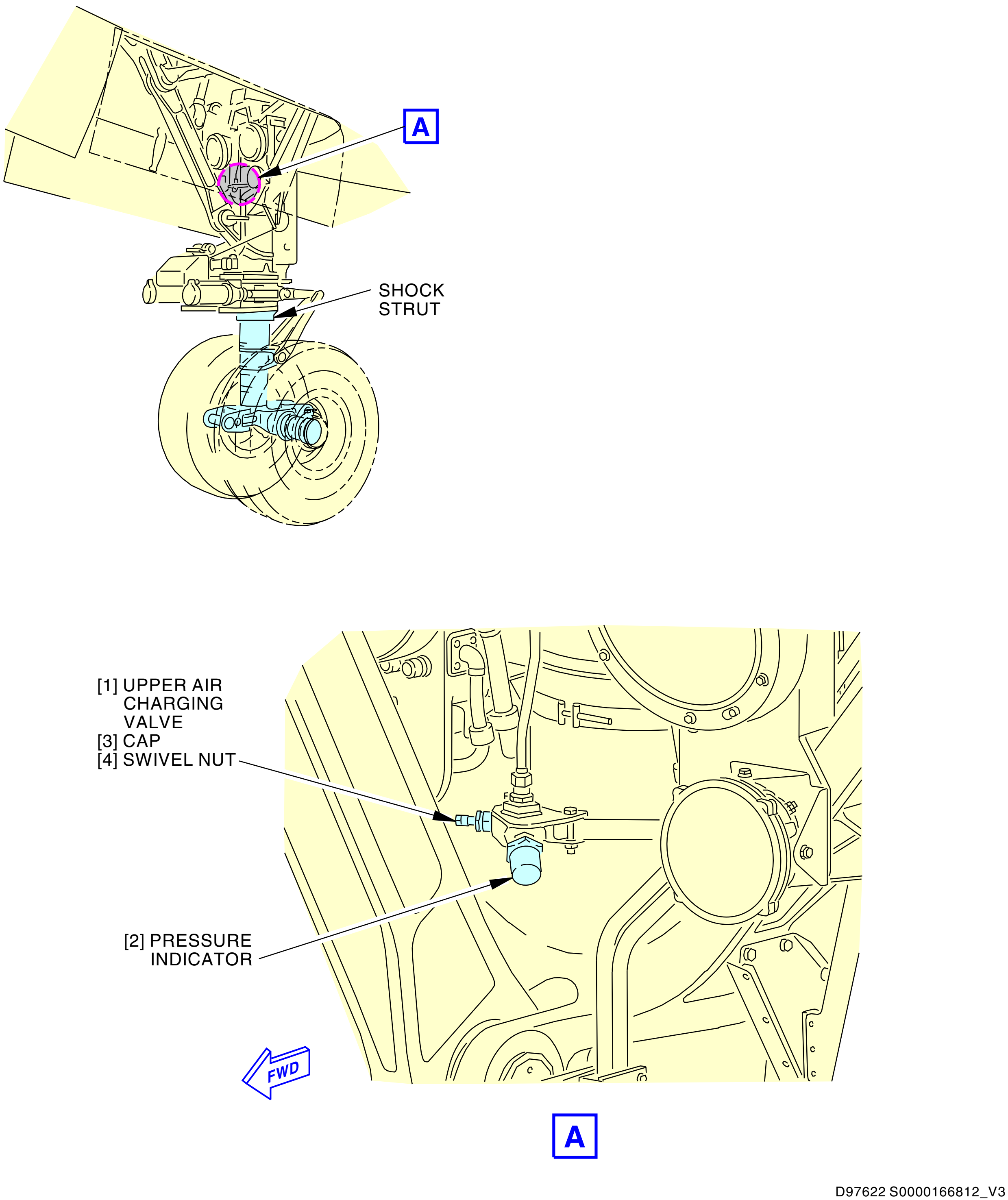
NOTE: Allow all of the nitrogen to escape before you do the next step.

(c) Loosen the swivel nut [4] fully after all of the pressure in the shock strut upper chamber is released.

SUBTASK 32-21-29-020-001

(5) Remove the nose landing gear pressure indicator [2] from the end of the hydraulic tubing.

——— END OF TASK ———



Nose Landing Gear Shock Strut Pressure Indicator Installation
Figure 401/32-21-29-990-801

TASK 32-21-29-420-802

3. Install the Nose Landing Gear Pressure Indicator

(Figure 401)

A. References

Reference	Title
12-15-02-610-806-002	Nose Landing Gear Shock Strut Servicing - Nitrogen Only (P/B 301)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

B. Install the pressure indicator

SUBTASK 32-21-29-420-001

(1) Install the nose landing gear pressure indicator [2] on the end of the hydraulic tubing.

SUBTASK 32-21-29-614-001

(2) Do this task: Nose Landing Gear Shock Strut Servicing - Nitrogen Only, TASK 12-15-02-610-806-002.

SUBTASK 32-21-29-090-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

NOSE LANDING GEAR DOOR

1. General

A. This procedure contains scheduled maintenance task data.

B. This procedure contains this task:

(1) General visual inspection of the nose landing gear door mechanism.

TASK 32-22-00-210-801

2. General Visual Inspection of the Nose Landing Gear Door Mechanism

(Figure 601)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
713	Left Forward Nose Landing Gear Door
714	Right Forward Nose Landing Gear Door

C. Procedure

SUBTASK 32-22-00-860-001

WARNING MAKE SURE THE LANDING GEAR DOWNLOCK PINS ARE INSTALLED. THIS WILL PREVENT ACCIDENTAL RETRACTION OF THE LANDING GEAR, INJURY TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-22-00-860-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-22-00-210-001

(3) Do a general visual inspection of these nose landing gear door components for damage:

(a) Door actuator

(b) Door actuation mechanism

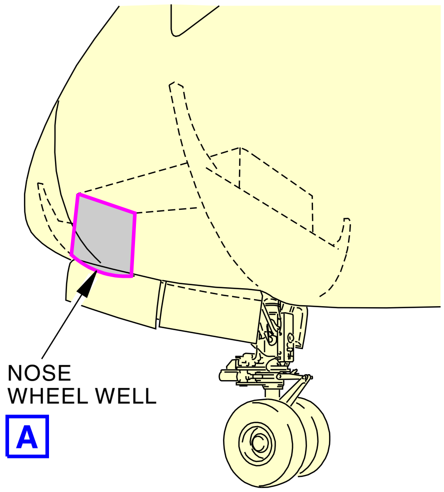
(c) Door release/safety valve module.

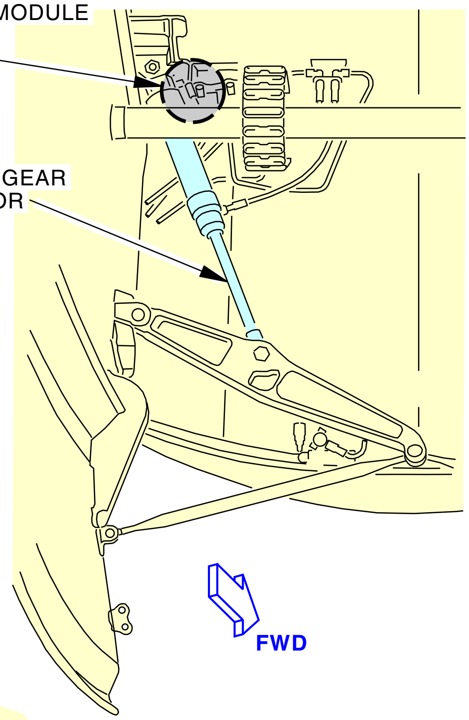
SUBTASK 32-22-00-860-003

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

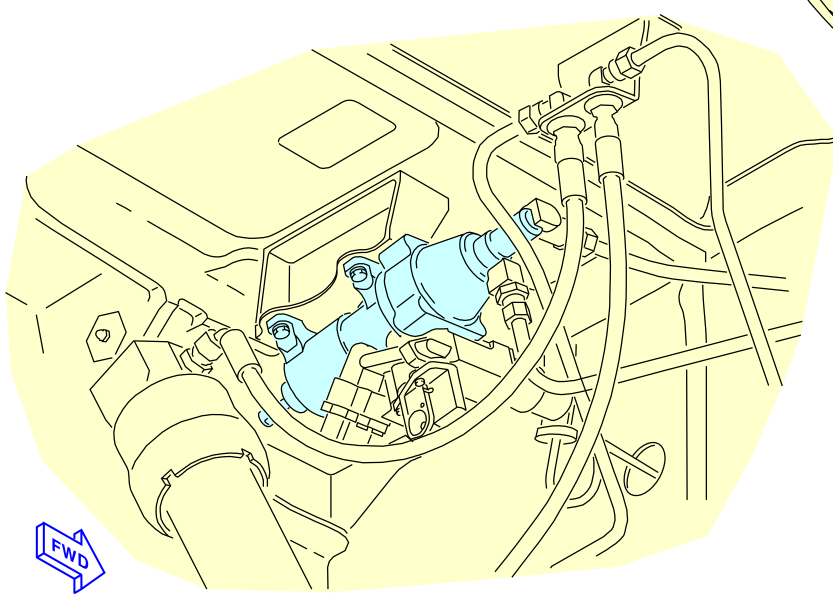
(4) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

——— END OF TASK ———





NOSE WHEEL WELL
A



DOOR RELEASE/SAFETY VALVE MODULE
B

480407 S0000143409_V2

Nose Landing Gear Door Mechanism General Visual (External)
Figure 601/32-22-00-990-801

NOSE LANDING GEAR DOOR SEALS - REPAIR

1. General

A. This procedure gives the instructions to repair the aerodynamic seals on the nose landing gear doors.

TASK 32-22-00-350-801

2. Nose Landing Gear Door Seals - Repairs

A. General

(1) The repair procedures contained in DOOR SEALS - REPAIRS, PAGEBLOCK 52-09-00/801 can be used to repair the seals on the nose landing gear doors. Please refer to the Component Maintenance Manual of each door for the seal replacement instructions, if they are needed.

B. References

Reference	Title
52-09-00 P/B 801	DOOR SEALS - REPAIRS

C. Location Zones

Zone	Area
713	Left Forward Nose Landing Gear Door
714	Right Forward Nose Landing Gear Door
715	Left Aft Nose Landing Gear Door
716	Right Aft Nose Landing Gear Door

——— END OF TASK ———

NOSE LANDING GEAR FORWARD DOORS - MAINTENANCE PRACTICES

1. **General**
   A. This procedure has these tasks:
      (1) A removal of the forward doors for the nose landing gear
      (2) An installation of the forward doors for the nose landing gear.
      (3) An adjustment of the forward doors for the nose landing gear.

TASK 32-22-01-000-801

2. **Nose Landing Gear Forward Door Removal**
   (Figure 201)

   A. General
      (1) This procedure supplies instruction to remove the forward door for the nose landing gear.

   B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
713	Left Forward Nose Landing Gear Door
714	Right Forward Nose Landing Gear Door

   D. Prepare for the Removal

   SUBTASK 32-22-01-480-003

   > **WARNING** MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

      (1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

   SUBTASK 32-22-01-010-001

   > **WARNING** OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

      (2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

   SUBTASK 32-22-01-860-007

      (3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

E. Forward Door Removal

SUBTASK 32-22-01-020-011

(1) Disconnect the bonding jumpers from the hinges of the forward door [1]:

(a) Remove the bolts [35], the washers [36] and the nuts [37] to disconnect the bonding jumpers from the hinges.

SUBTASK 32-22-01-020-001

(2) Disconnect the forward door actuator rod [8] from the forward door [1].

(a) Remove the cotter pin [15], washer [13], and nut [14] from the bolt [9].

(b) Remove the bolt [9] with the washer [10] and bushing [11].

CAUTION MAKE SURE THAT YOU HOLD THE ACTUATOR ROD WITH A ROPE. THE ACTUATOR ROD CAN MOVE AGAINST THE ACTUATOR BELLCRANK. THIS CAN CAUSE DAMAGE TO THE BELLCRANK.

(c) Use a rope to hold the forward door actuator rod [8] to the actuator bellcrank such that it will not move.

SUBTASK 32-22-01-020-002

(3) Disconnect the sequence valve rod [20] from the aft hinge [27].

(a) Remove the nut [29] and washer [28] from the bolt [25].

(b) Remove the bolt [25], washer [26], and bushing [16] from the sequence valve rod [20] and the aft hinge [27].

SUBTASK 32-22-01-020-003

(4) Hold the forward door [1] and disconnect the forward hinge [4] from the airplane.

(a) Remove the cotter pin [19], nut [18], and washer [17] from the hinge bolt [7].

(b) Remove the hinge bolt [7] with the washer [6] and bushing [5].

SUBTASK 32-22-01-020-004

(5) Disconnect the aft hinge [27] from the airplane.

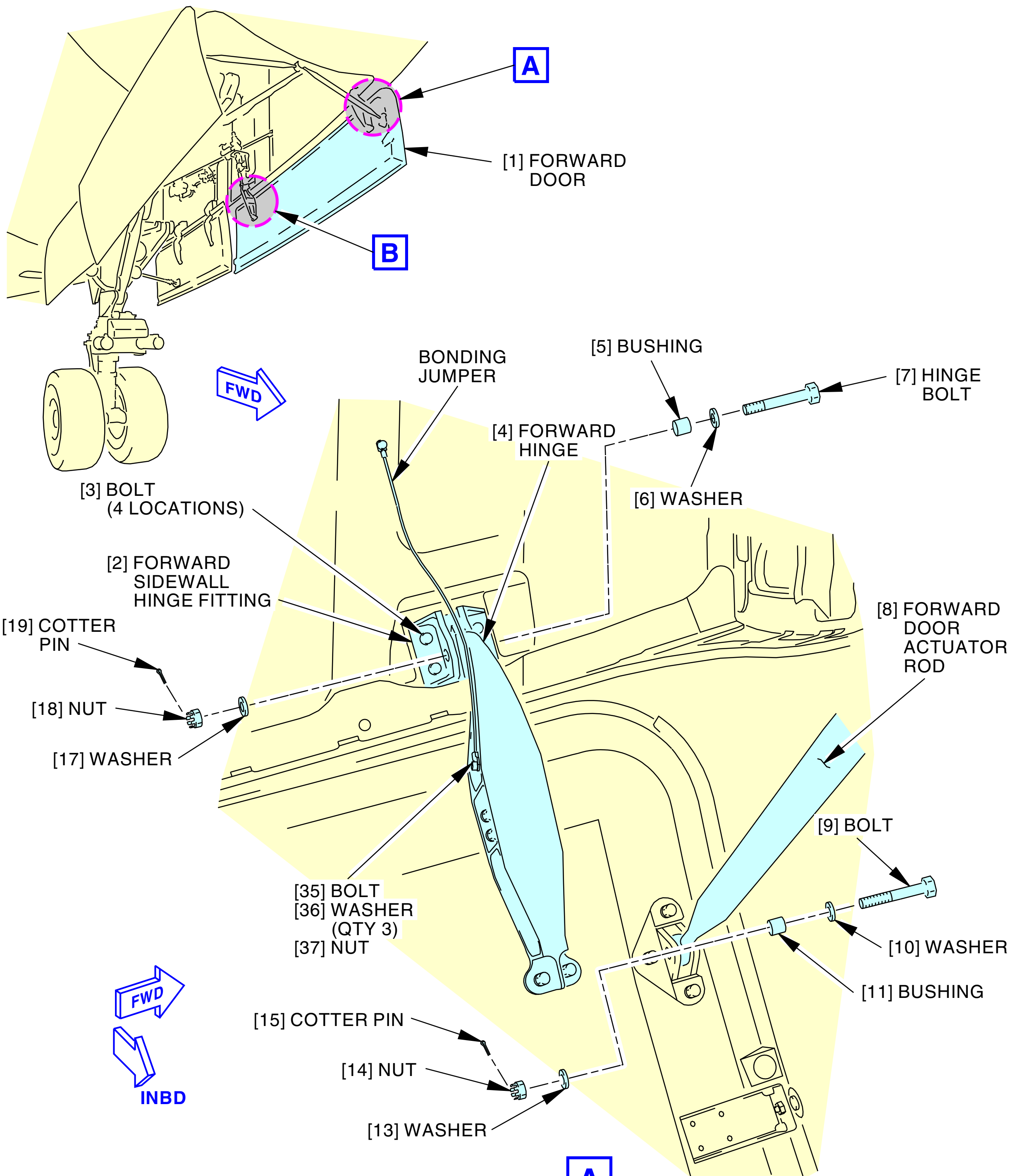
(a) Remove the cotter pin [21], nut [22], washer [23], and bushing [24] from the hinge bolt [32].

(b) Remove the hinge bolt [32] with the washer [33] and bushing [34].

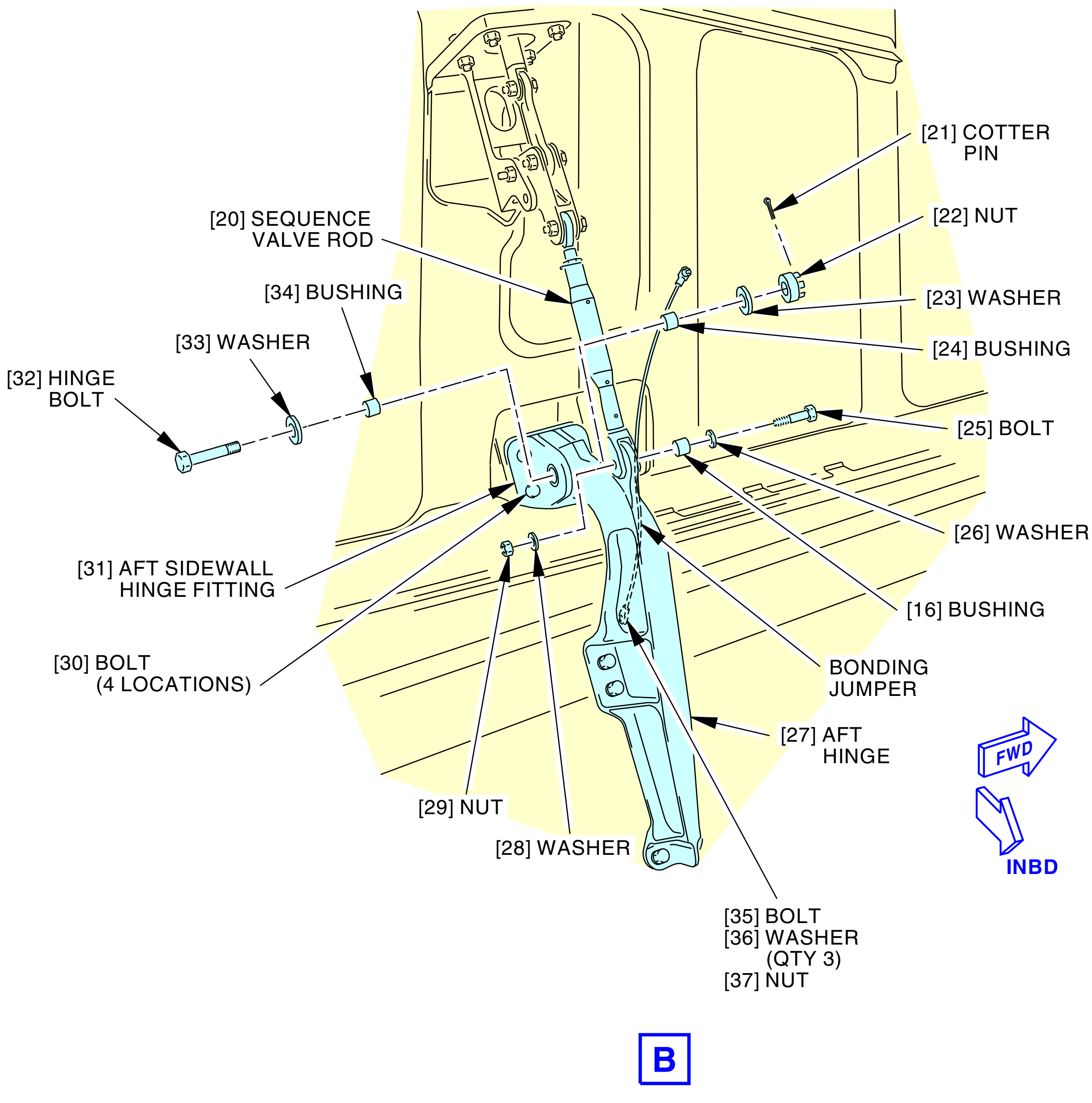
SUBTASK 32-22-01-020-005

(6) Remove the forward door [1].

END OF TASK



Nose Landing Gear Forward Door Installation
Figure 201/32-22-01-990-801 (Sheet 1 of 2)



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Nose Landing Gear Forward Door Installation
Figure 201/32-22-01-990-801 (Sheet 2 of 2)

TASK 32-22-01-400-801

3. Nose Landing Gear Forward Door Installation

(Figure 201)

A. General

(1) This procedure supplies instructions to install the forward door for the nose gear.

B. References

Reference	Title
12-21-13-640-801	Nose Landing Gear Doors and Actuating Mechanisms Lubrication (P/B 301)
20-10-22-110-802	Clean Bare, Clad, or Plated Metal with Solvent (P/B 701)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-34-05-420-801	Sequence Valve Mechanism Installation (P/B 401)

C. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Forward door	32-22-55-01-056	ARO ALL
		32-22-55-01-060	ARO ALL
19	Cotter pin	32-22-55-01-010	ARO ALL
21	Cotter pin	32-22-55-01-010	ARO ALL

E. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
713	Left Forward Nose Landing Gear Door
714	Right Forward Nose Landing Gear Door

F. Forward Door Installation

SUBTASK 32-22-01-420-001

(1) Hold the forward door [1] in its position in the forward sidewall hinge fitting [2] and aft sidewall hinge fitting [31].

SUBTASK 32-22-01-820-014

(2) Make sure the sequence valve rod [20] is moved inboard of the door.

NOTE: If the rod is outboard of the door, you will not be able to move into its position for connection.

SUBTASK 32-22-01-420-002

(3) Connect the forward hinge [4] to the forward sidewall hinge fitting [2]:

(a) Install the washer [6] and the bushing [5] on the hinge bolt [7].

(b) Install the hinge bolt [7] in the forward hinge [4] and forward sidewall hinge fitting [2].

(c) Install the washer [17] and the nut [18] on the hinge bolt [7].

(d) Install the cotter pin [19] for the hinge bolt [7].

SUBTASK 32-22-01-420-006

(4) Connect the aft hinge [27] to the aft sidewall hinge fitting [31]:

(a) Install the washer [33] and the bushing [34] on the hinge bolt [32].

(b) Install the hinge bolt [32] in the aft hinge [27] and aft sidewall hinge fitting [31].

(c) If you cannot install the hinge bolt [32], do the steps that follow:

1) Loosen the bolts [30] for the aft sidewall hinge fitting [31].

2) Adjust the fitting up or down until you can install the hinge bolt [32].

3) Make sure the serrations on the hinge fitting and plate mate together correctly.

4) Tighten the bolts [30] for the aft sidewall hinge fitting [31].

(d) Install the bushing [24], washer [23], and the nut [22] on the hinge bolt [32].

(e) Install the cotter pin [21] for the hinge bolt [32].

(f) Move the forward door [1] with your hands through its full travel to make sure there is smooth operation.

SUBTASK 32-22-01-020-012

(5) Connect the bonding jumpers to the hinges of the forward door [1]:

(a) Do this task: Clean Bare, Clad, or Plated Metal with Solvent, TASK 20-10-22-110-802.

to fully clean the mating surface of the bonding jumper and the wheel well.

(b) Install the bolts [35], the washers [36] and the nuts [37] to connect the bonding jumpers to the hinges.

NOTE: There are 3 washers [36] per jumper.

(c) Apply sealant, A00247 to the bolts [35], the washers [36], and the nuts [37] to seal them.

SUBTASK 32-22-01-420-003

(6) Do this task: Nose Landing Gear Forward Door Adjustment, TASK 32-22-01-820-801.

NOTE: The left and right forward door actuator rods [8] will be connected during the door adjustment.

SUBTASK 32-22-01-420-007

(7) Connect the sequence valve rod [20] to the aft hinge [27]:

(a) Install the washer [26] and the bushing [16] on the bolt [25].

(b) Install the bolt [25] in the sequence valve rod [20] and the aft hinge [27].

(c) Install the washer [28] and the nut [29] on the bolt [25].

SUBTASK 32-22-01-420-004

(8) To adjust the door operated sequence valve, do this task: Sequence Valve Mechanism Installation, TASK 32-34-05-420-801.

G. Put the Airplane Back to its Usual Condition

SUBTASK 32-22-01-640-001

(1) Lubricate the forward door for the nose landing gear, do this task: Nose Landing Gear Doors and Actuating Mechanisms Lubrication, TASK 12-21-13-640-801.

SUBTASK 32-22-01-410-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

——— END OF TASK ———

TASK 32-22-01-820-801

4. Nose Landing Gear Forward Door Adjustment

(Figure 201, Figure 202)

A. General

(1) This procedure supplies instructions to adjust the forward doors for the nose gear.

B. References

Reference	Title
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
07-11-02-580-801	Lift the Airplane Nose on Jacks (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)
32-61-05-700-801	Test of the Door Closed Sensor (P/B 201)
51-21-10-370-811	Decorative Exterior Paint System Application (P/B 701)
51-31-01-390-801	Non-Removable Faying (Mated) Surface Seal Application (P/B 201)

C. Consumable Materials

Reference	Description	Specification
A00436	Sealant - Fuel Tank	BMS5-45 (Supersedes BMS5-26)
C00032	Coating - Protective Enamel, General Use	BMS10-60 Type I
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79 Type III
C00766	Primer - Nonchromated Primer For Composites	BMS10-103 Type I
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

D. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
15	Cotter pin	32-22-55-05-003	ARO ALL

E. **Location Zones**

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
713	Left Forward Nose Landing Gear Door
714	Right Forward Nose Landing Gear Door

F. **Prepare for the adjustment**

SUBTASK 32-22-01-480-004

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-22-01-010-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-22-01-860-008

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-22-01-020-009

(4) Remove the stop pin retainers [54] from the stop pin [55].

NOTE: The stop pin [55] is on the forward wheel well bulk head.

SUBTASK 32-22-01-020-006

(5) Retract the stop pin [55] for the forward door.

SUBTASK 32-22-01-020-010

(6) If the forward door actuator rods [8] are connected to the doors do these step (Figure 201):

(a) Remove the cotter pin [15], the nut [14], the washer [13], the bolt [9], the washers [10], and the bushings [11] to disconnect the left and right forward door actuator rods [8] at the doors.

CAUTION: MAKE SURE THAT YOU HOLD THE ACTUATOR ROD WITH A ROPE. THE ACTUATOR ROD CAN MOVE AGAINST THE ACTUATOR BELLCRANK. THIS CAN CAUSE DAMAGE TO THE BELLCRANK.

(b) Use a rope to hold the forward door actuator rods [8] to the actuator bellcrank such that they will not move.

NOTE: In the steps that follow in Forward Door Adjustment, you will connect and disconnect the actuator rods at the door many times. Make sure you attach the rope such that you can get access to the rods easily.

SUBTASK 32-22-01-860-009

(7) Lift the nose of the airplane to a sufficient height to permit the nose landing gear to retract, do this task: Lift the Airplane Nose on Jacks, TASK 07-11-02-580-801.

SUBTASK 32-22-01-020-015

WARNING: MAKE SURE YOU ONLY REMOVE THE DOWNLOCK PINS FOR THE NOSE LANDING GEAR. THE MAIN LANDING GEAR CAN RETRACT IF THE DOWNLOCK PINS ARE REMOVED FROM THE MAIN LANDING GEAR. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(8) For the nose landing gear, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

SUBTASK 32-22-01-860-010

(9) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-22-01-860-011

(10) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-22-01-860-012

WARNING: MAKE SURE THAT PERSONS AND EQUIPMENT ARE CLEAR OF THE GEAR RETRACTION PATH. INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR IF THE AREA IS NOT CLEAR.

(11) Move the control lever for the landing gear to the UP position to retract the nose landing gear.

SUBTASK 32-22-01-480-005

(12) Attach a DO-NOT-OPERATE tag to the control lever.

SUBTASK 32-22-01-860-013

(13) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	13	C32013	LDG GEAR ALTN EXT MOTOR
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-22-01-860-014

(14) Do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

G. Forward Door Adjustment

NOTE: No adjustment will be made to the hinge fittings mounted on the doors.

SUBTASK 32-22-01-410-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Remove the door safety pin for the nose landing gear doors, do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-22-01-820-009

(2) Do the step that follows to move the door actuator for the nose landing gear to the door closed position, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-22-01-820-007

(3) Manually close the forward door [1] for the nose landing gear that you will adjust.

SUBTASK 32-22-01-820-008

(4) Loosely install the bolt [9], the washer [13], the bushing [11], the washer [10], and the nut [14] to connect the forward door actuator rod [8] for the door you will adjust.

NOTE: This will keep the door in the closed position.

SUBTASK 32-22-01-820-005

(5) Make sure the fit between the forward door [1] and the surrounding structure is in the tolerance shown (Figure 202).

NOTE: Write the fit values that are not in tolerance.

(a) Use the tolerances, in the Table 201, for all airplane forward door flushness checks.

Table 201/32-22-01-993-803 Nose Landing Gear Forward Door Flushness Values

EDGE ZONE	FLUSHNESS (MISMATCH)
A	+0.10 in. (2.5 mm) / -0.10 in. (-2.5 mm)
D	+0.06 in. (1.5 mm) / -0.06 in. (-1.5 mm)
E	+0.00 in. (0.0 mm) / -0.06 in. (-1.5 mm)
F	+0.06 in. (1.5 mm) / -0.20 in. (-5.1 mm)
NOTE: A positive (+) tolerance indicates the face of the mismatch is into the airstream. A negative (-) tolerance indicates the face of the mismatch faces aft.	

SUBTASK 32-22-01-820-002

(6) Do the steps that follow for the forward doors [1] that you will adjust:

(a) If the mismatch along the forward outboard edge is not in tolerance, do the steps that follow:

1) Loosen the bolts [3] for the forward sidewall hinge fitting [2] (Figure 201).

2) Lift or lower the forward sidewall hinge fitting [2] as it is necessary, to get the mismatch in tolerance.

3) Tighten the bolts [3] for the forward sidewall hinge fitting [2].

a) Make sure the serrations on the hinge fitting and plate attach together correctly.

(b) If the mismatch along the aft outboard edge is not in tolerance, do the steps that follow:

1) Loosen the bolts [30] for the aft sidewall hinge fitting [31] (Figure 201).

2) Lift or lower the aft sidewall hinge fitting [31] as it is necessary, to get the mismatch in tolerance.

3) Tighten the bolts [30] for the aft sidewall hinge fitting [31].

a) Make sure the serrations on the hinge fitting and plate attach together correctly.

(c) If you will adjust the forward door [1] on the opposite side, remove the bolt [9] to disconnect the forward door actuator rod [8] at the doors.

(d) Adjust the fit of the forward door [1] on the opposite side if it is necessary.

SUBTASK 32-22-01-420-008

(7) Do the steps that follow to connect and adjust the forward door actuator rods [8] once both the left and the right doors have been adjusted:

(a) Remove the lockwire and loosen the jamnuts [51] on the two forward door actuator rod [8] ends.

(b) Close the left forward door [1] with you hands.

(c) Connect the left forward door actuator rod [8] to the left forward door [1]:

1) Install the washer [10] and the bushing [11] on the bolt [9].

2) Install the bolt [9] through the left forward door actuator rod [8] and the fitting on the left forward door [1].

3) Install the washer [13] and the nut [14] on the bolt [9].

4) Do not tighten the nut [14] or install the new cotter pin [15].

(d) Adjust the left forward door actuator rod [8] if the forward/inboard edge of the door is not in tolerance.

1) Turn the left forward door actuator rod [8] clockwise or counterclockwise to bring the left forward door [1] into mismatch tolerance.

2) Make sure the threads are visible through the inspection holes [52] at the ends of the forward door actuator rod [8].

3) Tighten the jamnuts [51] at the ends of the left forward door actuator rod [8] to 220 in-lb (24.9 N·m) - 280 in-lb (31.6 N·m).

4) Install MS20995C32 lockwire, G01048 on the jamnuts [51].

(e) Adjust the left forward stop pin [55] for the left forward door:

1) Adjust the left stop pin [55] on the forward wheel well bulkhead until it just touches the forward/inboard door stop pad on the forward door.

2) Install the stop pin retainers [54] for the left forward stop pin [55] on the fwd wheel well bulkhead (Figure 202).

(f) Remove the nut [14], the washer [13], the bolt [9], the washer [10], and the bushing [11] to disconnect the forward door actuator rod [8] at the left forward door [1].

(g) Manually open the left forward door [1].

(h) Manually close the right forward door [1] for the nose landing gear.

(i) Connect the right forward door actuator rod [8] to the right forward door [1]:

1) Turn the right forward door actuator rod [8] clockwise or counter - clockwise to align the holes for the bolt [9].

2) Install the washer [10] and the bushing [11] on the bolt [9].

3) Install the bolt [9] through the right forward door actuator rod [8] and the fitting on the right forward door [1].

4) Install the washer [13] and the nut [14] on the bolt [9].

5) Tighten the nut [14] to 175 in-lb (19.8 N·m).

6) If it is necessary, apply more torque to align the nearest castellation in the nut [14] with the hole in the bolt [9].

7) Do not tighten the nut [14] to more than 240 in-lb (27.1 N·m).

8) Install the cotter pin [15].

(j) Adjust the right forward door actuator rod [8] if the forward/inboard edge of the door is not in tolerance.

1) Turn the right forward door actuator rod [8] clockwise or counterclockwise to bring the right forward door [1] into mismatch tolerance.

2) Make sure the threads are visible through the inspection holes [52] at the ends of the forward door actuator rod [8].

3) Tighten the jamnuts [51] at the ends of the right forward door actuator rod [8] to 220 in-lb (24.9 N·m) - 280 in-lb (31.6 N·m).

4) Install MS20995C32 lockwire, G01048 on the jamnuts [51].

(k) Adjust the right forward stop pin [55] for the right forward door:

1) Adjust the right stop pin [55] on the forward wheel well bulkhead until it just touches the forward/inboard door stop pad on the right forward door.

2) Install the stop pin retainers [54] for the right forward stop pin [55] on the fwd wheel well bulkhead (Figure 202).

(l) Turn the door actuator unlock lever [56] outboard to open the forward doors.

NOTE: The unlock lever [56] is on the head end of the door actuator.

(m) Manually open the right forward door [1].

(n) Connect the left forward door actuator rod [8] to the left forward door [1] (Figure 201):

1) Install the washer [10] and the bushing [11] on the bolt [9].

2) Install the bolt [9] through the left forward door actuator rod [8] and the fitting on the left forward door [1].

3) Install the washer [13] and the nut [14] on the bolt [9].

4) Tighten the nut [14] to 175 in-lb (19.8 N·m).

5) If it is necessary, apply more torque to align the nearest castellation in the nut [14] with the hole in the bolt [9].

6) Do not tighten the nut [14] to more than 240 in-lb (27.1 N·m).

7) Install the cotter pin [15].

SUBTASK 32-22-01-820-010

(8) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-22-01-820-011

(9) For a new door, make sure the fit around the forward doors [1] is in the tolerance shown (Figure 202).

NOTE: It is only necessary to check the fit around a new door.

NOTE: The forward edge of the forward door is not trimmable.

(a) Use the "ALL" tolerances, in the Table 202, for the airplane forward door clearance checks.

Table 202/32-22-01-993-805 Nose Landing Gear Forward Door Clearance Value

EDGE ZONE	CLEARANCE INCH (mm)
A	0.15 +0.10 / -0.06 in. (3.8 +2.5 / -1.5 mm)
D	0.25 +0.10 / -0.03 in. (6.4 +2.6 / -0.8 mm)
E	0.15 +0.10 / -0.06 in. (3.8 +2.5 / -1.5 mm)
F	0.15 +0.10 / -0.06 in. (3.8 +2.5 / -1.5 mm)

SUBTASK 32-22-01-820-012

(10) If the clearance around the forward doors is to small, do the steps that follow:

(a) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

(b) Remove the bulb seal that is on the edge of the door that you need to trim.

(c) Trim the forward door to meet the clearance tolerance.

1) Make sure you keep a square edge when you trim the door.

(d) Apply one layer of primer, C00175 to the trimmed edge (TASK 51-21-10-370-811).

(e) Apply coating, C00032 to the trimmed edge.

(f) Install the bulb seal on the door edge if you removed one (TASK 51-31-01-390-801).

1) Install the screws to hold the bulb seal to the door edge.

2) Apply sealant, A00436 to the exposed bulb seal screws on the inside of the door.

SUBTASK 32-22-01-820-013

(11) If it is necessary to trim the stop blocks and the bearing plate, do the steps that follow:

(a) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

(b) Trim the forward edge of the stop blocks to the minimum amount necessary to get a clearance of 0.01 in. (0.254 mm) - 0.05 in. (1.270 mm) between the door and the edge of the skin cutout when the door is closed.

1) Trim the forward edge of the stop blocks to 0.05 in. (1.27 mm) - 0.1 in. (2.54 mm).

2) Trim the forward edge of the bearing plate to 0.05 in. (1.27 mm).

(c) Break the sharp edges.

(d) Apply primer, C00766 to the trimmed edge.

(e) Apply coating, C00032 to the trimmed edge.

H. Put the Airplane Back to its Usual Condition

SUBTASK 32-22-01-710-001

(1) Do this task: Test of the Door Closed Sensor, TASK 32-61-05-700-801.

SUBTASK 32-22-01-080-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-22-01-040-003

(3) Remove the safety tags and close these circuit breakers:

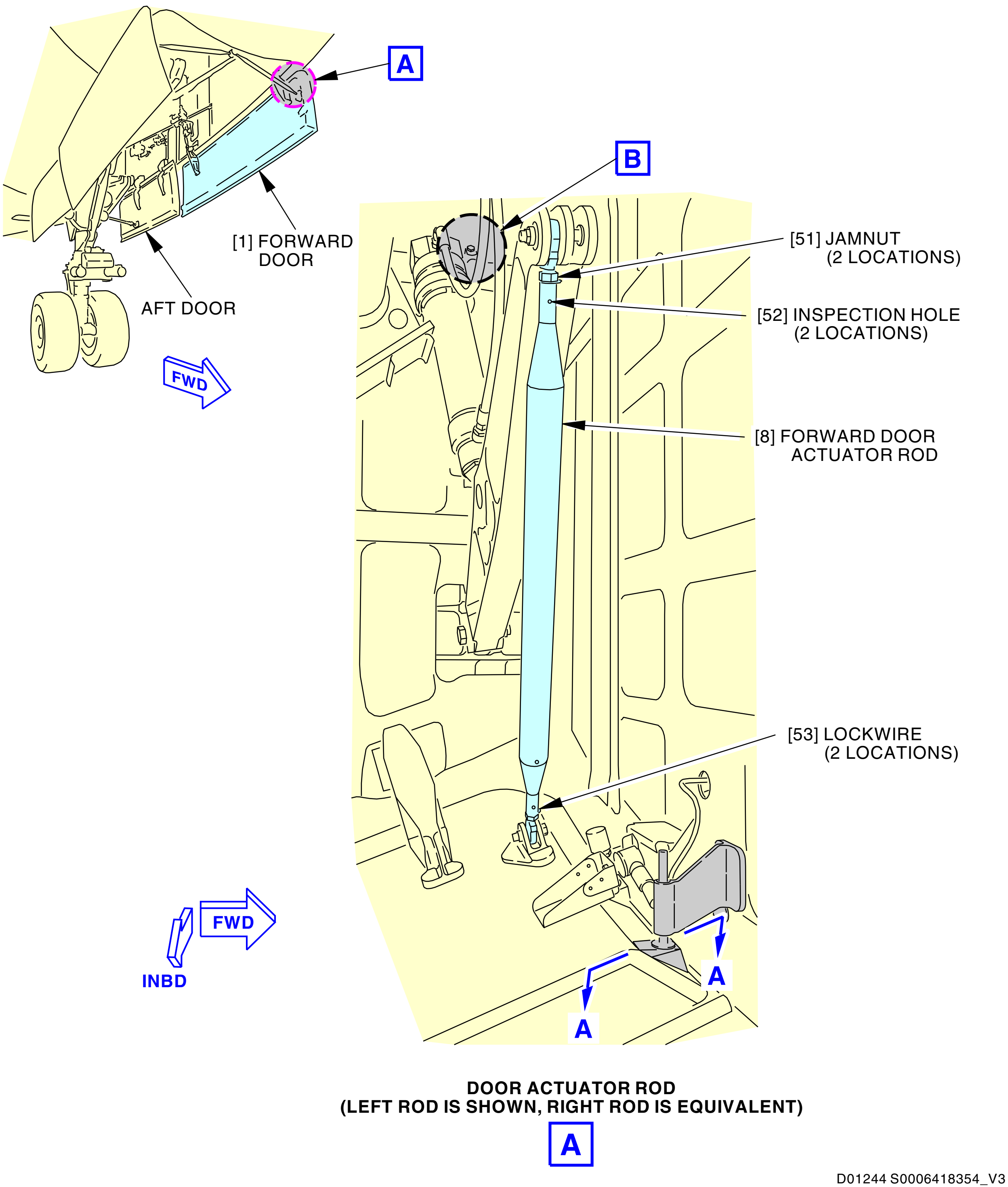
Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	13	C32013	LDG GEAR ALTN EXT MOTOR
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

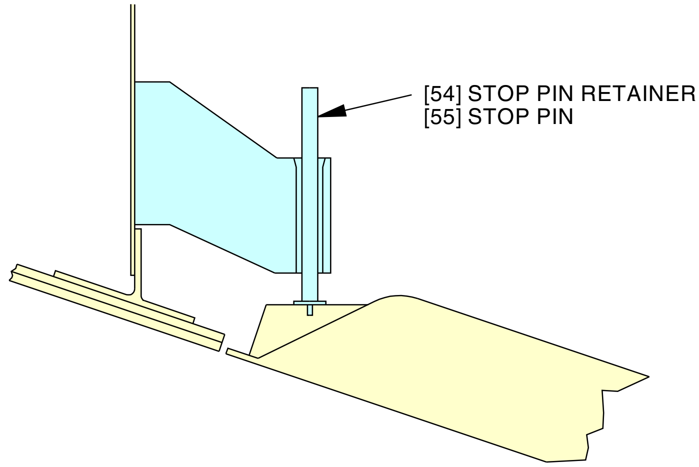
SUBTASK 32-22-01-860-015

(4) Lower the airplane. Do this task: Lower the Airplane Off of the Jacks, TASK 07-11-01-580-805

END OF TASK

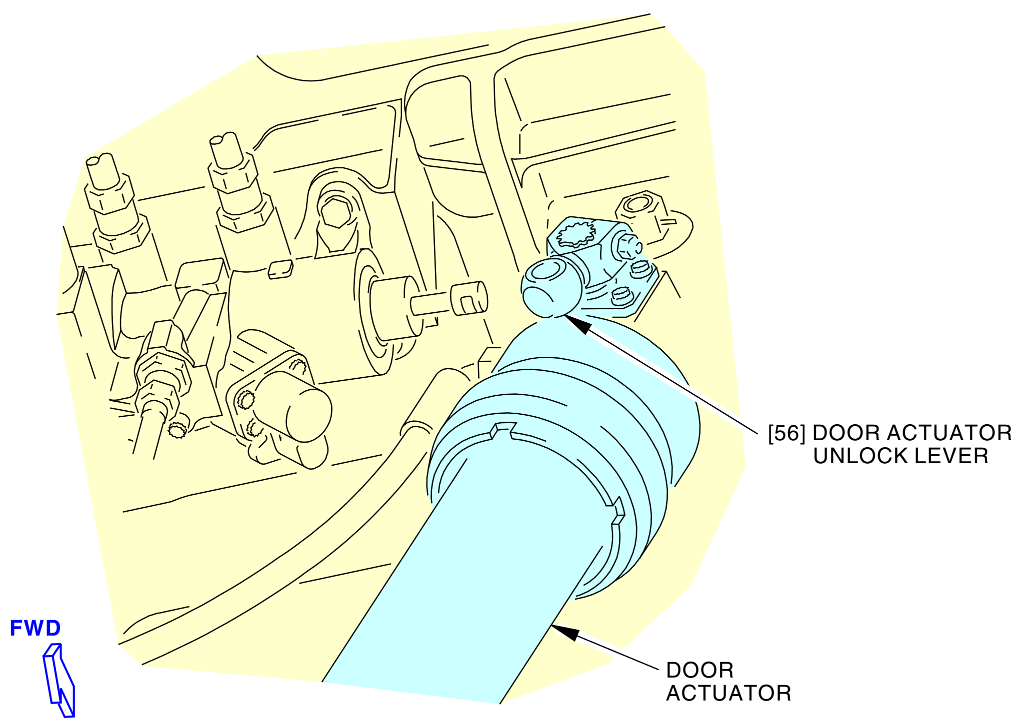


Nose Landing Gear Forward Doors Adjustment
Figure 202/32-22-01-990-802 (Sheet 1 of 3)



FORWARD STOP PIN

A-A

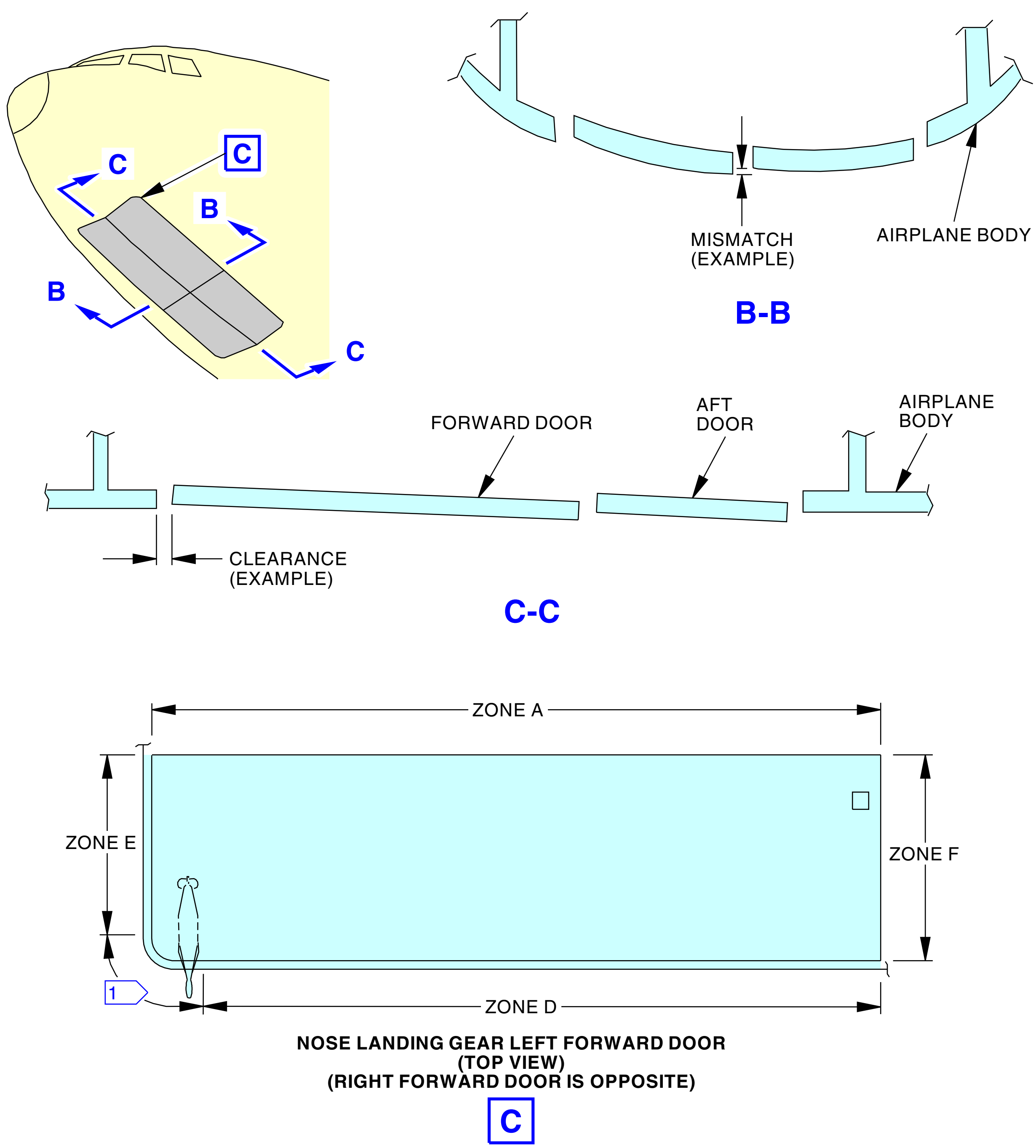


ACTUATOR UNLOCK LEVER

B

E63576 S0006418355_V2

Nose Landing Gear Forward Doors Adjustment
Figure 202/32-22-01-990-802 (Sheet 2 of 3)



1 THERE IS NO MISMATCH ADJUSTMENT AT THE CORNER OF THE DOOR.

D04275 S0006418356_V2

Nose Landing Gear Forward Doors Adjustment
Figure 202/32-22-01-990-802 (Sheet 3 of 3)

NOSE LANDING GEAR AFT DOOR - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) A removal of the aft door for the nose landing gear

(2) An installation of the aft door for the nose landing gear.

(3) An adjustment of the aft door for the nose landing gear.

TASK 32-22-04-000-801

2. Nose Landing Gear Aft Door Removal

(Figure 201)

A. General

(1) This procedure has the instructions to remove the aft door for the nose landing gear.

B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
34-31-04-000-801	ILS G/S Track Antenna Removal (P/B 401)

C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
715	Left Aft Nose Landing Gear Door
716	Right Aft Nose Landing Gear Door

D. Prepare for the Removal

SUBTASK 32-22-04-480-003

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-22-04-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-22-04-860-001

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

E. Aft Door Removal

SUBTASK 32-22-04-020-001

(1) Remove the bolt [32], washer [31], bushing [40], washer [33], nut [35], and pin [34] to disconnect the actuating assembly [9] from the aft door fitting [8].

SUBTASK 32-22-04-020-002

(2) Remove the screws [3], washers [7], nuts [41], and clamps [42] that hold the coax [45] and coax [46] for the glide slope antenna to the nose wheel well bulkhead.

SUBTASK 32-22-04-020-009

(3) Disconnect the coax [45] and coax [46] for the glide slope antenna at the connection at the nose wheel well bulkhead.

SUBTASK 32-22-04-020-013

(4) Disconnect the bonding jumpers from the hinges of the aft door [1]:

(a) Remove the bolts [5], the washers [38] and the nuts [39] to disconnect the bonding jumpers from the hinges.

SUBTASK 32-22-04-020-003

(5) Hold the aft door [1] and remove the pin [20], nut [22], washer [21], bushing [23], bushing [24], washer [25], bolt [26] to disconnect the forward hinge from the airplane.

SUBTASK 32-22-04-020-004

(6) Remove the pin [13], nut [12], washer [18], washer [16], bushing [15], bolt [17] to disconnect the aft hinge from the airplane.

SUBTASK 32-22-04-020-005

(7) Remove the aft door [1].

SUBTASK 32-22-04-020-012

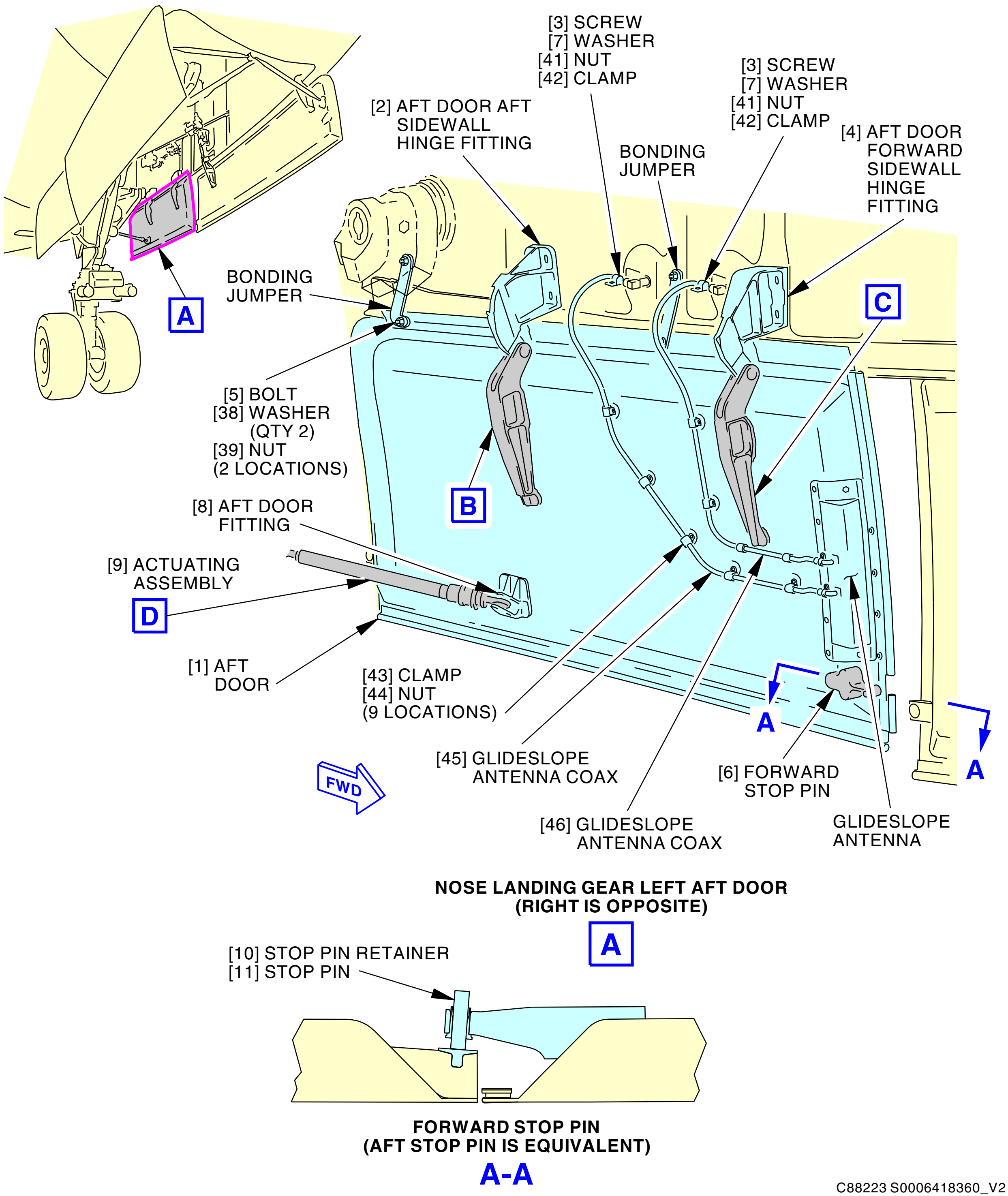
(8) If you will install a new aft door [1], remove the glideslope antenna, coax [45] and coax [46]:

(a) Do this task: ILS G/S Track Antenna Removal, TASK 34-31-04-000-801.

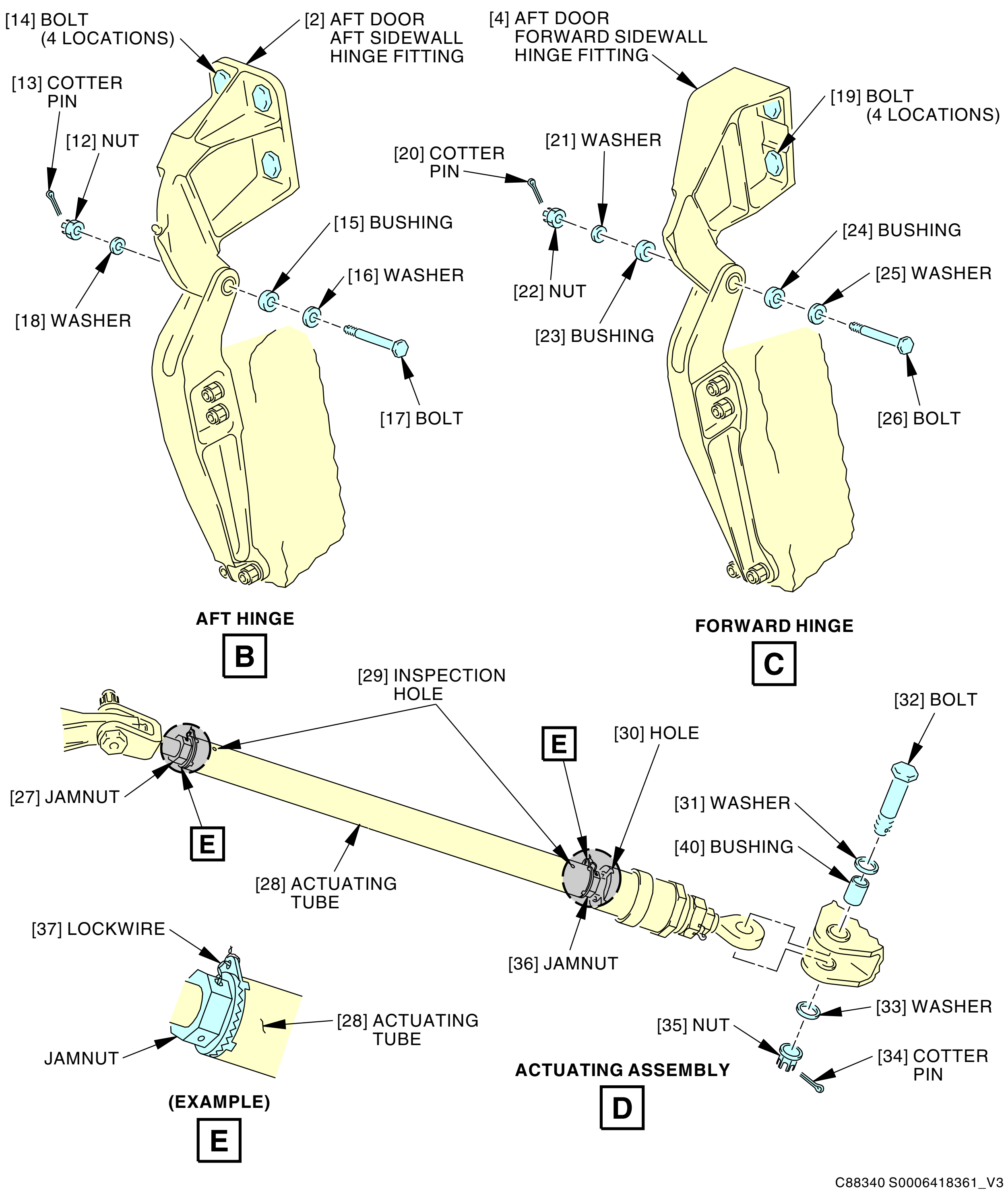
(b) Remove the nuts [44] and clamps [43] that attach the coax [45] and coax [46].

(c) Remove the coax [45] and coax [46] from the aft door [1].

END OF TASK



Nose Landing Gear Aft Door
Figure 201/32-22-04-990-801 (Sheet 1 of 2)



Nose Landing Gear Aft Door
Figure 201/32-22-04-990-801 (Sheet 2 of 2)

TASK 32-22-04-400-801

3. Nose Landing Gear Aft Door Installation

(Figure 201)

A. General

(1) This procedure has the instructions to install the aft door for the nose landing gear.

B. References

Reference	Title
12-21-13-640-801	Nose Landing Gear Doors and Actuating Mechanisms Lubrication (P/B 301)
20-10-22-110-802	Clean Bare, Clad, or Plated Metal with Solvent (P/B 701)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
34-31-00-730-801	Instrument Landing System - System Test (P/B 501)
34-31-04-400-801	ILS G/S Track Antenna Installation (P/B 401)

C. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Aft door	32-22-55-01-245	ARO ALL
		32-22-55-01-250	ARO ALL
13	Pin	32-22-55-01-010	ARO ALL
20	Pin	32-22-55-01-010	ARO ALL

E. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
715	Left Aft Nose Landing Gear Door
716	Right Aft Nose Landing Gear Door

F. Aft Door Installation

SUBTASK 32-22-04-420-001

(1) Hang the aft door [1]:

(a) Hold the aft door [1] in its position at the forward and the aft hinges.

(b) Install the bolt [26], washer [21], washer [25], bushing [23], bushing [24], and nut [22] at the forward hinge.

(c) Install the bolt [17], washer [16], bushing [15], washer [18], and nut [12] at the aft hinge.

NOTE: If you cannot install the aft hinge bolt [17], loosen the bolts [14] for the aft sidewall aft hinge fitting and adjust it until you can install the bolt [17].

(d) Install the pin [13], and pin [20].

(e) Move the aft door [1] with your hands through its full travel to make sure there is smooth operation.

SUBTASK 32-22-04-420-007

(2) If you installed a new aft door [1], install the glideslope antenna and coax [45] and coax [46]:

(a) Put the coax [45] and coax [46] in their position on the aft door [1].

(b) Install the nuts [44] and clamps [43] that attach the coax [45] and coax [46].

(c) Do this task: ILS G/S Track Antenna Installation, TASK 34-31-04-400-801.

SUBTASK 32-22-04-410-003

(3) Connect the coax [45] and coax [46] for the glideslope antenna at the connection at the nose wheel well bulkhead.

SUBTASK 32-22-04-410-004

(4) Install MS20995C32 lockwire, G01048 on the connectors for the coax [45] and coax [46] for the glide slope antenna at the connection at the nose wheel well bulkhead.

SUBTASK 32-22-04-410-005

(5) Install the screws [3], washers [7], nuts [41], and clamps [42] that hold the coax [45] and coax [46] for the glideslope antenna to the nose wheel well bulkhead.

SUBTASK 32-22-04-020-014

(6) Connect the bonding jumpers to the hinges of the aft door [1]:

(a) Fully clean the mating surface of the bonding jumper and the wheel well.

1) Do this task: Clean Bare, Clad, or Plated Metal with Solvent, TASK 20-10-22-110-802.

(b) Install the bolts [5], the washers [38] and the nuts [39] to connect the bonding jumpers to the hinges.

NOTE: There are 2 washers [38] per jumper.

(c) Apply sealant, A00247 to the bolts [5], the washers [38], and the nuts [39] to seal them.

SUBTASK 32-22-04-420-003

(7) Do this task: Nose Landing Gear Aft Door Adjustment, TASK 32-22-04-820-801.

NOTE: You will connect and adjust the actuating assembly [9] to the aft door fitting [8] in this task.

SUBTASK 32-22-04-420-004

(8) Do the Glide Slope Antenna Test (G/S Antenna Test), (TASK 34-31-00-730-801).

G. Put the Airplane Back to its Usual Condition

SUBTASK 32-22-04-640-001

(1) Lubricate the aft door [1] for the nose landing gear, do this task: Nose Landing Gear Doors and Actuating Mechanisms Lubrication, TASK 12-21-13-640-801.

SUBTASK 32-22-04-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

TASK 32-22-04-820-801

4. Nose Landing Gear Aft Door Adjustment

(Figure 201, Figure 202)

A. General

(1) This procedure has the steps to adjust the aft door for the nose gear.

B. References

Reference	Title
07-11-02-580-801	Lift the Airplane Nose on Jacks (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-61-05-700-801	Test of the Door Closed Sensor (P/B 201)
51-21-10-300-801	Decorative Exterior Paint System Repair (P/B 701)
51-31-01-390-801	Non-Removable Faying (Mated) Surface Seal Application (P/B 201)

C. Consumable Materials

Reference	Description	Specification
A00767	Sealant - Fuel Tank	BMS5-45
C00032	Coating - Protective Enamel, General Use	BMS10-60 Type I
C00175	Primer - Urethane Compatible, Corrosion Resistant (Less Than 1% Aromatic Amines)	BMS10-79 Type III
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
34	Pin	32-22-55-05-215	ARO ALL

E. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
713	Left Forward Nose Landing Gear Door
714	Right Forward Nose Landing Gear Door

F. Prepare for the Adjustment

SUBTASK 32-22-04-480-004

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-22-04-010-002

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-22-04-860-002

(3) Do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-22-04-020-006

(4) Remove the stop pin retainers [10].

NOTE: The stop pins [11] are on the forward end of the aft door and on the aft wheel well bulk head.

SUBTASK 32-22-04-020-011

(5) Retract the two stop pins [11] for the aft door.

SUBTASK 32-22-04-020-007

(6) If the aft door actuating assemblies [9] are connected to the aft door fittings [8], do this step:

(a) Remove the bolts [32], washers [31], bushings [40], washers [33], nuts [35], and pins [34] to disconnect the aft door actuating assemblies [9] at the aft door fittings [8].

NOTE: Support them out of the area with a rope.

SUBTASK 32-22-04-860-003

(7) Lift the nose of the airplane to a sufficient height to permit the nose landing gear to retract, do this task: Lift the Airplane Nose on Jacks, TASK 07-11-02-580-801.

SUBTASK 32-22-04-020-008

WARNING	MAKE SURE YOU ONLY REMOVE THE DOWNLOCK PINS FOR THE NOSE LANDING GEAR. THE MAIN LANDING GEAR CAN RETRACT IF THE DOWNLOCK PINS ARE REMOVED FROM THE MAIN LANDING GEAR. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(8) For the nose landing gear, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

SUBTASK 32-22-04-860-004

(9) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-22-04-860-005

(10) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-22-04-860-006

WARNING: MAKE SURE THAT PERSONS AND EQUIPMENT ARE CLEAR OF THE GEAR RETRACTION PATH. INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR IF THE AREA IS NOT CLEAR.

(11) Move the control lever for the landing gear to the UP position to retract the nose landing gear.

SUBTASK 32-22-04-480-001

(12) Attach a DO-NOT-OPERATE tag to the control lever.

SUBTASK 32-22-04-860-007

(13) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	13	C32013	LDG GEAR ALTN EXT MOTOR
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-22-04-860-018

(14) Do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

G. Aft Door Adjustment

NOTE: No adjustment will be made to the hinge fittings mounted on the doors.

SUBTASK 32-22-04-860-008

(1) Manually close the aft aft door [1] for the nose landing gear that you will adjust.

SUBTASK 32-22-04-820-009

(2) Loosely install the bolt [32], the washer [31], the bushing [40], the washer [33], and the nut [35] to connect the aft door actuating assembly [9] for the door you will adjust (Figure 201).

NOTE: This will keep the door in the closed position.

SUBTASK 32-22-04-820-007

(3) Make sure the flushness between the aft door and the surrounding structure is in the tolerance shown (Figure 202).

NOTE: Write the values that are not in tolerance.

NOTE: The clearance between the aft door and the surrounding structure is not adjustable.

(a) Use the "ALL" tolerances in (Table 201) for all airplane aft door flushness checks. If you cannot obtain the correct tolerance you can use the expanded tolerance for the specific airplanes that are listed.

Table 201/32-22-04-993-803 NOSE LANDING GEAR AFT DOOR FLUSHNESS VALUES

EDGE ZONE	FLUSHNESS (MISMATCH)
A	+ 0.10 inch - 0.10 inch (+ 2.5 mm - 2.5 mm)
B	+ 0.00 inch - 0.06 inch (+ 0.0 mm - 1.5 mm)

Table 201/32-22-04-993-803 NOSE LANDING GEAR AFT DOOR FLUSHNESS VALUES (Continued)

EDGE ZONE	FLUSHNESS (MISMATCH)
ARO 013	
B	+ 0.00 inch - 0.10 inch (+0.00 mm - 2.5 mm)
ARO ALL	
C	+ 0.06 inch - 0.06 inch (+ 1.5 mm - 1.5 mm)
F	+ 0.06 inch - 0.20 inch (+ 1.5 mm - 5.1 mm)
NOTE: A positive (+) tolerance indicates the face of the mismatch is into the airstream. A negative (-) tolerance indicates the face of the mismatch faces aft.	

SUBTASK 32-22-04-820-010

(4) Do the steps that follow for both aft aft doors [1] that you will adjust:
   (a) If the mismatch along the forward outboard edge is not in tolerance, do the steps that follow:
      1) Loosen the bolts [19] for the aft door forward sidewall hinge fitting [4] (Figure 201).
      2) Lift or lower the aft door forward sidewall hinge fitting [4] as it is necessary, to get the mismatch in tolerance.
      3) Tighten the bolts [19] for the aft door forward sidewall hinge fitting [4].
         a) Make sure the serrations on the hinge fitting and plate attach together correctly.
   (b) If the mismatch along the aft outboard edge is not in tolerance, do the steps that follow:
      1) Loosen the bolts [14] for the aft door aft sidewall hinge fitting [2] (Figure 201).
      2) Lift or lower the aft door aft sidewall hinge fitting [2] as it is necessary, to get the mismatch in tolerance.
      3) Tighten the bolts [14] for the aft door aft sidewall hinge fitting [2].
         a) Make sure the serrations on the hinge fitting and plate attach together correctly.
   (c) Remove the bolt [32] to disconnect the aft door actuating assembly [9] at the aft door fitting [8].
   (d) Adjust the fit of the aft door [1] on the opposite side if it is necessary.

SUBTASK 32-22-04-820-004

(5) Do the steps that follow to connect and adjust the aft door actuating assembly [9] once both the left and the right doors have been adjusted:
   (a) Remove the lockwire and loosen the jam nuts [27] at each end of the actuating tube [28].
   (b) Close the left aft aft door [1] with you hands.
   (c) Connect the left actuating assembly [9] to the left aft aft door [1]:
      1) Install the washer [31] and the bushing [40] on the bolt [32].
      2) Install the bolt [32] through the left actuating assembly [9] and the fitting on the left aft aft door [1].
      3) Install the washer [33] and the nut [35] on the bolt [32].

a) Do not tighten the nut [35] or install the pin [34].

(d) Adjust the left actuating assembly [9] if the forward/inboard edge of the door is not in tolerance.

1) Install a 0.125 in. (3.18 mm) rod through the hole [30] in the actuating assembly [9].

NOTE: This will hold the actuating assembly in position when you turn the actuating tube [28].

2) Turn the left actuating tube [28] clockwise or counterclockwise to bring the left aft aft door [1] into mismatch tolerance (Table 201).

3) Make sure the threads are visible through the inspection holes [29] at the ends of theactuating tube [28].

ARO ALL; AIRPLANES WITH 141W6300-9, -10 ACTUATING ASSEMBLY

4) Tighten the jam nut [27] and jam nut [36] at each end of the actuating tube [28] to 80 ±5 in-lb (9 ±1 N·m).

ARO ALL; AIRPLANES WITH 141W6300-3, -4, -5, -6 ACTUATING ASSEMBLY

5) Tighten the jam nut [27] and jam nut [36] at each end of the actuating tube [28] to 400 ±110 in-lb (45 ±13 N·m).

ARO ALL

6) Install MS20995C32 lockwire, G01048 at each end of the actuating tube [28] with the double twist method.

(e) Adjust the left aft stop pin [11] for the left aft door:

1) Adjust the left aft stop pin [11] on the aft wheel well bulkhead until it just touches the aft/inboard stop pad on the aft door.

2) Install the stop pin retainer [10] for the left aft stop pin [11] on the aft wheel well bulkhead (Figure 201).

(f) Adjust the left forward stop pin [11] for the left aft door:

1) Manually close the forward doors.

2) Adjust the left forward stop pin [11] on the left aft door [1] until it just touches the stop pad on the forward door.

3) Open the forward doors.

4) Install the stop pin retainer [10] for the left forward stop pin [11] on the left aft aft door [1] (Figure 201).

(g) Remove the bolt [32], washer [31], bushing [40], washer [33], nut [35] to disconnect the aft door actuating assembly [9] at the aft door fitting [8].

(h) Manually open the left aft aft door [1].

(i) Manually close the right aft aft door [1] for the nose landing gear.

(j) Connect the right actuating assembly [9] to the right aft aft door [1]:

1) Install the washer [31] and the bushing [40] on the bolt [32].

2) Install the bolt [32] through the right actuating assembly [9] and the fitting on the right aft aft door [1].

3) Install the washer [33] and the nut [35] on the bolt [32].

4) Tighten the nut [35] to 275 in-lb (31.1 N·m).

5) Apply more torque, if it is necessary, to align the nearest castellation in the nut [35] with the hole in the bolt [32].

a) Do not tighten the nut to more than 350 in-lb (39.5 N·m).

6) Install the pin [34].

(k) Adjust the right actuating assembly [9] if the forward/inboard edge of the door is not in tolerance.

1) Install a 0.125 in. (3.18 mm) rod through the hole [30] in the actuating assembly [9].

NOTE: This will hold the actuating assembly in position when you turn the actuating tube [28].

2) Turn the right actuating tube [28] clockwise or counterclockwise to bring the right aft aft door [1] into mismatch tolerance (Table 201).

3) Make sure the threads are visible through the inspection holes [29] at the ends of the actuating tube [28].

ARO ALL; AIRPLANES WITH 141W6300-9, -10 ACTUATING ASSEMBLY

4) Tighten jam nut [27] and jam nut [36] at the ends of the actuating tube [28] to 80 ±5 in-lb (9 ±1 N·m).

ARO ALL; AIRPLANES WITH 141W6300-3, -4, -5, -6 ACTUATING ASSEMBLY

5) Tighten jam nut [27] and jam nut [36] at the ends of the actuating tube [28] to 400 ±110 in-lb (45 ±13 N·m).

ARO ALL

6) Install MS20995C32 lockwire, G01048 at ends of actuating tube [28] with the double twist method.

(l) Adjust the right aft stop pin [11] for the right aft door:

1) Adjust the right aft stop pin [11] on the aft wheel well bulkhead until it just touches the aft/inboard stop pad on the right aft door.

2) Install the stop pin retainer [10] for the right aft stop pin [11] on the aft wheel well bulkhead (Figure 201).

(m) Adjust the right forward stop pin [11] for the right aft door:

1) Manually close the forward doors.

2) Adjust the right forward stop pin [11] on the right aft door [1] until it just touches the stop pad on the forward door.

3) Open the forward doors.

4) Install the stop pin retainer [10] for the right forward stop pin [11] on the right aft aft door [1] (Figure 201).

SUBTASK 32-22-04-860-015

(6) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	13	C32013	LDG GEAR ALTN EXT MOTOR
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-22-04-860-016

(7) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-22-04-080-002

(8) Remove the DO-NOT-OPERATE tag from the control lever.

SUBTASK 32-22-04-860-017

WARNING	MAKE SURE THAT PERSONS AND EQUIPMENT ARE CLEAR OF THE GEAR RETRACTION PATH. INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR IF THE AREA IS NOT CLEAR.

(9) Move the control lever for the landing gear to the DOWN position to extend the nose landing gear.

SUBTASK 32-22-04-480-007

(10) Attach a DO-NOT-OPERATE tag to the control lever.

SUBTASK 32-22-04-480-006

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(11) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-22-04-420-008

(12) Connect the left aft door actuating assembly [9] to the left aft door fitting [8]:

(a) Install the bolt [32], washer [31], bushing [40], washer [33], and nut [35] to connect the left actuating assembly [9] to the left aft door fitting [8].

(b) Tighten the nut [35] to 275 in-lb (31.1 N·m).

(c) Apply more torque, if it is necessary, to align the nearest castellation in the nut [35] with the hole in the bolt [32].

1) Do not tighten the nut to more than 350 in-lb (39.5 N·m).

(d) Install the pin [34].

SUBTASK 32-22-04-020-015

WARNING	MAKE SURE YOU ONLY REMOVE THE DOWNLOCK PINS FOR THE NOSE LANDING GEAR. THE MAIN LANDING GEAR CAN RETRACT IF THE DOWNLOCK PINS ARE REMOVED FROM THE MAIN LANDING GEAR. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(13) For the nose landing gear, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

SUBTASK 32-22-04-080-003

(14) Remove the DO-NOT-OPERATE tag from the control lever.

SUBTASK 32-22-04-860-019

(15) Move the control lever for the landing gear to the UP position to retract the nose landing gear.

SUBTASK 32-22-04-860-020

(16) Do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-22-04-860-021

(17) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	13	C32013	LDG GEAR ALTN EXT MOTOR
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-22-04-820-011

(18) For a new door, make sure the fit around the aft aft doors [1] is in the tolerance (Figure 202).

NOTE: It is only necessary to check the fit around a new door.

(a) Use the "ALL" tolerances in (Table 202) for all airplane aft door flushness checks. If you cannot obtain the correct tolerance you can use the expanded tolerance for the specific airplanes that are listed.

Table 202/32-22-04-993-805 NOSE LANDING GEAR AFT DOOR CLEARANCE VALUE

EDGE ZONE	CLEARANCE INCHES (mm)
A	0.15 +0.10/-0.06 (3.8 +2.5/-1.5mm)
B	0.15 +0.15 / -0.06 in. (3.81 +3.81 / -1.52 mm)
ARO 002	
B	0.15 +0.11./-0.06 (3.8 +6.57/-1.5 mm)
ARO 010	
B	0.15 +0.11 / -0.06 in. (3.81 +2.79 / -1.52 mm)
ARO ALL	
C	0.28 +0.10/-0.06 (7.1 +2.5/-1.5mm)

SUBTASK 32-22-04-820-012

(19) If the clearance around the aft doors is to small, do the steps that follow:

(a) Extend the landing gear:

1) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	13	C32013	LDG GEAR ALTN EXT MOTOR
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

2) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

3) Move the control lever for the landing gear to the DOWN position to extend the nose landing gear.

4) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

(b) Remove the bulb seal that is on the edge of the door that you need to trim.

(c) Trim the forward door to meet the clearance tolerance.

1) Make sure you keep a square edge when you trim the door.

(d) Apply one layer of primer, C00175 to the trimmed edge (TASK 51-21-10-300-801).

(e) Apply coating, C00032 to the trimmed edge.

(f) Install the bulb seal on the door edge if you removed one (TASK 51-31-01-390-801).

1) Install the screws [48] to hold the bulb seal to the door edge.

2) Apply sealant, A00767 to the exposed bulb seal screws [48] on the inside of the door.

SUBTASK 32-22-04-860-022

(20) Do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

H. Put the Airplane Back to its Usual Condition

SUBTASK 32-22-04-710-001

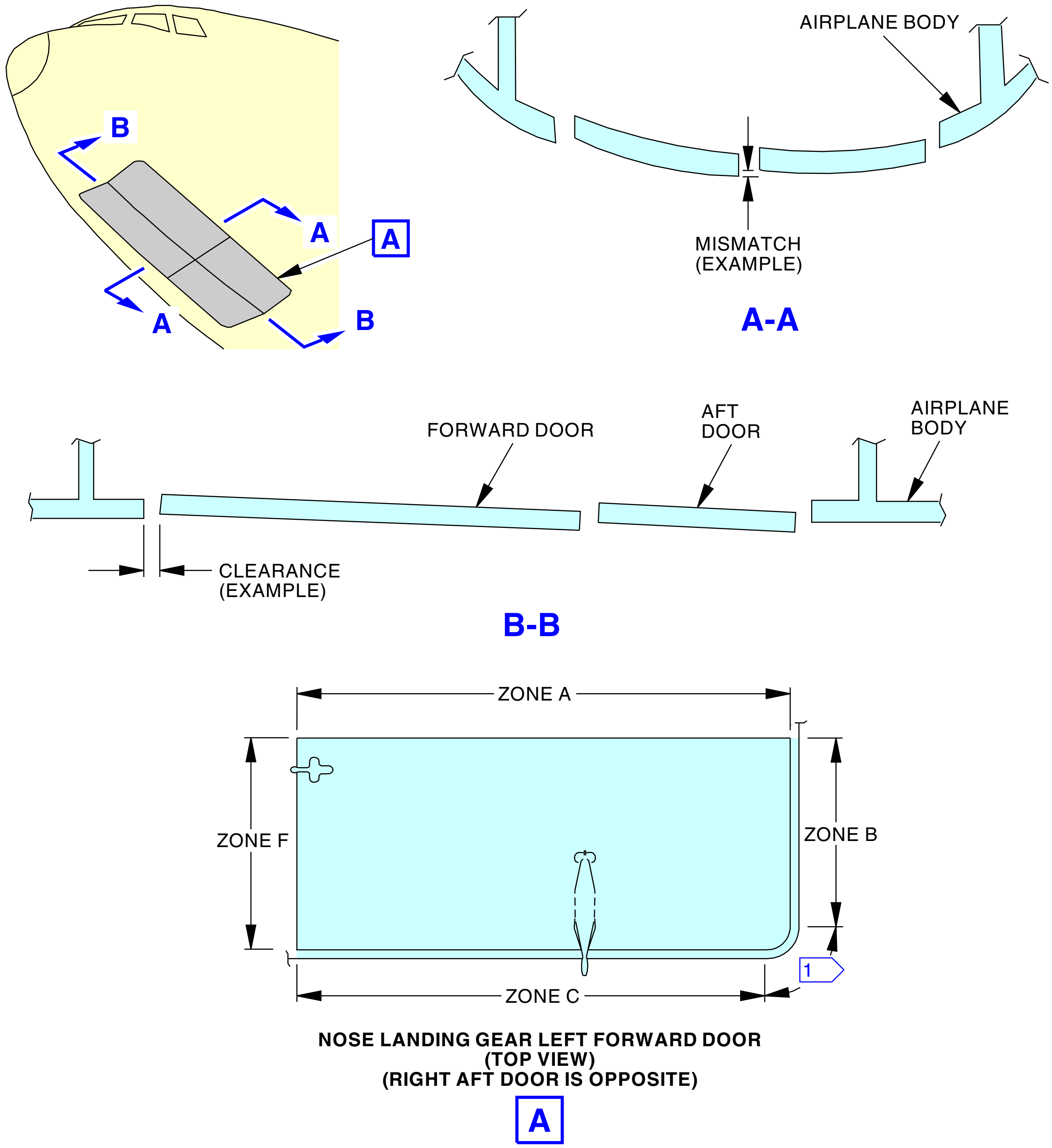
(1) Do this task: Test of the Door Closed Sensor, TASK 32-61-05-700-801.

SUBTASK 32-22-04-410-002

WARNING OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) If the door safety pins are no longer required, do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

——— END OF TASK ———



1 THERE IS NO MISMATCH ADJUSTMENT AT THE CORNER OF THE DOOR.

C88225 S0006418366_V2

Nose Landing Gear Aft Doors Adjustment
Figure 202/32-22-04-990-802

LANDING GEAR NORMAL EXTENSION AND RETRACTION SYSTEMS - ADJUSTMENT/TEST

1. General

A. This procedure has four tasks:

(1) A functional test of the extension and retraction system for the nose landing gear

(2) A functional test of the extension and retraction system for the main landing gear

(3) A functional test of the extension and retraction systems for the nose and main landing gear at the same time.

(4) A conditional functional test for the main landing gear when the lock link for the drag brace will not lock down.

B. This procedure does not contain any operational tests of the extension and retraction systems for the nose or main landing gear. It is possible to do operational tests of these systems with the functional tests. To do this, do the applicable functional test, but do not measure the times that the functional test tells you to measure.

C. This procedure does not contain any tests of the alternate extension system for the landing gear. For tests of the alternate extension system, do this task: Landing Gear Alternate Extension System - Operational Test (Airplane on the Ground), TASK 32-35-00-710-801.

D. This procedure does not contain an adjustment of the extension and retraction systems for the nose or main landing gear. An adjustment of the extension and retraction systems for the nose or main landing gear is not necessary.

TASK 32-30-01-720-803

2. Nose Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks)

A. General

(1) This task does a functional test of the extension and retraction system for the nose landing gear.

(2) The functional test does a check to make sure that all of the actuators and sequence valves in the extension and retraction system for the nose landing gear operate correctly and in the correct sequence.

(3) The functional test also does a check to make sure that the landing gear display on the Engine Indication and Crew Alerting System (EICAS) operates correctly.

(4) You must lift the nose of the airplane on jacks to do the functional test.

(5) It is possible to do an operational test of the extension and retraction system for the nose landing gear with the functional test. To do this, do the functional test, but do not measure the times that the functional test tells you to measure.

B. References

Reference	Title
07-11-02-580-801	Lift the Airplane Nose on Jacks (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
24-22-00-860-806	Remove Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Tools/Equipment

Reference	Description
STD-1139	Timer - Stop Watch, Accurate to 1 Second

D. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

E. Prepare for the Test

SUBTASK 32-30-01-480-003

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-30-01-580-001

(2) Do this task: Lift the Airplane Nose on Jacks, TASK 07-11-02-580-801.

SUBTASK 32-30-01-860-001

(3) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-30-01-860-002

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-30-01-860-003

(5) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-30-01-860-004

(6) Push the GEAR OVRD button which is on the landing gear module in the flight compartment.

NOTE: This will prevent operation of the aural warning which operates when the CONFIG GEAR message shows on the EICAS.

SUBTASK 32-30-01-860-005

(7) Make sure the center hydraulic system is not pressurized (TASK 29-11-00-860-808).

SUBTASK 32-30-01-080-001

(8) For the nose landing gear only, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

SUBTASK 32-30-01-860-006

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(9) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

F. Nose Landing Gear Extension and Retraction System - Functional Test

NOTE: During this test, it is possible that the CONFIG GEAR message will show on the EICAS. This is correct operation of the airplane.

NOTE: You do not have to do maintenance actions to make the message go away. The message will go away automatically when you complete this test.

SUBTASK 32-30-01-210-001

WARNING	MAKE SURE THE AREA AROUND THE LANDING GEAR AND ITS DOORS ARE CLEAR OF PERSONS AND EQUIPMENT DURING A LANDING GEAR RETRACTION AND EXTENSION TEST. THIS WILL HELP PREVENT INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the area around the doors for the nose and main landing gear is clear of persons and equipment.

SUBTASK 32-30-01-860-007

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE RETRACTION PATH FOR THE APPLICABLE LANDING GEAR. THE LANDING GEAR AND DOORS MOVE QUICKLY. THE MOVEMENT OF THE LANDING GEAR AND DOORS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

WARNING	MAKE SURE THAT YOU INSTALL THE DOWNLOCK PINS IN THE MAIN LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE MAIN LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Move the control lever for the landing gear to the UP position and start the first stopwatch, STD-1139.

NOTE: You must push the LOCK OVRD button to move the control lever to the UP position.

NOTE: Start the first stopwatch, STD-1139 to measure the time necessary for the landing gear display on the EICAS to change from the normal display to the expanded display.

SUBTASK 32-30-01-210-002

(3) Make sure the EICAS shows that all of the landing gear is in-transit (Figure 501).

SUBTASK 32-30-01-210-003

(4) Use the second stopwatch, STD-1139 to make sure these results occur within the specified time (Figure 502):

NOTE: Start the second stopwatch, STD-1139 when the doors for the nose landing gear start to open. Stop the second stopwatch, STD-1139 when the doors for the nose landing gear are closed.

NOTE: Monitor the landing gear and the landing gear doors to do this. Do not use any of the indications in the flight compartment to do this.

NOTE: Without aerodynamic forces, the doors for the nose landing gear can open very slowly (usually the doors will begin to open at the correct rate and then the rate will decrease). It is permitted for the retraction time to be more than the specified time if the only cause is slow operation of the doors.

(a) The doors for the nose landing gear open

(b) The nose landing gear retracts

(c) The doors for the nose landing gear close.

SUBTASK 32-30-01-210-004

(5) Make sure the landing gear display on the EICAS changes from the normal display to the expanded display in 40 seconds or more (Figure 501)

NOTE: To measure the time, stop the first stopwatch, STD-1139 when the expanded display first shows on the EICAS.

NOTE: The normal display shows one rectangle for all of the landing gear. The expanded display shows three rectangles, with one rectangle for each of the three landing gear.

SUBTASK 32-30-01-210-005

(6) Make sure the GEAR DISAGREE message shows on the EICAS.

SUBTASK 32-30-01-210-006

(7) Make sure the EICAS shows that the nose landing gear is up and locked and that the main landing gear are down and locked (Figure 501).

SUBTASK 32-30-01-860-008

(8) Move the control lever for the landing gear to the DN position and start the first stopwatch, STD-1139.

NOTE: Start the first stopwatch, STD-1139 to measure the time necessary for the EICAS to show that all of the landing gear is down and locked.

SUBTASK 32-30-01-210-007

(9) Make sure the landing gear display on the EICAS changes from the expanded display to the normal display and shows that all of the landing gear is in-transit (Figure 501).

SUBTASK 32-30-01-210-008

(10) Make sure the GEAR DISAGREE message does not show on the EICAS.

SUBTASK 32-30-01-210-009

(11) Use the second stopwatch, STD-1139 to make sure these results occur within the specified time (Figure 503):

NOTE: Start the second stopwatch, STD-1139 when the doors for the nose landing gear start to open. Stop the second stopwatch, STD-1139 when the doors for the nose landing gear are closed.

NOTE: Monitor the landing gear and the landing gear doors to do this. Do not use any of the indications in the flight compartment to do this.

(a) The doors for the nose landing gear open

(b) The nose landing gear extends

(c) The doors for the nose landing gear close.

SUBTASK 32-30-01-210-010

(12) Make sure the EICAS shows that all of the landing gear is down and locked in less than 40 seconds (Figure 501).

NOTE: To measure the time, stop the first stopwatch, STD-1139 when the EICAS first shows that all of the landing gear is down and locked.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-30-01-860-009

(1) Push the GEAR OVRD button which is on the landing gear module in the flight compartment.

SUBTASK 32-30-01-580-005

(2) Lower the Airplane from its jacked position. Do the “Put the Airplane Back to Its Usual Condition” steps of the following task; Do this task: Lift the Airplane Nose on Jacks, TASK 07-11-02-580-801.

SUBTASK 32-30-01-860-010

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

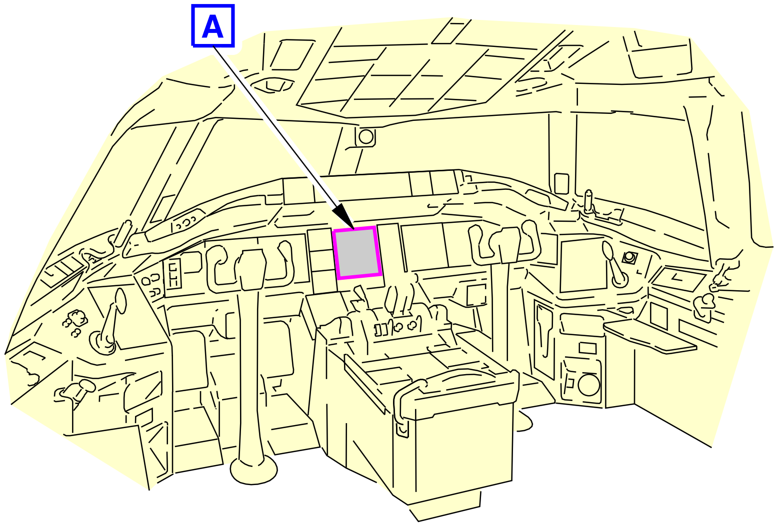
SUBTASK 32-30-01-860-011

(4) Do this task: Remove Electrical Power, TASK 24-22-00-860-806.

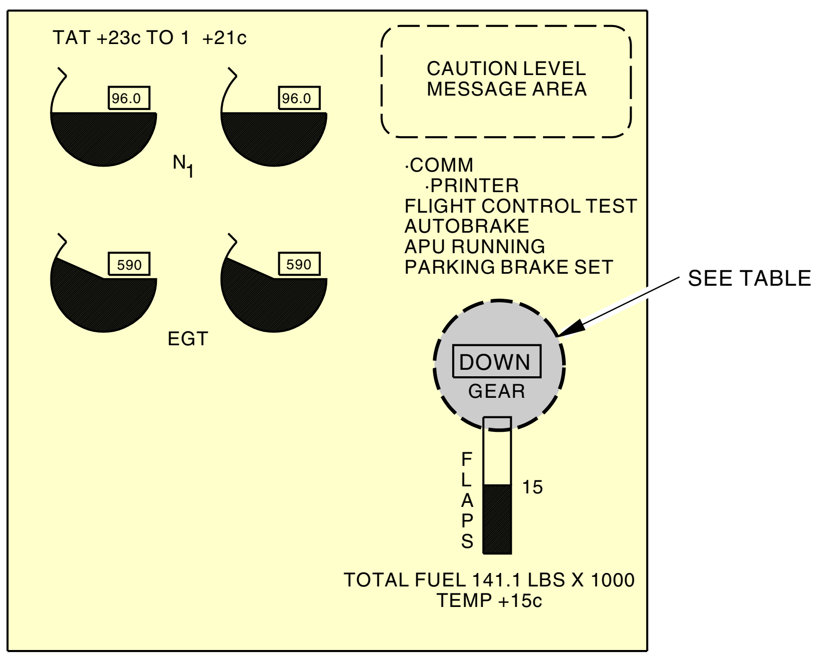
SUBTASK 32-30-01-480-001

(5) For the nose landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

END OF TASK



FLIGHT COMPARTMENT



EICAS DISPLAY
A

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Landing Gear Display Sequences
Figure 501/32-30-01-990-801 (Sheet 1 of 2)

THE MEANING OF THE LANDING GEAR DISPLAY	THE EXTENSION AND RETRACTION OF THE DIFFERENT LANDING GEAR			
	ONLY NOSE LANDING GEAR	ONLY LEFT MAIN LANDING GEAR	ONLY RIGHT MAIN LANDING GEAR	ALL LANDING GEAR
All landing gear down and locked (landing gear control lever down)	DOWN GR GEAR	DOWN GR GEAR	DOWN GR GEAR	DOWN GR GEAR
All landing gear in-transit	W GEAR	W GEAR	W GEAR	W GEAR
Up and locked 1 (landing gear control lever up)	UP W GR DN GEAR DN GR	DN GR W UP GEAR DN GR 3	DN GR GR DN GEAR UP W 3	UP W GEAR 2
All landing gear in-transit	W GEAR	W GEAR	W GEAR	W GEAR
All landing gear down and locked (landing gear control lever down)	DOWN GR GEAR	DOWN GR GEAR	DOWN GR GEAR	DOWN GR GEAR

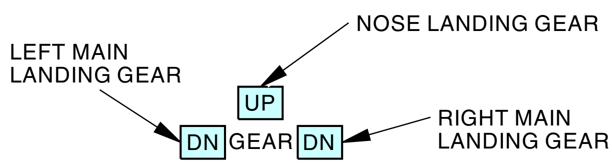
LANDING GEAR DISPLAYS
TABLE 1

NOTE:

THE FOLLOWING LETTERS ARE PLACED NEAR EACH DISPLAY RECTANGLE. THE LETTERS TELL YOU THE COLOR OF THE INDICATION. THESE LETTERS DO NOT SHOW ON THE LANDING GEAR DISPLAY.

GR - GREEN
W - WHITE

1 THE EXPANDED DISPLAY SHOWS THE FOLLOWING:

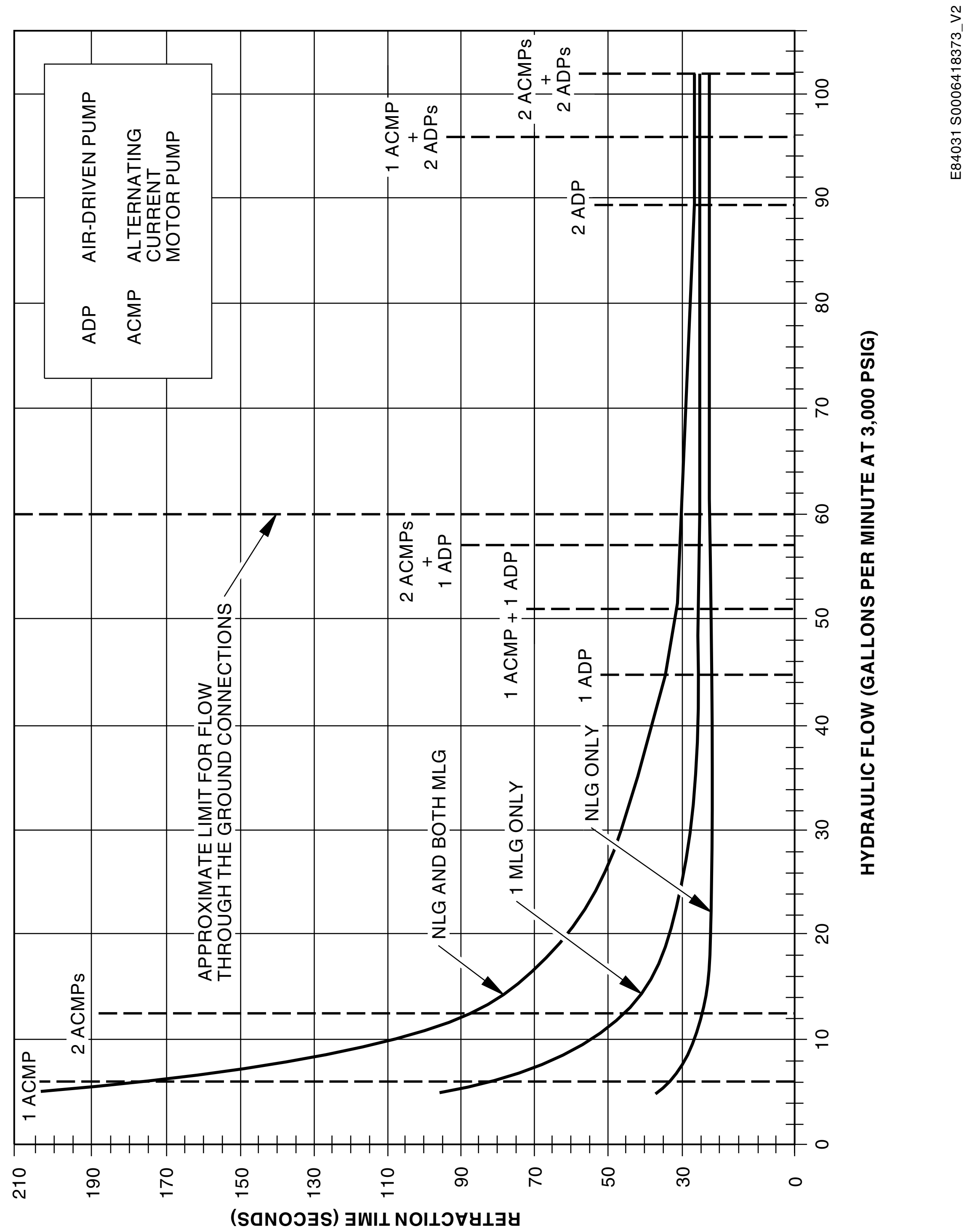


2 THIS INDICATION WILL SHOW FOR ONLY 10 SECONDS.

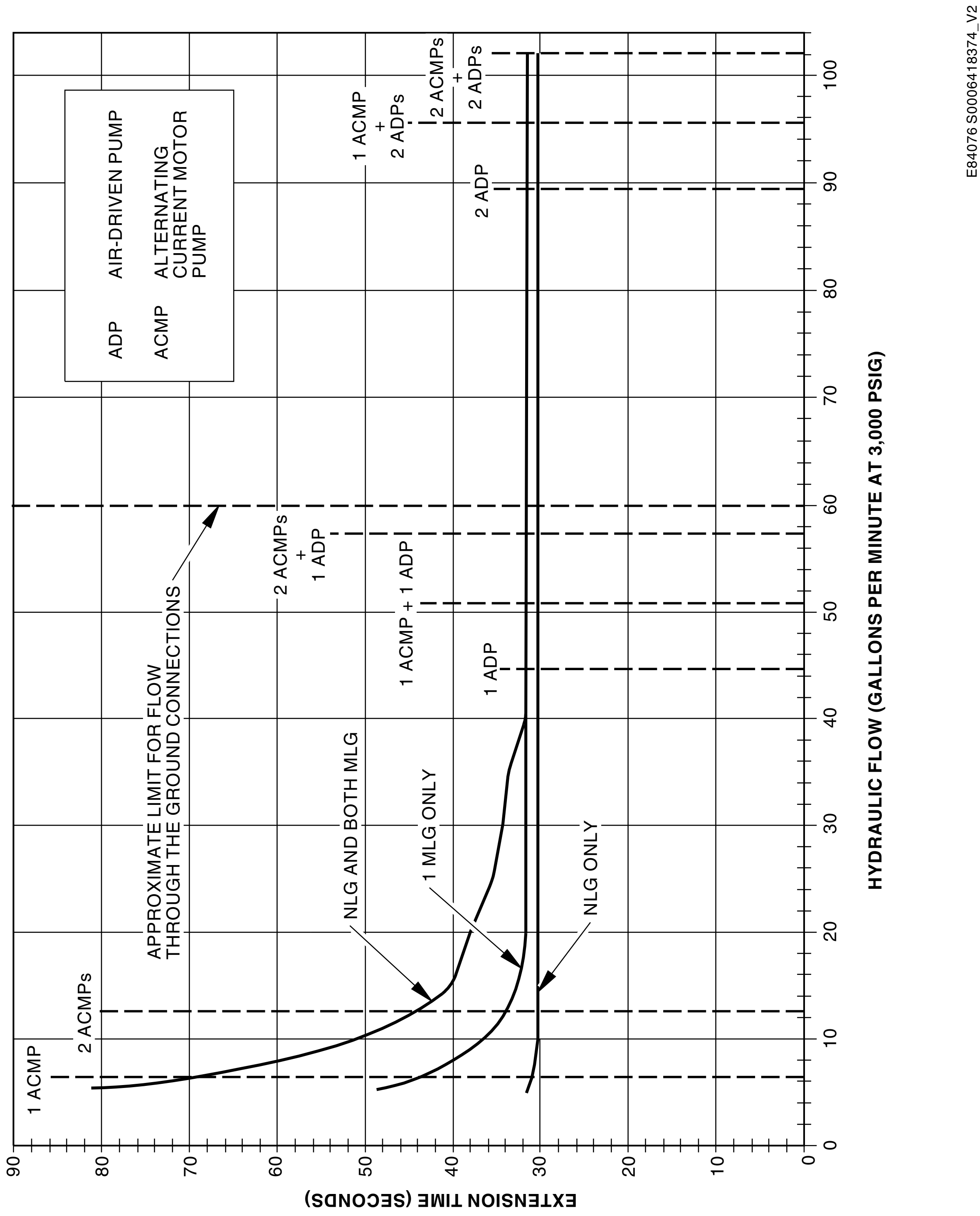
3 THE INDICATION FOR THE LANDING GEAR WITH DOWNLOCK PINS INSTALLED CAN BE INACCURATE.

D13308 S0006418372_V3

Landing Gear Display Sequences
Figure 501/32-30-01-990-801 (Sheet 2 of 2)



Landing Gear Retraction Time vs Hydraulic Flow
Figure 502/32-30-01-990-802



Landing Gear Extension Time vs Hydraulic Flow
Figure 503/32-30-01-990-803

TASK 32-30-01-720-801

3. Main Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks)

A. General

(1) This task does a functional test of the extension and retraction system for the main landing gear.

(2) The functional test does a check to make sure that all of the actuators and sequence valves in the extension and retraction system for the main landing gear operate correctly and in the correct sequence.

(3) The functional test also does a check to make sure that the landing gear display on the Engine Indicating and Crew Alerting System (EICAS) operates correctly.

(4) The functional test also does a lockup test of the hydraulic strut on the semi-levered gear.

(5) You must lift the airplane on jacks to do the functional test.

(6) It is possible to do an operational test of the extension and retraction system for the main landing gear with the functional test. To do this, do the functional test, but do not measure the times that the functional test tells you to measure.

B. References

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-21-14-640-805-002	Upper Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
12-21-14-640-806-002	Lower Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
24-22-00-860-805	Supply Electrical Power (P/B 201)
24-22-00-860-806	Remove Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Tools/Equipment

Reference	Description
STD-1139	Timer - Stop Watch, Accurate to 1 Second

D. Location Zones

Zone	Area
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

F. Prepare for the Test

SUBTASK 32-30-01-480-005

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-30-01-010-001

(2) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

NOTE: Do this to get access to the left or right power management panels, P110 or P210.

SUBTASK 32-30-01-860-012

(3) Make sure that this circuit breaker is closed:

Right Power Management Panel, P210

Row	Col	Number	Name
M	2	C32623	LG LEVER LOCK

SUBTASK 32-30-01-860-042

(4) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Right Power Management Panel, P210

Row	Col	Number	Name
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

SUBTASK 32-30-01-410-001

(5) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-30-01-580-002

(6) Do this task: Lift the Airplane with Jacks, TASK 07-11-01-580-804.

SUBTASK 32-30-01-860-013

(7) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-30-01-860-014

(8) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-30-01-860-015

(9) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

(Continued)

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-30-01-860-016

(10) Push the GEAR OVRD button which is on the landing gear module in the flight compartment.

NOTE: This will prevent operation of the aural warning which operates when the CONFIG GEAR message shows on the Engine Indicating and Crew Alerting System (EICAS).

SUBTASK 32-30-01-860-017

(11) Make sure the center hydraulic system is not pressurized (TASK 29-11-00-860-808).

G. Main Landing Gear Extension and Retraction System - Functional Test

NOTE: During this test, it is possible that the CONFIG GEAR message will show on the EICAS. This is correct operation of the airplane.

You do not have to do maintenance actions to make the message go away. The message will go away automatically when you complete this test.

NOTE: Do the functional test below for one of the two main landing gear.

SUBTASK 32-30-01-720-003

(1) For the applicable main landing gear, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

SUBTASK 32-30-01-720-004

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-30-01-720-006

(3) During this test, make sure these messages do not show on the EICAS:

(a) MAIN GEAR BRACE L

(b) MAIN GEAR BRACE R

SUBTASK 32-30-01-720-007

WARNING MAKE SURE THE AREA AROUND THE LANDING GEAR AND ITS DOORS ARE CLEAR OF PERSONS AND EQUIPMENT DURING A LANDING GEAR RETRACTION AND EXTENSION TEST. THIS WILL HELP PREVENT INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Make sure the area around the all of the doors as well as for the applicable main landing gear is clear of persons and equipment.

SUBTASK 32-30-01-720-008

(5) Retract the applicable main landing gear:

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE RETRACTION PATH FOR THE APPLICABLE LANDING GEAR. THE LANDING GEAR AND DOORS MOVE QUICKLY. THE MOVEMENT OF THE LANDING GEAR AND DOORS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

(a) Move the control lever for the landing gear to the UP position and start the first stopwatch, STD-1139.

NOTE: Start the first stopwatch, STD-1139 to measure the time necessary for the landing gear display on the EICAS to change from the normal display to the expanded display.

(b) Make sure the EICAS shows that the applicable main landing gear is in-transit (Figure 501).

NOTE: The indication for the landing gear that have downlock pins installed can be inaccurate.

(c) Use the second stopwatch, STD-1139 to make sure these results occur within the specified time (Figure 502):

NOTE: Start the second stopwatch, STD-1139 when the door for the applicable main landing gear starts to open. Stop the second stopwatch, STD-1139 when the door for the applicable main landing gear is closed.

NOTE: Monitor the landing gear and the landing gear doors to do this. Do not use any of the indications in the flight compartment to do this.

NOTE: Nose and Main Gear Doors will all move during this test.

1) The door for the applicable main landing gear opens

2) The applicable main landing gear retracts

3) The door for the applicable main landing gear closes.

(d) Make sure the landing gear display on the EICAS changes from the normal display to the expanded display in 40 seconds or more (Figure 501).

NOTE: To measure the time, stop the first stopwatch, STD-1139 when the expanded display first shows on the EICAS.

NOTE: The normal display shows one rectangle for all of the landing gear. The expanded display shows three rectangles, with one rectangle for each of the three landing gear.

(e) Make sure the GEAR DISAGREE message shows on the EICAS.

(f) Make sure the EICAS shows that the applicable main landing gear is up and locked (Figure 501).

SUBTASK 32-30-01-720-009

(6) Extend the main landing gear:

(a) Move the control lever for the landing gear to the DN position and start the first stopwatch, STD-1139.

NOTE: Start the first stopwatch, STD-1139 to measure the time necessary for the EICAS to show that all of the landing gear is down and locked.

(b) Make sure the landing gear display on the EICAS changes from the expanded display to the normal display and shows that all of the landing gear is in-transit (Figure 501).

(c) Make sure the GEAR DISAGREE message does not show on the EICAS.

(d) Use the second stopwatch, STD-1139 to make sure these results occur within the specified time (Figure 503):

NOTE: Start the second stopwatch, STD-1139 when the door for the applicable main landing gear starts to open. Stop the second stopwatch, STD-1139 when the door for the applicable main landing gear is closed.

NOTE: Monitor the landing gear and the landing gear doors to do this. Do not use any of the indications in the flight compartment to do this.

NOTE: Nose and Main Gear Doors will all move during this test.

1) The door for the applicable main landing gear opens

2) The applicable main landing gear extends

3) The door for the applicable main landing gear closes.

(e) Make sure the EICAS shows that all of the landing gear is down and locked in less than 40 seconds (Figure 501).

NOTE: To measure the time, stop the first stopwatch, STD-1139 when the EICAS first shows that all of the landing gear is down and locked.

NOTE: If you use a small hydraulic flow, it is possible that the time necessary for the EICAS to show that all of the landing gear is down and locked will be more than 40 seconds.

(f) If the main landing gear drag brace did not lock down, do these steps:

1) Make sure the hydraulic pressure that extended the landing gear was high enough:

a) On the LANDING GEAR ACTN/INDN Page on the MFD Maintenance Display, make sure the TRUCK TILT pressure is 3000 ±150 psi (20,684 ±1034 kPa).

NOTE: The pressure transducer for the truck tilt indication is connected to the hydraulic lines for the down lock actuators.

2) Make sure that all of the landing gear lubrication points are well lubricated.

a) Do this task: Upper Main Landing Gear and Actuating Mechanisms Lubrication, TASK 12-21-14-640-805-002.

b) Do this task: Lower Main Landing Gear and Actuating Mechanisms Lubrication, TASK 12-21-14-640-806-002.

3) If you corrected either of the above conditions, repeat the main landing gear extension/retraction functional test.

SUBTASK 32-30-01-720-016

(7) If the hydraulic pressure is correct, the gear is lubricated and the drag brace lock links will not lock down, do this task: Main Landing Gear Drag Brace Down Lock - Conditional Test, TASK 32-30-01-720-804.

SUBTASK 32-30-01-860-043

(8) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-30-01-860-044

(9) For the applicable main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-30-01-800-002

(10) Do the steps above for the other main landing gear if a functional test of it is necessary.

SUBTASK 32-30-01-860-045

(11) Push the GEAR OVRD button which is on the landing gear module in the flight compartment.

SUBTASK 32-30-01-580-007

(12) Do this task: Lower the Airplane Off of the Jacks, TASK 07-11-01-580-805.

SUBTASK 32-30-01-860-046

(13) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-30-01-720-014

(14) Do the lockup test of the semi-levered gear.

(a) Make sure the center hydraulic system is pressurized to 2800 psig (19,305 kPa) - 3150 psig (21,718 kPa).

(b) Make sure the control lever for the landing gear is in the DN position.

(c) SELECT the items that follow on the Maintenance Access Terminal (MAT):

1) ONBOARD MAINTENANCE

2) LINE MAINTENANCE

3) GROUND TESTS

4) 32 Semi Lever Gear

5) SYSTEM TEST

(d) SELECT the test that follows, for the applicable gear, on the MAT:

1) Left (Right) Semi Lever Gear, Lock Test

(e) SELECT CONTINUE on the MAT.

(f) Do the instructions that show on the MAT.

(g) SELECT CONTINUE on the MAT.

(h) Read the WARNING that shows on the MAT.

(i) SELECT CONTINUE on the MAT.

(j) SELECT START TEST on the MAT.

NOTE: The Left (Right) Semi Levered Gear will lock and hold for 15 seconds.

(k) Make sure that PASSED is shown on the MAT.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-30-01-860-051

(1) Do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-30-01-860-019

(2) Do this task: Remove Electrical Power, TASK 24-22-00-860-806.

——— END OF TASK ———

TASK 32-30-01-720-802

4. Nose and Main Landing Gear Extension and Retraction Systems - Functional Test (Airplane on the Jacks)

A. General

(1) This task does a functional test of the extension and retraction systems for the nose and main landing gear at the same time.

(2) The functional test does a check to make sure that all of the actuators and sequence valves in the extension and retraction systems for the nose and main landing gear operate correctly and in the correct sequence.

(3) The functional test also does a check to make sure that the landing gear display on the Engine Indicating and Crew Alerting System (EICAS) operates correctly.

(4) The functional test also does a lockup test of the hydraulic strut on the semi-levered main gear.

(5) You must lift the airplane on jacks to do the functional test.

(6) It is possible to do an operational test of the extension and retraction systems for the nose and main landing gear with the functional test. To do this, do the functional test, but do not measure the times that the functional test tells you to measure.

B. References

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-21-14-640-805-002	Upper Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
12-21-14-640-806-002	Lower Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-11-03-080-801-002	Side Brace Rigging Tool Removal (P/B 401)
32-11-03-400-816-002	Side Brace Assembly Installation (P/B 401)
32-11-03-480-801-002	Side Brace Rigging Tool Installation (P/B 401)

C. Tools/Equipment

Reference	Description
STD-1139	Timer - Stop Watch, Accurate to 1 Second

D. Location Zones

Zone	Area
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

F. Prepare for the Test

SUBTASK 32-30-01-010-002

(1) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

NOTE: Do this to get access to the left or right power management panels, P110 and P210.

SUBTASK 32-30-01-860-020

(2) Make sure that this circuit breaker is closed:

Right Power Management Panel, P210

Row	Col	Number	Name
M	2	C32623	LG LEVER LOCK

(3) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Right Power Management Panel, P210

Row	Col	Number	Name
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

SUBTASK 32-30-01-410-002

(4) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-30-01-580-003

(5) Do this task: Lift the Airplane with Jacks, TASK 07-11-01-580-804.

SUBTASK 32-30-01-080-002

(6) If the downlock pins are installed in the nose or main landing gear, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

SUBTASK 32-30-01-860-021

(7) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-30-01-860-022

(8) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-30-01-860-023

(9) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-30-01-860-024

(10) Push the GEAR OVRD button which is on the landing gear module in the flight compartment.

NOTE: This will prevent operation of the aural warning which operates when the CONFIG GEAR message shows on the Engine Indicating and Crew Alerting System (EICAS).

SUBTASK 32-30-01-860-025

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(11) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

G. Nose and Main Landing Gear Extension and Retraction Systems - Functional Test

NOTE: During this test, it is possible that the CONFIG GEAR message will show on the EICAS. This is correct operation of the airplane.

NOTE: You do not have to do maintenance actions to make the message go away. The message will go away automatically when you complete this test.

SUBTASK 32-30-01-210-011

(1) During this test, make sure these messages do not show on the EICAS:

NOTE: If you use a small hydraulic flow, it is possible that the time necessary for the landing gear to retract or extend will be more than 40 seconds. This will cause the GEAR DISAGREE and GEAR DOOR messages to show.

(a) GEAR DISAGREE

(b) GEAR DOOR

(c) MAIN GEAR BRACE L

(d) MAIN GEAR BRACE R

SUBTASK 32-30-01-210-012

WARNING	MAKE SURE THE AREA AROUND THE LANDING GEAR AND ITS DOORS ARE CLEAR OF PERSONS AND EQUIPMENT DURING A LANDING GEAR RETRACTION AND EXTENSION TEST. THIS WILL HELP PREVENT INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Make sure the area around the doors for the nose and main landing gear is clear of persons and equipment.

SUBTASK 32-30-01-860-026

(3) Retract the landing gear:

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE RETRACTION PATH FOR THE APPLICABLE LANDING GEAR. THE LANDING GEAR AND DOORS MOVE QUICKLY. THE MOVEMENT OF THE LANDING GEAR AND DOORS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

(a) Move the control lever for the landing gear to the UP position and start the first stopwatch, STD-1139.

NOTE: Start the first stopwatch, STD-1139 to measure the time necessary for the EICAS to show that the landing gear is up and locked.

(b) Make sure that during the retraction of the landing gear, the EICAS shows that the landing gear is in-transit (Figure 501).

(c) Use the second stopwatch, STD-1139 to make sure these results occur within the specified time (Figure 502):

NOTE: Start the second stopwatch, STD-1139 when the first landing gear door starts to open. Stop the second stopwatch, STD-1139 when the last landing gear door is closed.

NOTE: Monitor the landing gear and the landing gear doors to do this. Do not use any of the indications in the flight compartment to do this.

NOTE: Without aerodynamic forces, the doors for the nose landing gear can open very slowly (usually the doors will begin to open at the correct rate and then the rate will decrease). It is permitted for the retraction time to be more than the specified time if the only cause is slow operation of the doors.

1) The doors for the nose and main landing gear open

2) The nose and main landing gear retract

3) The doors for the nose and main landing gear close.

(d) Make sure the EICAS shows that the landing gear is up and locked in less than 40 seconds (Figure 501).

NOTE: To measure the time, stop the first stopwatch, STD-1139 when the EICAS first shows that all of the landing gear is up and locked.

NOTE: The indication which shows that the landing gear is up and locked will go away after 10 seconds.

NOTE: If you use a small hydraulic flow, it is possible that the time necessary for the EICAS to show that the landing gear is up and locked will be more than 40 seconds.

SUBTASK 32-30-01-860-027

(4) Extend the landing gear:

(a) Move the control lever for the landing gear to the DN position and start the first stopwatch, STD-1139.

NOTE: Start the first stopwatch, STD-1139 to measure the time necessary for the EICAS to show that the landing gear is down and locked.

(b) Make sure that during the extension of the landing gear, the EICAS shows that the landing gear is in-transit (Figure 501).

(c) Use the second stopwatch, STD-1139 to make sure these results occur within the specified time (Figure 503):

NOTE: Start the second stopwatch, STD-1139 when the first landing gear door starts to open. Stop the second stopwatch, STD-1139 when the last landing gear door is closed.

NOTE: Monitor the landing gear and the landing gear doors to do this. Do not use any of the indications in the flight compartment to do this.

1) The doors for the nose and main landing gear open

2) The nose and main landing gear extend

3) The doors for the nose and main landing gear close.

(d) Make sure the EICAS shows that the landing gear is down and locked in less than 40 seconds (Figure 501).

NOTE: To measure the time, stop the first stopwatch, STD-1139 when the EICAS first shows that all of the landing gear is down and locked.

NOTE: If you use a small hydraulic flow, it is possible that the time necessary for the EICAS to show that the landing gear is down and locked will be more than 40 seconds.

(e) If either main landing gear drag brace did not lock down, do these steps:

1) Make sure the hydraulic pressure that extended the landing gear was high enough:

a) On the LANDING GEAR ACTN/INDN Page on the MFD Maintenance Display, make sure the TRUCK TILT pressure is 3000 ±150 psi (20,684 ±1034 kPa).

NOTE: The pressure transducer for the truck tilt indication is connected to the hydraulic lines for the down lock actuators.

2) Make sure that all of the landing gear lubrication points are well lubricated.

a) Do this task: Upper Main Landing Gear and Actuating Mechanisms Lubrication, TASK 12-21-14-640-805-002.

b) Do this task: Lower Main Landing Gear and Actuating Mechanisms Lubrication, TASK 12-21-14-640-806-002.

3) If you corrected either of the above conditions, repeat the nose and main landing gear extension/retraction functional test.

4) If the hydraulic pressure is correct, the gear is lubricated and the drag brace lock links will not lock down, adjust the side brace eccentrics of the gear.

Do this task: Side Brace Rigging Tool Installation, TASK 32-11-03-480-801-002.

Do the side brace eccentrics adjustment steps in this task: Side Brace Assembly Installation, TASK 32-11-03-400-816-002.

NOTE: Make sure you follow the applicable precautionary steps before adjusting the side brace eccentrics.

Do this task: Side Brace Rigging Tool Removal, TASK 32-11-03-080-801-002

If you corrected the above condition, repeat the nose and main landing gear extension/retraction functional test.

SUBTASK 32-30-01-860-047

(5) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-30-01-860-048

(6) For the applicable gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-30-01-800-003

(7) Do the steps above for the other landing gear if a functional test of it is necessary.

SUBTASK 32-30-01-860-049

(8) Push the GEAR OVRD button which is on the landing gear module in the flight compartment.

SUBTASK 32-30-01-580-008

(9) Do this task: Lower the Airplane Off of the Jacks, TASK 07-11-01-580-805.

SUBTASK 32-30-01-860-050

(10) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-30-01-720-015

(11) Do the lockup test of the semi-levered gear.

(a) Make sure the center hydraulic system is pressurized to 2800 psig (19,305 kPa) - 3150 psig (21,718 kPa).

(b) Make sure the control lever for the landing gear is in the DN position.

(c) SELECT the items that follow on the Maintenance Access Terminal (MAT):

1) ONBOARD MAINTENANCE

2) LINE MAINTENANCE

3) GROUND TESTS

4) 32 Semi Lever Gear

5) SYSTEM TEST

(d) SELECT the test that follows, for the applicable gear, on the MAT:

1) Left (Right) Semi Lever Gear, Lock Test

(e) SELECT CONTINUE on the MAT.

(f) Do the instructions that show on the MAT.

(g) SELECT CONTINUE on the MAT.

(h) Read the WARNING that shows on the MAT.

(i) SELECT CONTINUE on the MAT.

(j) SELECT START TEST on the MAT.

NOTE: The Left (Right) Semi Levered Gear will lock and hold for 15 seconds.

(k) Make sure that PASSED is shown on the MAT.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-30-01-860-029

(1) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-30-01-480-002

(2) Do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

——— END OF TASK ———

TASK 32-30-01-720-804

5. Main Landing Gear Drag Brace Down Lock - Conditional Test

(Figure 504)

A. General

(1) This task does a test of the down lock system for the drag brace on the main landing gear. This test should only be performed if the drag brace did not lock down during a Main Landing Gear extension. Repeat this test for the other side if both drag braces did not lock down.

(2) This task is applicable to a drag brace, for either main landing gear, that fails to down lock during a main landing gear extension or landing gear alternate extension functional test.

(3) This conditional test is to be performed after the failure of a landing gear functional test or landing gear alternate extension functional test when the airplane is still on jacks.

(4) When the test is complete, return to the landing gear or landing gear alternate extension functional test and proceed to the next step.

B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-2494	Hoist - Lever Operated, 1.5 Ton, 6 Ft Chain Part #: 391 Supplier: 46964 Part #: R245A Supplier: 46964 Opt Part #: 291 Supplier: 46964
COM-2559	Cell - Load Part #: 30389-0016 Supplier: 17885
STD-1092	Sling - Nylon, 6-8 Foot Length, 3400 Lb Lift Capacity

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for the Test

SUBTASK 32-30-01-860-038

(1) Make sure the airplane is still on jacks.

SUBTASK 32-30-01-860-039

(2) Make sure the center hydraulic system is not pressurized (TASK 29-11-00-860-808).

SUBTASK 32-30-01-860-040

(3) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-30-01-860-041

(4) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-30-01-480-007

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(5) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

F. Main Landing Gear Drag Brace Down Lock - Conditional Test

SUBTASK 32-30-01-720-013

(1) Do the steps that follow for the drag brace that did not lock down (Figure 504):

(a) Wrap a nylon sling - 6-8 Foot Length, 3400 Lb Lift Capacity, STD-1092 (or equivalent) around the joint connecting the upper and lower lock links.

NOTE: Make sure the nylon sling is not in the movement path of the parts of the lock links.

(b) Connect a load cell, COM-2559, (or equivalent) 2000 lbf (8896 N) capacity minimum) to the two ends of the strap.

(c) Connect a lever operated hoist, COM-2494, (come-along)(or equivalent) to the free end of the load cell.

(d) Wrap another nylon sling - 6-8 Foot Length, 3400 Lb Lift Capacity, STD-1092 around the uplock roller on the main landing gear.

(e) Connect the free end of the come-along to the two ends of the other strap.

(f) Make sure the straps are tight.

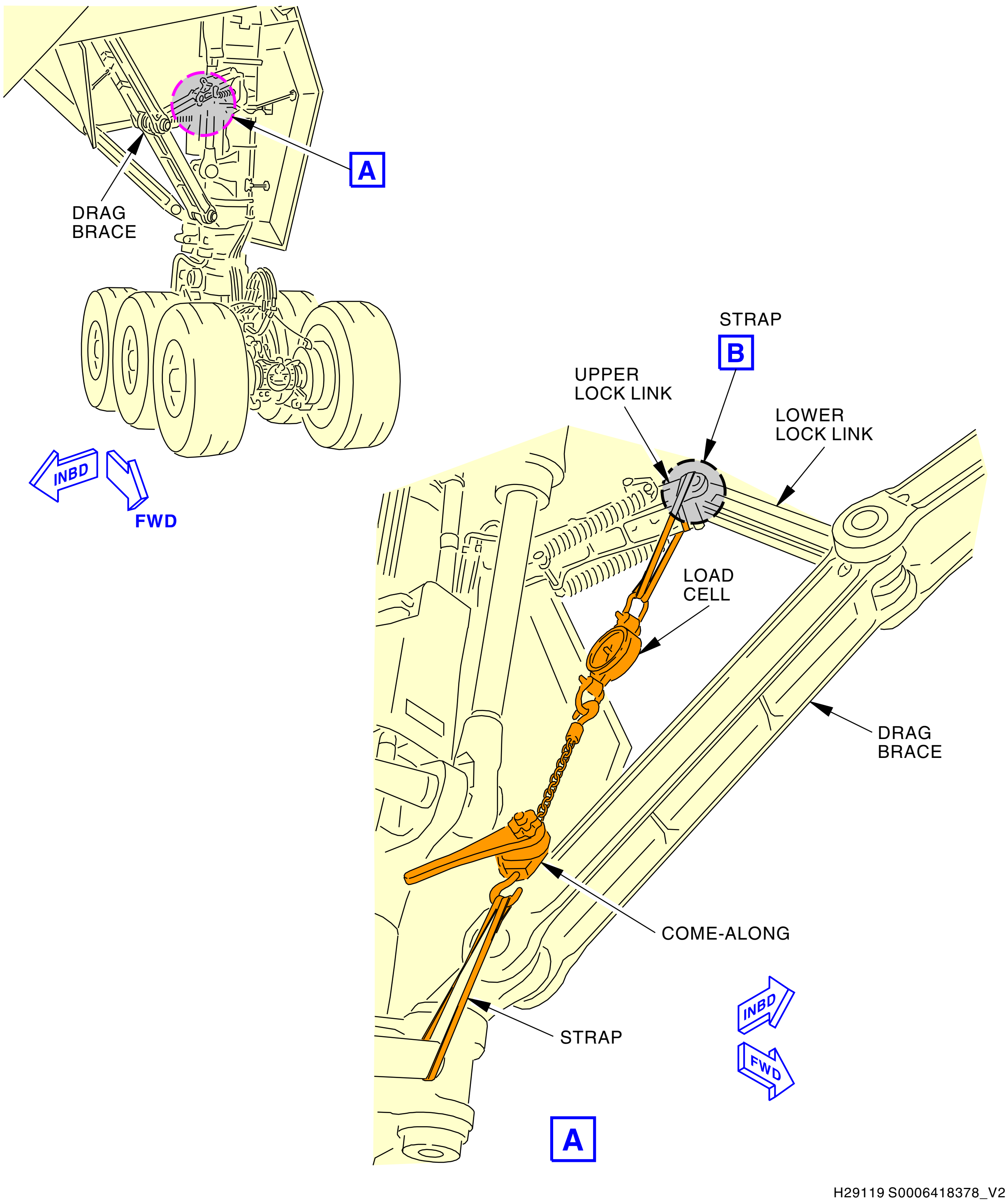
(g) Make sure the load indication dial on the load cell is set to zero.

(h) Slowly tighten the come-along until the lock links for the drag brace locks down.

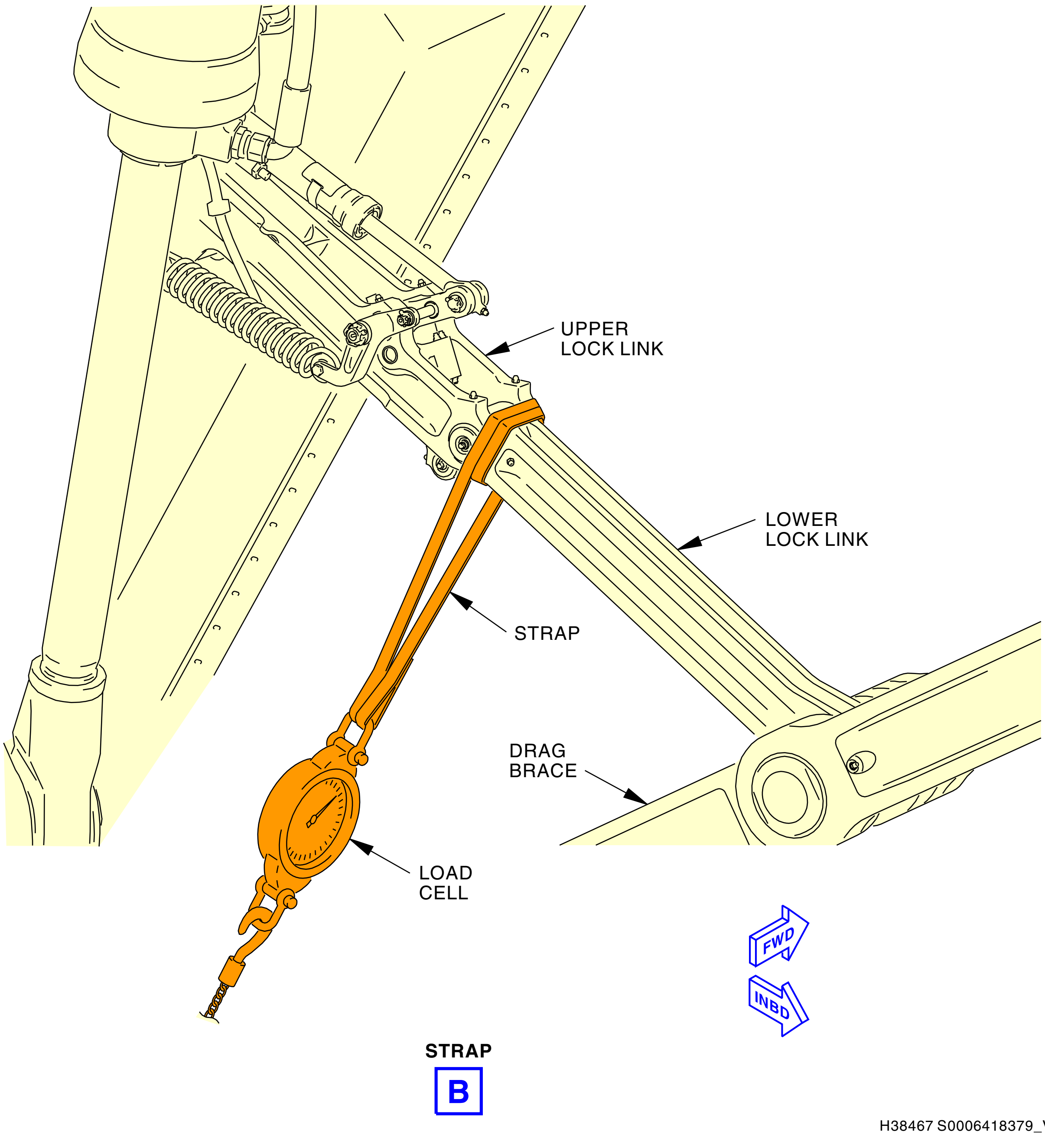
NOTE: Make sure you tighten the come-along very slowly, avoiding any quick movement that may cause incorrect load cell indication.

(i) Make sure that the force required to lock the lock links down was less than 1300 lbf (5783 N) as indicated by the load cell.

END OF TASK



Main Landing Gear Conditional Test
Figure 504/32-30-01-990-804 (Sheet 1 of 2)



Main Landing Gear Conditional Test
Figure 504/32-30-01-990-804 (Sheet 2 of 2)

LANDING GEAR CONTROL SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure contains scheduled maintenance task data.

B. This procedure has two tasks:

(1) An operational test of the control system for the landing gear.

(2) A functional test of the control system for the landing gear.

C. This procedure does not contain an adjustment of the control system for the landing gear. An adjustment of the control system for the landing gear is not necessary.

TASK 32-31-00-710-801

2. Landing Gear Control System - Operational Test (Airplane on the Ground)

A. General

(1) This task does an operational test of the control system for the landing gear.

(2) The operational test does a check to make sure the selector valve in each selector/bypass valve operates correctly.

(3) You do not have to lift the airplane on jacks to do the operational test.

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
31-61-00-800-802	Erasing a EICAS Status Message Latched by AIMS (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Prepare for the Test

SUBTASK 32-31-00-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-31-00-860-001

(2) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-31-00-860-002

(3) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-31-00-860-003

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

E. Landing Gear Control System - Operational Test

NOTE: During this test, it is possible that the GEAR DISAGREE and the GEAR DOOR messages will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution may also operate. The aural caution will operate only if 115V AC Power, which is usually supplied by engine power, is used to power the airplane. This is correct operation of the airplane.

You do not have to do maintenance actions to make the messages go away. The messages will go away automatically when you complete this test.

SUBTASK 32-31-00-700-001

(1) If the GEAR INDICATION SYS EICAS message shows, do this task: Erasing a EICAS Status Message Latched by AIMS, TASK 31-61-00-800-802.

SUBTASK 32-31-00-710-001

(2) Do the steps below to make sure the selector valve in each selector/bypass valve operates correctly:

(a) Make sure that this circuit breaker is closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

(b) Open this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

WARNING	MAKE SURE THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. THE DOORS OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(c) Make sure the area around the doors for the nose and main landing gear is clear of persons and equipment.

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(d) Make sure the downlock pins are installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

(e) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

(f) Make sure the doors for the nose and main landing gear open.

(g) Move the control lever for the landing gear to the DN position.

(h) Make sure the doors for the nose and main landing gear close.

(i) Open this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

(j) Close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

(k) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

(l) Make sure the doors for the nose and main landing gear open.

(m) Move the control lever for the landing gear to the DN position.

(n) Make sure the doors for the nose and main landing gear close.

(o) Close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-31-00-860-004

(1) For the center system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808

——— END OF TASK ———

TASK 32-31-00-720-801

3. Landing Gear Control System - Functional Test (Airplane on the Ground)

A. General

(1) This task does a functional test of the control system for the landing gear. The functional test has these parts:

(a) The first part of the functional test does a check to make sure the control lever lock operates correctly.

(b) The second part of the functional test does a check to make sure the selector valve in each selector/bypass valve operates correctly.

(c) The third part of the functional test does a check to make sure the auto-off relays operate correctly.

(d) The fourth part of the functional test does a check to make sure the semi-levered gear lock operates correctly.

(2) The functional test does not do a check to make sure the alternate extension switch in the control lever module for the landing gear operates correctly. The functional test also does not do a check to make sure the bypass valve in each selector/bypass valve operates correctly. AMM 32-35-00/501, Landing Gear Alternate Extension System, does a check of these items.

(3) You must do all parts of the functional test to do a full check of the control system for the landing gear.

(4) You do not have to lift the airplane on jacks to do the functional test.

B. References

Reference	Title
12-15-01-610-810	Main Landing Gear Shock Strut Servicing (P/B 301)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-09-00-860-801	Air/Ground Mode Simulation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1690	Actuators/Deactuators Set - Proximity Sensor Part #: 8-758-01 Supplier: 08748 Part #: A27092-70 Supplier: 81205 Opt Part #: A32102-25 Supplier: 81205 Opt Part #: KHT8-758-01 Supplier: 08748
STD-1049	Stepladder - 12 foot

D. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
118	Main Equipment Center, Right
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

F. Prepare for the Test

SUBTASK 32-31-00-480-002

> **WARNING** MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-31-00-860-005

(2) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-31-00-860-006

(3) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

G. Landing Gear Control System - Functional Test

NOTE: During this test, it is possible that the GEAR DISAGREE and the GEAR DOOR messages will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the messages go away. The messages will go away automatically when you complete this test.

SUBTASK 32-31-00-710-002

(1) Do the steps below to make sure the control lever lock operates correctly:

(a) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

NOTE: Do this to get access to the right power management panel, P210.

(b) Make sure that this circuit breaker is closed:

Right Power Management Panel, P210

Row	Col	Number	Name
M	2	C32623	LG LEVER LOCK

(c) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

(d) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

(e) Make sure you cannot move the control lever for the landing gear to the UP position.

NOTE: Do not push the LOCK OVRD button to do this.

> **WARNING** OBEY THE PROCEDURE THAT PUTS THE AIRPLANE IN THE AIR MODE. IF YOU DO THE PROCEDURE INCORRECTLY, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(f) Use the maintenance access terminal (MAT) to put the air/ground indication system in the air mode (TASK 32-09-00-860-801).

(g) Move the control lever for the landing gear to the UP position.

NOTE: Do not push the LOCK OVRD button to do this.

(h) Move the control lever for the landing gear to the DN position.

(i) Use the MAT to put the air/ground indication system back in the ground mode (TASK 32-09-00-860-801).

SUBTASK 32-31-00-710-003

(2) Do the steps below to make sure the selector valve in each selector/bypass valve operates correctly:

(a) Make sure that this circuit breaker is closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

(b) Open this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(c) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

WARNING MAKE SURE THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. THE DOORS OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(d) Make sure the area around the doors for the nose and main landing gear is clear of persons and equipment.

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(e) Make sure the downlock pins are installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

(f) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

(g) Make sure the doors for the nose and main landing gear open.

(h) Move the control lever for the landing gear to the DN position.

(i) Make sure the doors for the nose and main landing gear close.

(j) Open this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

(k) Close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

(l) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

(m) Make sure the doors for the nose and main landing gear open.

(n) Move the control lever for the landing gear to the DN position.

(o) Make sure the doors for the nose and main landing gear close.

(p) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

(q) Make sure the doors for the nose and main landing gear open.

(r) Open this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

(s) Move the control lever for the landing gear to the DN position.

(t) Make sure the doors for the nose and main landing gear do not close.

(u) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

(v) Close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

(w) Move the control lever for the landing gear to the DN position.

(x) Make sure the doors for the nose and main landing gear close.

SUBTASK 32-31-00-720-002

(3) Do the steps below to make sure the auto-off relays operate correctly:

(a) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

(b) Make sure the control lever for the landing gear is in the DN position.

WARNING	MAKE SURE THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. THE DOORS OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(c) Make sure the area around the doors for the nose and main landing gear is clear of persons and equipment.

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(d) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(e) Make sure the downlock pins are installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

(f) Select the LANDING GEAR ACTN/INDN maintenance page, do this task: Showing a Maintenance Page, TASK 31-61-00-800-804.

(g) Make sure that the LANDING GEAR ACTN/INDN Page on the MFD Maintenance Display shows the following Auto-Off indication:

Table 501/32-31-00-993-801

-----AUTO-OFF-----	
HYDIM L	HYDIM R
NOT ENGA	NOT ENGA

(h) Do the step below to supply the HYDraulic Interface Module (HYDIM) cards with the correct signals so that they try to energize the auto-off relays:

NOTE: You will need a person on the flight deck to make sure the auto-off relays engage in approximately 10 seconds after all of the proximity sensors are actuated.

1) Install proximity sensor actuators (proximity sensor test set, SPL-1690) on these proximity sensors (Figure 501) (Figure 502):

NOTE: For each pair of proximity sensors above, after you install the actuator on the first sensor you must install the actuator on the second sensor in less than five seconds. If you use more than five seconds to install the actuator on the second sensor, EICAS messages will show on the EICAS status page. You must do maintenance actions to make these messages go away. The messages will not go away automatically when you complete this test.

NOTE: Use the 12 foot stepladder, STD-1049 to get access to the proximity sensors.

Table 502/32-31-00-993-802

LEFT MLG DOOR CLOSED 1 LEFT MLG DOOR CLOSED 2

Table 502/32-31-00-993-802 (Continued)

LEFT MLG UP AND LOCKED 1 LEFT MLG UP AND LOCKED 2
NLG DOOR CLOSED 1 NLG DOOR CLOSED 2
NLG UP 1 NLG UP 2
RIGHT MLG DOOR CLOSED 1 RIGHT MLG DOOR CLOSED 2
RIGHT MLG UP AND LOCKED 1 RIGHT MLG UP AND LOCKED 2

(i) Make sure you get a NEAR signal, on the LANDING GEAR ACTN/INDN maintenance page, for each proximity sensor on which you installed an actuator.

NOTE: The NEAR signal will be listed under the PSEU1 and PSEU2 column on the LANDING GEAR ACTN/INDN maintenance page.

(j) Start a timer when the last set of proximity sensors have been actuated.

(k) Make sure that the LANDING GEAR ACTN/INDN Page on the MFD Maintenance Display shows the following Auto-Off indication approximately 10 seconds after the last set of proximity sensors have been actuated:

Table 503/32-31-00-993-803

-----AUTO-OFF-----	
HYDIM L	HYDIM R
ENGAGED	ENGAGED

(l) Remove the proximity sensor actuators (proximity sensor test set, SPL-1690) from these proximity sensors (Figure 501) (Figure 502):

NOTE: For each pair of proximity sensors above, after you remove the actuator from the first sensor you must remove the actuator from the second sensor in less than five seconds. If you use more than five seconds to remove the actuator from the second sensor, EICAS messages will show on the EICAS status page. You must do maintenance actions to make these messages go away. The messages will not go away automatically when you complete this test.

NOTE: Use the 12 foot stepladder, STD-1049 to get access to the proximity sensors.

Table 504/32-31-00-993-804

LEFT MLG DOOR CLOSED 1 LEFT MLG DOOR CLOSED 2
LEFT MLG UP AND LOCKED 1 LEFT MLG UP AND LOCKED 2
NLG DOOR CLOSED 1 NLG DOOR CLOSED 2
NLG UP 1 NLG UP 2

Table 504/32-31-00-993-804 (Continued)

RIGHT MLG DOOR CLOSED 1 RIGHT MLG DOOR CLOSED 2
RIGHT MLG UP AND LOCKED 1 RIGHT MLG UP AND LOCKED 2

WARNING OBEY THE REMOVAL PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(m) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-31-00-710-004

(4) Do the steps below to make sure the semi-levered gear lock operates correctly:

NOTE: The left and right main gear shock struts must be depressurized to do the semi-levered gear lock test.

NOTE: During this test, it is possible that the GEAR DISAGREE and the GEAR DOOR messages will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the messages go away. The messages will go away automatically when you complete this test.

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(a) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

(b) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

NOTE: Do this to get access to the left and right power management panels, P110 and P210.

(c) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Right Power Management Panel, P210

Row	Col	Number	Name
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

(d) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

(e) Make sure the control lever for the landing gear is in the DN position.

WARNING	CLEAR THE AREA BELOW THE WING BEFORE YOU DEFLATE THE SHOCK STRUT. IF YOU DEFLATE ONE SHOCK STRUT, THE WING TIP CAN MOVE DOWN AND CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(f) Deflate the shock struts for the main landing gear, do this task: Main Landing Gear Shock Strut Servicing, TASK 12-15-01-610-810.

WARNING	IF THE HYDRAULIC STRUT IS EXTENDED MORE THAN SIX INCHES AND IT RECEIVES A LOCKUP COMMAND FROM THE MAT IT CAN PULL DOWN THE MAIN GEAR OUTER CYLINDER AND CAUSE THE AIRPLANE TO MOVE. THIS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(g) Make sure there is less than six inches (152.4 millimeters) of hydraulic strut extension (less than six inches of chrome on the actuator rod shows) or that the shock strut DIMENSION A is less than nine inches (SERVICING CHART - MAIN LANDING GEAR SHOCK STRUT).

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(h) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(i) Select these items on the Maintenance Access Terminal:

1) ONBOARD MAINTENANCE
2) LINE MAINTENANCE
3) GROUND TESTS
4) 32 Semi Lever Gear
5) SYSTEM TEST

(j) Select the Left Semi Lever Gear Lock test on the Maintenance Access Terminal.

(k) CONTINUE on the Maintenance Access Terminal.

(l) Do the instructions on the Maintenance Access Terminal and then select CONTINUE.

(m) CONTINUE on the Maintenance Access Terminal.

(n) Note the WARNING that is shown on the Maintenance Access Terminal.

(o) CONTINUE on the Maintenance Access Terminal.

(p) Select START TEST on the Maintenance Access Terminal.

NOTE: The Semi Levered Gear hydraulic strut will lock and hold for two minutes.

(q) Make sure that PASSED is shown on the Maintenance Access Terminal.

(r) Select these items on the Maintenance Access Terminal to do the Right Semi Lever Gear Lock test:

1) NEW TEST
2) 32 Semi Lever Gear
3) SYSTEM TEST

(s) Select the Right Semi Lever Gear Lock test on the Maintenance Access Terminal.

(t) CONTINUE on the Maintenance Access Terminal.

(u) Do the instructions on the Maintenance Access Terminal and then select CONTINUE.

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE AIRPLANE. THE AIRPLANE MAY MOVE VERTICALLY. INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR.

(v) Select START TEST on the Maintenance Access Terminal.

NOTE: The Semi Levered Gear hydraulic strut will lock and hold for two minutes.

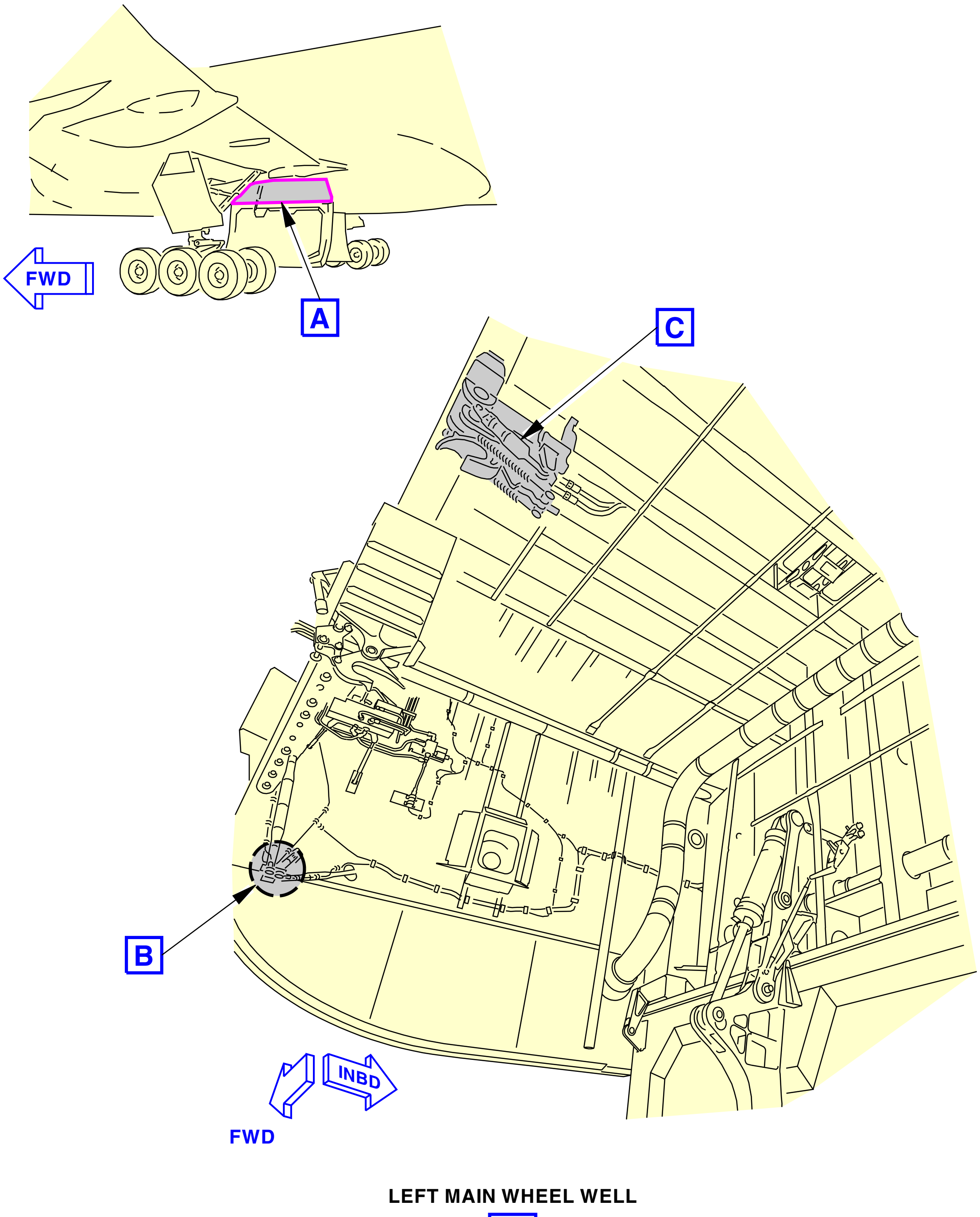
(w) Make sure that PASSED is shown on the Maintenance Access Terminal.

(x) Do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

(y) Service the shock struts for the main landing gear, do this task: Main Landing Gear Shock Strut Servicing, TASK 12-15-01-610-810.

(z) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK



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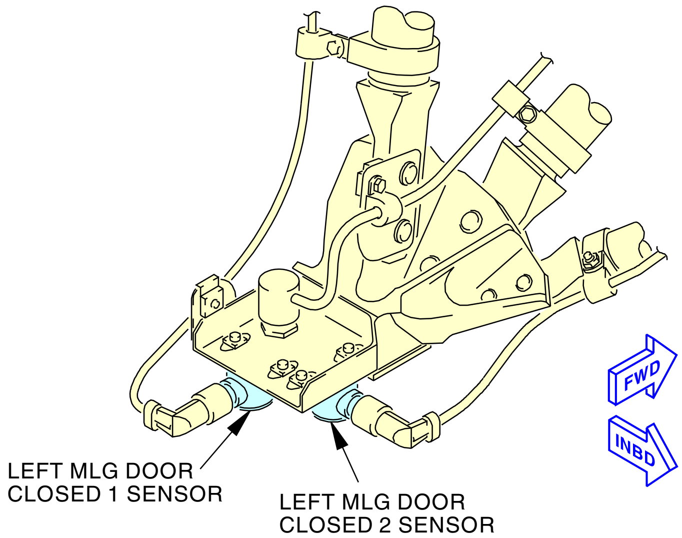
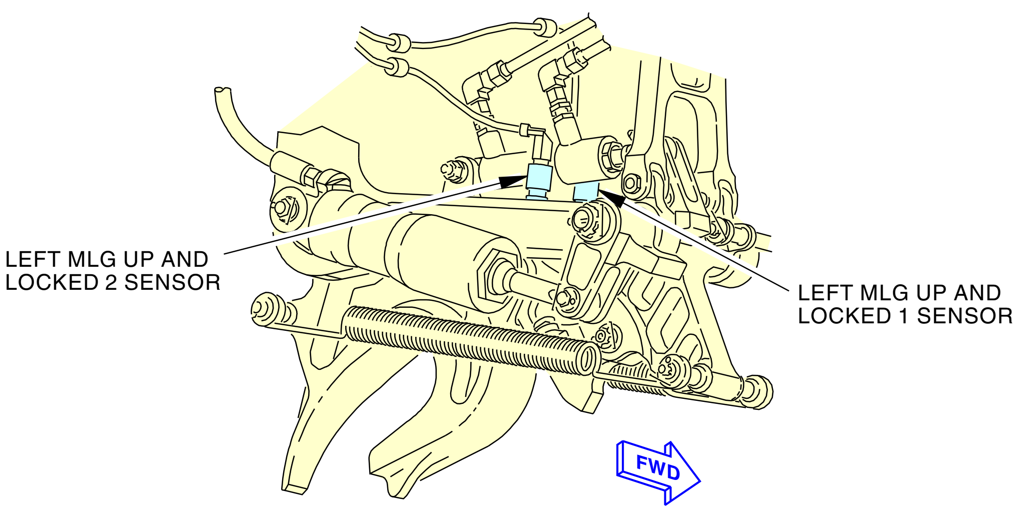
Main Landing Gear Proximity Sensors
Figure 501/32-31-00-990-801 (Sheet 1 of 2)



LEFT BODY DOOR STOP
(RIGHT BODY DOOR STOP IS OPPOSITE)

B

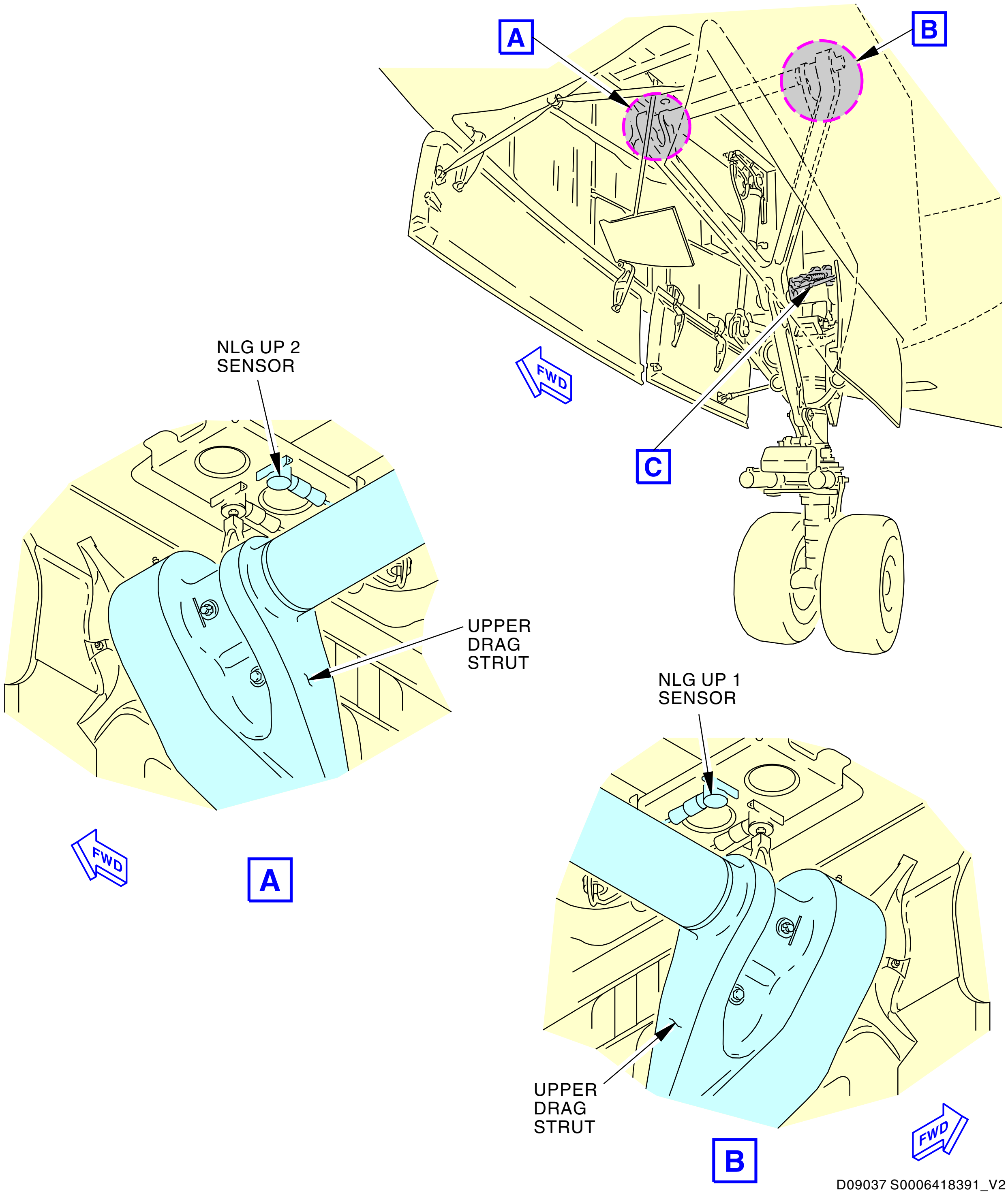


LEFT UPLOCK ASSEMBLY
(RIGHT UPLOCK ASSEMBLY IS OPPOSITE)

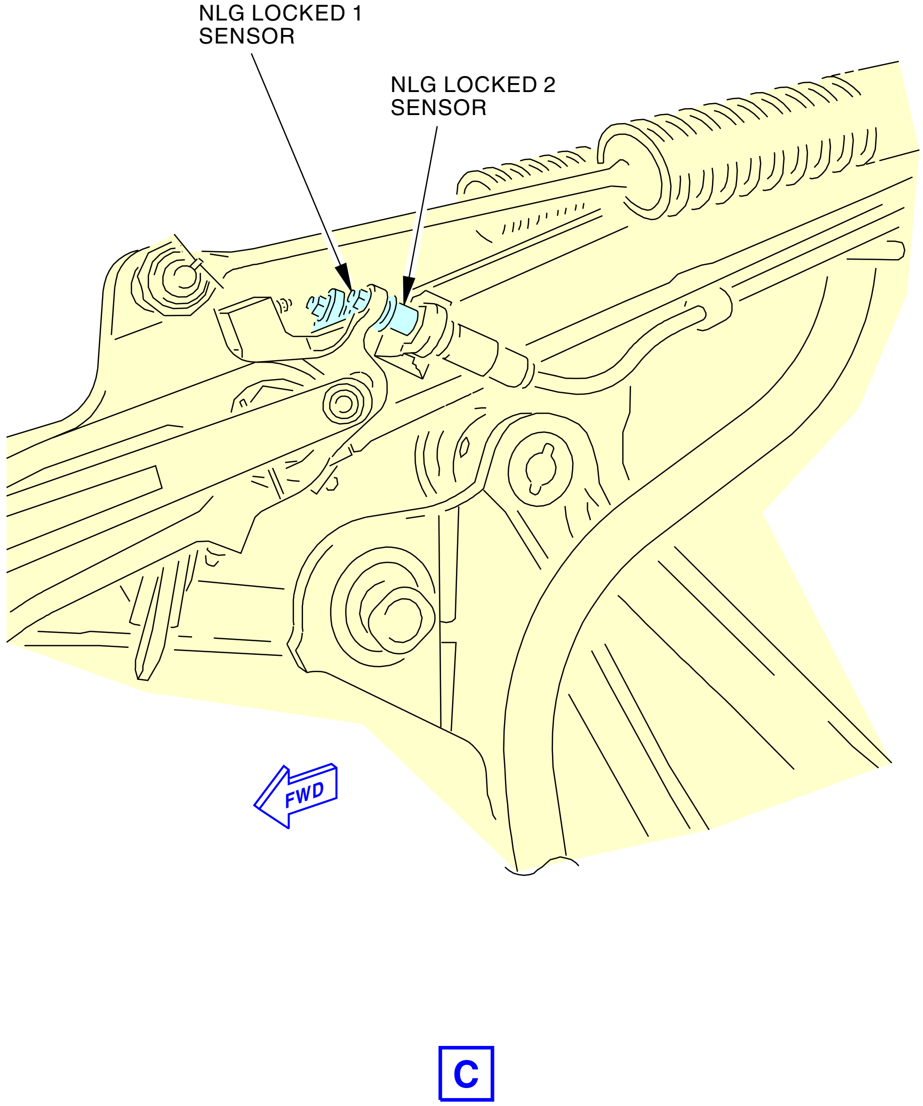
C

D09022 S0006418390_V2

Main Landing Gear Proximity Sensors
Figure 501/32-31-00-990-801 (Sheet 2 of 2)



Nose Landing Gear Proximity Sensors
Figure 502/32-31-00-990-802 (Sheet 1 of 3)



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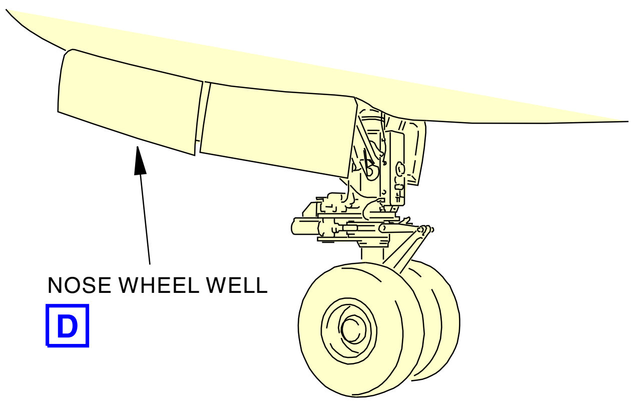
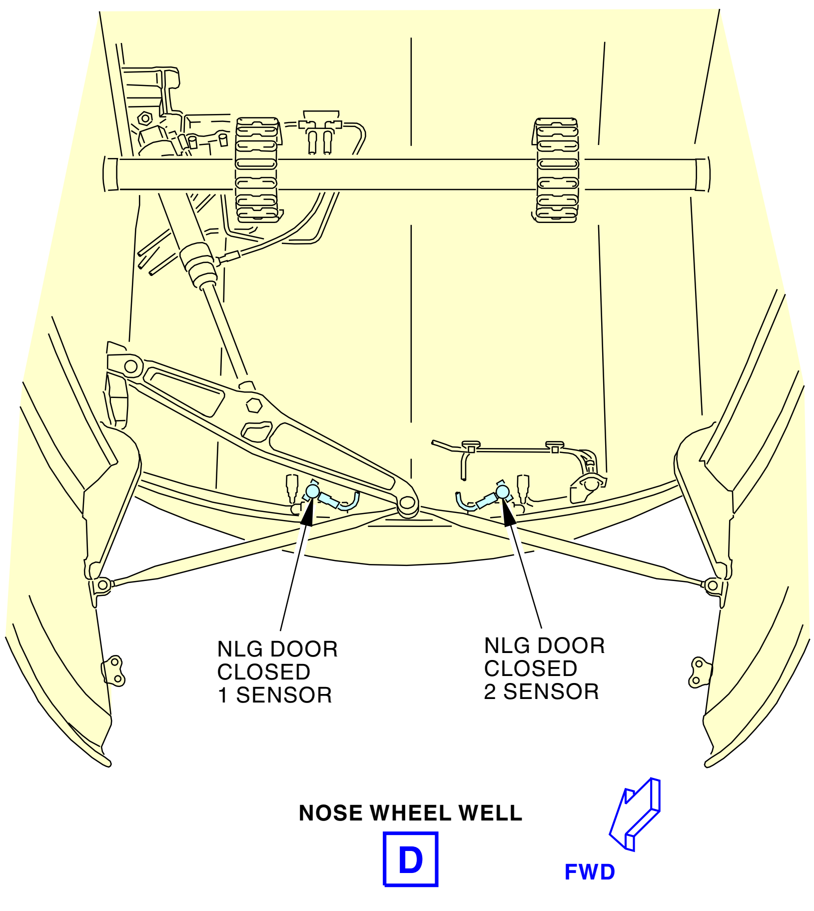
Nose Landing Gear Proximity Sensors
Figure 502/32-31-00-990-802 (Sheet 2 of 3)





Nose Landing Gear Proximity Sensors
Figure 502/32-31-00-990-802 (Sheet 3 of 3)

LANDING GEAR CONTROL LEVER MODULE - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the control lever module [10] for the landing gear

(2) An installation of the control lever module [10] for the landing gear.

TASK 32-31-01-020-801

2. Landing Gear Control Lever Module Removal

(Figure 401)

A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

C. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

D. Prepare for the Removal

SUBTASK 32-31-01-480-001

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-31-01-010-001

(2) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

NOTE: Do this to get access to the right power management panel, P210.

SUBTASK 32-31-01-860-001

(3) Open this circuit breaker and install safety tag:

Right Power Management Panel, P210

Row	Col	Number	Name
M	2	C32623	LG LEVER LOCK

SUBTASK 32-31-01-860-002

(4) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-31-01-860-003

(5) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

E. Landing Gear Control Lever Module Removal

SUBTASK 32-31-01-020-010

(1) Loosen the two screws [12] in the knob [4] that hold it to the shaft.

SUBTASK 32-31-01-020-001

(2) Remove the AUTOBRAKE knob [4] from the landing gear module [1].

(a) Pull the AUTOBRAKE knob away from the landing gear module [1], along the shaft of the autobrake selector switch.

SUBTASK 32-31-01-020-002

(3) Loosen the captive fasteners [2] which hold the lightplate [3] to the landing gear module [1].

SUBTASK 32-31-01-020-003

(4) Break the connection between the lightplate electrical connector [5] and the power connector [6] on the landing gear module [1].

(a) Carefully pull on the area of the lightplate [3] near the lightplate electrical connector [5].

NOTE: The connection is marked with a white plus (+) symbol.

SUBTASK 32-31-01-020-004

(5) Carefully remove the lightplate [3] from the landing gear module [1].

SUBTASK 32-31-01-020-005

(6) Loosen the captive fasteners [8] which hold the landing gear module [1] to the forward panel structure [7].

SUBTASK 32-31-01-020-006

(7) Carefully pull the landing gear module [1] away from the forward panel structure [7].

SUBTASK 32-31-01-020-007

(8) Disconnect the electrical connectors [11] from the control lever module [10].

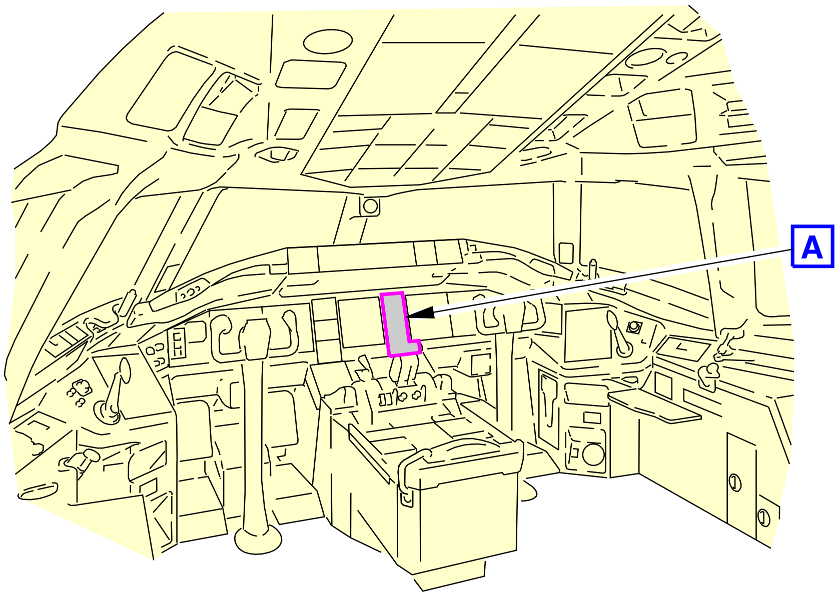
SUBTASK 32-31-01-020-008

(9) Remove the screws [9] which hold the control lever module [10] to the landing gear module [1].

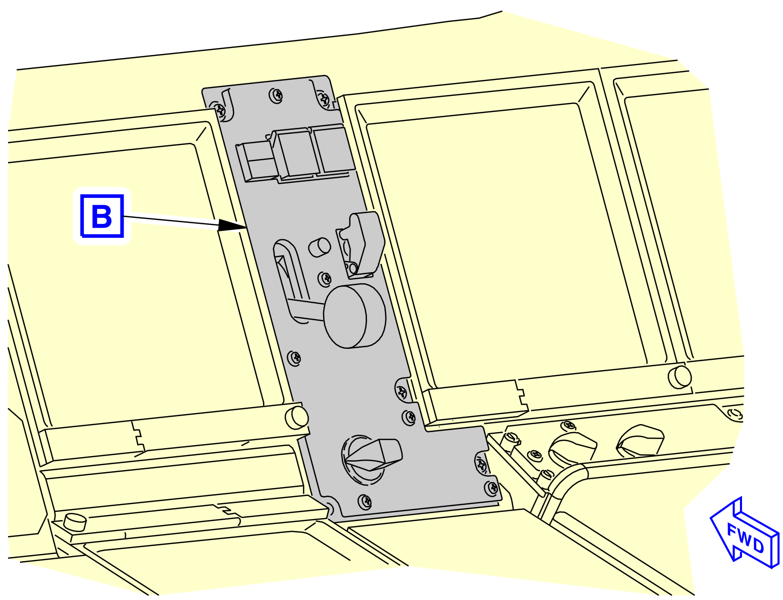
SUBTASK 32-31-01-020-009

(10) Remove the control lever module [10] from the landing gear module [1].

——— END OF TASK ———



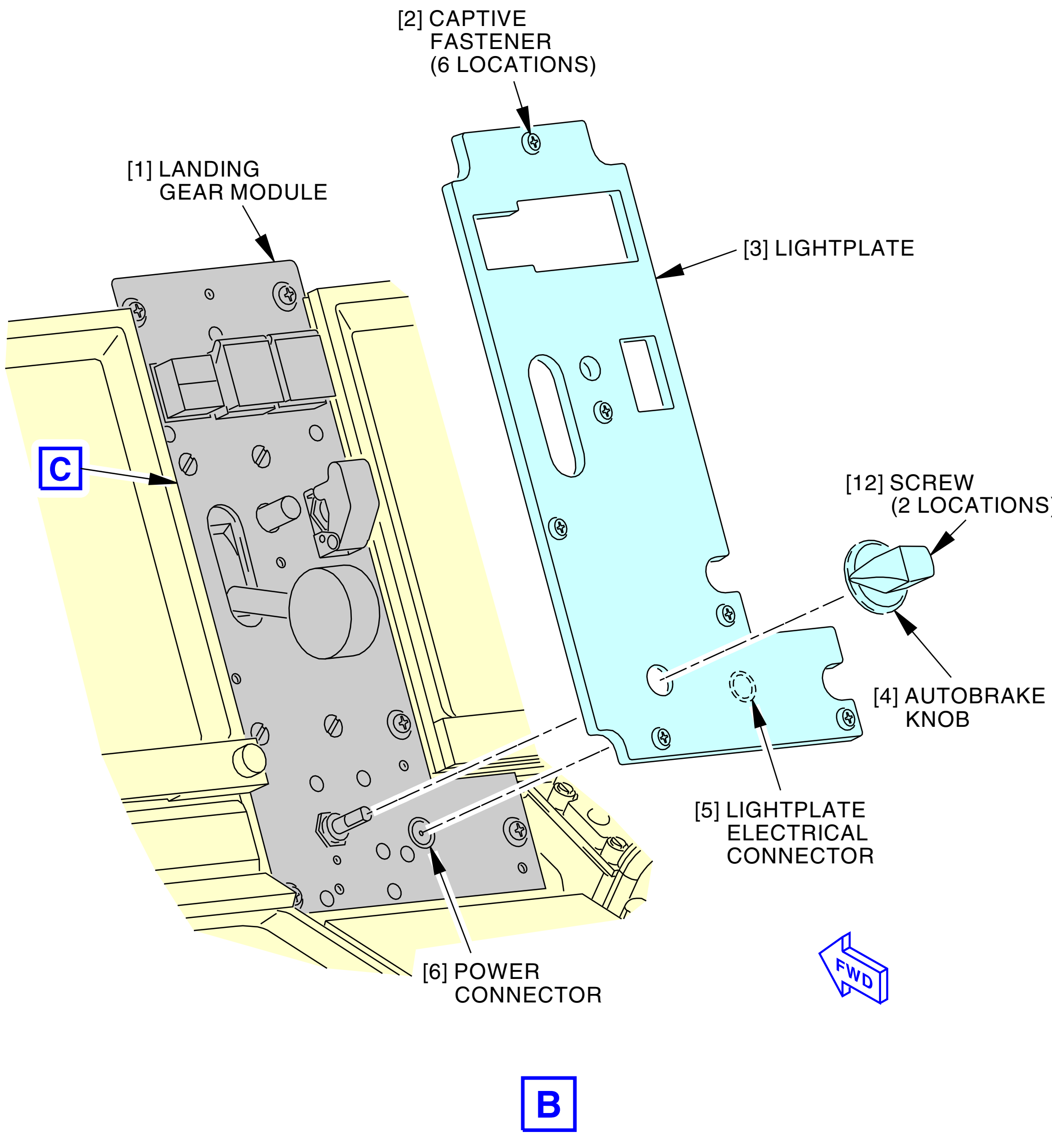
FLIGHT COMPARTMENT



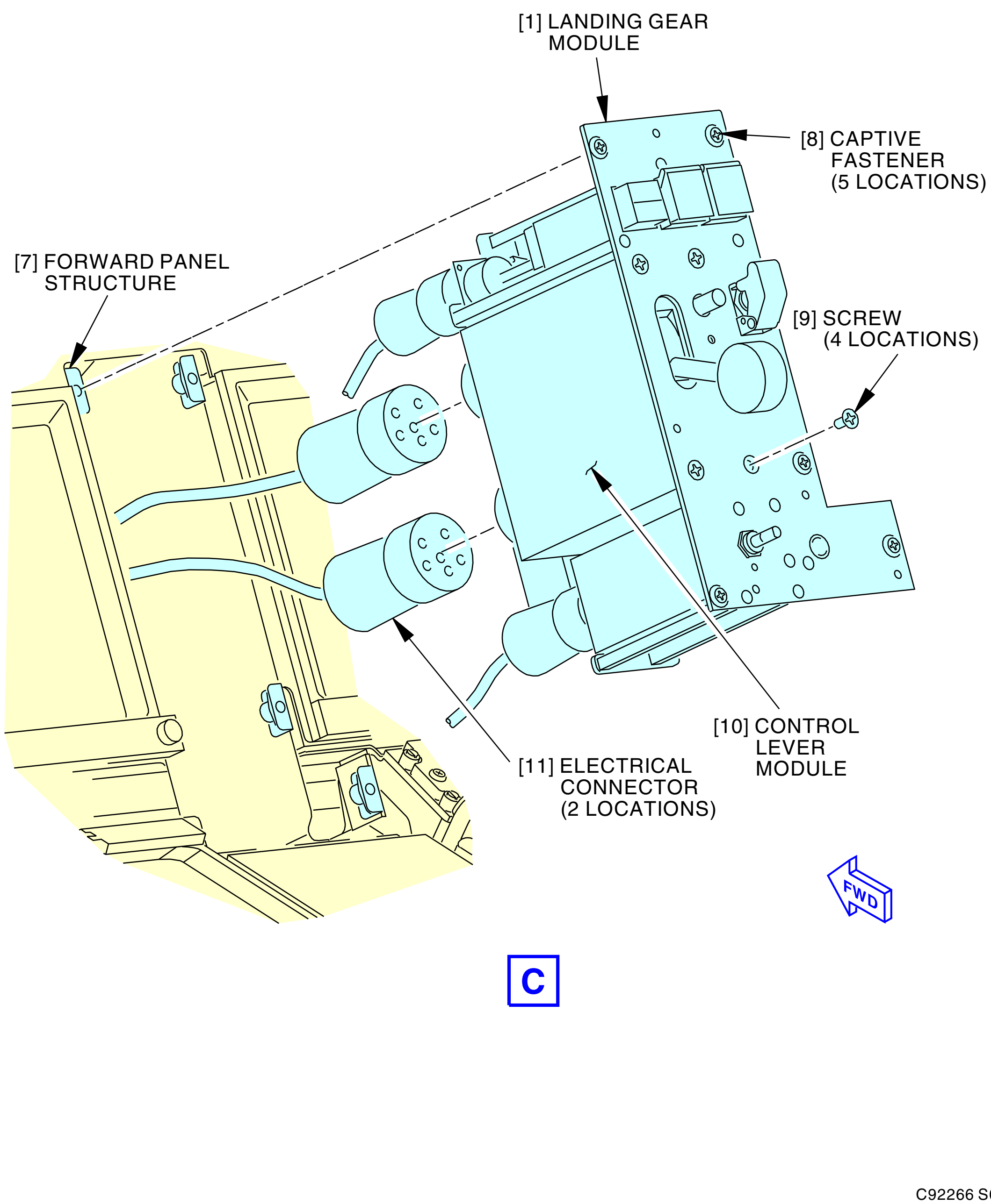
LANDING GEAR MODULE
A

C90714 S0006418397_V2

Landing Gear Control Lever Module Installation
Figure 401/32-31-01-990-801 (Sheet 1 of 3)



Landing Gear Control Lever Module Installation
Figure 401/32-31-01-990-801 (Sheet 2 of 3)



Landing Gear Control Lever Module Installation
Figure 401/32-31-01-990-801 (Sheet 3 of 3)

TASK 32-31-01-420-801

3. Landing Gear Control Lever Module Installation

(Figure 401)

A. General

(1) This task contains an installation test for the control lever module [10]. The installation test has two parts:

(a) The first part of the installation test does a check to make sure the control lever lock operates correctly.

(b) The second part of the installation test does a check to make sure the alternate extension switch in the control lever module [10] operates correctly.

(c) The second part of the installation test does a check to make sure the electrical circuits to the selector/bypass valves operate correctly.

(2) You must do the two parts of the installation test to do a full check of the control lever module [10].

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-09-00-860-801	Air/Ground Mode Simulation (P/B 201)
32-35-00-710-801	Landing Gear Alternate Extension System - Operational Test (Airplane on the Ground) (P/B 501)
32-42-00-700-801	Antiskid/Autobrake System - Functional Test (P/B 501)
34-46-00-730-804-002	Ground Proximity Warning System - System Test (P/B 501)

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Landing gear module	31-11-51-01-485	ARO ALL
		32-31-01-01-005	ARO ALL
		32-35-51-01-005	ARO ALL
		32-42-07-01-005	ARO ALL
		33-13-00-03-405	ARO ALL
		34-46-51-01-005	ARO ALL

D. Location Zones

Zone	Area
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

F. Landing Gear Control Lever Module Installation

SUBTASK 32-31-01-420-001

(1) Put the control lever module [10] into its position on the aft side of the landing gear module [1].

SUBTASK 32-31-01-420-002

(2) Install the screws [9] which hold the control lever module [10] to the landing gear module [1].

SUBTASK 32-31-01-420-003

(3) Connect the electrical connectors [11] to the control lever module [10].

SUBTASK 32-31-01-420-004

(4) Put the landing gear module [1] into its position on the forward panel structure [7].

SUBTASK 32-31-01-420-005

(5) Tighten the captive fasteners [8] which hold the landing gear module [1] to the forward panel structure [7].

SUBTASK 32-31-01-420-006

(6) Put the lightplate [3] into its position on the landing gear module [1].

(a) Make sure to align the lightplate electrical connector [5] with the power connector [6] on the landing gear module [1].

SUBTASK 32-31-01-420-007

(7) Push against the front of the lightplate [3] where the lightplate electrical connector [5] touches the power connector [6] on the landing gear module [1].

NOTE: Do this to make sure the lightplate has a good electrical connection. You will hear a click when the lightplate engages.

SUBTASK 32-31-01-420-008

(8) Tighten the captive fasteners [2] which hold the lightplate [3] to the landing gear module [1].

SUBTASK 32-31-01-420-009

(9) Install the AUTOBRAKE knob [4] on the landing gear module [1].

(a) Push the AUTOBRAKE knob toward the landing gear module [1], along the shaft of the autobrake selector switch.

SUBTASK 32-31-01-020-011

(10) Tighten the two screws [12] in the knob [4] to hold it to the shaft.

G. Landing Gear Control Lever Module Installation Test

NOTE: During this test, it is possible that the GEAR DISAGREE and the GEAR DOOR messages will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the messages go away. The messages will go away automatically when you complete this test.

SUBTASK 32-31-01-860-004

(1) Remove the safety tag and close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
M	2	C32623	LG LEVER LOCK

SUBTASK 32-31-01-410-001

(2) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-31-01-860-005

(3) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-31-01-860-006

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-31-01-860-007

(5) Do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-31-01-710-001

(6) Do the steps below to make sure the control lever lock operates correctly:

(a) Make sure you cannot move the control lever for the landing gear to the UP position.

1) Do not push the LOCK OVRD button to do this.

WARNING: OBEY THE PROCEDURE THAT PUTS THE AIRPLANE IN THE AIR MODE. IF YOU DO THE PROCEDURE INCORRECTLY, INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT CAN OCCUR.

(b) Use the maintenance access terminal (MAT) to put the air/ground indication system in the air mode (TASK 32-09-00-860-801).

(c) Move the control lever for the landing gear to the UP position.

1) Do not push the LOCK OVRD button to do this.

(d) Move the control lever for the landing gear to the DN position.

(e) Use the MAT to put the air/ground indication system back in the ground mode (TASK 32-09-00-860-801).

SUBTASK 32-31-01-860-010

(7) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-31-01-860-011

WARNING: KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(8) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-31-01-710-003

(9) Do the steps below to make sure the electrical circuits to the selector/bypass valves operate correctly:

(a) Open this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

WARNING MAKE SURE THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. THE DOORS OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(b) Make sure the area around the doors for the nose and main landing gear is clear of persons and equipment.

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(c) Make sure the downlock pins are installed in the nose and main landing gear (TASK 32-00-30-480-801).

(d) Move the control lever for the landing gear to the UP position.

1) You must push the LOCK OVRD button to do this.

(e) Make sure the doors for the nose and main landing gear open.

(f) Move the control lever for the landing gear to the DN position.

(g) Make sure the doors for the nose and main landing gear close.

(h) Open this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

(i) Close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

(j) Move the control lever for the landing gear to the UP position.

1) You must push the LOCK OVRD button to do this.

(k) Make sure the doors for the nose and main landing gear open.

(l) Move the control lever for the landing gear to the DN position.

(m) Make sure the doors for the nose and main landing gear close.

(n) Close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-31-01-710-004

(10) Do this task: Landing Gear Alternate Extension System - Operational Test (Airplane on the Ground), TASK 32-35-00-710-801.

SUBTASK 32-31-01-860-012

(11) Do a test of the Ground Proximity Inhibit and Terrain Override Switch (TASK 34-46-00-730-804-002).

SUBTASK 32-31-01-860-013

(12) Do a test of the Antiskid/Autobrake system (TASK 32-42-00-700-801).

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-31-01-860-008

(1) Do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

NOSE LANDING GEAR SELECTOR/BYPASS VALVE - REMOVAL/INSTALLATION

1. General

   A. This procedure has two tasks:

      (1) A removal of the selector/bypass valve for the nose landing gear

      (2) An installation of the selector/bypass valve for the nose landing gear.

      (3) A removal of the solenoids from the selector/bypass valve.

      (4) An installation of the solenoids on the selector/bypass valve.

   B. There are two solenoids installed on the selector/bypass valve. It is not necessary to remove the solenoids to remove the selector/bypass valve.

TASK 32-31-02-020-801

2. Nose Landing Gear Selector/Bypass Valve Removal
   (Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
211	Flight Compartment, Left
212	Flight Compartment, Right

C. Prepare for the Removal

SUBTASK 32-31-02-860-001

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-31-02-860-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-31-02-860-003

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-31-02-480-003

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-31-02-480-001

(5) Install chocks around the tires of the nose landing gear (PAGEBLOCK 10-11-05/201).

SUBTASK 32-31-02-860-004

(6) To use the ground door release system to open the landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-31-02-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(7) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

D. Nose Landing Gear Selector/Bypass Valve Removal

SUBTASK 32-31-02-020-001

(1) Disconnect the electrical connectors [7] from the valve [4].

SUBTASK 32-31-02-020-002

(2) Disconnect the hydraulic lines [1] from the valve [4].

SUBTASK 32-31-02-480-002

(3) Install caps on the hydraulic lines [1].

SUBTASK 32-31-02-020-003

(4) Remove the nuts [11], and washers [10] from the bolts [8].

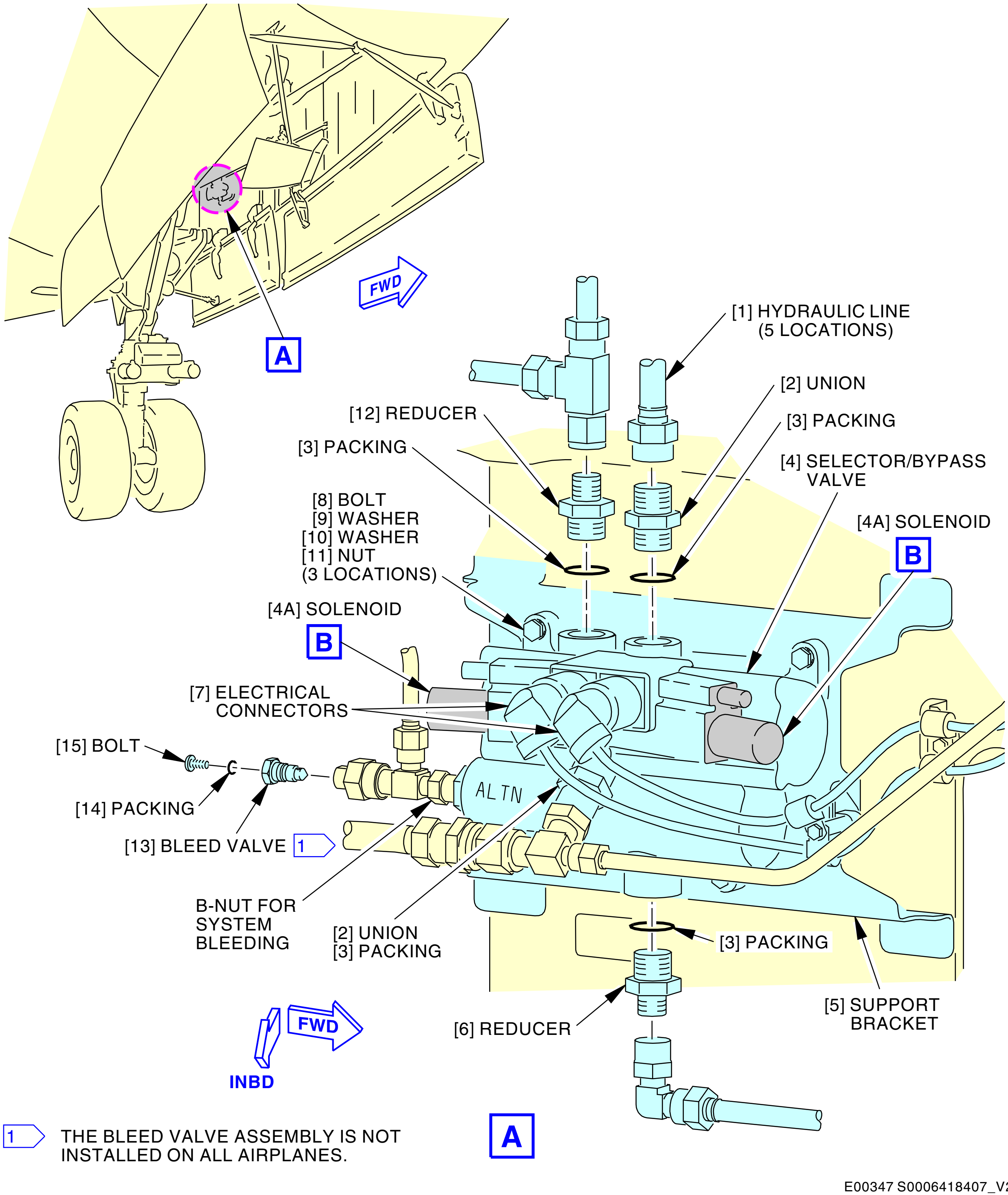
SUBTASK 32-31-02-020-004

(5) Remove the bolts [8] and washers [9] which hold the valve [4] to the support bracket [5].

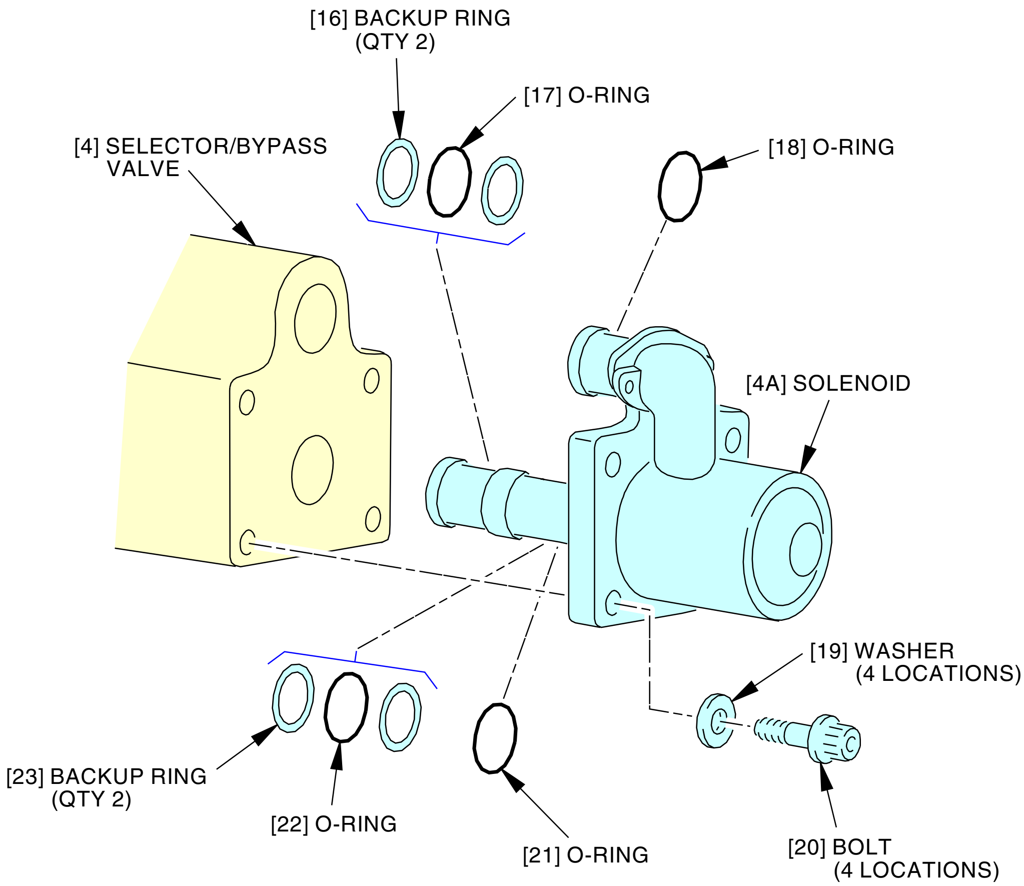
SUBTASK 32-31-02-020-005

(6) Remove the valve [4] from the support bracket [5].

END OF TASK



Nose Landing Gear Selector/Bypass Valve Installation
Figure 401/32-31-02-990-801 (Sheet 1 of 2)



SOLENOID
(EXAMPLE, 2 LOCATIONS)
B

N58897 S0006418408_V2

Nose Landing Gear Selector/Bypass Valve Installation
Figure 401/32-31-02-990-801 (Sheet 2 of 2)

TASK 32-31-02-420-801

3. Nose Landing Gear Selector/Bypass Valve Installation

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
12-12-01-610-801	Hydraulic Reservoir Fluid Level Check (P/B 301)
20-10-22-110-802	Clean Bare, Clad, or Plated Metal with Solvent (P/B 701)
20-10-22-120-801	Hand Clean Metal Surfaces with Abrasives (P/B 701)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Tools/Equipment

Reference	Description
STD-1055	Container - Oil Resistant, 5 Gallon (19 Liter)

C. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
C00064	Coating - Aluminum Chemical Conversion	BAC5719 Type II Class A (MIL-DTL-5541 Class 1A)
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Packing	32-31-02-01A-050	ARO ALL
4	Valve	32-31-02-01A-055	ARO ALL

E. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
154	Area Below Aft Cargo Compartment, Right

(Continued)

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

F. Nose Landing Gear Selector/Bypass Valve Installation

SUBTASK 32-31-02-100-001

(1) Do the steps below to help get a good electrical bond between the selector/bypass valve [4] and the support bracket [5] (Figure 401):

(a) To fully clean the mating surface of the support bracket [5], do this task: Hand Clean Metal Surfaces with Abrasives, TASK 20-10-22-120-801.

(b) Chemically prepare the mating surface of the support bracket [5] with the coating, C00064.

SUBTASK 32-31-02-420-001

(2) Do the steps below if the new selector/bypass valve [4] does not have the union [2], reducer [6] or reducer [12] installed in it:

(a) Remove the union [2], reducer [6] and reducer [12] from the used selector/bypass valve [4].

(b) Remove and discard the used packings [3] from the unions [2], reducer [6] and reducer [12].

(c) Fully clean the unions [2], reducer [6] and reducer [12].

(d) Lubricate the new packings [3] with hydraulic fluid, D00153.

(e) Install the new packings [3] on the unions [2], reducer [6] and reducer [12].

(f) Lubricate the threads on the unions [2], reducer [6] and reducer [12] with hydraulic fluid, D00153.

(g) Install the unions [2], reducer [6] and reducer [12] in the new selector/bypass valve [4].

SUBTASK 32-31-02-110-001

(3) To clean the mating surface of the selector/bypass valve [4], do this task: Clean Bare, Clad, or Plated Metal with Solvent, TASK 20-10-22-110-802.

NOTE: This is necessary to help get a good electrical bond between the selector/bypass valve [4] and the support bracket [5].

SUBTASK 32-31-02-390-001

WARNING: USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(WARNING PRECEDES)

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(4) Apply a layer of the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the threads and the shank of each bolt [8].

(a) Do not let the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 dry before you install the bolts. You must install the bolts when the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 is wet.

SUBTASK 32-31-02-080-002

(5) Remove the caps from the upper hydraulic lines [1].

SUBTASK 32-31-02-420-007

(6) Put the valve [4] below the upper hydraulic lines [1].

SUBTASK 32-31-02-420-008

(7) Loosely connect the upper hydraulic lines [1] to the selector/bypass valve [4] until you can install the bolts [8].

SUBTASK 32-31-02-420-002

(8) Put the selector/bypass valve [4] into its position on the support bracket [5].

SUBTASK 32-31-02-420-003

(9) Install the bolts [8] and the washers [9] to hold the selector/bypass valve [4] to the support bracket [5].

SUBTASK 32-31-02-420-004

(10) Install the nuts [11] and washers [10].

SUBTASK 32-31-02-390-002

(11) Use the sealant, A00247, to apply a fillet seal around the area where the selector/bypass valve [4] touches the support bracket [5].

SUBTASK 32-31-02-420-009

(12) Tighten the upper hydraulic lines [1].

SUBTASK 32-31-02-080-001

(13) Remove the caps from the remaining hydraulic lines [1].

SUBTASK 32-31-02-420-005

(14) Connect the remaining hydraulic lines [1] to the selector/bypass valve [4].

SUBTASK 32-31-02-420-006

(15) Connect the electrical connectors [7] to the selector/bypass valve [4].

G. Alternate Extend System Bleeding

NOTE: The EICAS displays will indicate non-normal sequencing during this test, this is expected and you can ignore it.

NOTE: The alternate extend power pack is operated by commanding the landing gear doors open with the ground door release system.

NOTE: The power pack will remain ON until the "LDG GR ALTN EXT CONTROL" circuit breaker is opened. (the pressure switch that usually stops the power pack will not work since you are bleeding the system).

SUBTASK 32-31-02-860-015

(1) Make sure the center hydraulic system is depressurized (TASK 29-11-00-860-807).

SUBTASK 32-31-02-860-016

(2) Make sure that the center hydraulic system reservoir level is between 80% and full.

NOTE: The landing gear alternate extension system can not be bled unless center system reservoir is more than 75% full.

SUBTASK 32-31-02-860-017

(3) Make sure the landing gear control lever is in the DOWN position.

SUBTASK 32-31-02-490-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Make sure the landing gear door safety pins have been installed (TASK 32-00-15-480-801).

SUBTASK 32-31-02-860-019

(5) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-31-02-860-020

(6) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
M	22	C32605	LG DOOR CLOSE GROUND ACCESS

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR
A	23	C32608	LDG GEAR EXTD/RETR 2
G	9	C32616	LDG GEAR RETR AUTO OFF
G	10	C32607	LDG GEAR EXTD/RETR 1

Right Power Management Panel, P210

Row	Col	Number	Name
M	2	C32623	LG LEVER LOCK

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

SUBTASK 32-31-02-790-003

(7) Do the steps that follow to bleed the air out of the alternate extension system at the nose landing gear selector valve:

NOTE: Very small air bubbles within the fluid are permissible.

(a) Wait 10 seconds after the alternate extend power pack has shut off to allow the pressure to bleed out of the alternate extend system, before you bleed the system in the steps that follow.

(b) Place an oil resistant container (5 gal)(19 Liter), STD-1055 (19 liters) beneath the bleeding location at the nose landing gear selector valve to catch the hydraulic fluid that you will bleed out of the system.

(c) For airplanes with a bleed valve, remove the bolt [15] from the center of the bleed valve [13].

(d) Loosen the bleed valve or the B-nut at the port marked ALTN on the nose landing gear selector valve.

1) If more fluid needs to be bleed through the alternate system, it is permissible to remove the hydraulic line at the port marked ALTN and bleed directly out. After you connect the line, you must repeat these steps and bleed through the B-nut or bleed valve to complete this task.

CAUTION

MAKE SURE THAT YOU DO NOT OPERATE THE ALTERNATE EXTEND POWER-PACK FOR MORE THAT FIVE MINUTES. IF YOU OPERATE THE POWER PACK FOR MORE THAN FIVE MINUTES, THE POWER PACK CAN BECOME TOO HOT. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

(e) Momentarily and at the same time put the arm doors switch to ARM and the all doors open/MLG doors close switch to OPEN.

NOTE: Do not run the alternate extend power pack more than five minutes continuously.

1) If the air is not completely bleed out of line within the five minute time limit then do the step that follows to stop the alternate extend power pack:

a) To stop the power pack:

Open and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

2) Wait approximately two minutes for the power pack to cool down.

3) Do the preceding bleeding steps until all of the air has been bleed out of the system.

(f) To stop the power pack;

Open and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

(g) Tighten the bleed valve or the B-nut at the port marked ALTN on the nose landing gear selector valve.

1) For airplanes with a bleed valve, tighten the bleed valve [13] to 60 ±20 in-lb (6.8 ±2.3 N·m).

(h) For airplanes with a bleed valve, Install the bolt [15] in the center of the bleed valve [13].

SUBTASK 32-31-02-860-021

(8) Do this task: Hydraulic Reservoir Fluid Level Check, TASK 12-12-01-610-801.

H. Nose Landing Gear Selector/Bypass Valve Installation Test

NOTE: During this test, it is possible that the GEAR DISAGREE message will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the message go away. The message will go away automatically when you complete this test.

SUBTASK 32-31-02-790-001

(1) Do the steps below to do a leak check of the connection between the selector/bypass valve [4] and the alternate extension system:

(a) On the main wheel well electrical service panel, P56, move the ARM DOORS switch to the ARM DOORS position and hold it there (Figure 402).

(b) On the main wheel well electrical service panel, P56, momentarily move the ALL DOORS OPEN/MLG DOORS CLOSE switch to the ALL DOORS OPEN position.

NOTE: This will pressurize the hydraulic line from the alternate extension system.

(c) Release the ARM DOORS switch.

(d) Examine the connection between the selector/bypass valve [4] and the alternate extension system for leaks.

SUBTASK 32-31-02-410-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-31-02-860-005

(3) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-31-02-860-022

(4) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-31-02-860-006

(5) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-31-02-860-008

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(6) For the center hydraulic system and reservoir, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-31-02-860-009

(7) Use the ground door release system to close the doors for the nose landing gear (TASK 32-00-40-860-801).

SUBTASK 32-31-02-710-001

(8) Do the steps below to make sure the selector/bypass valve [4] operates correctly:

(a) Open this circuit breaker and install safety tag:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

WARNING	MAKE SURE THAT THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. THE DOORS OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(b) Make sure the area around the doors for the nose landing gear is clear of persons and equipment.

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(c) Make sure the downlock pins are installed in the nose and main landing gear (TASK 32-00-30-480-801).

(d) Move the control lever for the landing gear to the UP position.

1) You must push the LOCK OVRD button to do this.

(e) Make sure the doors for the nose landing gear open.

(f) Move the control lever for the landing gear to the DN position.

(g) Make sure the doors for the nose landing gear close.

(h) Open this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

(i) Close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

(j) Move the control lever for the landing gear to the UP position.

1) You must push the LOCK OVRD button to do this.

(k) Make sure the doors for the nose landing gear open.

(l) Move the control lever for the landing gear to the DN position.

(m) Make sure the doors for the nose landing gear close.

(n) Close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-31-02-860-010

(9) To use the ground door release system to open the doors for the nose landing gear, do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-31-02-790-002

(10) Examine the other connections to the selector/bypass valve [4] for leaks.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 32-31-02-860-011

(1) Use the ground door release system to close the doors for the nose landing gear (TASK 32-00-40-860-801).

SUBTASK 32-31-02-410-002

WARNING OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

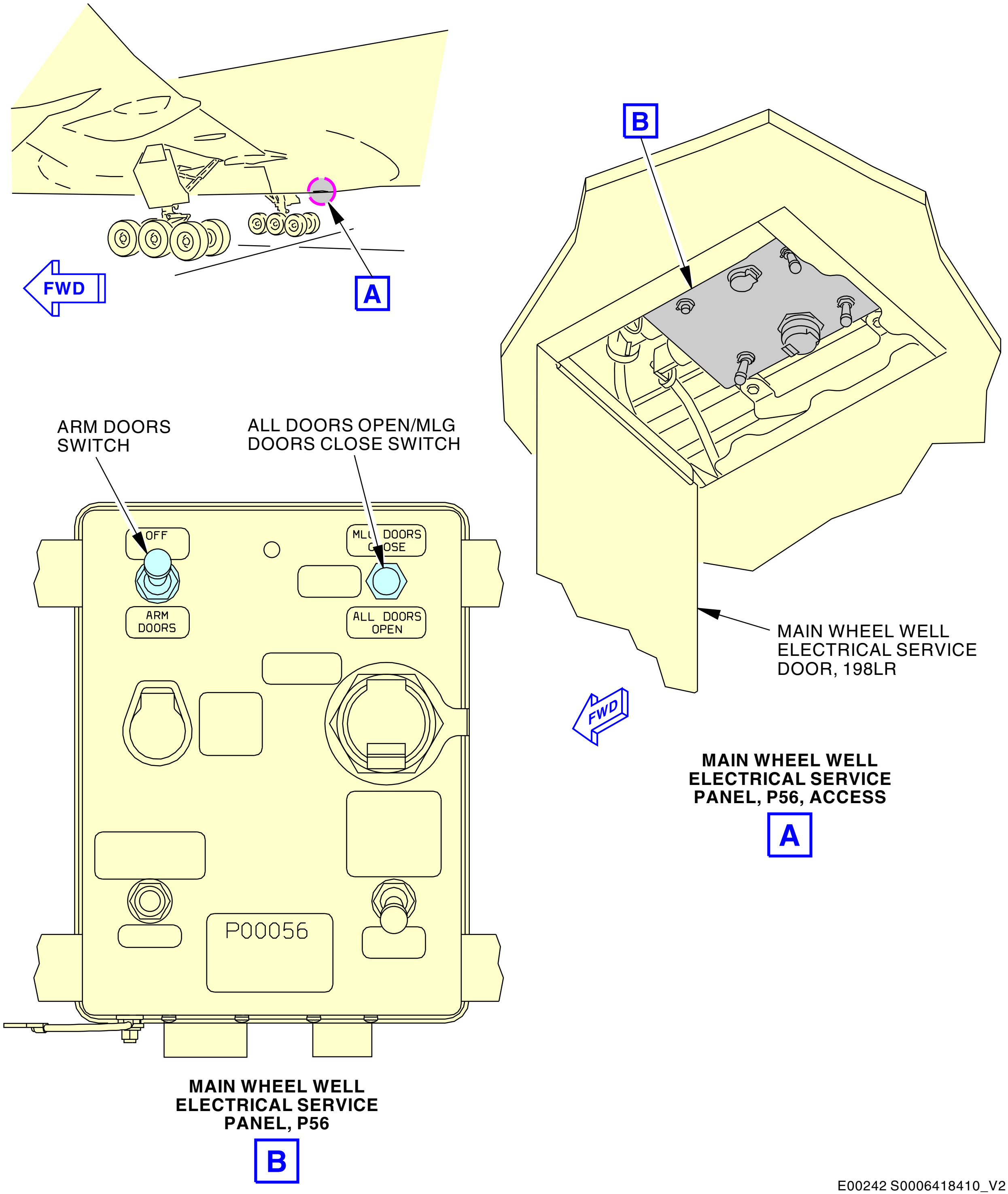
SUBTASK 32-31-02-860-012

(3) Use the ground door release system to close the doors for the main landing gear (TASK 32-00-40-860-801).

SUBTASK 32-31-02-860-013

(4) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK



Nose Landing Gear Selector/Bypass Valve Installation Test
Figure 402/32-31-02-990-802

TASK 32-31-02-000-801

4. Selector/Bypass Valve Solenoid Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
211	Flight Compartment, Left
212	Flight Compartment, Right

C. Prepare for the Removal

SUBTASK 32-31-02-860-023

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-31-02-860-024

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-31-02-860-025

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-31-02-480-004

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-31-02-480-005

(5) Install chocks around the tires of the nose landing gear (PAGEBLOCK 10-11-05/201).

SUBTASK 32-31-02-860-026

(6) To use the ground door release system to open the landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-31-02-010-002

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(7) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

D. Selector/Bypass Valve Solenoid Removal

NOTE: There are two solenoids installed on the nose landing gear selector/bypass valve. This procedure is applicable to either solenoid.

SUBTASK 32-31-02-020-006

(1) Remove the lockwire from the bolts [20].

SUBTASK 32-31-02-020-007

(2) Remove the bolts [20] and washers [19] to disconnect the solenoid [4A] from the valve [4].

SUBTASK 32-31-02-000-001

(3) Pull the solenoid [4A] straight out from the valve [4] to remove the solenoid [4A].

SUBTASK 32-31-02-020-008

(4) Remove the backup rings [16], backup rings [23], o-ring [17], o-ring [18], o-ring [21] and o-ring [22] from the solenoid [4A].

——— END OF TASK ———

TASK 32-31-02-400-801

5. Selector/Bypass Valve Solenoid Installation

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Consumable Materials

Reference	Description	Specification
A00436	Sealant - Fuel Tank	BMS5-45 (Supersedes BMS5-26)
D00571	Grease - BATCO X8401-2	

C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
154	Area Below Aft Cargo Compartment, Right
211	Flight Compartment, Left

(Continued)

Zone	Area
212	Flight Compartment, Right

D. **Selector/Bypass Valve Solenoid Installation**

SUBTASK 32-31-02-420-010

(1) Install new o-ring [17], o-ring [18], o-ring [21], o-ring [22], backup rings [16] and backup rings [23] on the solenoid [4A].

SUBTASK 32-31-02-390-003

(2) Apply a bead of sealant, A00436, to the mating surface of the solenoid [4A].

NOTE: Do not get sealant on the flange of the solenoid.

SUBTASK 32-31-02-420-011

(3) Put the solenoid [4A] in its position on the valve [4].

SUBTASK 32-31-02-390-004

(4) Apply a layer of sealant, A00436, to the bottom surface of the washers [19].

SUBTASK 32-31-02-640-001

(5) Apply a layer of BATCO X8401-2 grease, D00571, to the shank and threads of the bolts [20].

SUBTASK 32-31-02-420-012

(6) Install the bolts [20] and the washers [19] that attach the solenoid [4A] to the valve [4].

SUBTASK 32-31-02-420-013

(7) Tighten the bolts [20] to 32 in-lb (3.62 N·m) - 37 in-lb (4.18 N·m).

SUBTASK 32-31-02-420-014

(8) Install lockwire on the bolts [20].

E. **Selector/Bypass Valve Solenoid Installation Test**

NOTE: During this test, it is possible that the GEAR DISAGREE message will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the message go away. The message will go away automatically when you complete this test.

SUBTASK 32-31-02-410-003

WARNING OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-31-02-860-027

(2) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-31-02-860-028

(3) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-31-02-860-029

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-31-02-860-030

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(5) For the center hydraulic system and reservoir, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-31-02-860-031

(6) Use the ground door release system to close the doors for the nose landing gear (TASK 32-00-40-860-801).

SUBTASK 32-31-02-710-002

(7) Do the steps below to make sure the valve [4] operates correctly:

(a) Open this circuit breaker and install safety tag:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR. THE DOORS OPEN, AND CLOSE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

(b) Make sure the area around the doors for the nose landing gear is clear of persons and equipment.

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(c) Make sure the downlock pins are installed in the nose and main landing gear (TASK 32-00-30-480-801).

(d) Move the control lever for the landing gear to the UP position.

1) You must push the LOCK OVRD button to do this.

(e) Make sure the doors for the nose landing gear open.

(f) Move the control lever for the landing gear to the DN position.

(g) Make sure the doors for the nose landing gear close.

(h) Open this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

(i) Close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

(j) Move the control lever for the landing gear to the UP position.

1) You must push the LOCK OVRD button to do this.

(k) Make sure the doors for the nose landing gear open.

(l) Move the control lever for the landing gear to the DN position.

(m) Make sure the doors for the nose landing gear close.

(n) Close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-31-02-860-032

(8) To use the ground door release system to open the doors for the nose landing gear, do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-31-02-790-004

(9) Examine the other connections to the valve [4] for leaks.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-31-02-860-033

(1) Use the ground door release system to close the doors for the nose landing gear (TASK 32-00-40-860-801).

SUBTASK 32-31-02-410-004

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-31-02-860-034

(3) Use the ground door release system to close the doors for the main landing gear (TASK 32-00-40-860-801).

SUBTASK 32-31-02-860-035

(4) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

MAIN LANDING GEAR SELECTOR/BYPASS VALVE - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has two tasks:

      (1) A removal of the selector/bypass valve for the main landing gear

      (2) An installation of the selector/bypass valve for the main landing gear.

      (3) A removal of the solenoids from the selector/bypass valve.

      (4) An installation of the solenoids on the selector/bypass valve.

   B. There are two solenoids installed on the selector/bypass valve. It is not necessary to remove the solenoids to remove the selector/bypass valve.

TASK 32-31-03-020-801

2. **Main Landing Gear Selector/Bypass Valve Removal**

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Location Zones

Zone	Area
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

C. Prepare for the Removal

SUBTASK 32-31-03-860-001

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-31-03-860-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-31-03-860-003

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807

SUBTASK 32-31-03-480-003

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-31-03-480-001

(5) Install chocks around the tires of the main landing gear (PAGEBLOCK 10-11-05/201).

SUBTASK 32-31-03-860-004

(6) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-31-03-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(7) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

D. Main Landing Gear Selector/Bypass Valve Removal

SUBTASK 32-31-03-020-001

(1) Disconnect the electrical connectors [7] from the valve [6].

SUBTASK 32-31-03-020-002

(2) Disconnect the hydraulic lines [15] from the valve [6].

SUBTASK 32-31-03-480-002

(3) Install caps on the hydraulic lines [15].

SUBTASK 32-31-03-020-003

(4) Remove the nuts [13] and washers [12].

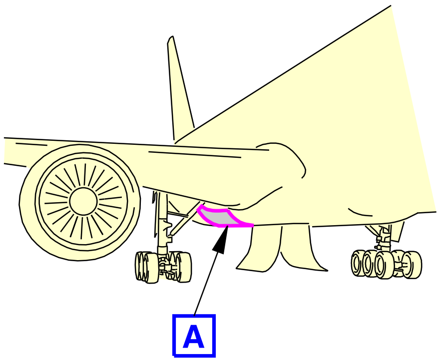
SUBTASK 32-31-03-020-004

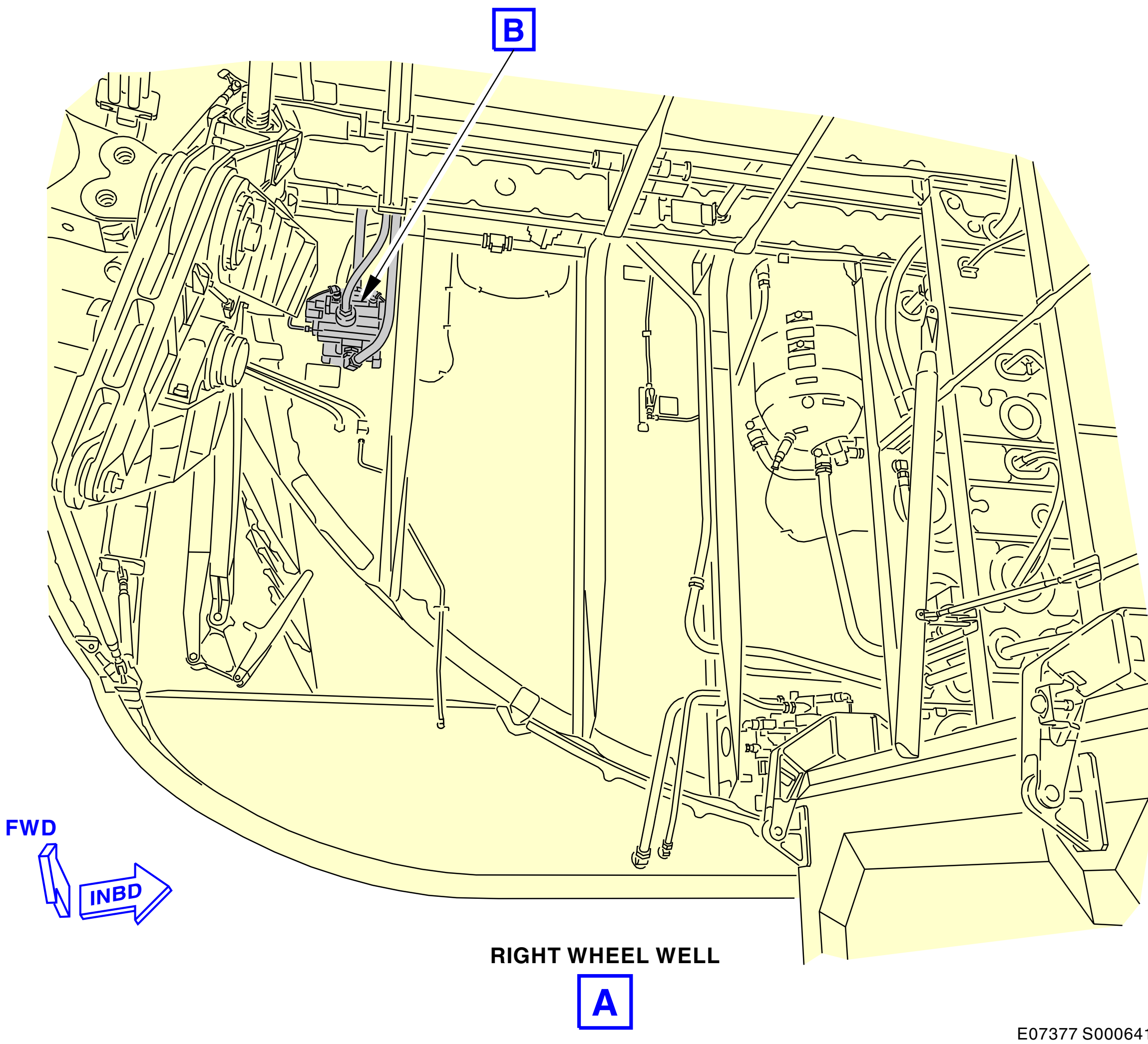
(5) Remove the bolts [10] and washers [11].

SUBTASK 32-31-03-020-005

(6) Remove the valve [6] from the support bracket [1].

END OF TASK





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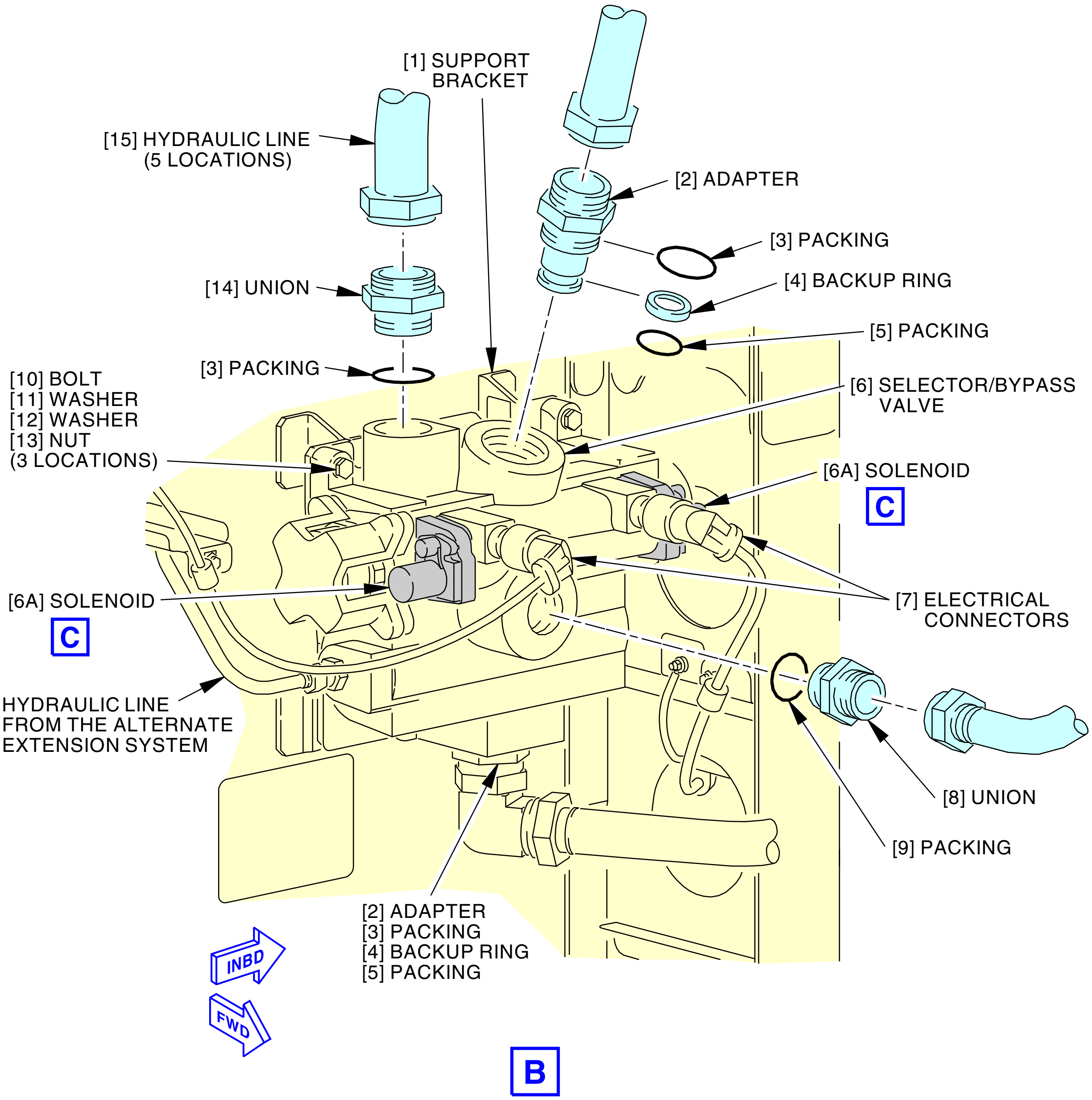
Main Landing Gear Selector/Bypass Valve Installation
Figure 401/32-31-03-990-801 (Sheet 1 of 3)



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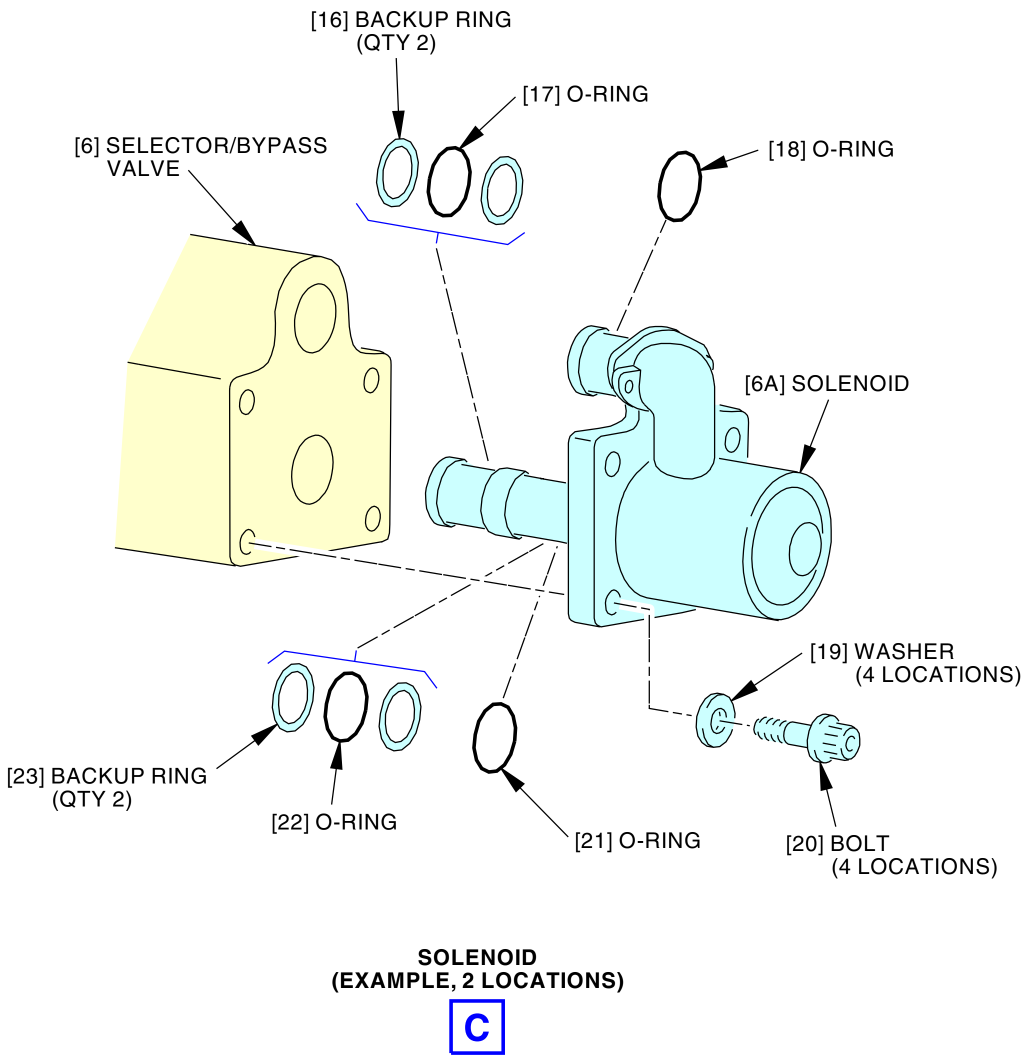
Main Landing Gear Selector/Bypass Valve Installation
Figure 401/32-31-03-990-801 (Sheet 2 of 3)



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Main Landing Gear Selector/Bypass Valve Installation
Figure 401/32-31-03-990-801 (Sheet 3 of 3)

TASK 32-31-03-420-801

3. Main Landing Gear Selector/Bypass Valve Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
12-12-01-610-801	Hydraulic Reservoir Fluid Level Check (P/B 301)
20-10-22-110-802	Clean Bare, Clad, or Plated Metal with Solvent (P/B 701)
20-10-22-120-801	Hand Clean Metal Surfaces with Abrasives (P/B 701)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)
51-21-04-620-801	Alodine 600, 1000, 1200, and 1200S Coating Application (P/B 701)

B. Tools/Equipment

Reference	Description
STD-1055	Container - Oil Resistant, 5 Gallon (19 Liter)

C. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
C00064	Coating - Aluminum Chemical Conversion	BAC5719 Type II Class A (MIL-DTL-5541 Class 1A)
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Packing	32-31-03-01A-085	ARO ALL
		32-31-03-01A-105	ARO ALL
4	Ring	32-31-03-01A-095	ARO ALL

(Continued)

AMM Item	Description	AIPC Reference	AIPC Effectivity
5	Packing	32-31-03-01A-100	ARO ALL
6	Valve	32-31-03-01A-120	ARO ALL
9	Packing	32-31-03-01A-115	ARO ALL

E. **Location Zones**

Zone	Area
144	Main Landing Gear Wheel Well, Right
154	Area Below Aft Cargo Compartment, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

F. **Main Landing Gear Selector/Bypass Valve Installation**

SUBTASK 32-31-03-100-001

(1) Do the steps below to help supply a good electrical bond between the selector/bypass valve [6] and the support bracket [1]:

(a) To fully clean the mating surface of the support bracket [1], do this task: Hand Clean Metal Surfaces with Abrasives, TASK 20-10-22-120-801.

(b) To chemically prepare the mating surface of the support bracket [1] with the coating, C00064, do this task: Alodine 600, 1000, 1200, and 1200S Coating Application, TASK 51-21-04-620-801.

SUBTASK 32-31-03-420-001

(2) Do the steps below if the selector/bypass valve [6] you will install does not have the adapter [2], union [8], and union [14] installed in it:

(a) Remove the adapter [2], union [8], and union [14] from the used selector/bypass valve [6].

(b) Remove and discard the used packings [3], packings [5], packing [9] and remove the used backup rings [4] from the adapter [2], union [8], or union [14].

1) Examine the used backup ring [4], keep the ring if its in good condition.

(c) Fully clean the adapter [2], union [8], and union [14].

(d) Lubricate the new packings [3], packings [5], packing [9] with hydraulic fluid, D00153.

(e) Lubricate the threads of the adapter [2], union [8], and union [14] with hydraulic fluid, D00153.

(f) Install the new packings [3], packings [5], and packing [9] and the used backup rings [4] on the adapter [2], union [8], and union [14].

1) If a used backup ring [4] is damaged, replace it with a new backup ring [4].

(g) Install the adapter [2], union [8], and union [14] in the selector/bypass valve [6] you will install.

SUBTASK 32-31-03-110-001

(3) To clean the mating surface of the selector/bypass valve [6] with solvent, do this task: Clean Bare, Clad, or Plated Metal with Solvent, TASK 20-10-22-110-802.

NOTE: This is necessary to help supply a good electrical bond between the selector/bypass valve [6] and the support bracket [1].

SUBTASK 32-31-03-390-001

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(4) Apply a layer of the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the threads and the shank of each bolt [10].

(a) Do not let the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 dry before you install the bolts [10]. You must install the bolts [10] when the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 is wet.

SUBTASK 32-31-03-420-002

(5) Put the selector/bypass valve [6] into its position on the support bracket [1].

SUBTASK 32-31-03-420-003

(6) Install the bolts [10] and the washers [11] which hold the selector/bypass valve [6] to the support bracket [1].

SUBTASK 32-31-03-420-004

(7) Install the washers [12] and the nuts [13].

SUBTASK 32-31-03-390-002

(8) Use sealant, A00247, to make a fillet seal around the area where the selector/bypass valve [6] touches the support bracket [1].

SUBTASK 32-31-03-080-001

(9) Remove the caps from the hydraulic lines [15].

SUBTASK 32-31-03-420-005

(10) Connect the hydraulic lines [15] to the selector/bypass valve [6].

(a) Tighten the B-nut on the hydraulic line connected to the R port to 900 ±45 in-lb (102 ±5 N·m).

(b) Tighten the B-nuts on the hydraulic lines connected to the P and UP ports to 1600 ±80 in-lb (181 ±9 N·m).

(c) Tighten the B-nut on the hydraulic line connected to the DN port 1200 ±60 in-lb (136 ±7 N·m).

(d) Tighten the B-nut on the hydraulic line connected to the ALTN port to 170 ±9 in-lb (19 ±1 N·m).

SUBTASK 32-31-03-420-006

(11) Connect the electrical connectors [7] to the selector/bypass valve [6].

G. Alternate Extend System Component Bleeding

NOTE: The EICAS displays will indicate non-normal sequencing during this test, this is expected and you can ignore it.

NOTE: The alternate extend power pack is operated by commanding the landing gear doors open with the ground door release system.

NOTE: The power pack will remain ON until the "LDG GR ALTN EXT CONTROL" circuit breaker is opened. (the pressure switch that usually stops the power pack will not work since you are bleeding the system).

SUBTASK 32-31-03-860-014

(1) Make sure the center hydraulic system is depressurized (TASK 29-11-00-860-807).

SUBTASK 32-31-03-860-015

(2) Make sure that the center hydraulic system reservoir level is between 80% and full.

NOTE: The landing gear alternate extension system can not be bled unless center system reservoir is more than 75% full.

SUBTASK 32-31-03-860-016

(3) Make sure the landing gear control lever is in the DOWN position.

SUBTASK 32-31-03-490-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Make sure the landing gear door safety pins have been installed (TASK 32-00-15-480-801).

SUBTASK 32-31-03-860-018

(5) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-31-03-860-019

(6) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
M	22	C32605	LG DOOR CLOSE GROUND ACCESS

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR
A	23	C32608	LDG GEAR EXTD/RETR 2
G	9	C32616	LDG GEAR RETR AUTO OFF
G	10	C32607	LDG GEAR EXTD/RETR 1

Right Power Management Panel, P210

Row	Col	Number	Name
M	2	C32623	LG LEVER LOCK

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

SUBTASK 32-31-03-790-003

(7) Do the steps that follow to bleed the air out of the alternate extension system at the B-nut on the MLG Selector/Bypass Valve:

NOTE: Very small air bubbles within the fluid are permissible.

(a) Place a oil resistant container (5 gal)(19 Liter), STD-1055 (19 liters) beneath the bleeding location to catch the hydraulic fluid that you will bleed out of the system.

(b) Loosen the B-nut on the hydraulic line from the alternate extension system.

CAUTION: MAKE SURE THAT YOU DO NOT OPERATE THE ALTERNATE EXTEND POWER-PACK FOR MORE THAT FIVE MINUTES. IF YOU OPERATE THE POWER PACK FOR MORE THAN FIVE MINUTES, THE POWER PACK CAN BECOME TOO HOT. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

(c) Momentarily and at the same time put the arm doors switch to ARM and the all doors open/MLG doors close switch to OPEN.

NOTE: Do not run the alternate extend power pack more than five minutes continuously.

1) If the air is not completely bleed out of line within the five minute time limit then do the step that follows to stop the alternate extend power pack:

a) Open and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

2) Wait approximately two minutes for the power pack to cool down.

3) Do the preceding bleeding steps until all of the air has been bleed out of the system.

(d) Open and close the following circuit breaker to stop the power pack,

Open and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

(e) Tighten the bleed valve or the B-nut when you have finished bleeding the system.

SUBTASK 32-31-03-860-020

(8) Do this task: Hydraulic Reservoir Fluid Level Check, TASK 12-12-01-610-801.

H. Main Landing Gear Selector/Bypass Valve Installation Test

NOTE: During this test, it is possible that the GEAR DISAGREE message will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the message go away. The message will go away automatically when you complete this test.

SUBTASK 32-31-03-790-001

(1) Do the steps below to do a leak check of the connection between the selector/bypass valve [6] and the alternate extension system:

(a) On the main wheel well electrical service panel, P56, move the ARM DOORS switch to the ARM DOORS position and hold it there (Figure 402).

(b) On the main wheel well electrical service panel, P56, momentarily move the ALL DOORS OPEN/MLG DOORS CLOSE switch to the ALL DOORS OPEN position.

NOTE: This will pressurize the hydraulic line from the alternate extension system.

(c) Release the ARM DOORS switch.

(d) Examine the connection between the selector/bypass valve [6] and the alternate extension system for leaks.

SUBTASK 32-31-03-410-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-31-03-860-005

(3) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-31-03-860-006

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-31-03-860-007

(5) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-31-03-860-008

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(6) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-31-03-860-009

(7) For the main landing gear, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-31-03-710-001

(8) Do the steps below to make sure the selector/bypass valve [6] operates correctly:

(a) Open this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

WARNING MAKE SURE THAT THE AREA AROUND THE DOOR FOR THE MAIN LANDING GEAR IS CLEAR OF PERSONNEL, AND EQUIPMENT. THE DOORS CLOSE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

(b) Make sure the area around the doors for the main landing gear is clear of persons and equipment.

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(c) Make sure the downlock pins are installed in the nose and main landing gear (TASK 32-00-30-480-801).

(d) Move the control lever for the landing gear to the UP position.

1) You must push the LOCK OVRD button to do this.

(e) Make sure the doors for the main landing gear open.

(f) Move the control lever for the landing gear to the DN position.

(g) Make sure the doors for the main landing gear close.

(h) Open this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

(i) Close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

(j) Move the control lever for the landing gear to the UP position.

1) You must push the LOCK OVRD button to do this.

(k) Make sure the doors for the main landing gear open.

(l) Move the control lever for the landing gear to the DN position.

(m) Make sure the doors for the main landing gear close.

(n) Close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-31-03-860-010

(9) For the main landing gear, do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-31-03-790-002

(10) Examine the connections to the selector/bypass valve [6] for leaks.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 32-31-03-860-011

(1) For the main landing gear, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-31-03-410-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

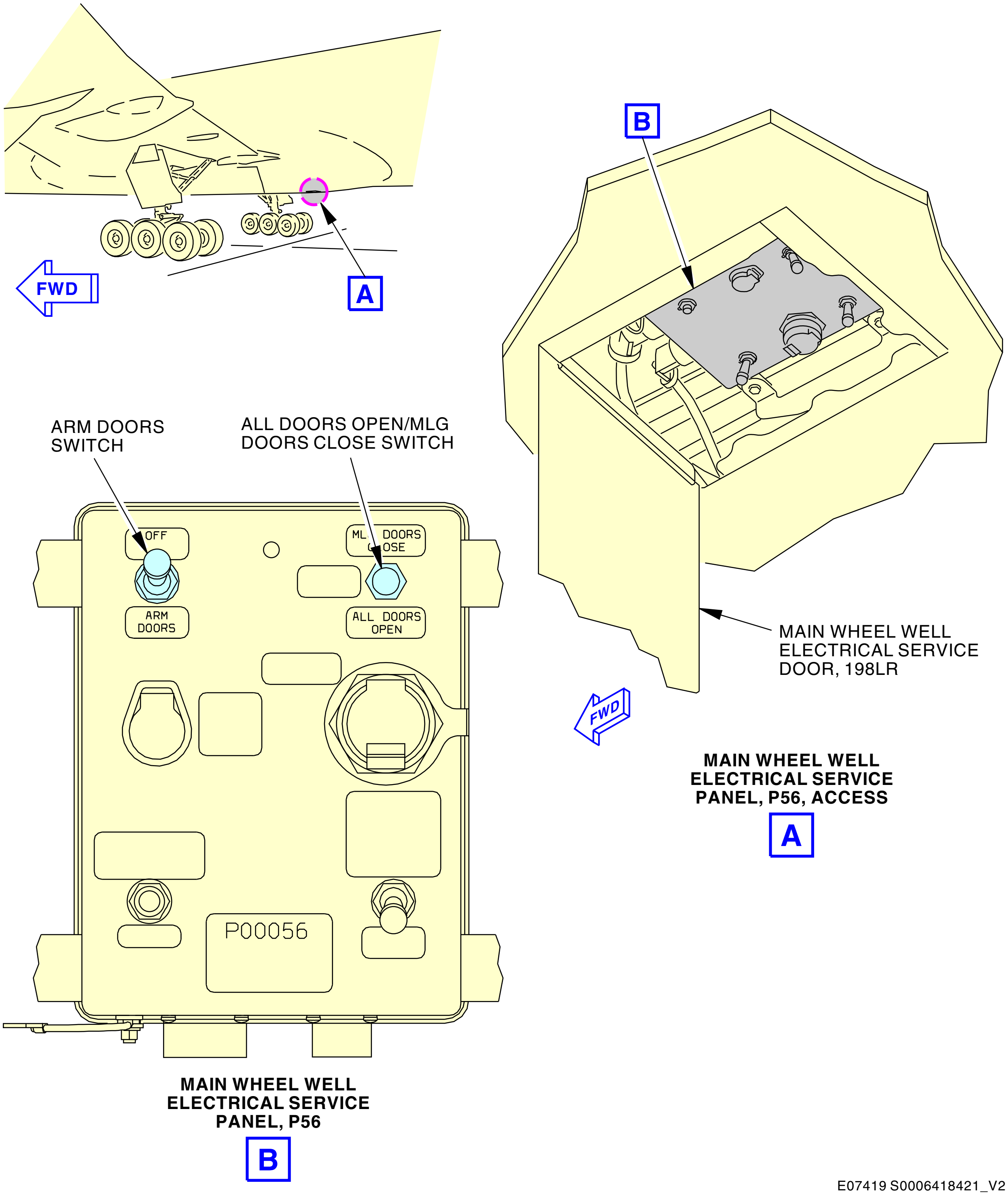
SUBTASK 32-31-03-860-012

(3) For the nose landing gear, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-31-03-860-013

(4) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK



Main Landing Gear Selector/Bypass Valve Installation Test
Figure 402/32-31-03-990-803

TASK 32-31-03-000-801

4. Selector/Bypass Valve Solenoid Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
211	Flight Compartment, Left
212	Flight Compartment, Right

C. Prepare for the Removal

SUBTASK 32-31-03-860-021

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-31-03-860-022

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-31-03-860-023

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-31-03-480-004

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-31-03-480-005

(5) Install chocks around the tires of the nose landing gear (PAGEBLOCK 10-11-05/201).

SUBTASK 32-31-03-860-024

(6) To use the ground door release system to open the landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-31-03-010-002

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(7) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

D. Selector/Bypass Valve Solenoid Removal

NOTE: There are two solenoids installed on the main landing gear selector/bypass valve. This procedure is applicable to either solenoid.

SUBTASK 32-31-03-020-006

(1) Remove the lockwire from the bolts [20].

SUBTASK 32-31-03-020-007

(2) Remove the bolts [20] and washers [19] to disconnect the solenoid from the valve [6].

SUBTASK 32-31-03-000-001

(3) Pull the solenoid [6A] straight out from the valve [6] to remove the solenoid [6A].

SUBTASK 32-31-03-020-008

(4) Remove the backup rings [16], backup rings [23], o-ring [17], o-ring [18], o-ring [21] and o-ring [22] from the solenoid [6A].

———— END OF TASK ————

TASK 32-31-03-400-801

5. Selector/Bypass Valve Solenoid Installation

(Figure 401)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Consumable Materials

Reference	Description	Specification
A00436	Sealant - Fuel Tank	BMS5-45 (Supersedes BMS5-26)
D00571	Grease - BATCO X8401-2	

C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
154	Area Below Aft Cargo Compartment, Right

(Continued)

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Selector/Bypass Valve Solenoid Installation

SUBTASK 32-31-03-420-007

(1) Install the new o-ring [17], o-ring [18], o-ring [21], o-ring [22], backup ring [16] and backup ring [23] on the solenoid [6A].

SUBTASK 32-31-03-390-003

(2) Apply a bead of sealant, A00436, to the mating surface of the solenoid [6A].

NOTE: Do not get sealant on the flange of the solenoid.

SUBTASK 32-31-03-420-008

(3) Put the solenoid [6A] in its position on the valve [6].

SUBTASK 32-31-03-390-004

(4) Apply a layer of sealant, A00436, to the bottom surface of the washers [19].

SUBTASK 32-31-03-640-001

(5) Apply a layer of BATCO X8401-2 grease, D00571, to the shank and threads of the bolts [20].

SUBTASK 32-31-03-420-009

(6) Install the bolts [20] and washers [19] that attach the solenoid [6A] to the valve [6].

SUBTASK 32-31-03-420-010

(7) Tighten the bolts [20] to 32 in-lb (3.62 N·m) - 37 in-lb (4.18 N·m).

SUBTASK 32-31-03-420-011

(8) Install lockwire on the bolts [20].

E. Selector/Bypass Valve Solenoid Installation Test

NOTE: During this test, it is possible that the GEAR DISAGREE message will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the message go away. The message will go away automatically when you complete this test.

SUBTASK 32-31-03-410-003

WARNING: OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-31-03-860-025

(2) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-31-03-860-026

(3) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

(Continued)

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-31-03-860-027

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-31-03-860-028

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(5) For the center hydraulic system and reservoir, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-31-03-860-029

(6) Use the ground door release system to close the doors for the nose landing gear (TASK 32-00-40-860-801).

SUBTASK 32-31-03-710-002

(7) Do the steps below to make sure the valve [6] operates correctly:

(a) Open this circuit breaker and install safety tag:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

WARNING MAKE SURE THE AREA AROUND THE LANDING GEAR AND ITS DOORS ARE CLEAR OF PERSONS AND EQUIPMENT DURING A LANDING GEAR RETRACTION AND EXTENSION TEST. THIS WILL HELP PREVENT INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(b) Make sure the area around the doors for the nose landing gear is clear of persons and equipment.

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(c) Make sure the downlock pins are installed in the nose and main landing gear (TASK 32-00-30-480-801).

(d) Move the control lever for the landing gear to the UP position.

1) You must push the LOCK OVRD button to do this.

(e) Make sure the doors for the nose landing gear open.

(f) Move the control lever for the landing gear to the DN position.

(g) Make sure the doors for the nose landing gear close.

(h) Open this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

(i) Close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

(j) Move the control lever for the landing gear to the UP position.

1) You must push the LOCK OVRD button to do this.

(k) Make sure the doors for the nose landing gear open.

(l) Move the control lever for the landing gear to the DN position.

(m) Make sure the doors for the nose landing gear close.

(n) Close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-31-03-860-030

(8) To use the ground door release system to open the doors for the nose landing gear, do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-31-03-790-004

(9) Examine the other connections to the valve [6] for leaks.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-31-03-860-031

(1) Use the ground door release system to close the doors for the nose landing gear (TASK 32-00-40-860-801).

SUBTASK 32-31-03-410-004

WARNING

OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-31-03-860-032

(3) Use the ground door release system to close the doors for the main landing gear (TASK 32-00-40-860-801).

SUBTASK 32-31-03-860-033

(4) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

MAIN LANDING GEAR SELECTOR/BYPASS VALVE-ADJUSTMENT/TEST

1. General

   A. This procedure gives instruction to perform an operational test of the main landing gear selector/bypass valve.

TASK 32-31-03-710-801

2. Main Landing Gear Selector/Bypass Valve - Operational Test (Airplane on the Ground)

   A. General

   (1) The operational test does a check to make sure the selector valve in each selector/bypass valve operates correctly.

   (2) You do not have to lift the airplane on jacks to do the operational test.

   B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

   C. Location Zones

Zone	Area
144	Main Landing Gear Wheel Well, Right
154	Area Below Aft Cargo Compartment, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

   D. Main Landing Gear Selector/Bypass Valve Installation Test

   NOTE: During this test, it is possible that the GEAR DISAGREE message will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

   You do not have to do maintenance actions to make the message go away. The message will go away automatically when you complete this test.

   SUBTASK 32-31-03-860-034

> **WARNING** MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

   (1) Make sure the downlock pins are installed in the nose and main landing gear (TASK 32-00-30-480-801).

   (2) Make sure the landing gear control lever is in the DOWN position.

SUBTASK 32-31-03-710-003

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Make sure the nose landing gear door safety pins have been installed (TASK 32-00-15-480-801).

NOTE: Place the safety pin in the nose gear door safety release valve to hold the nose gear doors in the open position.

SUBTASK 32-31-03-860-042

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-31-03-860-035

(5) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
M	22	C32605	LG DOOR CLOSE GROUND ACCESS

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR
A	23	C32608	LDG GEAR EXTD/RETR 2
G	9	C32616	LDG GEAR RETR AUTO OFF
G	10	C32607	LDG GEAR EXTD/RETR 1

Right Power Management Panel, P210

Row	Col	Number	Name
M	2	C32623	LG LEVER LOCK

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

SUBTASK 32-31-03-860-036

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-31-03-710-004

(7) Do the steps below to make sure the Selector/Bypass valve operates correctly:

WARNING	MAKE SURE THAT THE AREA AROUND THE DOOR FOR THE MAIN LANDING GEAR IS CLEAR OF PERSONNEL, AND EQUIPMENT. THE DOORS CLOSE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

(a) Make sure the area around the doors for the main landing gear is clear of persons and equipment.

(b) Move the control lever for the landing gear to the UP position.

1) You must push the LOCK OVRD button to do this.

a) Make sure the doors for the main landing gear open.

(c) Move the control lever for the landing gear to the DN position.

1) Make sure the doors for the main landing gear close.

(d) Open this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

(e) Move the control lever for the landing gear to the UP position.

1) You must push the LOCK OVRD button to do this.

(f) Make sure the doors for the main landing gear open.

(g) Move the control lever for the landing gear to the DN position.

(h) Make sure the doors for the main landing gear close.

(i) Close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

Make sure that this circuit breaker is open and has safety tag:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

(j) Move the control lever for the landing gear to the UP position.

1) You must push the LOCK OVRD button to do this.

(k) Make sure the doors for the main landing gear open.

(l) Move the control lever for the landing gear to the DN position.

(m) Make sure the doors for the main landing gear close.

Remove the safety tag and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

E. Put the Airplane Back to Its Usual Condition

SUBTASK 32-31-03-860-038

(1) For the main landing gear, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-31-03-860-039

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Remove the nose landing gear door safety pins (TASK 32-00-15-080-801).

SUBTASK 32-31-03-860-040

(3) For the nose landing gear, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-31-03-860-041

(4) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

MAIN LANDING GEAR RETRACT ACTUATOR - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the retract actuator for the main landing gear

(2) An installation of the retract actuator for the main landing gear.

B. The illustrations in this procedure show the retract actuator for the left main landing gear. This procedure is also applicable to the retract actuator for the right main landing gear.

C. The retract actuator cannot be manually extended or retracted. You must use a pump to extend or retract the retract actuator.

D. The retract actuator weighs 251 pounds (114 kg).

E. In this procedure, the retract actuator is referred to as the actuator assembly [1].

F. The 293W3322-1 actuator assembly used with the AS115-12K0254 retract hose, 293W3308-2 tube and BACE21BT1212JN elbow is fully interchangeable with 293W3302-4 or 293W3302-5 actuator assembly used with AS117-12K0450 retract hose. The 293W3308-2 tube is supported by saddle clamp BACC10HB12C. The AS117-12K0450 retract hose is supported by saddle clamp BACC10HB16C.

TASK 32-32-01-020-801-001

2. Main Landing Gear Retract Actuator Removal

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
06-44-00-800-802	Finding an Access Door or Panel on the Wings (P/B 201)
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1563	Hoist - Fishpole (cable), minimum 500 lb capacity Part #: 10/3641 Supplier: K1425 Part #: PF51-003-1 Supplier: 1YRX6 Part #: PF51-009-1 Supplier: 1YRX6 Opt Part #: MINILIFT Supplier: K1425
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205

(Continued)

Reference	Description
SPL-1826	Pump - Retraction/Extension, Landing Gear Actuator Part #: A32027-177 Supplier: 81205 Part #: A32027-178 Supplier: 81205
SPL-1842	Puller - Pin, MLG retract Actuator Part #: J32016-9 Supplier: 81205
SPL-1860	Equipment - Sling, MLG Retract Actuator Removal/Installation Part #: J32019-97 Supplier: 81205 Opt Part #: J32019-59 Supplier: 81205
SPL-1909	Wrench - Spanner, MLG Aft Trunnion Bearing (J32042-14 included in J32042-89 kit)
STD-1146	Pad - Protective, Ensolite or Equivalent 1/2 Inch by 72 Inches by 96 Inches

C. **Location Zones**

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing
731	Left Main Landing Gear
741	Right Main Landing Gear

D. **Access Panels**

Number	Name/Location
551DT	Left Main Landing Gear Upper Wing Panel
651DT	Right Main Landing Gear Upper Wing Panel

E. **Prepare for the Removal**

SUBTASK 32-32-01-860-001-001

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-01-860-002-001

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-01-860-003-001

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-32-01-480-001-001

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-01-480-002-001

(5) Install chocks around the tires of the main landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-32-01-860-004-001

(6) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-32-01-480-003-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(7) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

F. Main Landing Gear Retract Actuator Removal

SUBTASK 32-32-01-020-001-001

(1) Do the steps below to disconnect the hydraulic hose [2] and the hydraulic line assembly [5] from the band clamp [4] (View B, Figure 401):

(a) Remove the nut [8] and washer [7] that attach the saddle clamp [3] and the saddle clamp [6] to the bolt [9].

(b) Remove the saddle clamp [3] and saddle clamp [6] from the bolt [9].

SUBTASK 32-32-01-020-002-001

(2) Do the steps below to remove the hydraulic hose [2] and its related parts from the actuator assembly [1] (View D, Figure 401):

(a) Disconnect the hydraulic hose [2] from the actuator assembly [1] at location A (View D, Figure 401).

(b) Install a cap on the hydraulic hose [2].

(c) Connect the landing gear actuator pump, SPL-1826, to the actuator assembly [1] at location A (View D, Figure 401).

NOTE: The placards on the landing gear actuator pump, SPL-1826 tell you how to connect, use, and disconnect the landing gear actuator pump, SPL-1826.

(d) Disconnect the hydraulic line [10] from the elbow [11].

(e) Install caps on the elbow [11] and the hydraulic line [10].

(f) Remove the lockwire [25] from the bolt [16].

(g) Remove the bolts [16] and the washers [17] that hold the swivel assembly [14] to the end cap [13].

(h) Remove the hydraulic hose [2] with the swivel assembly [14] and the elbow [11] from the actuator assembly [1] as a unit.

SUBTASK 32-32-01-020-003-001

(3) Do the steps below to remove the hydraulic line assembly [5] and its related parts from the actuator assembly [1] (View D, (Figure 401):

NOTE: The hydraulic line assembly [5] has three parts: the hose assembly [27], the tube assembly [26], and the elbow [28]. In the steps below, you remove these parts, the swivel assembly [14], and the elbow [12] as a unit.

(a) Disconnect the hydraulic line assembly [5] from the actuator assembly [1] at location B (View E, Figure 401).

(b) Install a cap on the hydraulic line assembly [5].

(c) Disconnect the hydraulic line [15] from the elbow [12].

(d) Install caps on the elbow [12] and the hydraulic line [15].

(e) Remove the lockwire [25] from the bolt [16].

(f) Remove the bolt [16] and the washer [17] that hold the swivel assembly [14] to the end cap [13].

(g) Remove the hydraulic line assembly [5] with the swivel assembly [14] and elbow [12] from the actuator assembly [1] as a unit.

(h) Connect the landing gear actuator pump, SPL-1826, to the actuator assembly [1] at location B (View E, Figure 401).

SUBTASK 32-32-01-020-004-001

(4) Disconnect the hydraulic hose [19] from the elbow [18] (View H, Figure 401).

NOTE: This is necessary to install the MLG retract actuator pin puller, SPL-1842.

SUBTASK 32-32-01-480-004-001

(5) Install caps on the elbow [18] and the hydraulic hose [19].

SUBTASK 32-32-01-020-005-001

(6) Do the step below to remove the clamp block assembly (View I, Figure 401):

NOTE: This is necessary so that you can move the end of the hydraulic line [15] a small distance to install the MLG retract actuator pin puller, SPL-1842.

(a) Remove the screws [24], washers [23], channel [22], clamp blocks [20], and the spacers [21] from the hydraulic line [15].

SUBTASK 32-32-01-010-001-001

(7) Remove the applicable access panels:

(TASK 06-44-00-800-802)

Number	**Name/Location**
551DT	Left Main Landing Gear Upper Wing Panel
651DT	Right Main Landing Gear Upper Wing Panel

SUBTASK 32-32-01-020-014-001

(8) Do the steps below to prepare for the installation of the MLG retract actuator sling equipment, SPL-1860, to remove the actuator assembly [1] (View E, Figure 402):

(a) Remove the cotter pin [54], nut [55] and washer [56] from the bolt [59].

(b) Remove the bolt [59] from the rod end pin [51] and nut [57].

SUBTASK 32-32-01-480-006-001

(9) Do the steps below to install the MLG retract actuator sling equipment, SPL-1860, for removal of the actuator assembly [1], (Figure 403):

NOTE: The MLG retract actuator sling equipment, SPL-1860, has these parts:

The retainment beam [81]

The forward block [82]

The eyebolt [83]

The knurled nut [84]

The pivot guide [85]

The flat nut [86]

The eyebolt [87]

The clamp nut [88]

The actuator clamp [89]

The knurled nut [90]

The hoist hanger [91]

The hoist adapter [92]

The clamp screw [93]

(a) Do the steps below to install the pivot guide [85], the forward block [82] and the flat nut [86]:

1) Put the pivot guide [85] through the rod end pin [51] in its position against the cylinder of the actuator assembly [1].

2) With its eyebolts [83] in the open position, put the forward block [82] in its position against the cylinder of theactuator assembly [1].

3) Close the eyebolts [83] of the forward block [82] around the cylinder of the actuator assembly [1] and into the slots of the pivot guide [85].

4) Tighten the knurled nuts [84] of the forward block [82].

5) Install the flat nut [86] on the shaft of the pivot guide [85].

(b) Do the steps below to connect the retainment beam [81] to the actuator clamp [89] before you install them on the actuator assembly [1]:

1) Align the knurled nut [90] of the retainment beam [81] with the stud on the actuator clamp [89].

2) Install the retainment beam [81] on the actuator clamp [89].

3) Loosely tighten the knurled nut [90] of the retainment beam [81].

(c) Do the steps below to install the retainment beam [81] and the actuator clamp [89]:

1) With the actuator clamp [89] in the open position, put it and the retainment beam [81] into their positions on the actuator assembly [1].

2) Close the actuator clamp [89] around the actuator assembly [1] and move the eyebolt [87] into the locked position.

3) Tighten the clamp nut [88] of the eyebolt [87] from 30.0 in-lb (3.4 N·m) to 40.0 in-lb (4.5 N·m).

4) Tighten the knurled nut [90] of the retainment beam [81].

(d) Do the steps below to install the hoist adapter [92]:

1) Loosen the clamp screw [93] of the hoist adapter [92] and put the hoist adapter [92] in its position on the retract arm [41].

2) Tighten the clamp screw [93] of the hoist adapter [92].

SUBTASK 32-32-01-480-015-001

(10) Connect the cable fishpole hoist, COM-1563 (496 lb (225 kg) capacity, 472 in. (12 m) long), to the hoist adapter [92].

SUBTASK 32-32-01-480-016-001

(11) Connect the cable fishpole hoist, COM-1563, to the actuator clamp [89].

SUBTASK 32-32-01-580-001-001

(12) Use the cable fishpole hoist, COM-1563, to supply a support for the actuator assembly [1].

SUBTASK 32-32-01-020-006-001

(13) Do the steps below to disconnect the actuator assembly [1] from the retract arm [41] (View B, Figure 402):

(a) Remove the cotter pin [45], the nut [43], and the washer [44] from each end of the shaft [46].

(b) Remove the shaft [46] from the end cap [13].

(c) Remove the end cap [13] from the head end pin [48].

(d) Use the MLG retract actuator pin puller, SPL-1842, to remove the head end pin [48] from the actuator assembly [1] and the retract arm [41].

NOTE: To install the MLG retract actuator pin puller, SPL-1842, you must carefully move the end of the hydraulic line [15] a small distance.

SUBTASK 32-32-01-560-001-001

(14) Use the cable fishpole hoist, COM-1563, to carefully lower the actuator assembly [1] until the head end is clear of the retract arm [41].

NOTE: When you do this, the actuator assembly [1] will turn around the rod end pin [51]. You will use the rod end pin [51] as a pivot.

SUBTASK 32-32-01-020-007-001

(15) Remove the washer [49] from the actuator assembly [1] and the washer [50] from the retract arm [41].

SUBTASK 32-32-01-560-002-001

(16) Use the cable fishpole hoist, COM-1563, to carefully lower the actuator assembly [1] until it is in a horizontal position.

SUBTASK 32-32-01-480-017-001

(17) Do the steps below to connect the hoist, SPL-1556 (399 lb (181 kg)), to the actuator clamp [89] (Figure 403):

(a) Move the end of the hoist, SPL-1556, into its position above the actuator clamp [89].

(b) Remove the bolt and the shackle from the hoist hanger [91].

(c) Install the hoist hanger [91] in the end of the hoist, SPL-1556.

(d) Use the shackle and the bolt to connect the hoist hanger [91] (in the end of the hoist, SPL-1556) to the actuator clamp [89].

(e) Use the hoist, SPL-1556, to supply a support for the actuator assembly [1].

SUBTASK 32-32-01-080-001-001

(18) Disconnect the cable fishpole hoist, COM-1563, from the actuator clamp [89].

SUBTASK 32-32-01-080-002-001

(19) Remove the flat nut [86] from the shaft of the pivot guide [85].

SUBTASK 32-32-01-020-015-001

(20) Remove the nut [57] and the washer [58] from the rod end pin [51] (Figure 402).

(a) Use the MLG aft trunnion bearing spanner wrench, SPL-1909 to hold the rod end pin [51].

SUBTASK 32-32-01-020-016-001

(21) With the pivot guide [85] and the forward block [82] installed on the actuator assembly [1], remove the rod end pin [51]and washer [52] from the outer cylinder [60] (Figure 402).

SUBTASK 32-32-01-480-018-001

(22) Put a protective pad, STD-1146 (1 in. (13 mm) X 72.05 in. (1.83 m) X 94.49 in. (2.40 m)) on the ground below the actuator assembly [1].

SUBTASK 32-32-01-020-017-001

(23) Use the hoist, SPL-1556, to lower the actuator assembly [1] and set it on the protective pad, STD-1146.

SUBTASK 32-32-01-480-019-001

(24) Disconnect the hoist, SPL-1556, from the actuator clamp [89] (Figure 403).

SUBTASK 32-32-01-020-018-001

(25) If you will install a different actuator assembly [1] than the one you removed, do the steps below:

(a) Remove the forward block [82] and the pivot guide [85] from the actuator assembly [1].

(b) Remove the rod end pin [51] and the washer [52] from the actuator assembly [1].

(c) Remove the actuator clamp [89] and the retainment beam [81] from the actuator assembly [1].

(d) Use the landing gear actuator pump, SPL-1826, to fully retract the rod end of the actuator assembly [1].

(e) Disconnect the landing gear actuator pump, SPL-1826, from the actuator assembly [1].

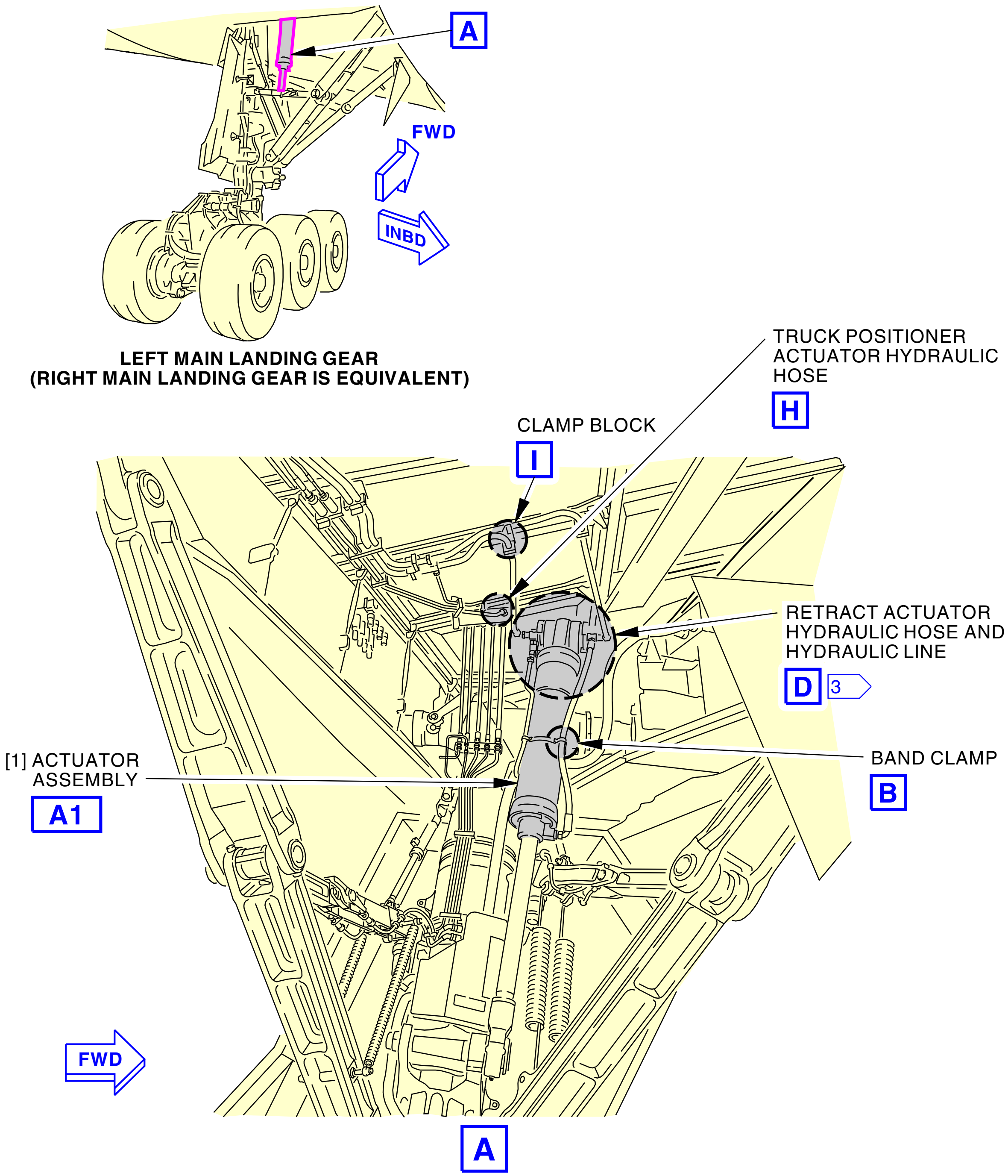
(f) Install caps on the actuator assembly [1].

(g) Do the steps below to remove the band clamp [4] from the actuator assembly [1] (Figure 402):

1) Loosen the nut on the band clamp [4].

2) Remove the band clamp [4] from the actuator assembly [1].

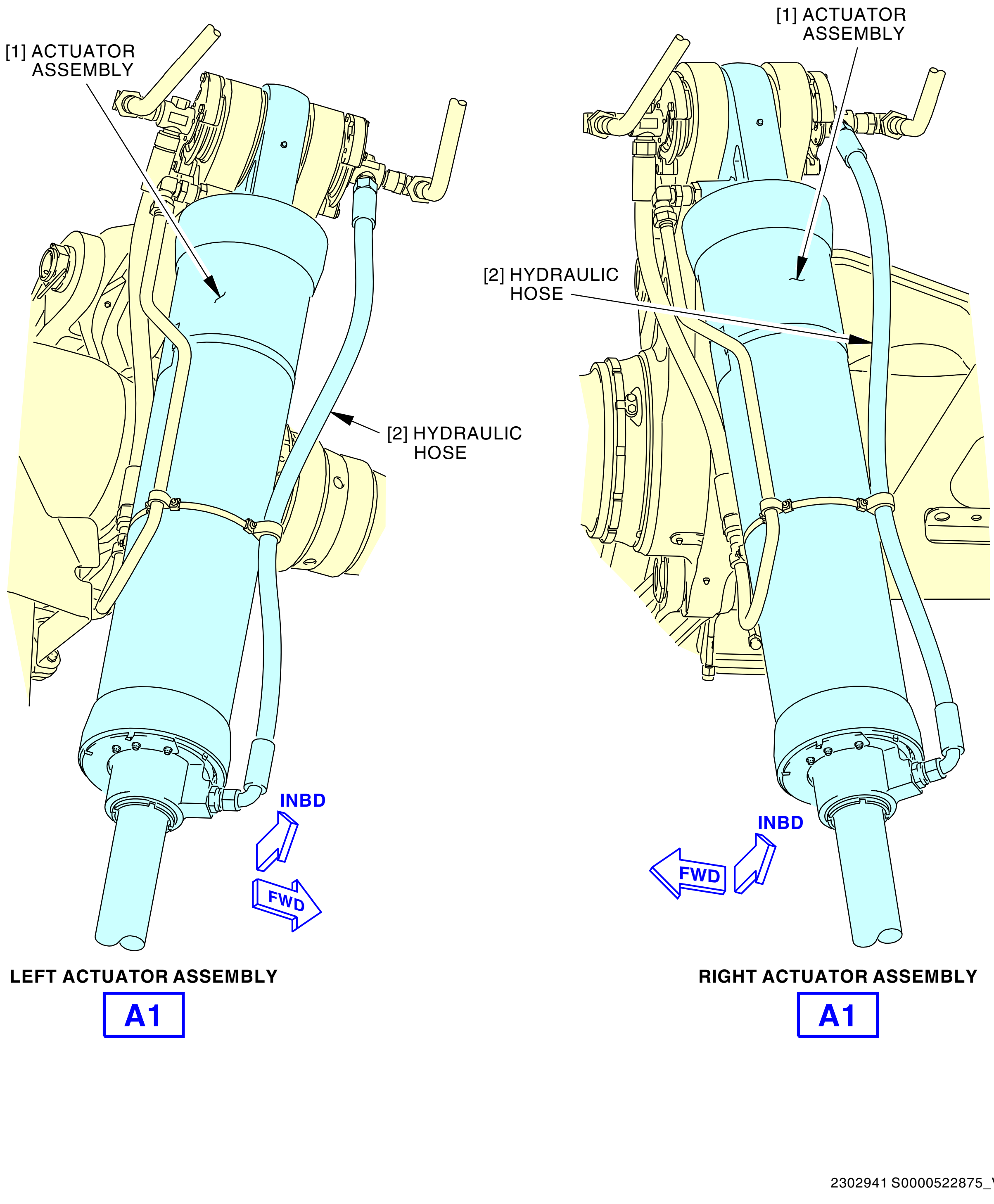
——— END OF TASK ———



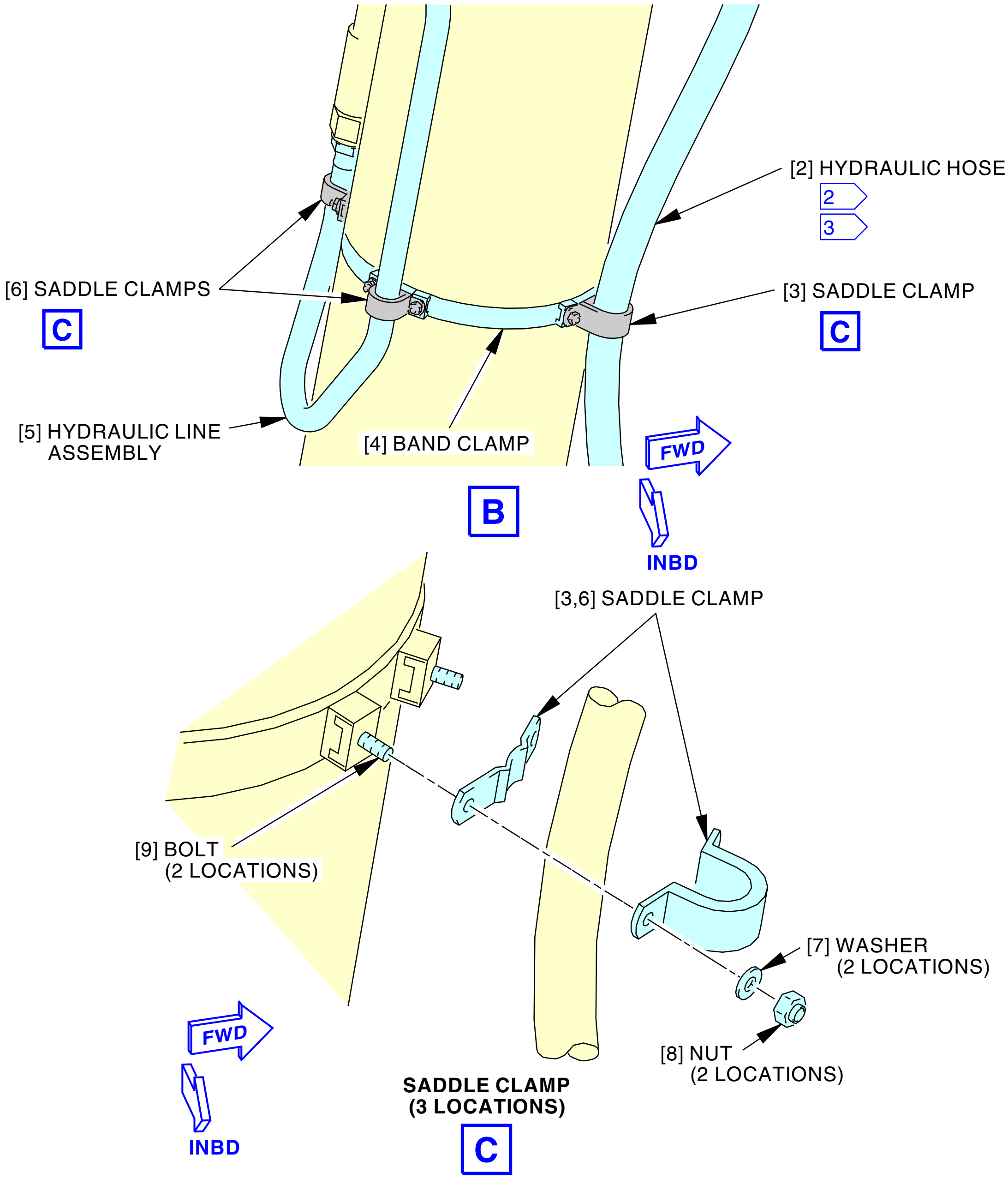
3 RETRACT ACTUATOR [1] FOR THE RIGHT MAIN LANDING GEAR MUST BE INSTALLED WITH THE RETRACT ACTUATOR HYDRAULIC HOSE [2] ORIENTED TOWARDS THE AFT DIRECTION OF THE AIRPLANE.

E11740 S0006418459_V4

Main Landing Gear Retract Actuator Hydraulic Installation
Figure 401/32-32-01-990-801-001 (Sheet 1 of 7)



Main Landing Gear Retract Actuator Hydraulic Installation
Figure 401/32-32-01-990-801-001 (Sheet 2 of 7)

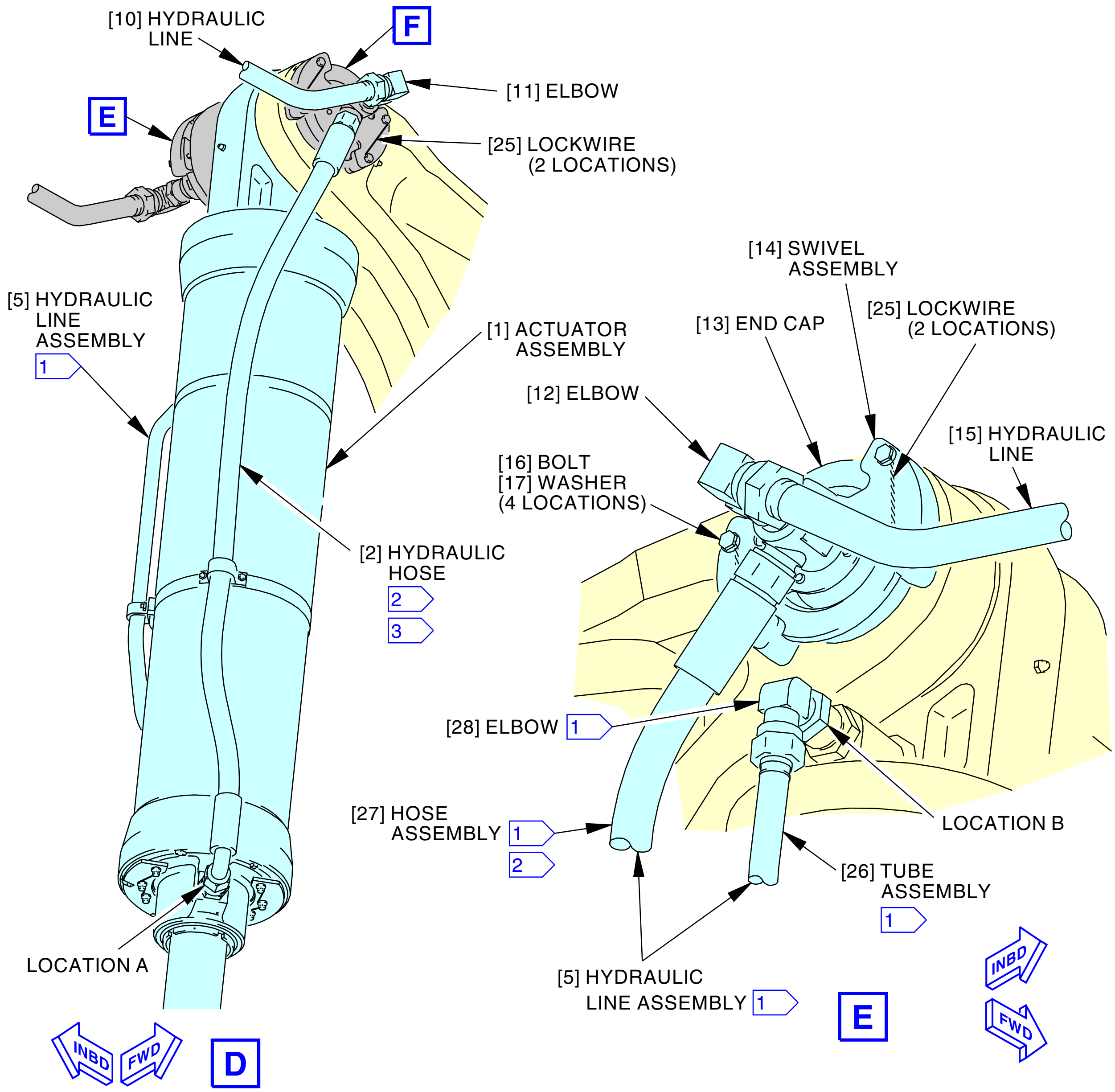


2 HOSE MUST BE INSTALLED CONVEX OUTBOARD.

3 RETRACT ACTUATOR [1] FOR THE RIGHT MAIN LANDING GEAR MUST BE INSTALLED WITH THE RETRACT ACTUATOR HYDRAULIC HOSE [2] ORIENTED TOWARDS THE AFT DIRECTION OF THE AIRPLANE.

E16368 S0006418460_V4

Main Landing Gear Retract Actuator Hydraulic Installation
Figure 401/32-32-01-990-801-001 (Sheet 3 of 7)



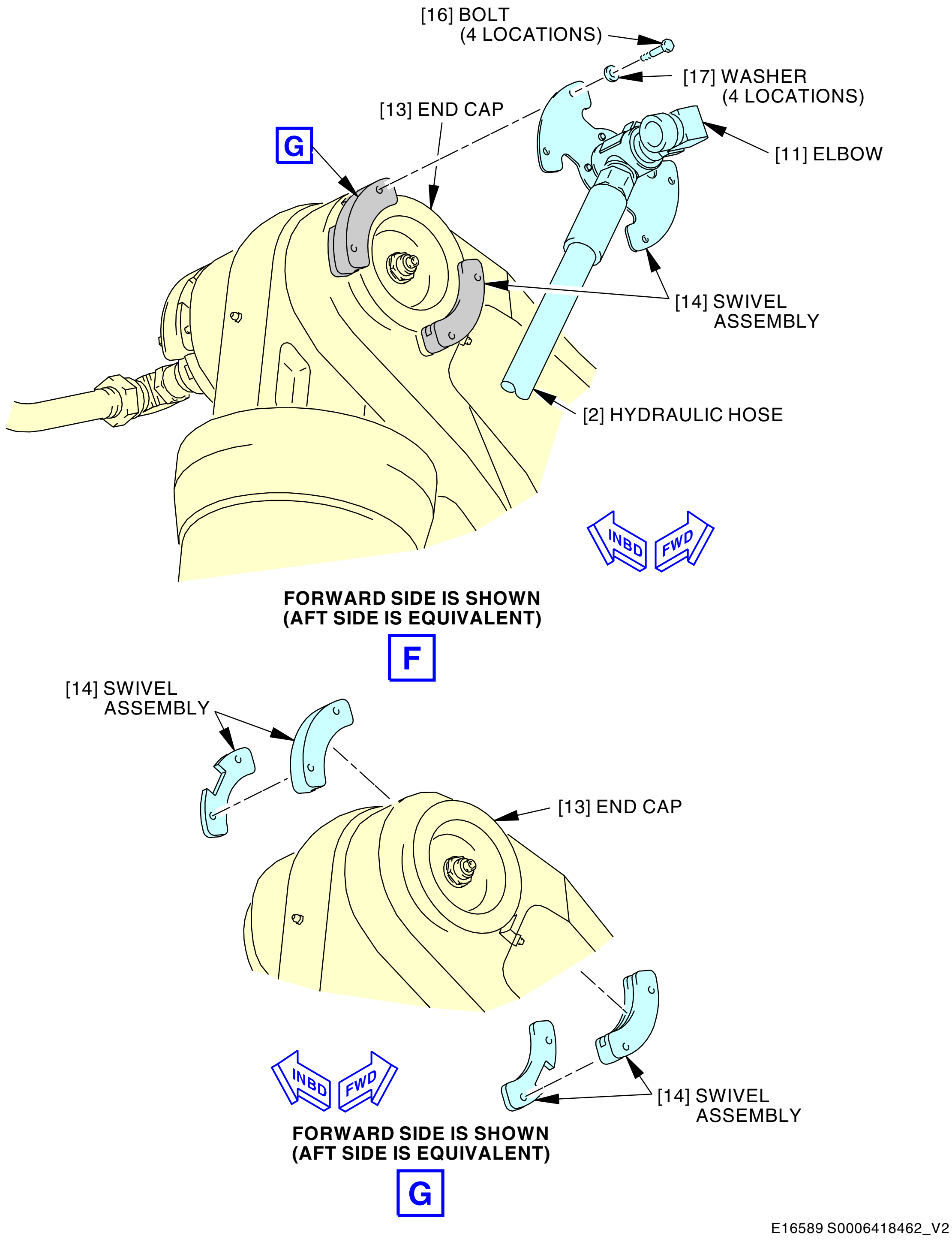
1 26, 27 AND 28 ARE REMOVED AS AN ASSEMBLY. THEY ARE REFERRED TO AS THE HYDRAULIC LINE ASSEMBLY [5].

2 HOSE MUST BE INSTALLED CONVEX OUTBOARD.

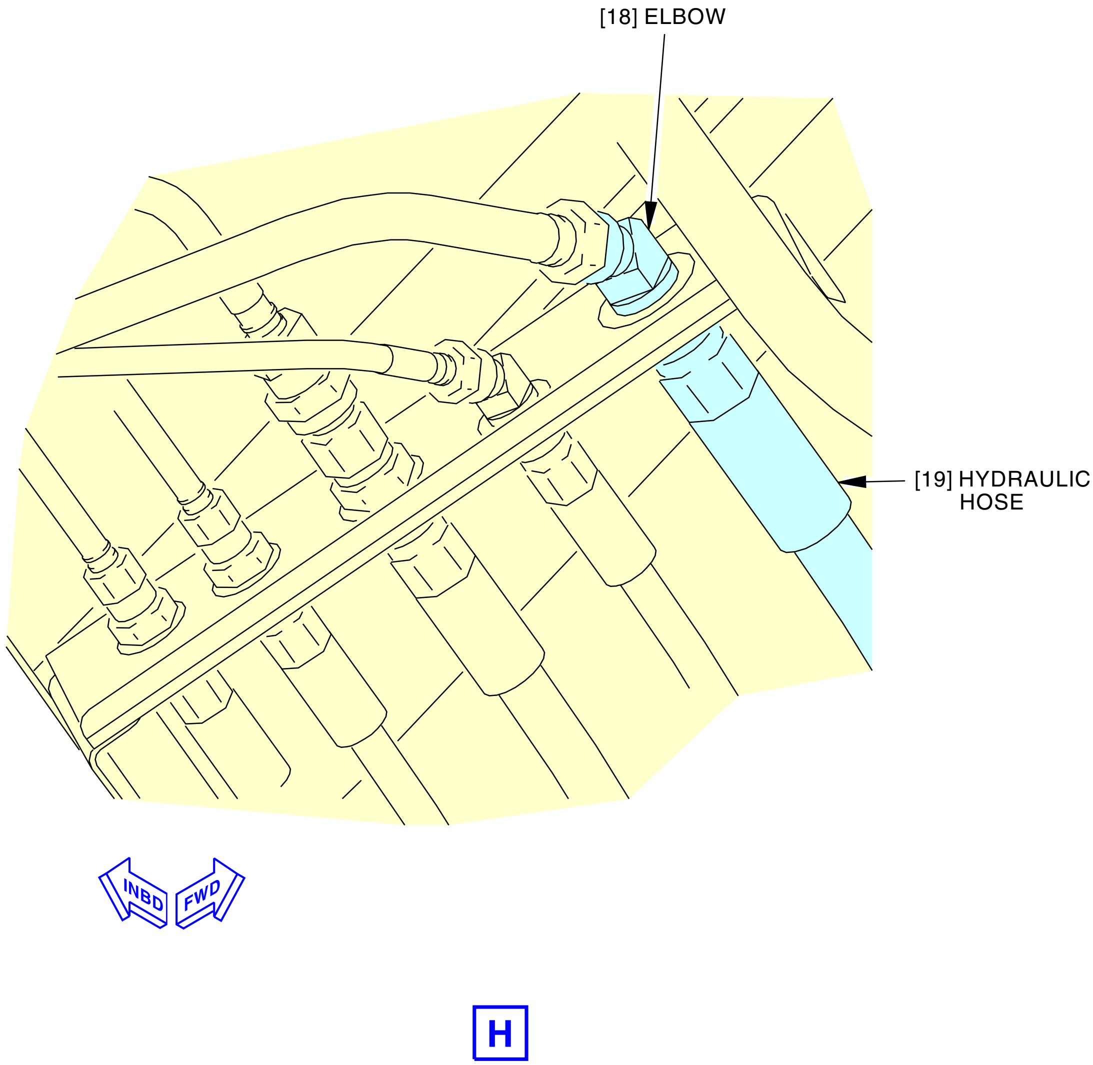
3 RETRACT ACTUATOR [1] FOR THE RIGHT MAIN LANDING GEAR MUST BE INSTALLED WITH THE RETRACT ACTUATOR HYDRAULIC HOSE [2] ORIENTED TOWARDS THE AFT DIRECTION OF THE AIRPLANE.

E16588 S0006418461_V4

Main Landing Gear Retract Actuator Hydraulic Installation
Figure 401/32-32-01-990-801-001 (Sheet 4 of 7)

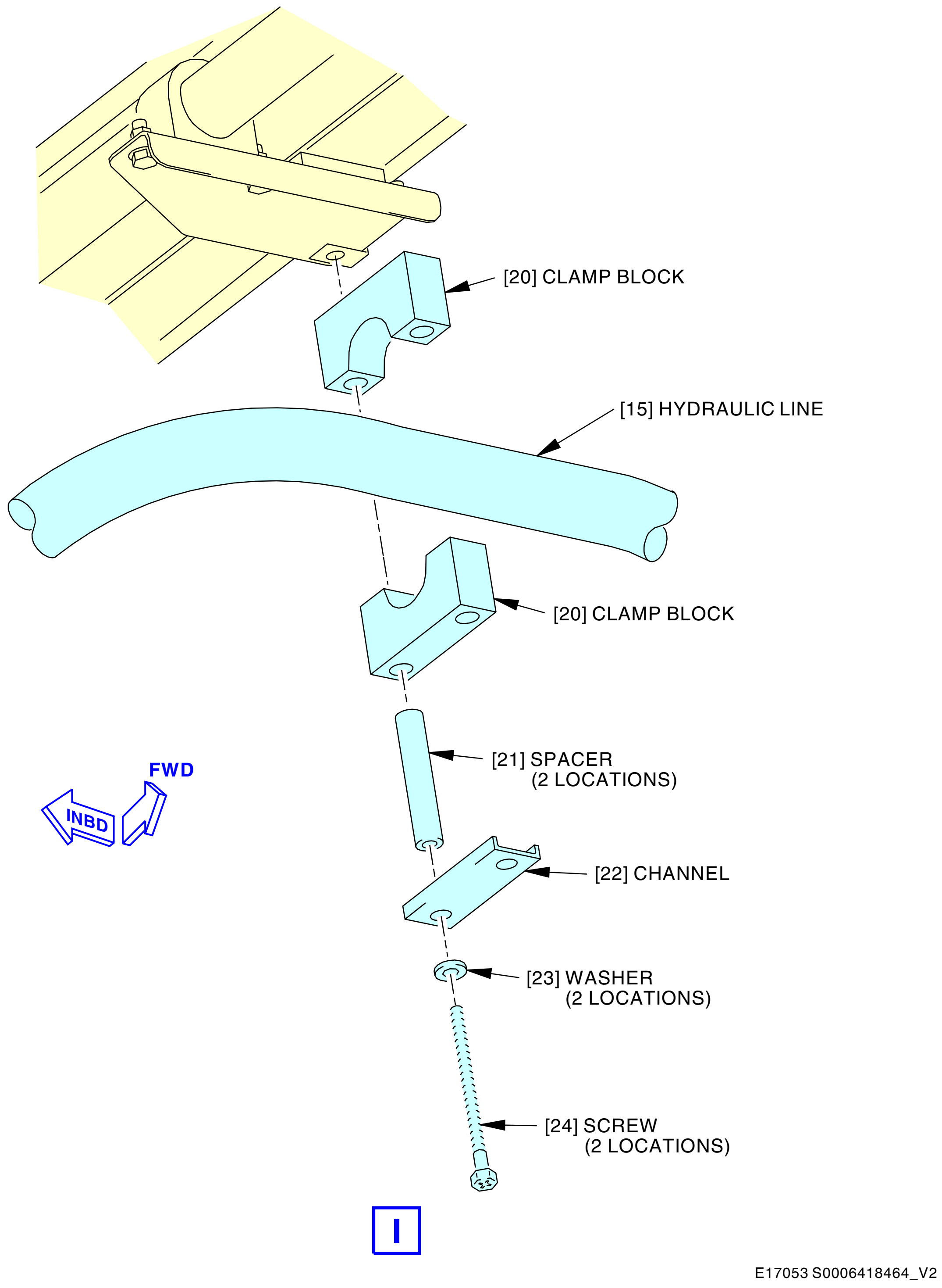


Main Landing Gear Retract Actuator Hydraulic Installation
Figure 401/32-32-01-990-801-001 (Sheet 5 of 7)

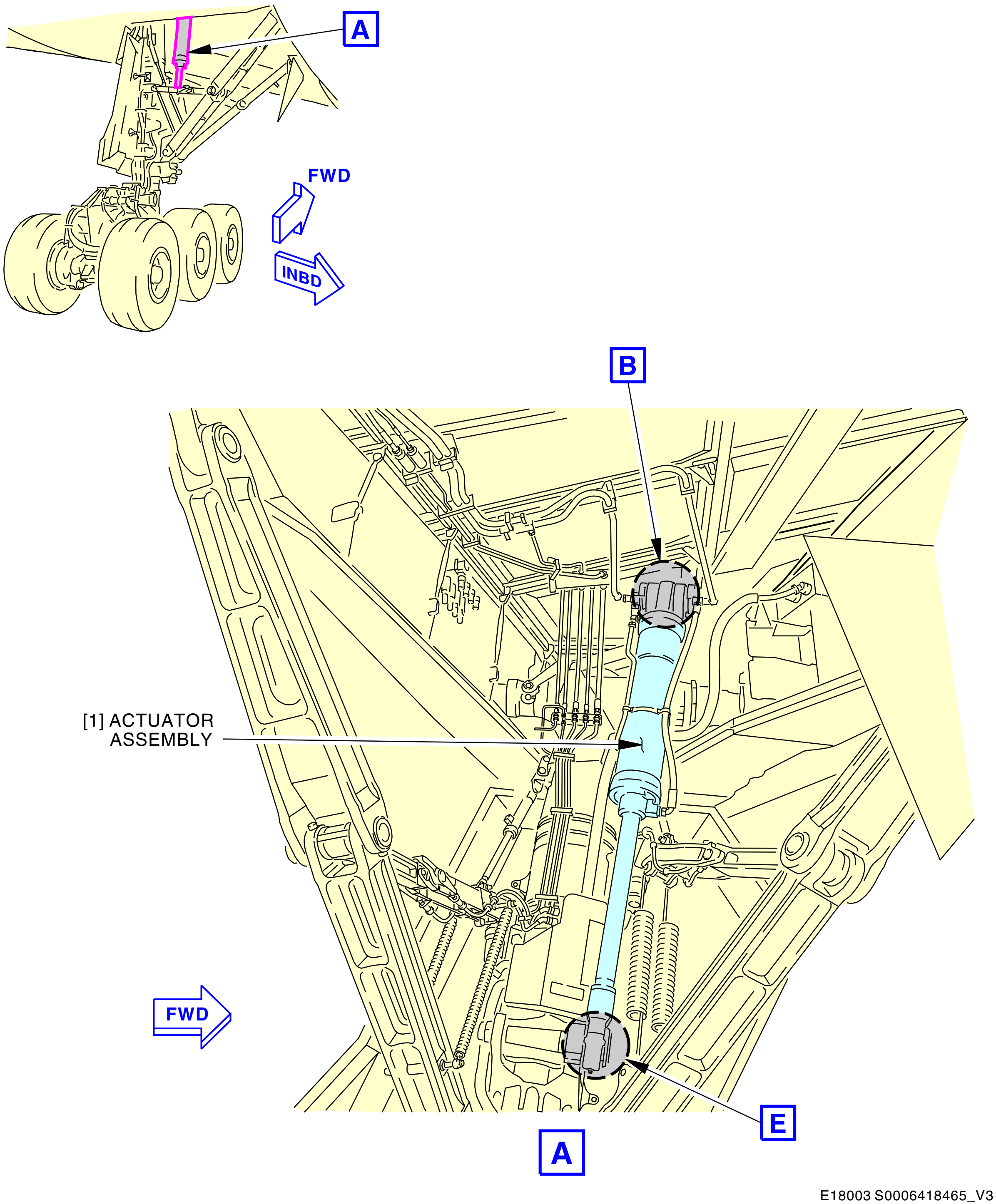


E16974 S0006418463_V2

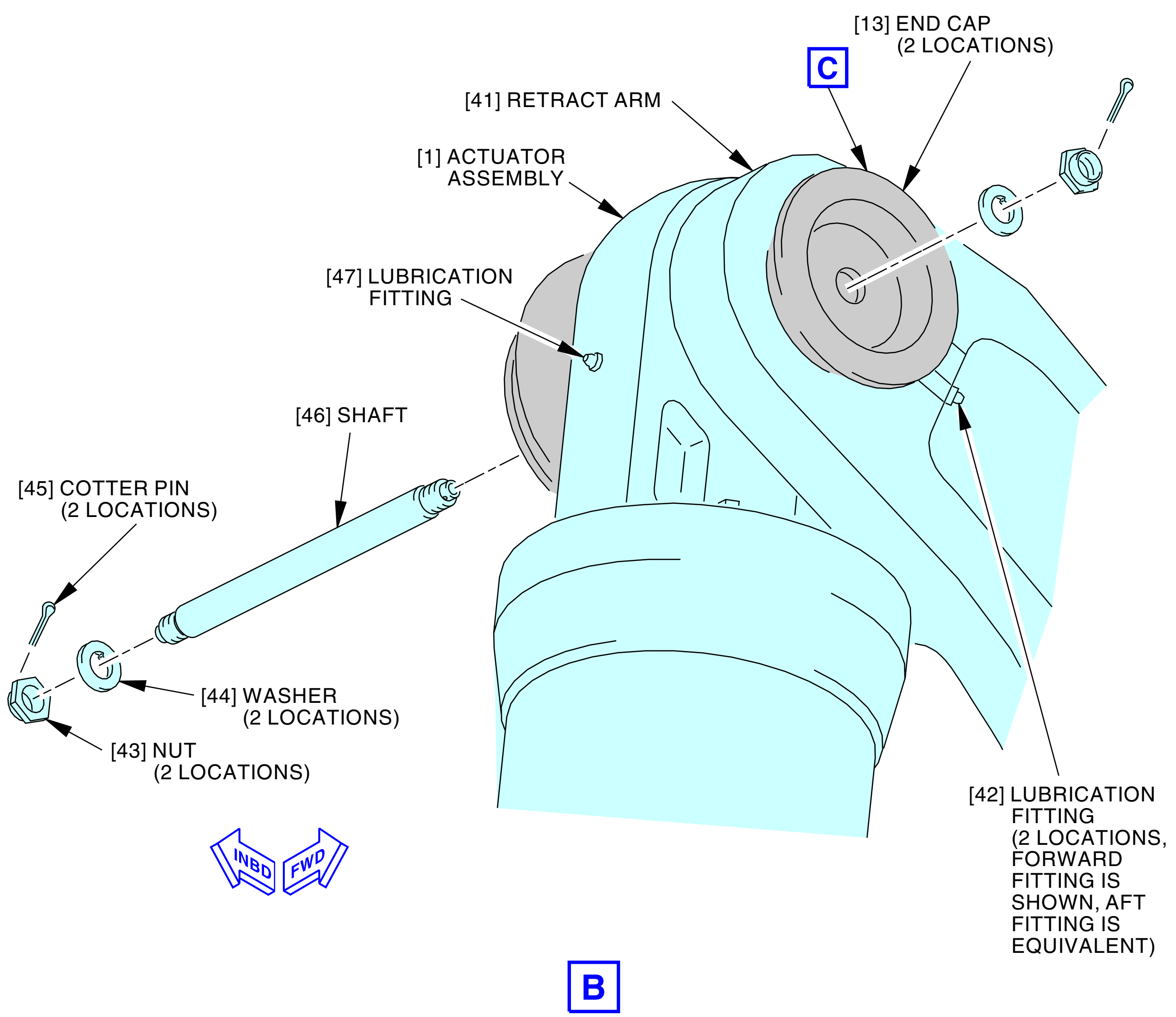
Main Landing Gear Retract Actuator Hydraulic Installation
Figure 401/32-32-01-990-801-001 (Sheet 6 of 7)



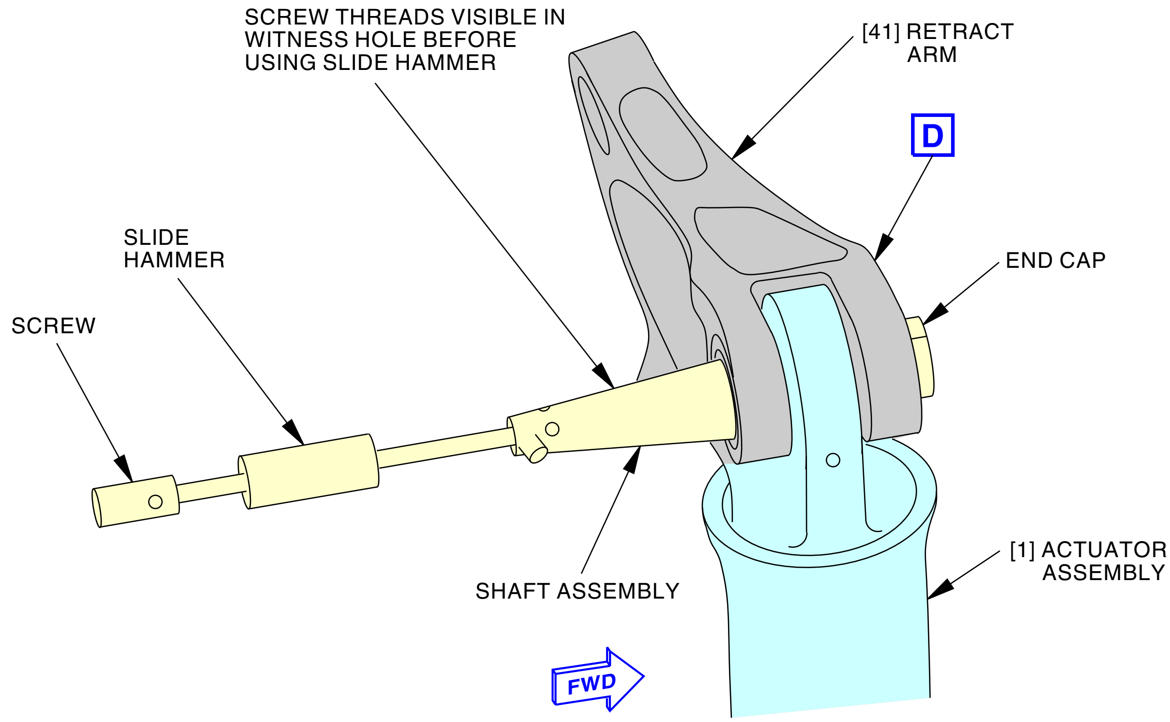
Main Landing Gear Retract Actuator Hydraulic Installation
Figure 401/32-32-01-990-801-001 (Sheet 7 of 7)



Main Landing Gear Retract Actuator Attachment Pins Installation
Figure 402/32-32-01-990-802-001 (Sheet 1 of 5)



Main Landing Gear Retract Actuator Attachment Pins Installation
Figure 402/32-32-01-990-802-001 (Sheet 2 of 5)

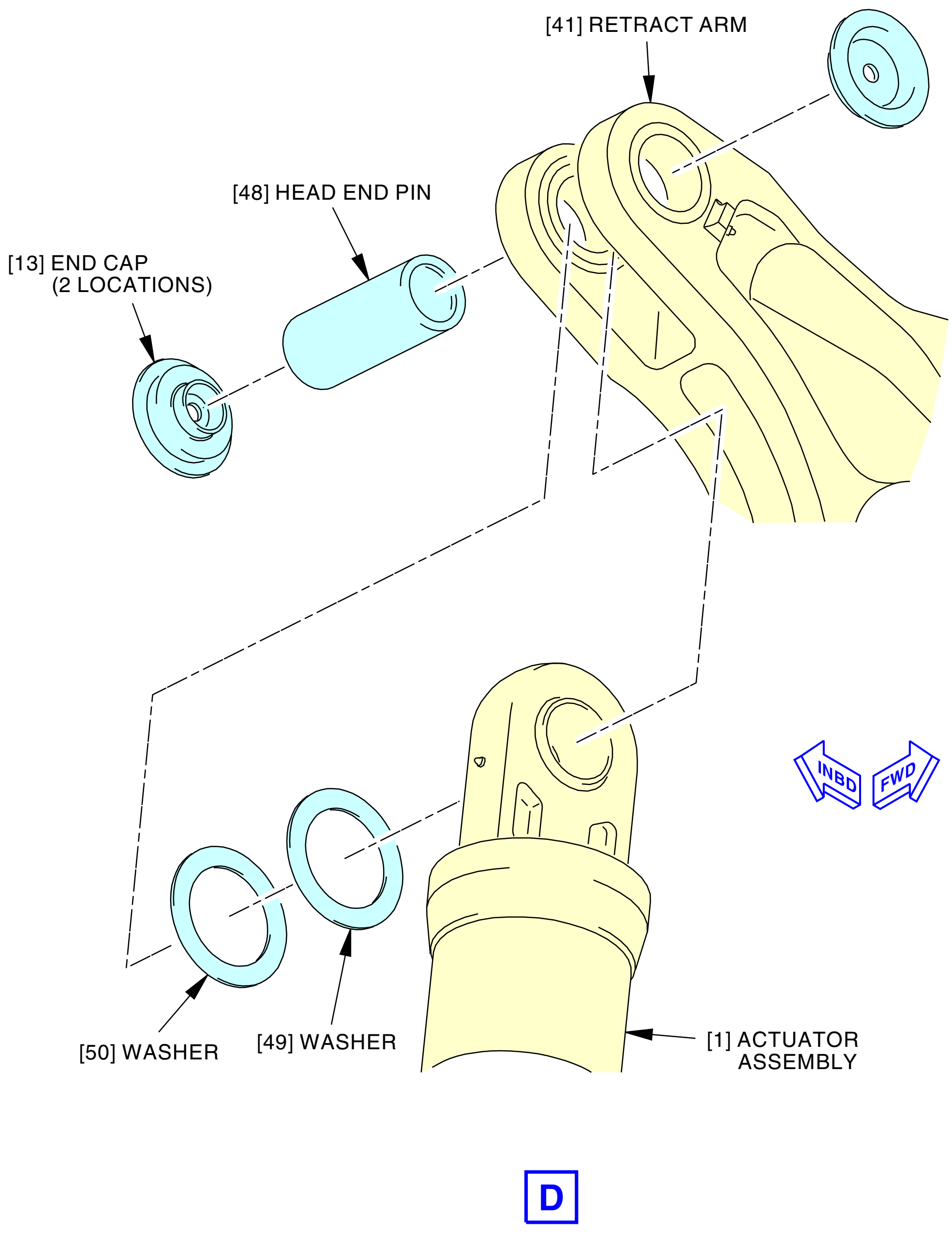


RETRACT ACTUATOR PIN PULLER

C

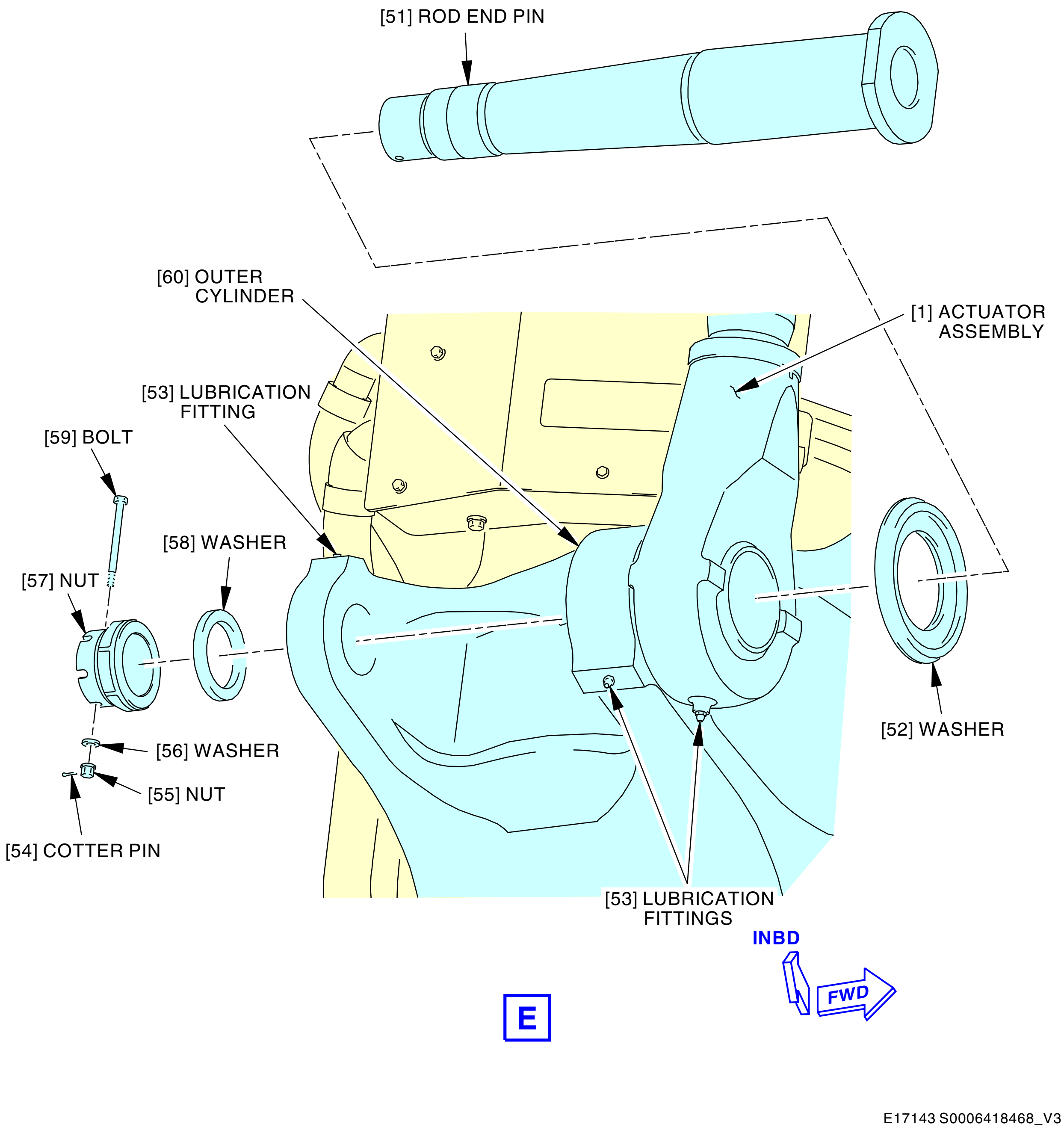
J88386 S0000182579_V2

Main Landing Gear Retract Actuator Attachment Pins Installation
Figure 402/32-32-01-990-802-001 (Sheet 3 of 5)

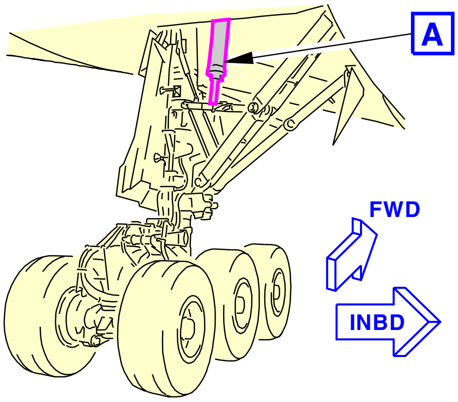


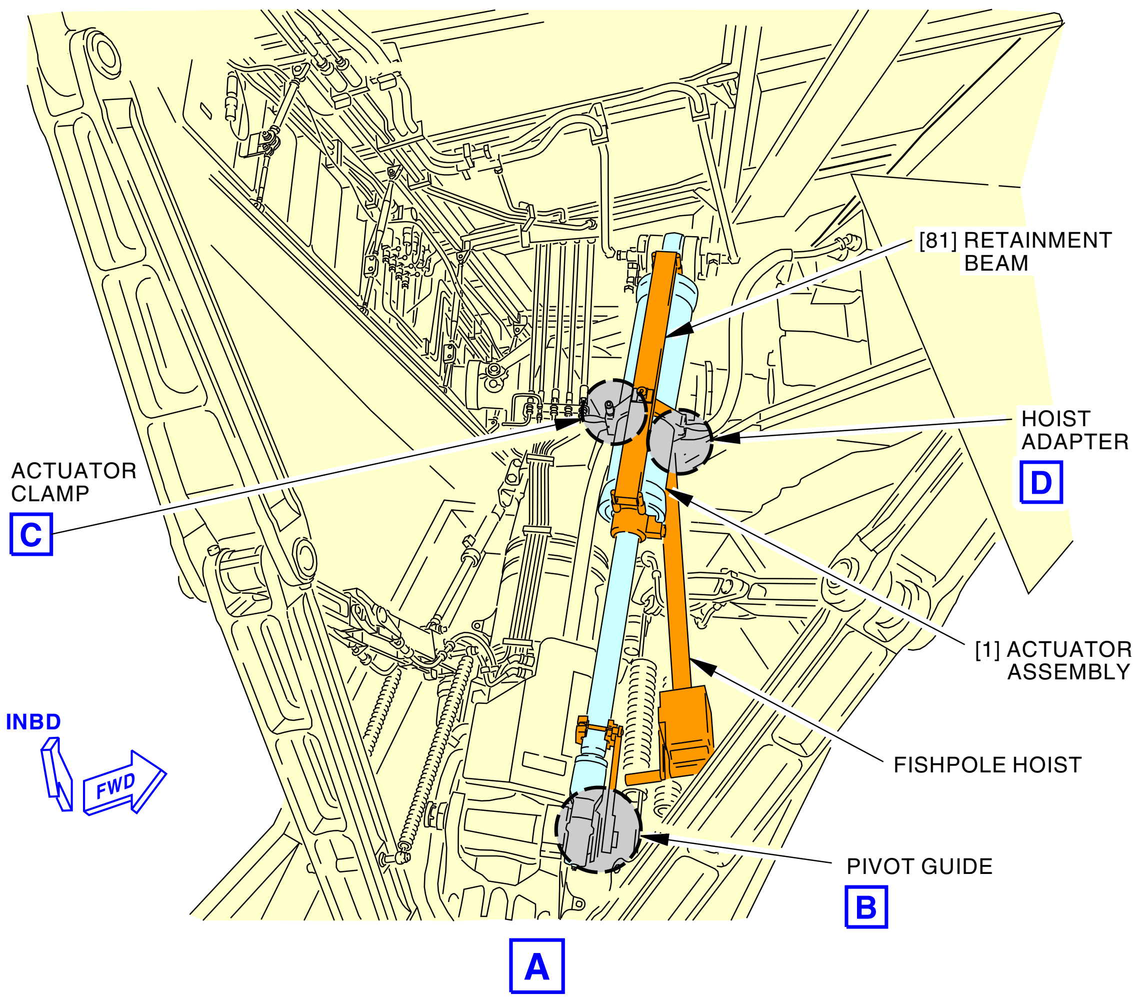
E16767 S0006418467_V5

Main Landing Gear Retract Actuator Attachment Pins Installation
Figure 402/32-32-01-990-802-001 (Sheet 4 of 5)



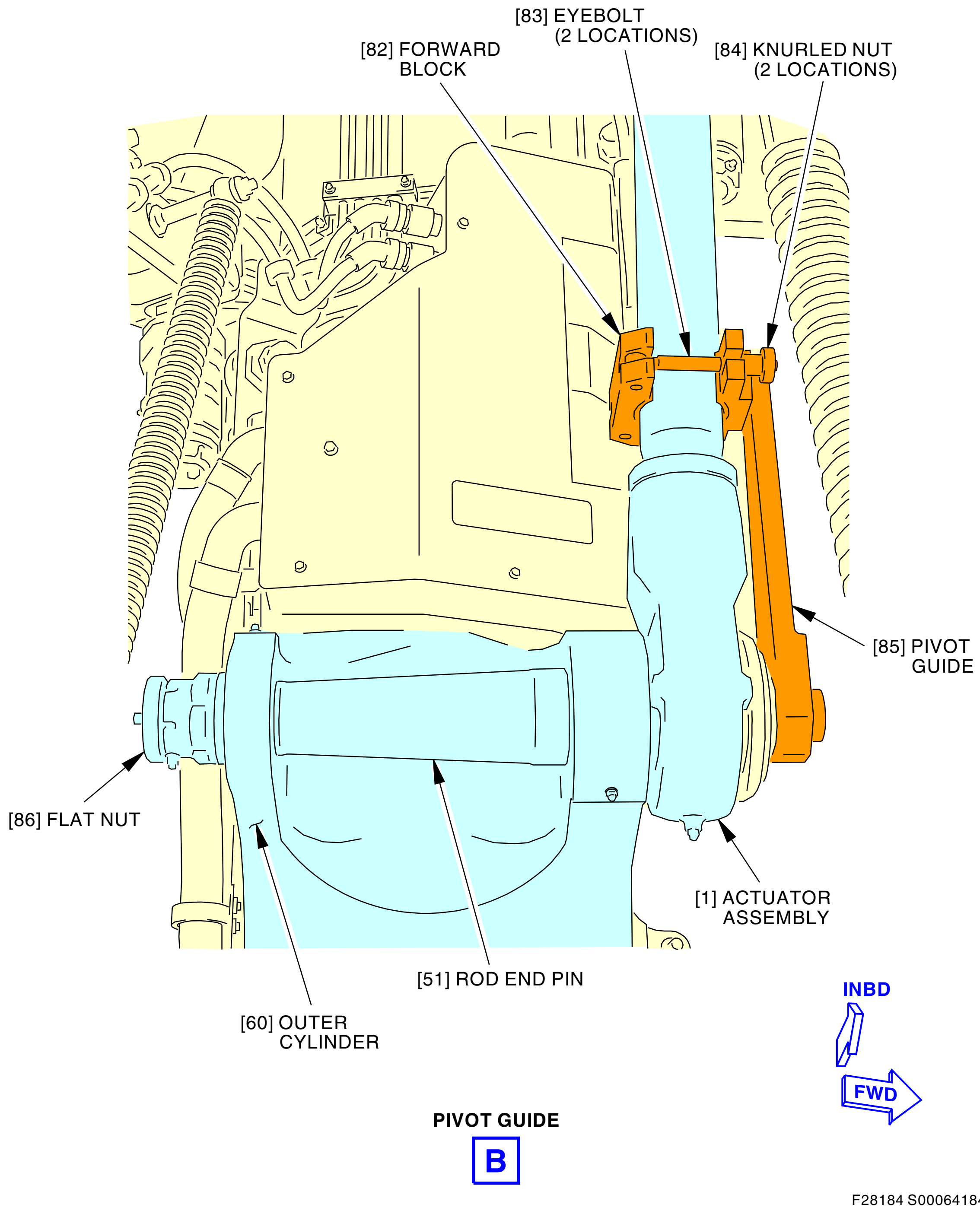
Main Landing Gear Retract Actuator Attachment Pins Installation
Figure 402/32-32-01-990-802-001 (Sheet 5 of 5)



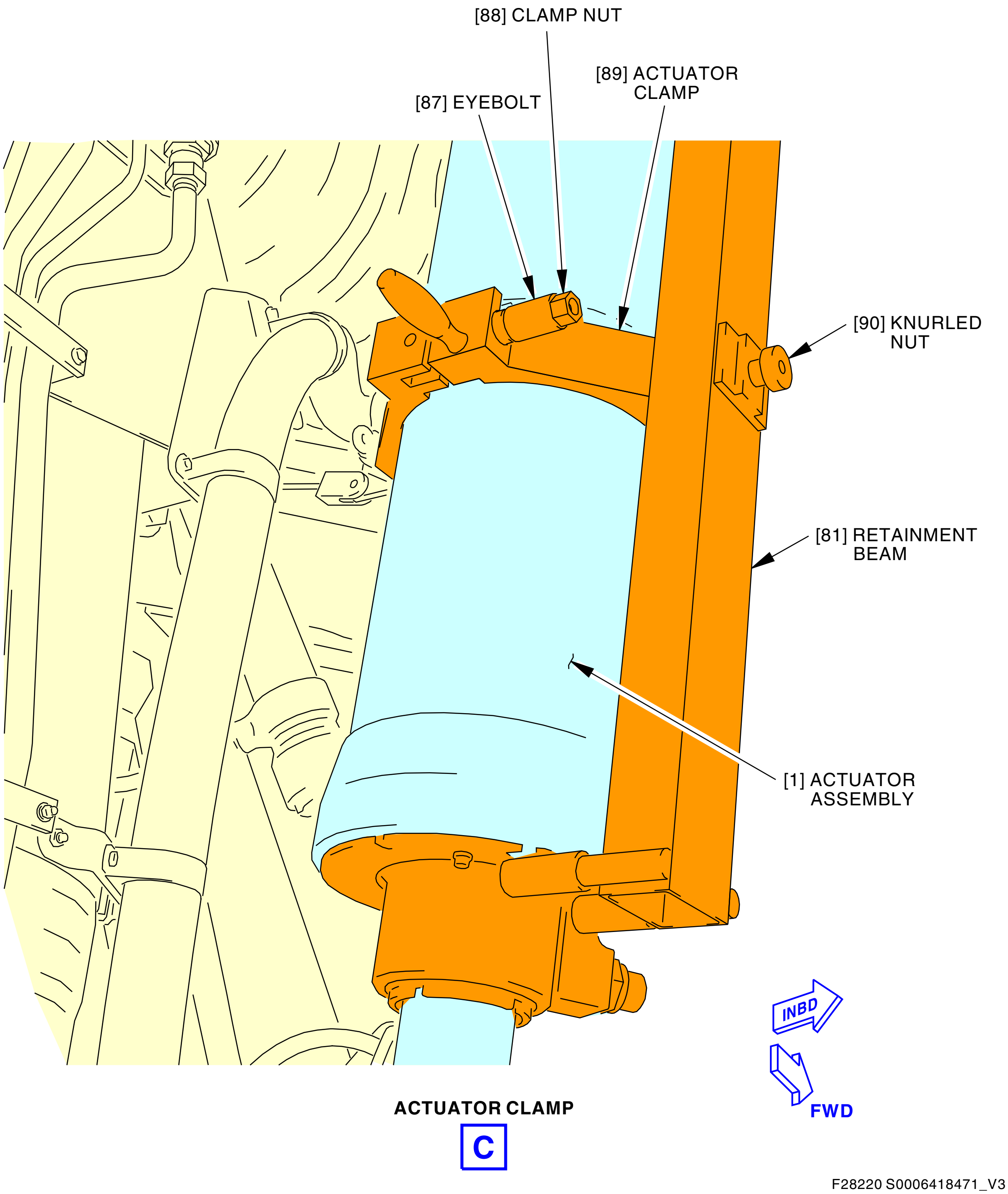


F28159 S0006418469_V2

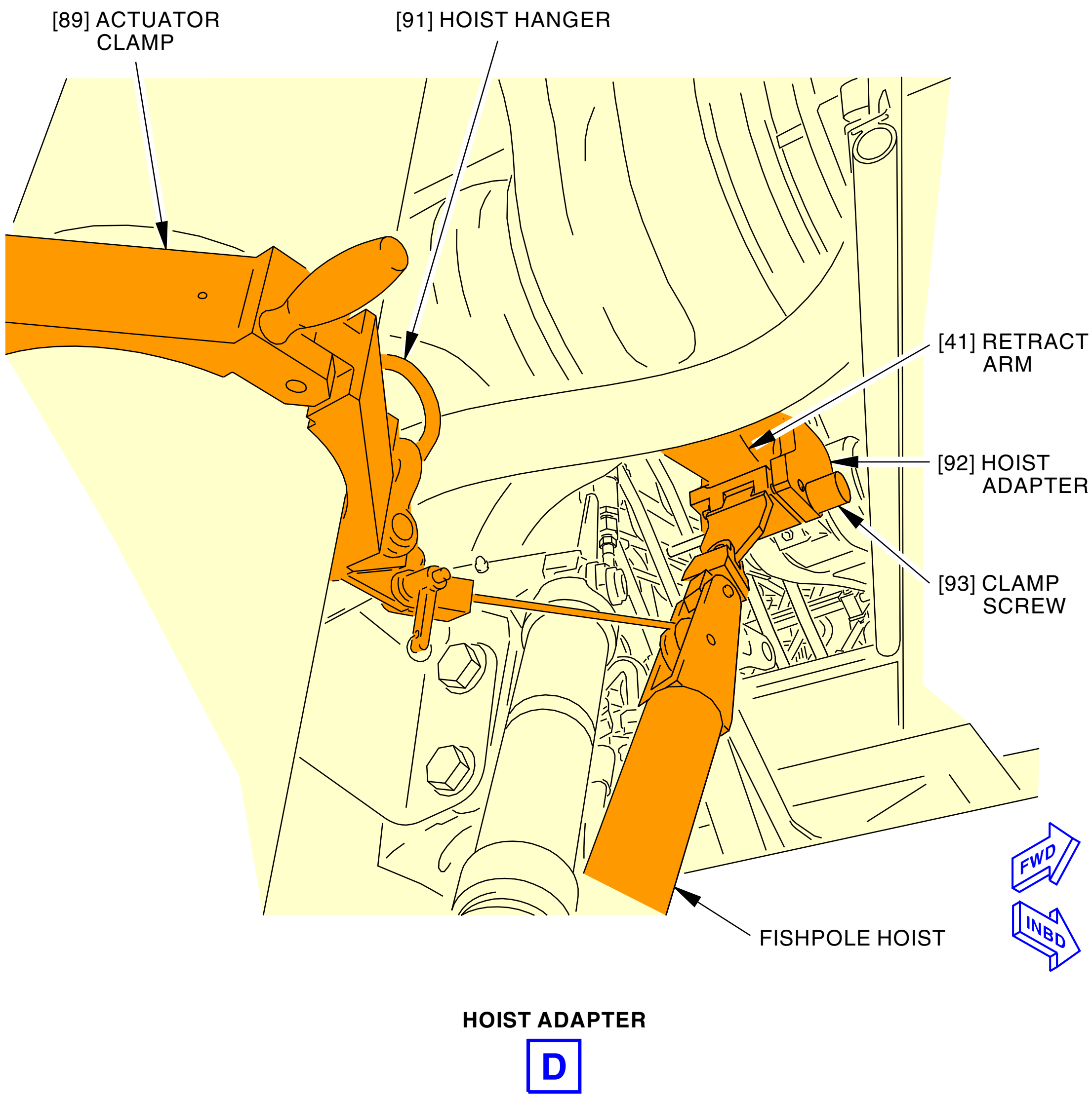
Main Landing Gear Retract Actuator Sling Installation
Figure 403/32-32-01-990-803-001 (Sheet 1 of 4)



Main Landing Gear Retract Actuator Sling Installation
Figure 403/32-32-01-990-803-001 (Sheet 2 of 4)



Main Landing Gear Retract Actuator Sling Installation
Figure 403/32-32-01-990-803-001 (Sheet 3 of 4)



Main Landing Gear Retract Actuator Sling Installation
Figure 403/32-32-01-990-803-001 (Sheet 4 of 4)

TASK 32-32-01-420-801-001

3. Main Landing Gear Retract Actuator Installation

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
20-11-00-910-801	Standard Torque Values (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1563	Hoist - Fishpole (cable), minimum 500 lb capacity Part #: 10/3641 Supplier: K1425 Part #: PF51-003-1 Supplier: 1YRX6 Part #: PF51-009-1 Supplier: 1YRX6 Opt Part #: MINILIFT Supplier: K1425
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1826	Pump - Retraction/Extension, Landing Gear Actuator Part #: A32027-177 Supplier: 81205 Part #: A32027-178 Supplier: 81205
SPL-1860	Equipment - Sling, MLG Retract Actuator Removal/Installation Part #: J32019-97 Supplier: 81205 Opt Part #: J32019-59 Supplier: 81205
SPL-1909	Wrench - Spanner, MLG Aft Trunnion Bearing (J32042-14 included in J32042-89 kit)
STD-1146	Pad - Protective, Ensolite or Equivalent 1/2 Inch by 72 Inches by 96 Inches

C. Consumable Materials

Reference	Description	Specification
A50337	Sealant - Fuel Tank	BMS5-45 Class B
B00571	Coating - Clear Skydrol Resistant Topcoating	BAC5710 Type 41
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)

(Continued)

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
D00633	Grease - Aircraft General Purpose	BMS3-33
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
45	Pin	32-32-01-01A-130	ARO ALL
54	Pin	32-32-01-01A-125	ARO ALL

E. **Location Zones**

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing
731	Left Main Landing Gear
741	Right Main Landing Gear

F. **Access Panels**

Number	Name/Location
551DT	Left Main Landing Gear Upper Wing Panel
651DT	Right Main Landing Gear Upper Wing Panel

G. **Main Landing Gear Retract Actuator Installation**

NOTE: In the installation, you use the MLG retract actuator sling equipment, SPL-1860, to install the actuator assembly [1]. The MLG retract actuator sling equipment, SPL-1860, has these parts:

The retainment beam [81]

The forward block [82]

The eyebolt [83]

The knurled nut [84]

The pivot guide [85]

The flat nut [86]

The eyebolt [87]

The clamp nut [88]

The actuator clamp [89]

The knurled nut [90]

The hoist hanger [91]

The hoist adapter [92]

The clamp screw [93]

SUBTASK 32-32-01-020-019-001

(1) If you will install a different actuator assembly [1] than the one you removed, do the steps below (Figure 401):

(a) With the actuator assembly [1] in a horizontal position on the protective pad, STD-1146 (0.51 in. (13 mm) X 72.05 in. (1.83 m) X 94.49 in. (2.40 m)), carefully lift the rod end of the actuator assembly [1].

(b) Do the steps below to install the band clamp [4] on the actuator assembly [1]:

1) Install the band clamp [4] on the actuator assembly [1].

2) Lightly tighten the nut on the band clamp [4] so that the band clamp [4] does not move on the actuator assembly [1].

(c) Lower the rod end of the actuator assembly [1] to the ground.

(d) Remove the caps from the hydraulic ports on the actuator assembly [1].

(e) Connect the landing gear actuator pump, SPL-1826, to the actuator assembly [1].

(f) Use the landing gear actuator pump, SPL-1826, to fill the actuator assembly [1] with hydraulic fluid, D00153.

(g) Use the landing gear actuator pump, SPL-1826, to fully extend the rod end of the actuator assembly [1].

(h) Carefully lift the rod end of the actuator assembly [1].

(i) Do the steps below to install the retainment beam [81] and the actuator clamp [89] (Figure 403):

1) With the actuator clamp [89] in the open position, put it and the retainment beam [81] in their positions on the actuator assembly [1].

2) Close the actuator clamp [89] around the actuator assembly [1] and move the eyebolt [87] to the locked position.

3) Tighten the clamp nut [88] of the eyebolt [87] from 30.0 in-lb (3.4 N·m) to 40.0 in-lb (4.5 N·m).

(j) Install the washer [52] on the rod end pin [51] (Figure 402).

(k) Lubricate the rod end pin [51] and the mating surfaces of the actuator assembly [1] and the outer cylinder [60] with grease, D00013 or grease, D00633.

(l) Put the rod end pin [51] with the washer [52] through the actuator assembly [1].

(m) Do the steps below to install the pivot guide [85] and the forward block [82] (Figure 403):

1) Put the washer [58] through the rod end pin [51] in its position against the cylinder of the actuator assembly [1].

2) With its eyebolt [83] in the open position, put the forward block [82] in its position against the cylinder of the actuator assembly [1].

3) Close the eyebolt [83] of the forward block [82] around the cylinder of the actuator assembly [1] and into the slots of the pivot guide [85].

4) Tighten the knurled nut [84] on the forward block [82].

SUBTASK 32-32-01-480-020-001

(2) Do the steps below to connect the hoist, SPL-1556, to the actuator clamp [89]:

(a) Move the end of the hoist, SPL-1556, into its position above the actuator clamp [89].

(b) Use the shackle and bolt to connect the hoist hanger [91] (in the end of the hoist, SPL-1556) to the actuator clamp [89].

SUBTASK 32-32-01-420-004-001

(3) Use the hoist, SPL-1556, to lift the actuator assembly [1] to the height necessary to connect it to the outer cylinder [60].

NOTE: Keep the actuator assembly [1] in a horizontal position when you do this.

ARO ALL

SUBTASK 32-32-01-420-005-001

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(4) Do the steps below to connect the rod end of the actuator assembly [1] to the outer cylinder [60] (View E, (Figure 402):

(a) Make sure that you install the retract actuator in the correct position (View A1, Figure 401).

NOTE: The Left Hand (LH) retract actuator should be installed with the hydraulic hose on the forward side of the assembly. The Right Hand (RH) retract actuator should be installed with the hydraulic hose on the aft side of the assembly.

(b) Apply a layer of grease, D00013 or grease, D00633 to the mating surface of the rod end pin [51] and the outer cylinder [60].

(c) With the pivot guide [85] and the forward block [82] installed on the actuator assembly [1], put the rod end pin [51] through the outer cylinder [60].

(d) Apply a thin layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to these areas:

1) The faces of the washer [58]

2) The threads of the rod end pin [51]

3) The threads of the nut [57]

4) The bolt [59].

(e) Install the washer [58] and nut [57] on the rod end pin [51].

1) Use the MLG aft trunnion bearing spanner wrench, SPL-1909 to hold the rod end pin [51].

(f) Tighten the nut [57] from 100 ft-lb (136 N·m) to 120 ft-lb (163 N·m).

(g) Put the bolt [59] through the nut [57] and the rod end pin [51].

NOTE: If it is necessary, loosen the nut [57] until you can install the bolt [59].

(h) Install the washer [56] and the nut [55] on the bolt [59]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

(i) Install the cotter pin [54] through the nut [55].

ARO ALL; AIRPLANES WITH 293W3302 SERIES ACTUATORS

SUBTASK 32-32-01-480-013-001

(5) Connect the cable fishpole hoist, COM-1563 (500 lb (227 kg), 40.0 ft (12.2 m)) to the actuator clamp [89].

SUBTASK 32-32-01-080-004-001

(6) Disconnect the hoist, SPL-1556 from the actuator clamp [89].

SUBTASK 32-32-01-560-003-001

(7) Use the cable fishpole hoist, COM-1563 to carefully lift the actuator assembly [1] until the head end is near the retract arm [41].

NOTE: When you do this, the actuator assembly [1] will turn around the rod end pin [51]. You use the rod end pin [51] as a pivot.

SUBTASK 32-32-01-640-001-001

(8) Lubricate the actuator assembly [1] where it touches the head end pin [48] with grease, D00013 or grease, D00633.

SUBTASK 32-32-01-420-006-001

(9) Install the washer [49] and the washer [50] on the retract arm [41] and AFT of the actuator assembly [1].

SUBTASK 32-32-01-820-001-001

(10) Use the cable fishpole hoist, COM-1563 and the landing gear actuator pump, SPL-1826, to align the head end of the actuator assembly [1] with the retract arm [41].

SUBTASK 32-32-01-420-007-001

(11) Do the steps below to connect the actuator assembly [1] to the retract arm [41] (View B, (Figure 402):

(a) Lubricate the head end pin [48] and the mating surfaces of the retract arm [41] with grease, D00013 or grease, D00633.

(b) Put the head end pin [48] through the retract arm [41] and the actuator assembly [1].

(c) Install the end cap [13] on the head end pin [48].

(d) Put the shaft [46] through the end cap [13].

(e) Install the washers [44] and nuts [43] on the ends of the shaft [46].

(f) Tighten the nut [43] from 10.0 ft-lb (13.6 N·m) to 20.0 ft-lb (27.1 N·m) plus run-on torque.

(g) Install the cotter pin [45] through the nuts [43] on the shaft [46].

NOTE: If it is necessary, loosen the nut [43] until you can install the pin [45].

SUBTASK 32-32-01-080-008-001

(12) Remove the MLG retract actuator sling equipment, SPL-1860 (Figure 403):

(a) Disconnect the cable fishpole hoist, COM-1563 from the actuator clamp [89] and the hoist adapter [92].

(b) Remove the hoist adapter [92] from the retract arm [41].

(c) Remove the pivot guide [85], forward block [82], retainment beam [81], and actuator clamp [89] from the actuator assembly [1].

SUBTASK 32-32-01-410-003-001

(13) Install the applicable access panels:

Number	Name/Location
551DT	Left Main Landing Gear Upper Wing Panel
651DT	Right Main Landing Gear Upper Wing Panel

SUBTASK 32-32-01-080-009-001

(14) Remove the caps from the hydraulic hose [19] and the elbow [18] (View H, Figure 401).

SUBTASK 32-32-01-420-009-001

(15) Connect the hydraulic hose [19] to the elbow [18].

(a) Tighten the B-nut on the hydraulic hose [19] to 700 ±35 in-lb (79 ±4 N·m).

SUBTASK 32-32-01-420-010-001

(16) Do the steps below to install the hydraulic line assembly [5] and its related parts on the actuator assembly [1] (View E, Figure 401):

NOTE: The hydraulic line assembly [5] has three parts: the hose assembly [27], the tube assembly [26], and the elbow [28]. In the steps below, you install these parts, the swivel assembly [14], and the elbow [12] as a unit.

(a) Disconnect the landing gear actuator pump, SPL-1826, from the actuator assembly [1] at location B (View B, Figure 401).

(b) Put the hose assembly [27], tube assembly [26] , elbow [28], swivel assembly [14], and elbow [12] in their position on the actuator assembly [1].

NOTE: You install the hydraulic line, the swivel assembly [14], and the elbow [12] as a unit.

NOTE: The hose assembly [27] must be installed convex outboard to prevent chafing when the landing gear is retracted.

(c) Remove the caps from the hydraulic line [15] and the elbow [12].

(d) Loosely connect the elbow [12] to the hydraulic line [15].

(e) Put the swivel assembly [14] in its position on the end cap [13].

NOTE: Make sure you align the notch in the swivel assembly [14] with the key on the retract arm [41].

(f) Install the bolt [16] and washer [17] that hold the swivel assembly [14] to the end cap [13].

(g) Tighten the bolts [16] from 90.0 in-lb (10.2 N·m) to 110.0 in-lb (12.4 N·m).

(h) Install the MS20995C32 lockwire, G01048 on the bolts [16].

(i) Tighten the B-nut on the hydraulic line [15] to 1200 ±60 in-lb (136 ±7 N·m).

(j) Remove the cap from the hydraulic line assembly [5].

(k) Connect the hydraulic line assembly [5] to the actuator assembly [1].

1) Tighten the B-nut on the elbow [28] to 900 ±45 in-lb (102 ±5 N·m).

SUBTASK 32-32-01-420-013-001

(17) Do the steps below to install the clamp block assembly (View I, Figure 401):

(a) Install the clamp blocks [20] on the hydraulic line [15].

(b) Put the spacer [21] through the clamp block [20].

(c) Install the channel [22] on the lower clamp block [20].

(d) Install the washers [23] on the screw [24].

(e) Install the screws [24] through the channel [22] and the clamp blocks [20].

SUBTASK 32-32-01-420-011-001

(18) Do the steps below to install the hydraulic hose [2] and its related parts on the actuator assembly [1] (View D, Figure 401):

(a) Put the hydraulic hose [2], swivel assembly [14], and elbow [11] in their position on the actuator assembly [1].

NOTE: You install the hydraulic hose [2], the swivel assembly [14], and the elbow [11] as one unit.

NOTE: The hose assembly [27] must be installed convex outboard to prevent chafing when the landing gear is retracted.

(b) Remove the caps from the hydraulic line [10] and the elbow [11].

(c) Loosely connect the elbow [11] to the hydraulic line [10].

(d) Put the swivel assembly [14] in its position on the end cap [13].

NOTE: Make sure you align the notch in the swivel assembly [14] with the key on the retract arm [41].

(e) Install the bolts [16] and washers [17] that hold the swivel assembly [14] to the end cap [13].

(f) Tighten the bolts [16] from 90.0 in-lb (10.2 N·m) to 110.0 in-lb (12.4 N·m).

(g) Install the MS20995C32 lockwire, G01048 on the bolts [16].

(h) Tighten the B-nut on the hydraulic line [10] to 1200 ±60 in-lb (136 ±7 N·m).

(i) Disconnect the landing gear actuator pump, SPL-1826, from the actuator assembly [1].

(j) Remove the cap from the hydraulic hose [2].

(k) Connect the hydraulic hose [2] to the actuator assembly [1].

1) Tighten the B-nut on the hydraulic hose [2] to 900 ±45 in-lb (102 ±5 N·m).

SUBTASK 32-32-01-420-012-001

(19) Do the steps below to connect the hydraulic hose [2] and the hydraulic line assembly [5] to the band clamp [4] (View B, Figure 401):

(a) Loosen the nut on the band clamp [4].

(b) Move the band clamp [4] to its correct position on the actuator assembly [1].

NOTE: There must be a bolt [9] on each side of the hydraulic hose [2] and the hydraulic line assembly [5] at each location where they attach to the band clamp [4].

(c) Mark the location of the band clamp [4] and remove the clamp.

(d) Apply a full coverage of sealant, A50337 to the surfaces that contact the actuator.

(e) Install the band clamp [4] on the actuator.

(f) Lightly tighten the nut on the band clamp [4].

(g) Do the steps below for the saddle clamp [3] and the saddle clamps [6]:

1) Put the saddle clamp [3] and hydraulic hose [2] in their position on the bolts [9].

2) Put the saddle clamps [6] and hydraulic line assembly [5] in their position on the bolts [9].

3) Install the washers [7] and the nuts [8] on the bolts [9].

(h) Tighten the nut on the band clamp [4].

(i) Apply coating, B00571 to the fillet around the edge of the band clamp [4].

SUBTASK 32-32-01-640-002-001

(20) Apply grease, D00013 or grease, D00633, to the lubrication fittings [42] and lubrication fittings [47] to lubricate the head end bearing and the pin [48] (View B, Figure 402).

SUBTASK 32-32-01-640-003-001

(21) Apply grease, D00013 or grease, D00633, to the lubrication fittings [53] to lubricate the rod end bearing and the pin [51] (View D, Figure 402).

H. Main Landing Gear Retract Actuator Installation Test

NOTE: During this test, it is possible that the GEAR DISAGREE message will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the message go away. The message will go away automatically when you complete this test.

SUBTASK 32-32-01-860-005-001

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-01-860-006-001

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-01-860-007-001

(3) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

ARO ALL

SUBTASK 32-32-01-480-014-001

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

ARO ALL; AIRPLANES WITH 293W3302 SERIES ACTUATORS

SUBTASK 32-32-01-860-014-001

WARNING: KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-01-860-009-001

(6) Move the control lever for the landing gear to the UP position.

ARO ALL

NOTE: You must push the LOCK OVRD button to do this.

SUBTASK 32-32-01-210-003-001

(7) Make sure the actuator assembly [1] tries to retract.

ARO ALL; AIRPLANES WITH 293W3302 SERIES ACTUATORS

SUBTASK 32-32-01-860-010-001

(8) Move the control lever for the landing gear to the DN position.

SUBTASK 32-32-01-790-001-001

(9) Examine the actuator assembly [1] for leaks.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-01-080-010-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-32-01-860-011-001

(2) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-32-01-860-012-001

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

MAIN LANDING GEAR RETRACT ACTUATOR - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the retract actuator for the main landing gear

(2) An installation of the retract actuator for the main landing gear.

B. The illustrations in this procedure show the retract actuator for the left main landing gear. This procedure is also applicable to the retract actuator for the right main landing gear.

C. The retract actuator cannot be manually extended or retracted. You must use a pump to extend or retract the retract actuator.

D. The retract actuator weighs approximately 200 pounds (90.7 kg).

E. In this procedure, the retract actuator is referred to as the actuator assembly [1].

F. The 293W3322-1 actuator assembly used with the AS115-12K0254 retract hose, 293W3308-2 tube and BACE21BT1212JN elbow is fully interchangeable with 293W3302-4 or 293W3302-5 actuator assembly used with AS117-12K0450 retract hose. The 293W3308-2 tube is supported by saddle clamp BACC10HB12C. The AS117-12K0450 retract hose is supported by saddle clamp BACC10HB16C.

TASK 32-32-01-020-802-002

2. Main Landing Gear Retract Actuator Removal

A. References

Reference	Title
06-44-00-800-802	Finding an Access Door or Panel on the Wings (P/B 201)
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)
32-11-01-990-811	Figure: Special Tools for Main Landing Gear Installation (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1563	Hoist - Fishpole (cable), minimum 500 lb capacity Part #: 10/3641 Supplier: K1425 Part #: PF51-003-1 Supplier: 1YRX6 Part #: PF51-009-1 Supplier: 1YRX6 Opt Part #: MINILIFT Supplier: K1425
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205

(Continued)

Reference	Description
SPL-1826	Pump - Retraction/Extension, Landing Gear Actuator Part #: A32027-177 Supplier: 81205 Part #: A32027-178 Supplier: 81205
SPL-1842	Puller - Pin, MLG retract Actuator Part #: J32016-9 Supplier: 81205
SPL-1860	Equipment - Sling, MLG Retract Actuator Removal/Installation Part #: J32019-97 Supplier: 81205 Opt Part #: J32019-59 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205
STD-1146	Pad - Protective, Ensolite or Equivalent 1/2 Inch by 72 Inches by 96 Inches

C. **Location Zones**

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing
731	Left Main Landing Gear
741	Right Main Landing Gear

D. **Access Panels**

Number	Name/Location
551DT	Left Main Landing Gear Upper Wing Panel
651DT	Right Main Landing Gear Upper Wing Panel

E. **Prepare for the Removal**

SUBTASK 32-32-01-860-015-002

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-01-860-016-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-01-860-017-002

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-32-01-480-021-002

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-01-480-022-002

(5) Install chocks around the tires of the main landing gear (PAGEBLOCK 10-11-05/201).

SUBTASK 32-32-01-860-018-002

(6) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-32-01-480-023-002

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(7) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

F. Main Landing Gear Retract Actuator Removal

SUBTASK 32-32-01-020-020-002

(1) Do the steps below to disconnect the hydraulic hose [2], hydraulic tube assembly [6], and hydraulic line assembly [5] from the band clamp [4] (View B, Figure 401):

(a) Remove the nuts [8] and washers [7] that attach the saddle clamps [3] to the bolts [9].

(b) Remove the saddle clamps [3] and saddle from the bolts [9].

SUBTASK 32-32-01-020-021-002

(2) Do the steps below to remove the hydraulic hose [2] and the hydraulic tube assembly [6] from the actuator assembly [1] (View D, Figure 401):

(a) Disconnect the hydraulic tube assembly [6] from the actuator assembly [1] at location A.

(b) Install a cap on the hydraulic tube assembly [6].

(c) Connect the landing gear actuator pump, SPL-1826, to the actuator assembly [1] at location A.

NOTE: The placards on the landing gear actuator pump, SPL-1826, tell you how to connect, use, and disconnect the landing gear actuator pump, SPL-1826.

(d) Disconnect the hydraulic line [10] from the elbow [11].

(e) Install caps on the elbow [11] and hydraulic line [10].

(f) Remove the lockwire [25] from the bolts [16].

(g) Remove the bolts [16] and washers [17] that hold the swivel assembly [14] to the end cap [13].

(h) Remove the hydraulic hose [2] and hydraulic tube assembly [6] with the swivel assembly [14] and elbow [11] from the actuator assembly [1] as a unit.

SUBTASK 32-32-01-020-022-002

(3) Do the steps below to remove the hydraulic line assembly [5] and its related parts from the actuator assembly [1] (View D, Figure 401):

NOTE: The hydraulic line assembly [5] has three parts: the hose assembly [27], tube assembly [26], and elbow [28]. In the steps below, you remove these parts, the swivel assembly [14], and elbow [12] as a unit.

(a) Disconnect the hydraulic line assembly [5] from the actuator assembly [1] at location B.

(b) Install a cap on the hydraulic line assembly [5].

(c) Disconnect the hydraulic line [15] from the elbow [12].

(d) Install caps on the elbow [12] and hydraulic line [15].

(e) Remove the lockwire [25] from the bolts [16].

(f) Remove the bolts [16] and washers [17] that hold the swivel assembly [14] to the end cap [13].

(g) Remove the hydraulic line assembly [5] with the swivel assembly [14] and elbow [12] from the actuator assembly [1] as a unit.

(h) Connect the landing gear actuator pump, SPL-1826, to the actuator assembly [1] at location B.

SUBTASK 32-32-01-020-023-002

(4) Disconnect the hydraulic hose [19] from the check valve [18] (View H, Figure 401).

NOTE: This is necessary to install the MLG retract actuator pin puller, SPL-1842.

SUBTASK 32-32-01-480-024-002

(5) Install caps on the check valve [18] and hydraulic hose [19].

SUBTASK 32-32-01-020-024-002

(6) Do the step below to remove the clamp block assembly (View I, Figure 401):

NOTE: This is necessary so that you can move the end of the hydraulic line [15] a small distance to install the MLG retract actuator pin puller, SPL-1842.

(a) Remove the screws [24], washers [23], channel [22], clamp blocks [20], and spacers [21] from the hydraulic line [15].

SUBTASK 32-32-01-010-003-002

(7) Remove the applicable access panel:

(TASK 06-44-00-800-802)

Number	Name/Location
551DT	Left Main Landing Gear Upper Wing Panel
651DT	Right Main Landing Gear Upper Wing Panel

SUBTASK 32-32-01-020-025-002

(8) Do the steps below to prepare for the installation of the MLG retract actuator sling equipment, SPL-1860, equipment, to remove the actuator assembly [1] (View D, Figure 402):

(a) Remove the cotter pin [54], nut [55], and washer [56] from the bolt [59].

(b) Remove the bolt [59] from the rod end pin [51] and nut [57].

SUBTASK 32-32-01-480-025-002

(9) Do the steps below to install the MLG retract actuator sling equipment, SPL-1860, equipment, for removal of the actuator assembly [1] (Figure 403):

NOTE: The sling equipment for the main landing gear has these parts:

- The retainment beam [81].
- The forward block [82].
- The flat nut [86].
- The actuator clamp [89].
- The hoist hanger [91].
- The hoist strap [92].

(a) Do the steps below to install the pivot guide [85], forward block [82], and flat nut [86]:

1) Put the pivot guide [85] through the rod end pin [51] and in its position against the cylinder of the actuator assembly [1].

2) With its eyebolts [83] in the open position, put the forward block [82] in its position against the cylinder of the actuator assembly [1].

3) Close the eyebolts [83] of the forward block [82] around the cylinder of the actuator assembly [1] and into the slots of the pivot guide [85].

4) Tighten the knurled nuts [84] of the forward block [82].

5) Install the flat nut [86] on the shaft of the pivot guide [85].

(b) Do the steps below to connect the retainment beam [81] to the actuator clamps [89] before you install them on the actuator assembly [1]:

1) Align the knurled nuts [90] of the retainment beam [81] with the studs on the actuator clamps [89].

2) Install the retainment beam [81] on the actuator clamps [89].

3) Loosely tighten the knurled nuts [90] of the retainment beam [81].

(c) Do the steps below to install the retainment beam [81] and actuator clamps [89]:

1) With the actuator clamps [89] in the open position, put them and retainment beam [81] into their positions on the actuator assembly [1].

2) Close the actuator clamps [89] around the actuator assembly [1] and move the eyebolts [87] into the locked position.

3) Tighten the clamp nuts [88] of the eyebolts [87] to 30 in-lb (3.4 N·m) - 40 in-lb (4.5 N·m).

4) Tighten the knurled nuts [90] of the retainment beam [81].

(d) Put the hoist strap [92] in its position on the retract arm [41].

SUBTASK 32-32-01-480-026-002

(10) Connect the cable fishpole hoist, COM-1563 (500 lb (227 kg) capacity, 472 in. (12 m) long), to the hoist strap [92].

SUBTASK 32-32-01-480-027-002

(11) Connect the cable fishpole hoist, COM-1563, to the actuator clamp [89].

SUBTASK 32-32-01-580-002-002

(12) Use the cable fishpole hoist, COM-1563, to supply a support for the actuator assembly [1].

SUBTASK 32-32-01-020-026-002

(13) Do the steps below to disconnect the actuator assembly [1] from the retract arm [41] (View B, Figure 402):

(a) Remove the cotter pins [45], nuts [43], and washers [44] from each end of the shaft [46].

(b) Remove the shaft [46] from the end caps [13].

(c) Remove the end caps [13] from the head end pin [48].

(d) Use the MLG retract actuator pin puller, SPL-1842, to remove the head end pin [48] from the actuator assembly [1] and the retract arm [41].

1) To install the MLG retract actuator pin puller, SPL-1842, you must carefully move the end of the hydraulic line [15] a small distance.

SUBTASK 32-32-01-560-007-002

(14) Use the cable fishpole hoist, COM-1563, to carefully lower the actuator assembly [1] until the head end is clear of the retract arm [41].

NOTE: When you do this, the actuator assembly [1] will turn around the rod end pin [51]. You will use the rod end pin [51] as a pivot.

SUBTASK 32-32-01-020-033-002

(15) Remove the washer [49] from the actuator assembly [1] and washer [50] from the retract arm [41].

SUBTASK 32-32-01-560-008-002

(16) Use the cable fishpole hoist, COM-1563, to carefully lower the actuator assembly [1] until it is in a horizontal position.

SUBTASK 32-32-01-480-034-002

(17) Do the steps below to connect the hoist, SPL-1556 (400 lb (181 kg)), to the bottom actuator clamp [89] (Figure 403):

(a) Move the end of the hoist, SPL-1556, into its position above the bottom actuator clamp [89].

(b) Remove the bolt and the shackle from the hoist hanger [91].

(c) Install the hoist hanger [91] in the end of the hoist, SPL-1556.

(d) Use the shackle and the bolt to connect the hoist hanger [91] (in the end of the hoist, SPL-1556) to the bottom actuator clamp [89].

(e) Use the hoist, SPL-1556, to supply a support for the actuator assembly [1].

SUBTASK 32-32-01-080-017-002

(18) Disconnect the cable fishpole hoist, COM-1563, from the bottom actuator clamp [89].

SUBTASK 32-32-01-080-018-002

(19) Remove the flat nut [86] from the shaft of the pivot guide [85].

SUBTASK 32-32-01-020-034-002

ARO ALL

(20) Remove the nut [57], using the wrench kit, SPL-4133, and washer [58] from the rod end pin [51] (Figure 32-11-01-990-811, Figure 402).

NOTE: The thread protector from wrench kit, SPL-4133, can be installed to protect the threads of rod end pin [51] during removal.

ARO ALL; AIRPLANES WITH 293W3322 OR 293W3352 SERIES ACTUATORS

SUBTASK 32-32-01-020-035-002

(21) With the pivot guide [85] and forward block [82] installed on the actuator assembly [1], remove the rod end pin [51] and washer [52] from the outer cylinder [60] (Figure 402).

SUBTASK 32-32-01-480-035-002

(22) Put a protective pad, STD-1146 (1/2 in. X 72 in. X 96 in. equivalent to 13 mm X 1.83 M X 2.40 M), on the ground below the actuator assembly [1].

SUBTASK 32-32-01-020-036-002

(23) Use the hoist, SPL-1556, to lower the actuator assembly [1] and set it on the protective pad, STD-1146.

SUBTASK 32-32-01-480-036-002

(24) Disconnect the hoist, SPL-1556, from the bottom actuator clamp [89] (Figure 403).

SUBTASK 32-32-01-020-037-002

(25) If you install a different actuator assembly [1] than the one you removed, do the steps below:

(a) Remove the forward block [82] and pivot guide [85] from the actuator assembly [1].

(b) Remove the rod end pin [51] and washer [52] from the actuator assembly [1].

(c) Remove the actuator clamps [89] and retainment beam [81] from the actuator assembly [1].

(d) Use the landing gear actuator pump, SPL-1826, to fully retract the rod end of the actuator assembly [1].

(e) Disconnect the landing gear actuator pump, SPL-1826, from the actuator assembly [1].

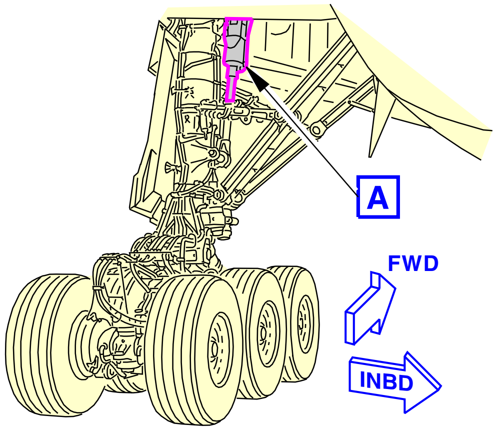
(f) Install caps on the actuator assembly [1].

(g) Do the steps below to remove the band clamp [4] from the actuator assembly [1] (Figure 402):

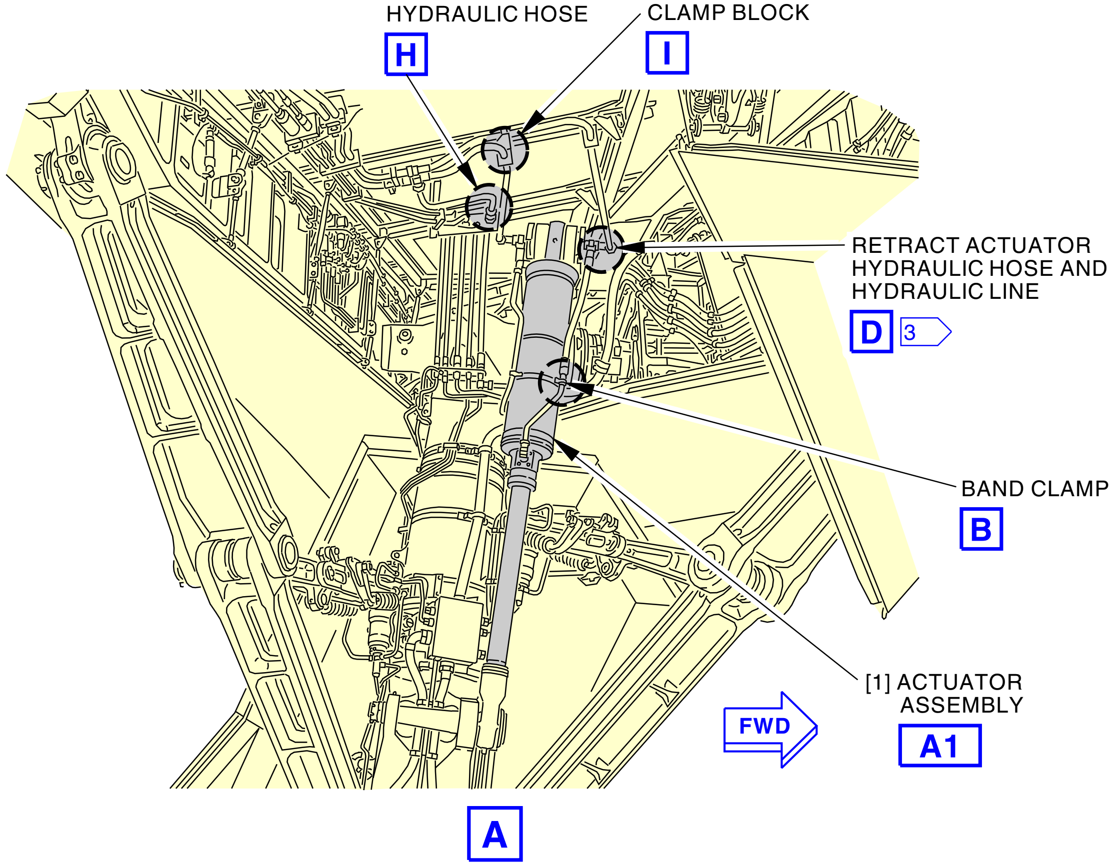
1) Loosen the nut on the band clamp [4].

2) Remove the band clamp [4] from the actuator assembly [1].

END OF TASK



LEFT MAIN LANDING GEAR
(RIGHT MAIN LANDING GEAR IS EQUIVALENT)

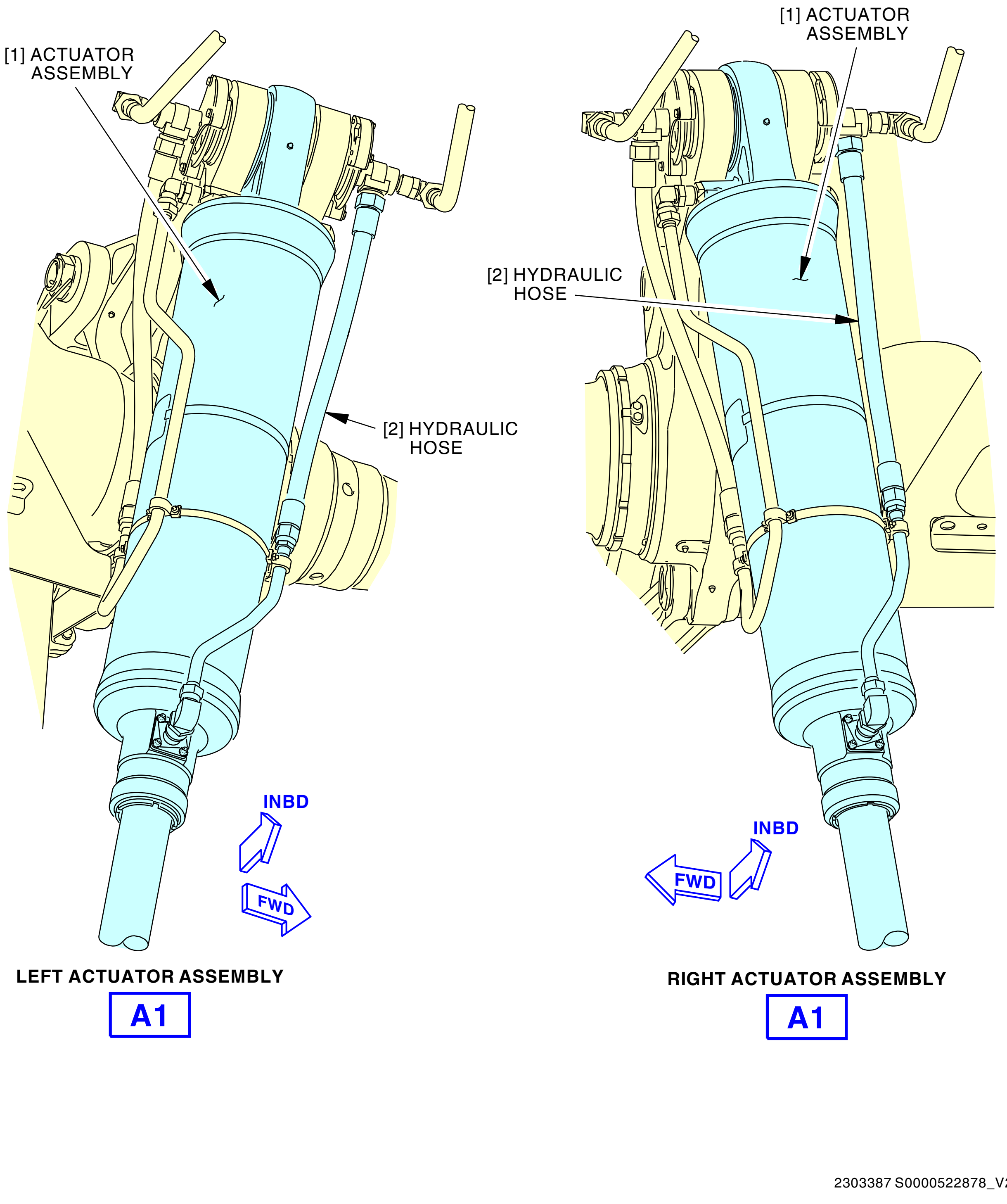


A

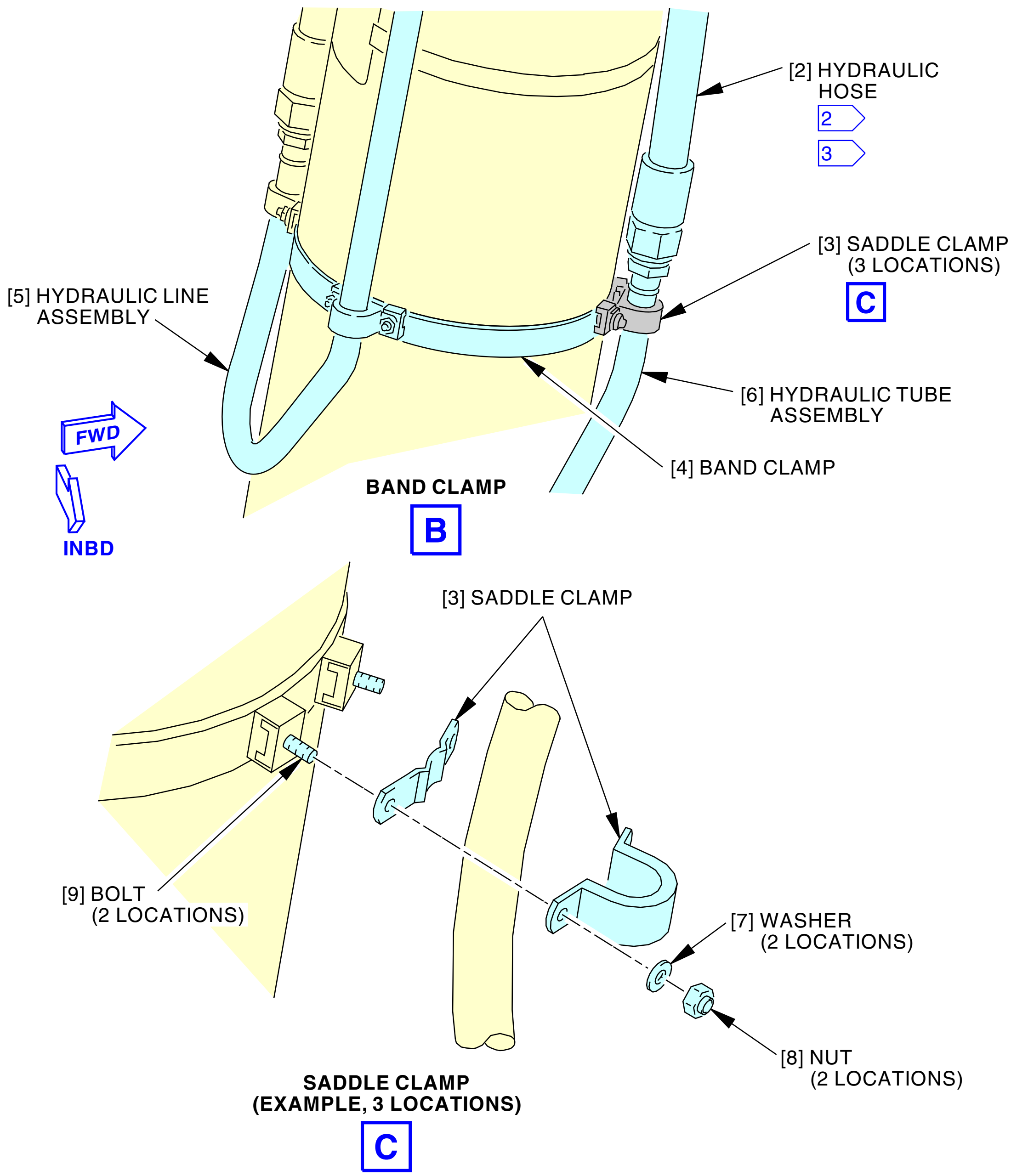
3 RETRACT ACTUATOR [1] FOR THE RIGHT MAIN LANDING GEAR MUST BE INSTALLED WITH THE RETRACT ACTUATOR HYDRAULIC HOSE [2] ORIENTED TOWARDS THE AFT DIRECTION OF THE AIRPLANE.

M92955 S0006418445_V4

Main Landing Gear Retract Actuator Hydraulic Installation
Figure 401/32-32-01-990-807-002 (Sheet 1 of 6)



Main Landing Gear Retract Actuator Hydraulic Installation
Figure 401/32-32-01-990-807-002 (Sheet 2 of 6)

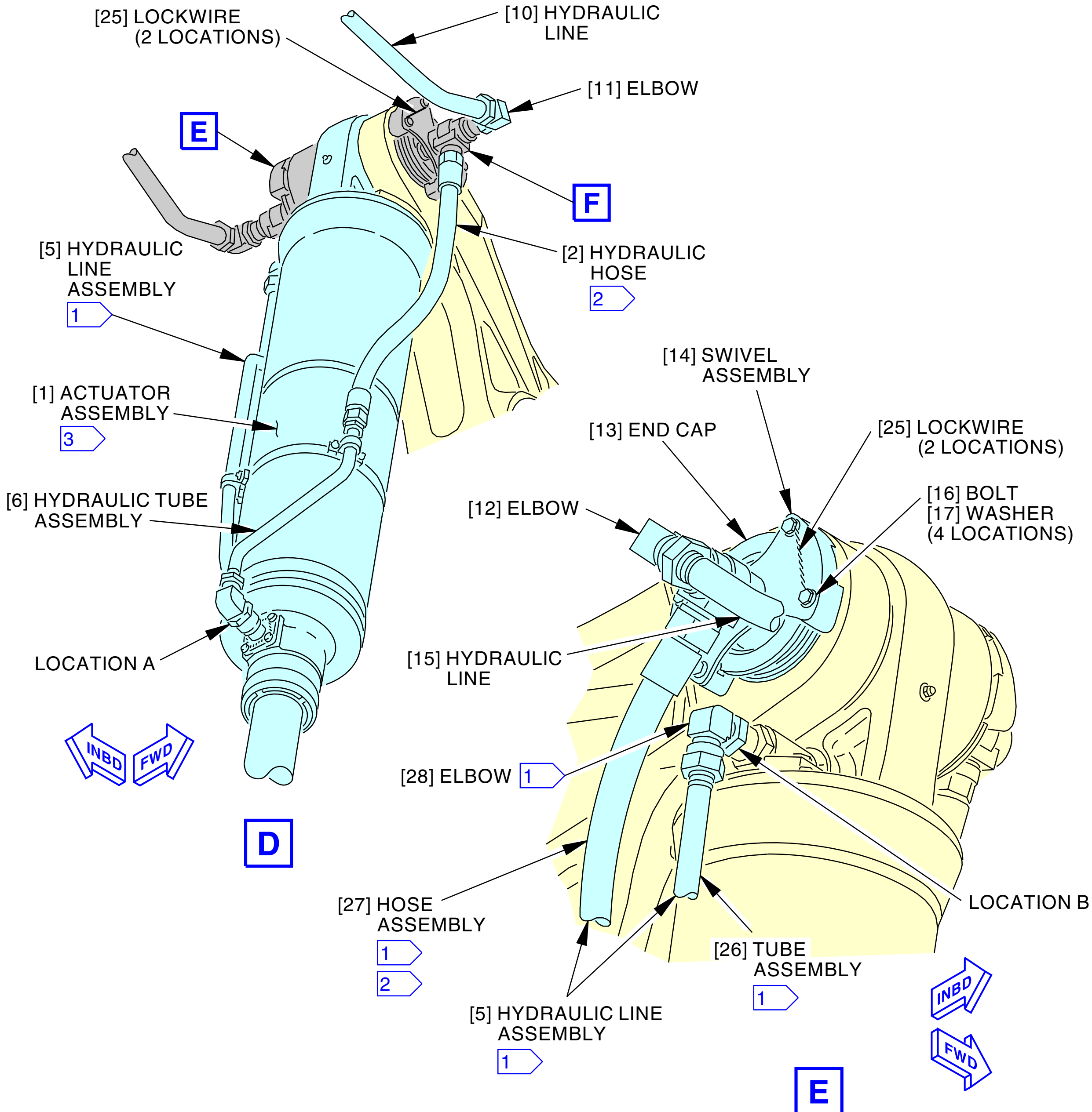


2 HOSE MUST BE INSTALLED CONVEX OUTBOARD.

3 RETRACT ACTUATOR [1] FOR THE RIGHT MAIN LANDING GEAR MUST BE INSTALLED WITH THE RETRACT ACTUATOR HYDRAULIC HOSE [2] ORIENTED TOWARDS THE AFT DIRECTION OF THE AIRPLANE.

M93129 S0006418446_V4

Main Landing Gear Retract Actuator Hydraulic Installation
Figure 401/32-32-01-990-807-002 (Sheet 3 of 6)



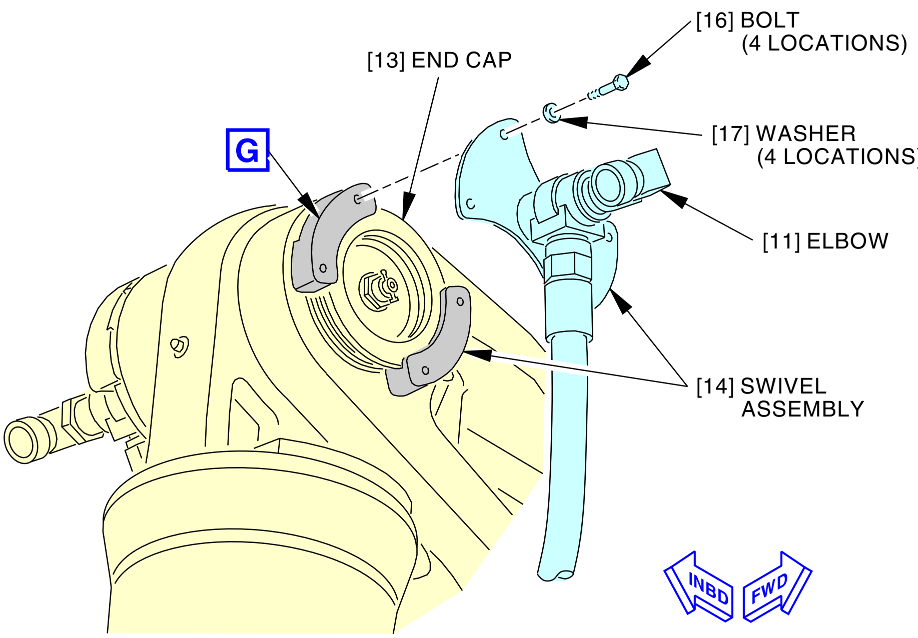
1 [26], [27] AND [28] ARE REMOVED AS AN ASSEMBLY. THEY ARE REFERRED TO AS THE HYDRAULIC LINE ASSEMBLY [5].

2 HOSE MUST BE INSTALLED CONVEX OUTBOARD.

3 RETRACT ACTUATOR [1] FOR THE RIGHT MAIN LANDING GEAR MUST BE INSTALLED WITH THE RETRACT ACTUATOR HYDRAULIC HOSE [2] ORIENTED TOWARDS THE AFT DIRECTION OF THE AIRPLANE.

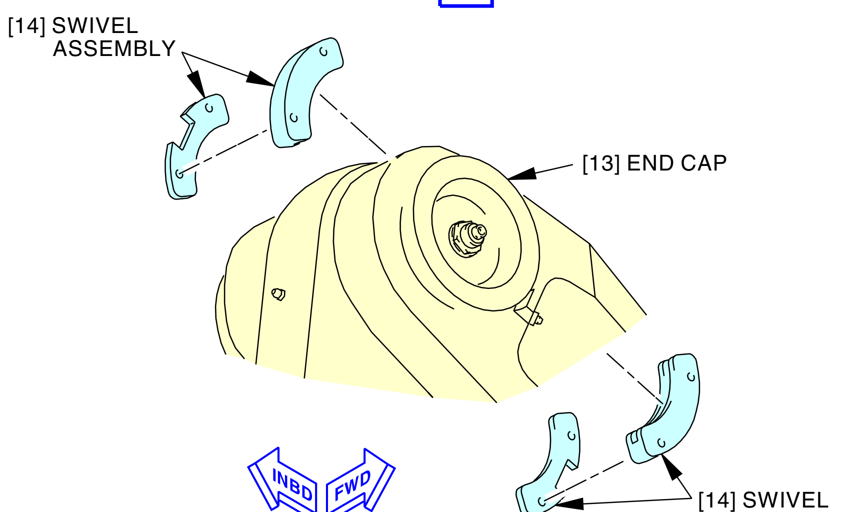
M93140 S0006418447_V4

Main Landing Gear Retract Actuator Hydraulic Installation
Figure 401/32-32-01-990-807-002 (Sheet 4 of 6)



FORWARD SIDE IS SHOWN
(AFT SIDE IS EQUIVALENT)

F

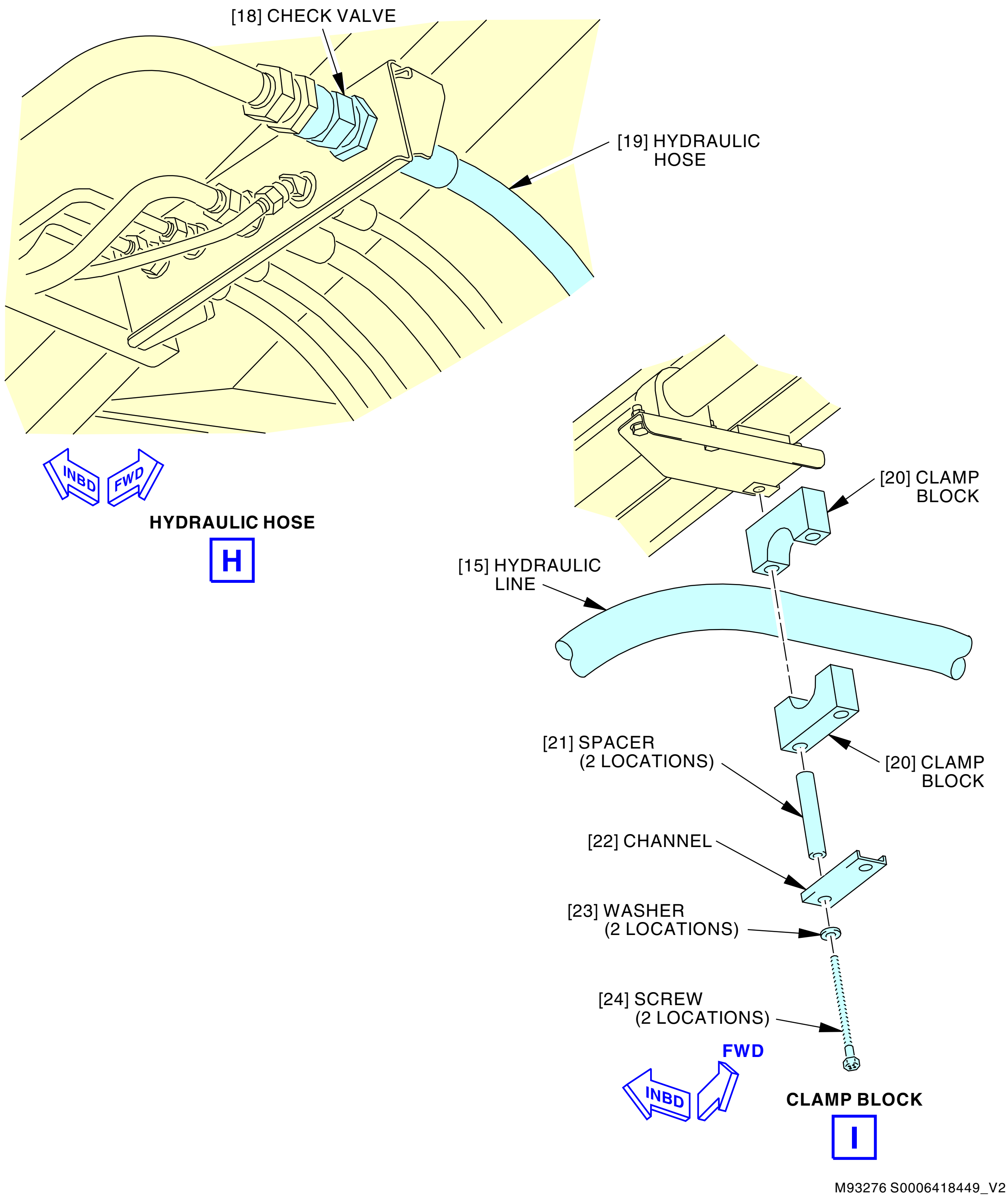


FORWARD SIDE IS SHOWN
(AFT SIDE IS EQUIVALENT)

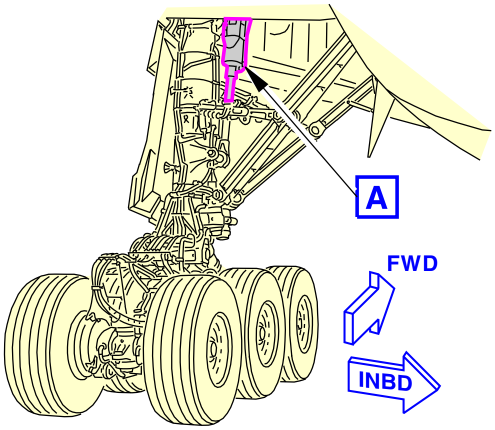
G

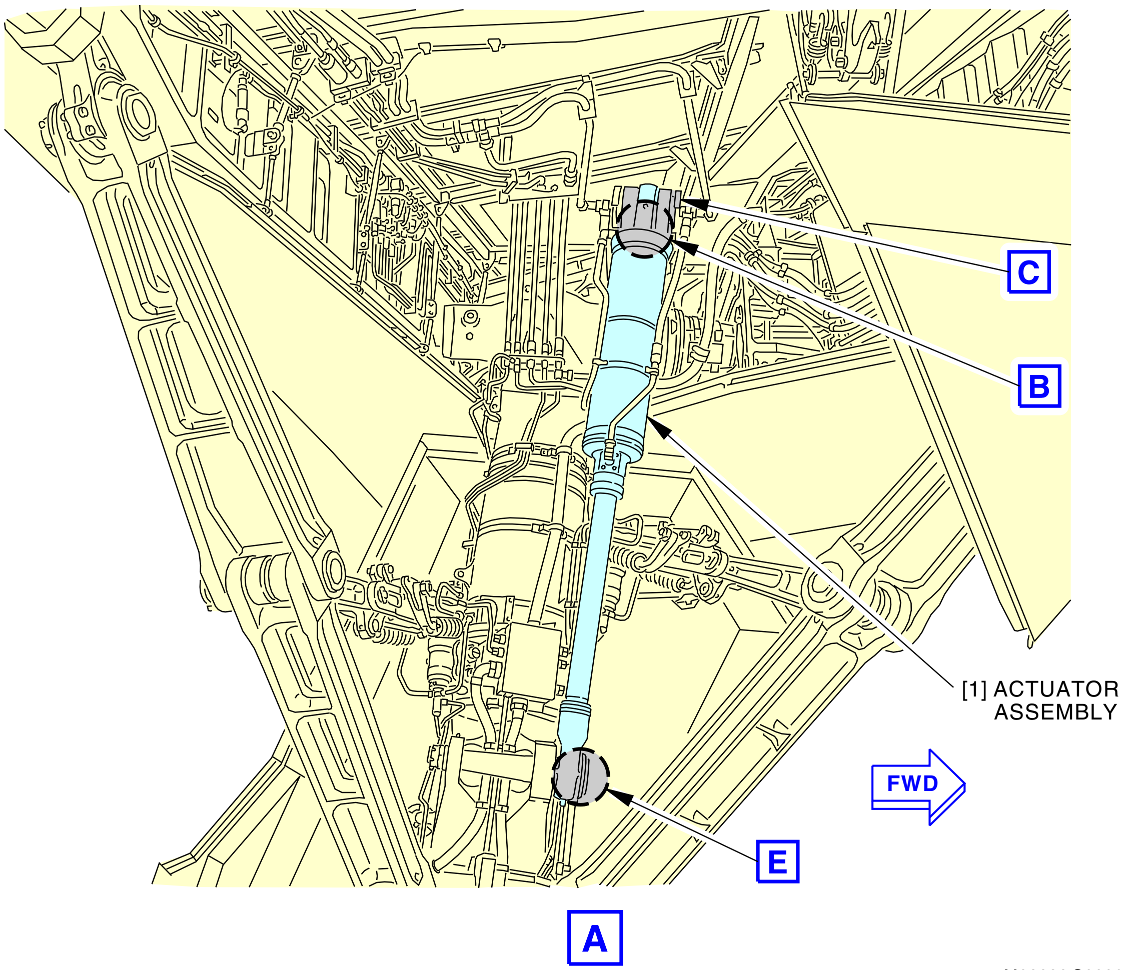
M93169 S0006418448_V2

Main Landing Gear Retract Actuator Hydraulic Installation
Figure 401/32-32-01-990-807-002 (Sheet 5 of 6)



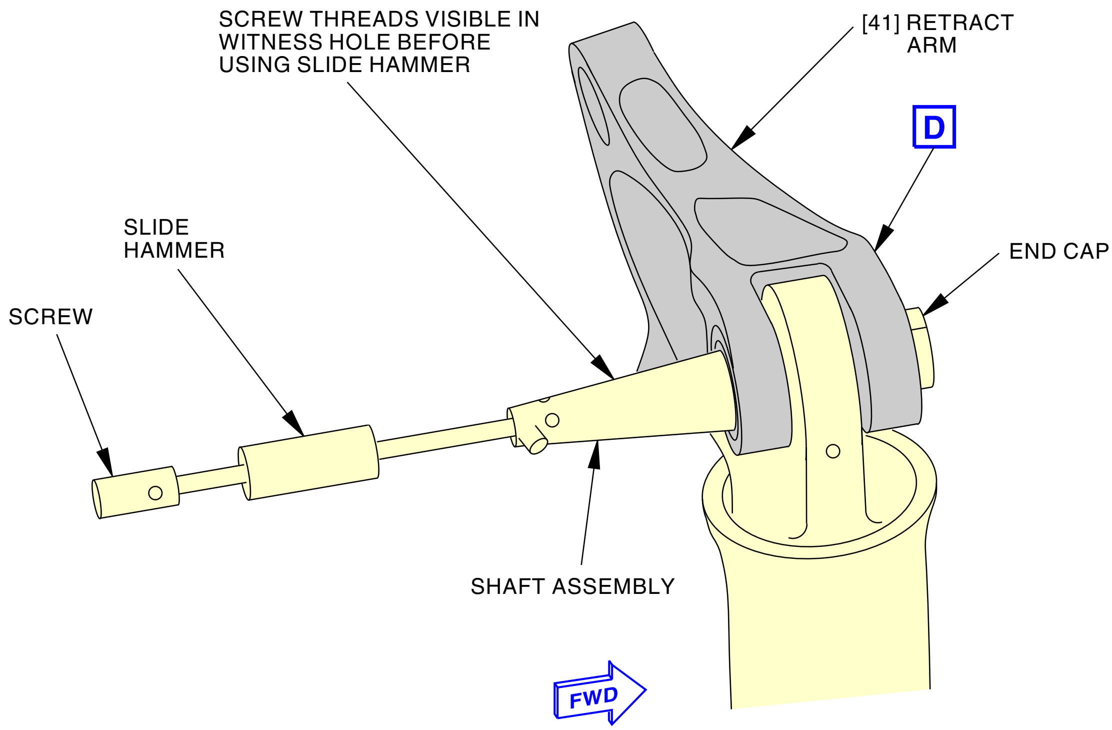
Main Landing Gear Retract Actuator Hydraulic Installation
Figure 401/32-32-01-990-807-002 (Sheet 6 of 6)





M93282 S0006418450_V3

Main Landing Gear Retract Actuator Attachment Pins Installation
Figure 402/32-32-01-990-808-002 (Sheet 1 of 4)

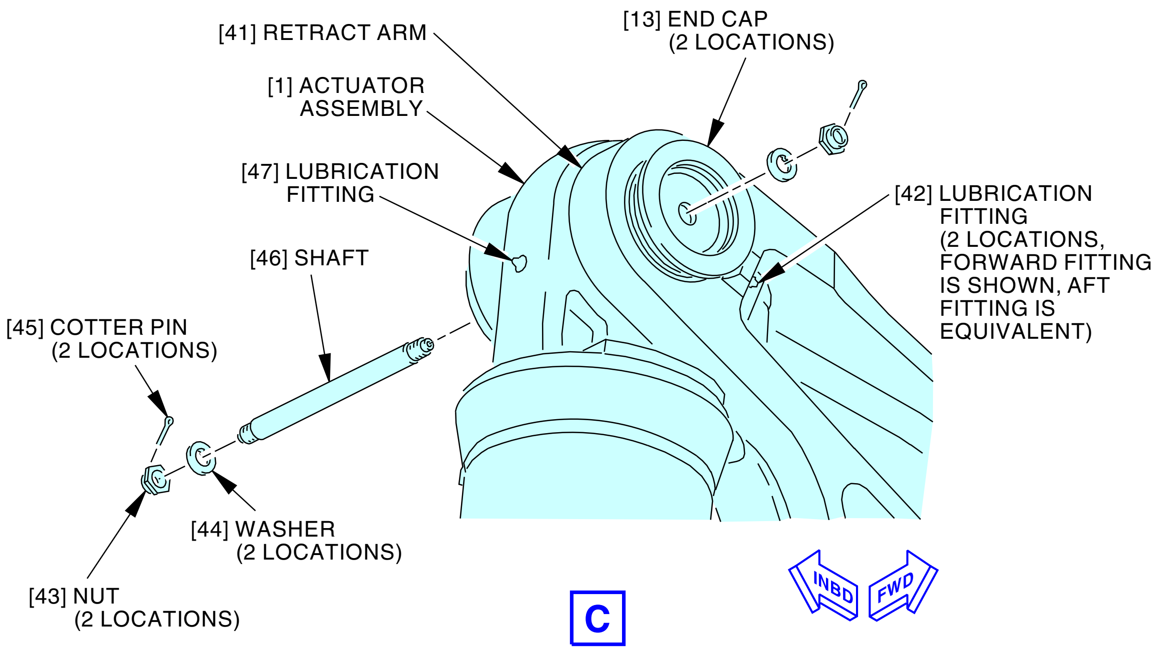


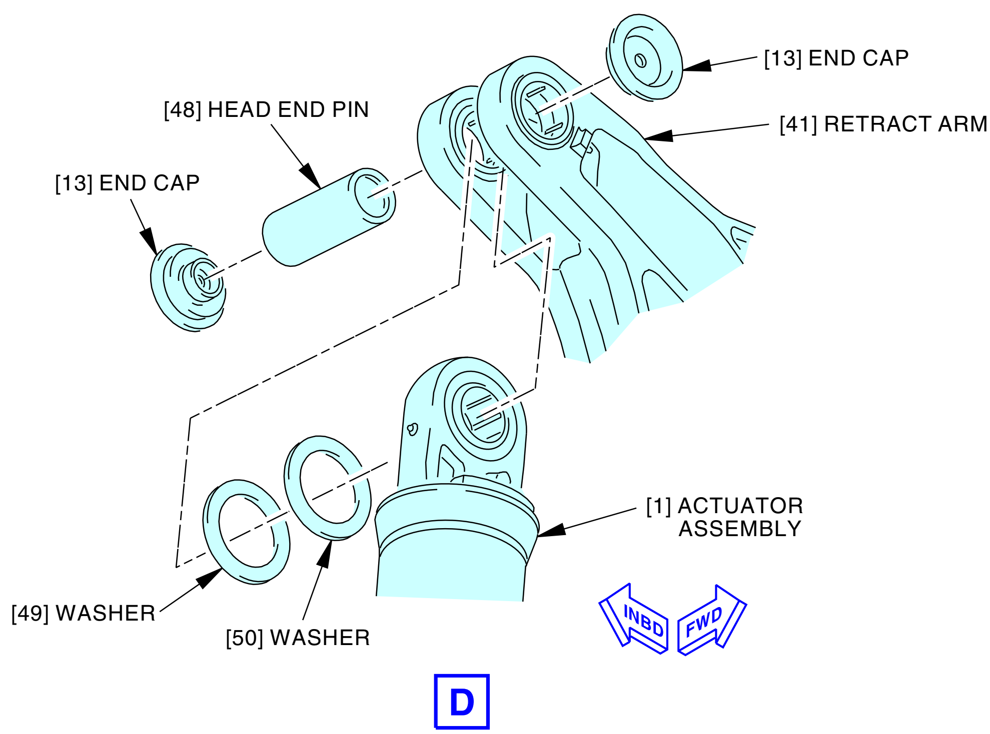
RETRACT ACTUATOR PIN PULLER

B

J88399 S0000182582_V2

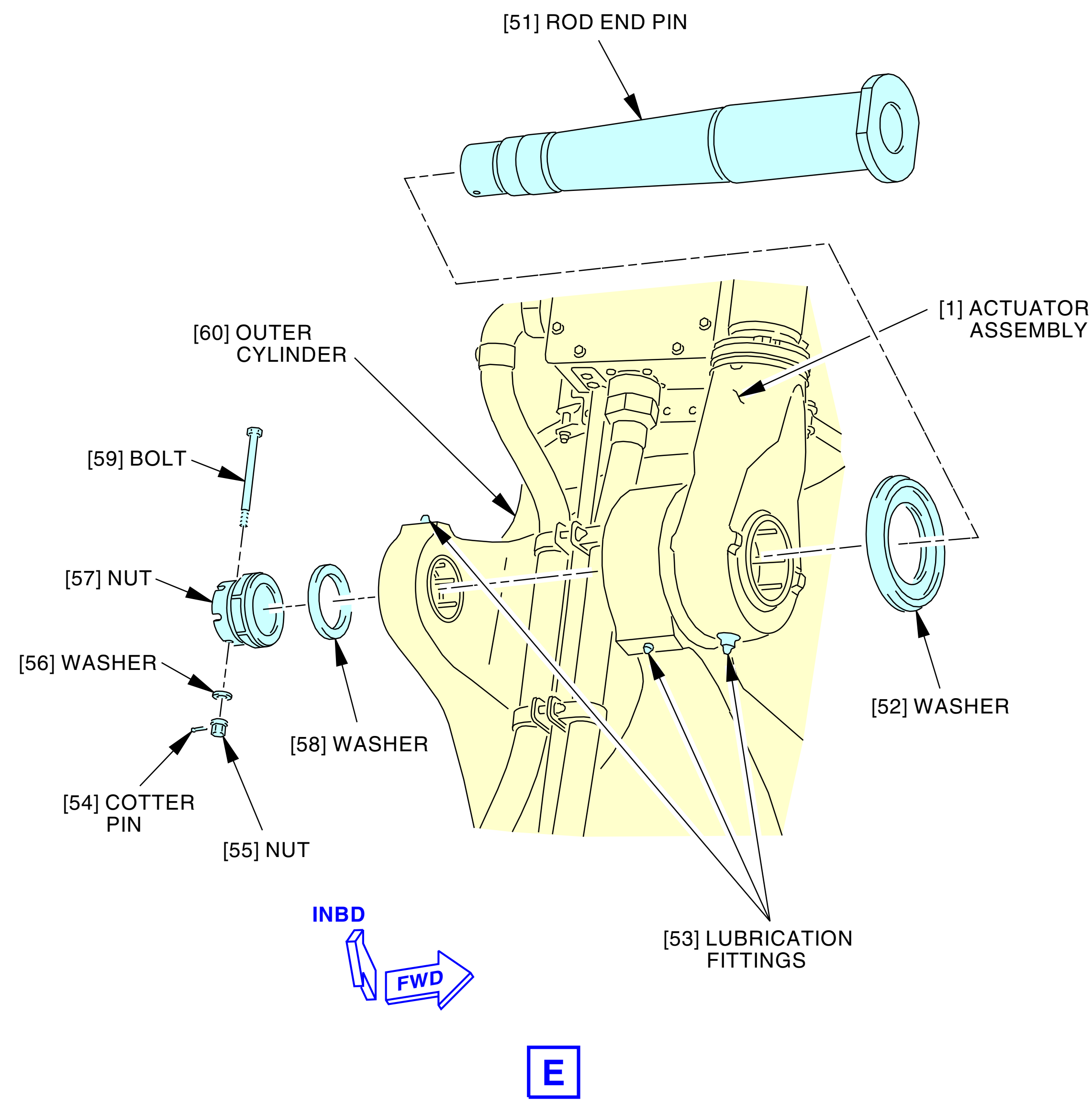
Main Landing Gear Retract Actuator Attachment Pins Installation
Figure 402/32-32-01-990-808-002 (Sheet 2 of 4)





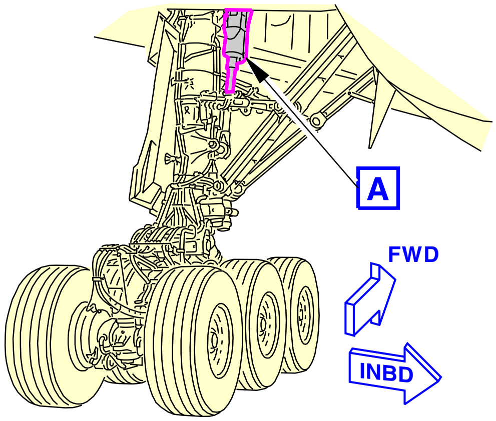
M93289 S0006418451_V6

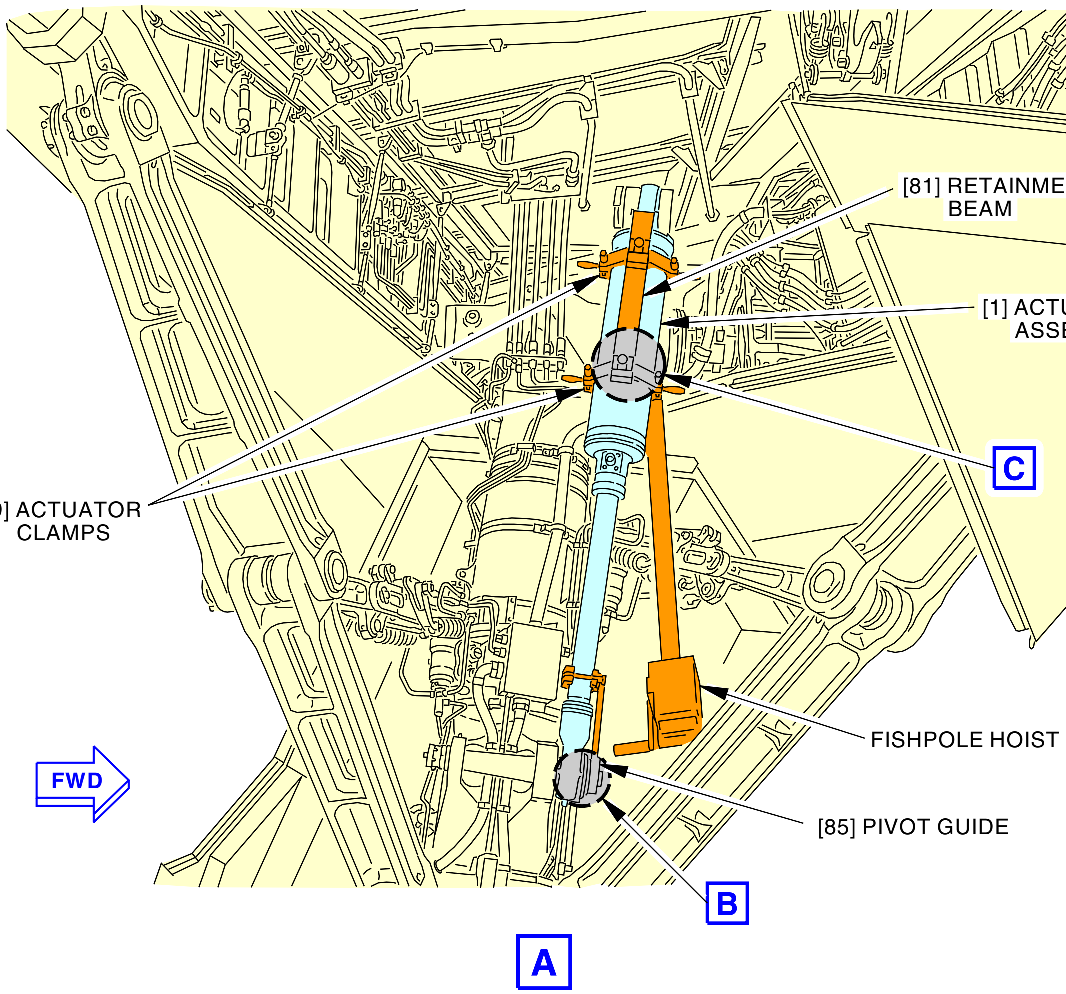
Main Landing Gear Retract Actuator Attachment Pins Installation
Figure 402/32-32-01-990-808-002 (Sheet 3 of 4)



M93300 S0006418452_V3

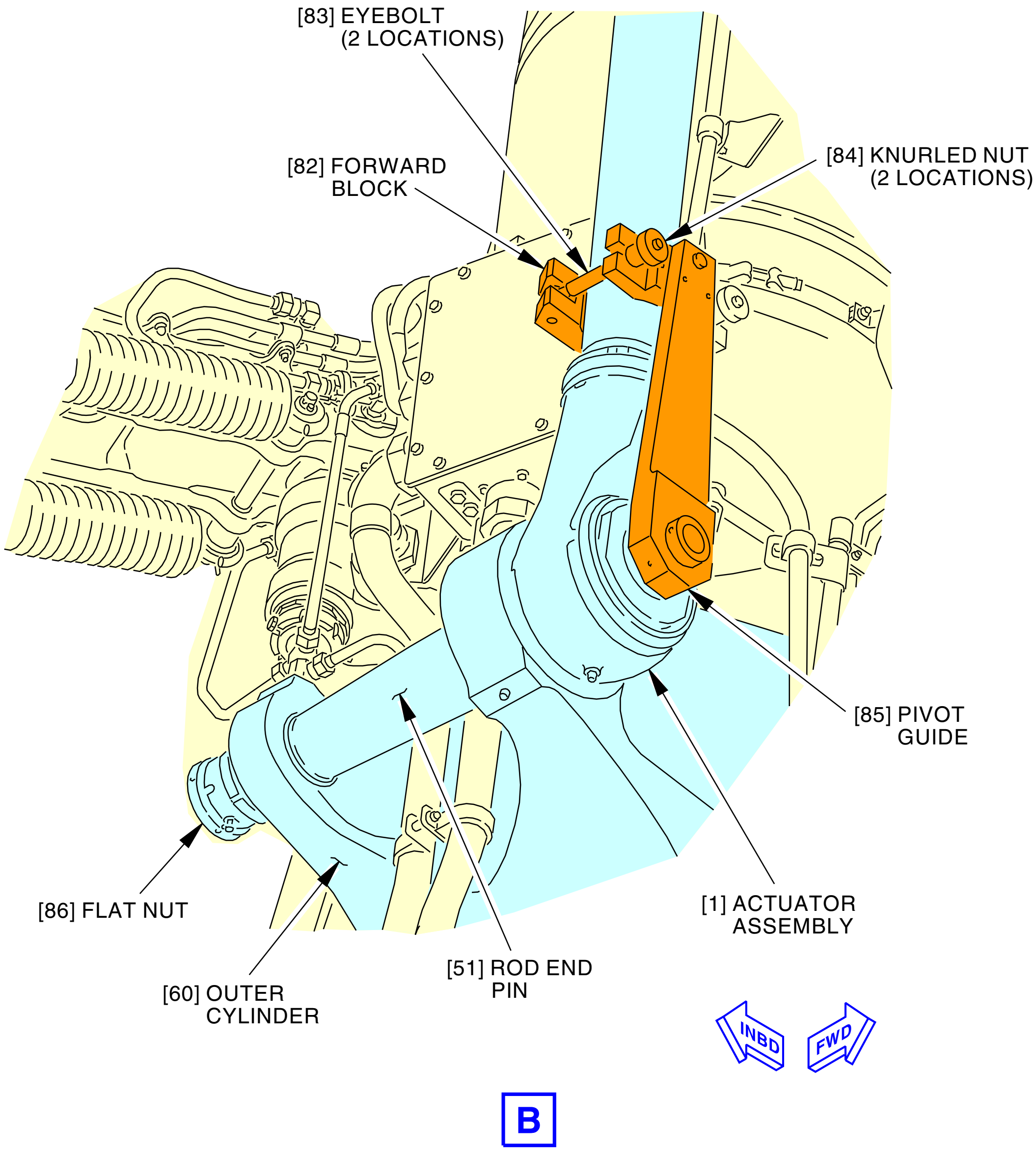
Main Landing Gear Retract Actuator Attachment Pins Installation
Figure 402/32-32-01-990-808-002 (Sheet 4 of 4)





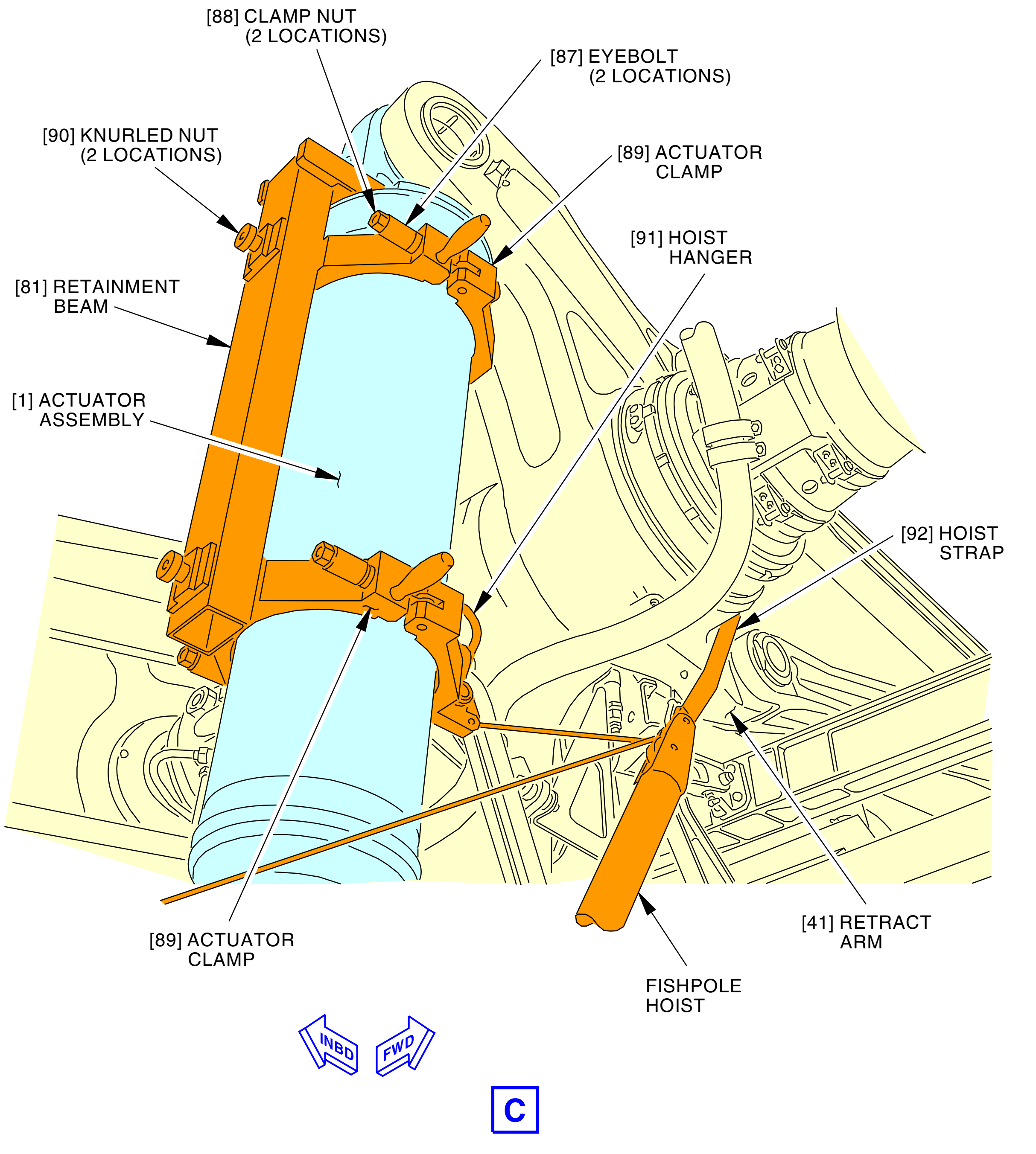
M94027 S0006418453_V2

Main Landing Gear Retract Actuator Sling Installation
Figure 403/32-32-01-990-809-002 (Sheet 1 of 3)



M94035 S0006418454_V3

Main Landing Gear Retract Actuator Sling Installation
Figure 403/32-32-01-990-809-002 (Sheet 2 of 3)



Main Landing Gear Retract Actuator Sling Installation
Figure 403/32-32-01-990-809-002 (Sheet 3 of 3)

TASK 32-32-01-420-803-002

3. Main Landing Gear Retract Actuator Installation

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-11-01-990-811	Figure: Special Tools for Main Landing Gear Installation (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1563	Hoist - Fishpole (cable), minimum 500 lb capacity Part #: 10/3641 Supplier: K1425 Part #: PF51-003-1 Supplier: 1YRX6 Part #: PF51-009-1 Supplier: 1YRX6 Opt Part #: MINILIFT Supplier: K1425
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1826	Pump - Retraction/Extension, Landing Gear Actuator Part #: A32027-177 Supplier: 81205 Part #: A32027-178 Supplier: 81205
SPL-1860	Equipment - Sling, MLG Retract Actuator Removal/Installation Part #: J32019-97 Supplier: 81205 Opt Part #: J32019-59 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205
STD-1146	Pad - Protective, Ensolite or Equivalent 1/2 Inch by 72 Inches by 96 Inches

C. Consumable Materials

Reference	Description	Specification
A50337	Sealant - Fuel Tank	BMS5-45 Class B
B00571	Coating - Clear Skydrol Resistant Topcoating	BAC5710 Type 41
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
D00633	Grease - Aircraft General Purpose	BMS3-33

(Continued)

Reference	Description	Specification
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. **Location Zones**

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing
731	Left Main Landing Gear
741	Right Main Landing Gear

E. **Access Panels**

Number	Name/Location
551DT	Left Main Landing Gear Upper Wing Panel
651DT	Right Main Landing Gear Upper Wing Panel

F. **Main Landing Gear Retract Actuator Installation**

NOTE: In the installation, you use the equipment, MLG retract actuator sling equipment, SPL-1860, to install the actuator assembly [1]. The sling equipment for the main landing gear retract actuator has these parts:

- The retainment beam [81].
- The forward block [82].
- The pivot guide [85].
- The flat nut [86].
- The actuator clamps [89].
- The hoist hanger [91].
- The hoist strap [92].

SUBTASK 32-32-01-020-038-002

(1) If you install a different actuator assembly [1] than the one you removed, do the steps below (Figure 401):

(a) With the actuator assembly [1] in a horizontal position on the protective pad, STD-1146 (1/2 in. X 72 in. X 96 in. equivalent to 13 mm X 1.83 M X 2.40 M), carefully lift the rod end of the actuator assembly actuator assembly [1].

(b) Do the steps below to install the band clamp [4] on the actuator assembly [1]:

1) Install the band clamp [4] on the actuator assembly [1].

2) Lightly tighten the nut on the band clamp [4] so that the band clamp [4] does not move on the actuator assembly [1].

(c) Lower the rod end of the actuator assembly [1] to the ground.

(d) Remove the caps from the hydraulic ports on the actuator assembly [1].

(e) Connect the landing gear actuator pump, SPL-1826, to the actuator assembly [1].

(f) Use the landing gear actuator pump, SPL-1826, to fill the actuator assembly [1] with hydraulic fluid, D00153.

(g) Use the landing gear actuator pump, SPL-1826, to fully extend the rod end of the actuator assembly [1].

(h) Carefully lift the rod end of the actuator assembly [1].

(i) Do the steps below to install the retainment beam [81] and actuator clamps [89] (Figure 403):

1) With the actuator clamps [89] in the open position, put the actuator clamps [89] and retainment beam [81] in their positions on the actuator assembly [1].

2) Close the actuator clamps [89] around the actuator assembly [1] and move the eyebolts [87] to the locked position.

3) Tighten the clamp nuts [88] of the eyebolts [87] to 30.0 in-lb (3.4 N·m) - 40.0 in-lb (4.5 N·m).

(j) Install the washer [52] on the rod end pin [51] (Figure 402).

(k) Lubricate the rod end pin [51] and the mating surfaces of the actuator assembly [1] and outer cylinder [60] with grease, D00633.

(l) Put the rod end pin [51] with the washer [52] through the actuator assembly [1].

(m) Do the steps below to install the pivot guide [85] and forward block [82] (Figure 403):

1) Put the pivot guide [85] through the rod end pin [51] in its position against the cylinder of the actuator assembly [1].

2) With its eyebolts [83] in the open position, put the forward block [82] in its position against the cylinder of the actuator assembly [1].

3) Close the eyebolts [83] of the forward block [82] around the cylinder of the actuator assembly [1] and into the slots of the pivot guide [85].

4) Tighten the knurled nuts [84] on the forward block [82].

SUBTASK 32-32-01-480-037-002

(2) Do the steps below to connect the hoist, SPL-1556, to the bottom actuator clamp [89]:

(a) Move the end of the hoist, SPL-1556, into its position above the bottom actuator clamp [89].

(b) Use the shackle and bolt to connect the hoist hanger [91] (in the end of the hoist, SPL-1556) to the bottom actuator clamp [89].

SUBTASK 32-32-01-420-023-002

(3) Use the hoist, SPL-1556, to lift the actuator assembly [1] to the height necessary to connect it to the outer cylinder [60].

NOTE: Keep the actuator assembly [1] in a horizontal position when you do this.

ARO ALL

SUBTASK 32-32-01-420-024-002

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

ARO ALL (Continued)

(WARNING PRECEDES)

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(4) Do the steps below to connect the rod end of the actuator assembly [1] to the outer cylinder [60] (View E, Figure 402):

(a) Make sure that you install the retract actuator in the correct position (View A1, Figure 401).

NOTE: The Left Hand (LH) retract actuator should be installed with the hydraulic hose on the forward side of the assembly. The Right Hand (RH) retract actuator should be installed with the hydraulic hose on the aft side of the assembly.

(b) Apply a layer of grease, D00633, to the mating surface of the rod end pin [51] and outer cylinder [60].

(c) With the pivot guide [85] and forward block [82] installed on the actuator assembly [1], put the rod end pin [51] through the outer cylinder [60].

(d) Apply a thin layer of Cor-Ban 27L Compound, G50237, or Mastinox 6856 K, C00913, to these areas:

1) The faces of the washer [58].

2) The threads of the rod end pin [51].

NOTE: The thread protector from wrench kit, SPL-4133, can be reinstalled after the Cor-Ban 27L Compound, G50237, or Mastinox 6856 K, C00913, is applied.

3) The threads of the nut [57].

4) The bolt [59].

(e) Install the washer [58] and nut [57] on the rod end pin [51].

(f) Use the wrench kit, SPL-4133, to tighten the nut [57] to 100 ft-lb (136 N·m) - 120 ft-lb (163 N·m) (Figure 32-11-01-990-811).

(g) Put the bolt [59] through the nut [57] and rod end pin [51].

1) If it is necessary, loosen the nut [57] until you can install the bolt [59].

(h) Install the washer [56] and nut [55] on the bolt [59].

(i) Install the cotter pin [54] through the nut [55].

ARO ALL; AIRPLANES WITH 293W3322 OR 293W3352 SERIES ACTUATORS

SUBTASK 32-32-01-480-038-002

(5) Connect the cable fishpole hoist, COM-1563 (500 lb (227 kg), 472 in. (12 m)) to the bottom actuator clamp [89].

SUBTASK 32-32-01-080-019-002

(6) Disconnect the hoist, SPL-1556, from the bottom actuator clamp [89].

SUBTASK 32-32-01-560-009-002

(7) Use the cable fishpole hoist, COM-1563, to carefully lift the actuator assembly [1] until the head end is near the retract arm [41].

NOTE: When you do this, the actuator assembly [1] will turn around the rod end pin [51]. You use the rod end pin [51] as a pivot.

SUBTASK 32-32-01-640-007-002

(8) Lubricate the actuator assembly [1] where it touches the head end pin [48] with grease, D00633.

SUBTASK 32-32-01-420-025-002

(9) Install the washer [49] and washer [50] on the retract arm [41] and AFT of the actuator assembly [1].

SUBTASK 32-32-01-820-003-002

(10) Use the cable fishpole hoist, COM-1563, and the landing gear actuator pump, SPL-1826, to align the head end of the actuator assembly [1] with the retract arm [41].

SUBTASK 32-32-01-420-026-002

(11) Do the steps below to connect the actuator assembly [1] to the retract arm [41] (View B, Figure 402):

(a) Lubricate the head end pin [48] and mating surfaces of the retract arm [41] with grease, D00633.

(b) Put the head end pin [48] through the retract arm [41] and actuator assembly [1].

(c) Install the end caps [13] on the head end pin [48].

(d) Put the shaft [46] through the end caps [13].

(e) Install the washers [44] and nuts [43] on the ends of the shaft [46].

(f) Tighten the nuts [43] to 10.0 ft-lb (13.6 N·m) - 20.0 ft-lb (27.1 N·m) plus run-on torque.

(g) Install the cotter pins [45] through the nuts [43] on the shaft [46].

1) If it is necessary, loosen the nut [43] until you can install the cotter pin [45].

SUBTASK 32-32-01-080-020-002

(12) Remove the equipment, MLG retract actuator sling equipment, SPL-1860 (Figure 403):

(a) Disconnect the cable fishpole hoist, COM-1563, from the bottom aactuator clamp [89] and hoist strap [92].

(b) Remove the hoist strap [92] from the retract arm [41].

(c) Remove the pivot guide [85], forward block [82], retainment beam [81], and actuator clamps [89] from the actuator assembly [1].

SUBTASK 32-32-01-410-005-002

(13) Install the applicable access panels:

Number	Name/Location
551DT	Left Main Landing Gear Upper Wing Panel
651DT	Right Main Landing Gear Upper Wing Panel

SUBTASK 32-32-01-080-021-002

(14) Remove the caps from the hydraulic hose [19] and check valve [18] (View H, Figure 401).

SUBTASK 32-32-01-420-027-002

(15) Connect the hydraulic hose [19] to the check valve [18].

(a) Tighten the B-nut on the hydraulic hose [19] to 700 ±35 in-lb (79 ±4 N·m).

SUBTASK 32-32-01-420-028-002

(16) Do the steps below to install the hydraulic line assembly [5] and its related parts on the actuator assembly [1] (View D, Figure 401):

NOTE: The hydraulic line assembly [5] has three parts: the hose assembly [27], tube assembly [26], and elbow [28]. In the steps below, you install these parts, the swivel assembly [14], and elbow [12] as a unit.

(a) Disconnect the landing gear actuator pump, SPL-1826, from the actuator assembly [1] at location B.

(b) Put the hose assembly [27], tube assembly [26], elbow [28], swivel assembly [14], and elbow [12] in their position on the actuator assembly [1].

NOTE: You install the hydraulic line [15], swivel assembly [14], and elbow [12] as a unit.

1) The hose assembly [27] must be installed convex outboard to prevent chafing when the landing gear is retracted.

(c) Remove the caps from the hydraulic line [15] and elbow [12].

(d) Loosely connect the elbow [12] to the hydraulic line [15].

(e) Put the swivel assembly [14] in its position on the end cap [13].

1) Make sure you align the notch in the swivel assembly [14] with the key on the retract arm [41].

(f) Install the bolts [16] and washers [17] that hold the swivel assembly [14] to the end cap [13].

(g) Tighten the bolts [16] to 90 in-lb (10 N·m) - 100 in-lb (11 N·m).

(h) Install the MS20995C32 lockwire, G01048 [25], on the bolts [16].

(i) Tighten the B-nut on the hydraulic line [15] to 1200 ±60 in-lb (136 ±7 N·m).

(j) Remove the cap from the hydraulic line assembly [5].

(k) Connect the hydraulic line assembly [5] to the actuator assembly [1].

1) Tighten the B-nut on the elbow [28] to 900 ±45 in-lb (102 ±5 N·m).

SUBTASK 32-32-01-420-029-002

(17) Do the steps below to install the clamp block assembly (View I, Figure 401):

(a) Install the clamp blocks [20] on the hydraulic line [15].

(b) Put the spacers [21] through the clamp blocks [20].

(c) Install the channel [22] on the lower clamp blocks [20].

(d) Install the washers [23] on the screws [24].

(e) Install the screws [24] through the channel [22] and clamp blocks [20].

SUBTASK 32-32-01-420-030-002

(18) Do the steps below to install the hydraulic hose [2], hydraulic tube assembly [6], and related parts on the actuator assembly [1] (View D, (Figure 401):

(a) Put the hydraulic hose [2], swivel assembly [14], and elbow [11] in their position on the actuator assembly [1].

NOTE: You install the hydraulic hose [2], swivel assembly [14], and elbow [11] as one unit.

1) The hose assembly [27] must be installed convex outboard to prevent chafing when the landing gear is retracted.

(b) Remove the caps from the hydraulic line [10] and elbow [11].

(c) Loosely connect the elbow [11] to the hydraulic line [10].

(d) Put the swivel assembly [14] in its position on the end cap [13].

1) Make sure you align the notch in the swivel assembly [14] with the key on the retract arm [41].

(e) Install the bolts [16] and washer [17] that hold the swivel assembly [14] to the end cap [13].

(f) Tighten the bolts [16] to 90 in-lb (10 N·m) - 110 in-lb (12 N·m).

(g) Install the MS20995C32 lockwire, G01048, on the bolts [16].

(h) Tighten the B-nut on the hydraulic line [10] to 1200 ±60 in-lb (136 ±7 N·m).

(i) Disconnect the landing gear actuator pump, SPL-1826, from the actuator assembly [1] at location A.

(j) Remove the cap from the hydraulic tube assembly [6].

(k) Connect the hydraulic tube assembly [6] to the actuator assembly [1].

1) Tighten the B-nut on the hydraulic tube assembly [6] to 900 ±45 in-lb (102 ±5 N·m).

SUBTASK 32-32-01-420-031-002

(19) Do the steps below to connect the hydraulic tube assembly [6] and hydraulic line assembly [5] to the band clamp [4] (View B, Figure 401):

(a) Loosen the nut on the band clamp [4].

(b) Move the band clamp [4] to its correct position on the actuator assembly [1].

NOTE: There must be a bolt [9] on each side of the hydraulic tube assembly [6] and the hydraulic line assembly [5] at each location where they attach to the band clamp [4].

(c) Mark the location and remove the band clamp [4].

(d) Apply a full coverage of sealant, A50337, to the surfaces that contact the actuator.

(e) Install the band clamp [4] on the actuator.

(f) Lightly tighten the nut on the band clamp [4].

(g) Do the steps below for the saddle clamps [3]:

1) Put the saddle clamps [3] and hydraulic tube assembly [6] in their position on the bolts [9].

2) Put the saddle clamps [3] and hydraulic line assembly [5] in their position on the bolts [9].

3) Install the washers [7] and nuts [8] on the bolts [9].

(h) Tighten the nut on the band clamp [4].

(i) Apply coating, B00571, to the fillet around the edge of the band clamp [4].

SUBTASK 32-32-01-640-008-002

(20) Apply grease, D00633, to the lubricarion fittings [42] and lubrication fittings [47] to lubricate the head end bearing and the head end pin [48] (View B, Figure 402).

SUBTASK 32-32-01-640-009-002

(21) Apply grease, D00633, to the lubrication fittings [53] to lubricate the rod end bearing and rod end pin [51] (View D, Figure 402):

G. Main Landing Gear Retract Actuator Installation Test

NOTE: During this test, it is possible that the GEAR DISAGREE message will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the message go away. The message will go away automatically when you complete this test.

SUBTASK 32-32-01-860-027-002

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-01-860-028-002

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-01-860-029-002

(3) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

ARO ALL

SUBTASK 32-32-01-480-039-002

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

ARO ALL; AIRPLANES WITH 293W3322 OR 293W3352 SERIES ACTUATORS

SUBTASK 32-32-01-860-030-002

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-01-860-031-002

(6) Move the control lever for the landing gear to the UP position.

ARO ALL

NOTE: You must push the LOCK OVRD button to do this.

SUBTASK 32-32-01-210-005-002

(7) Make sure the actuator assembly [1] tries to retract.

ARO ALL; AIRPLANES WITH 293W3322 OR 293W3352 SERIES ACTUATORS

SUBTASK 32-32-01-860-032-002

(8) Move the control lever for the landing gear to the DN position.

SUBTASK 32-32-01-790-003-002

(9) Examine the actuator assembly [1] for leaks.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-01-080-022-002

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-32-01-860-033-002

(2) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-32-01-860-034-002

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

MAIN LANDING GEAR RETRACT ACTUATOR ATTACHMENT PINS - INSPECTION/CHECK

1. **General**

   A. This procedure only has illustrations and a wear limit table which show the data for wear limits. There are no procedures for access, removal, or installation of the parts. Refer to (MAIN LANDING GEAR RETRACT ACTUATOR, SUBJECT 32-32-01) for procedures to do these tasks.

TASK 32-32-01-200-801

2. **Wear Limits for the Main Landing Gear Retract Actuator Attachment Pins**

   (Figure 601)

   A. **Location Zones**

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing
731	Left Main Landing Gear
741	Right Main Landing Gear

   B. **Procedure**

   SUBTASK 32-32-01-220-001

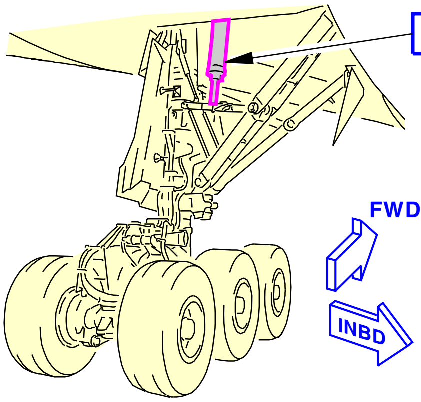
   (1) Use the following table to see the permitted quantity of wear:

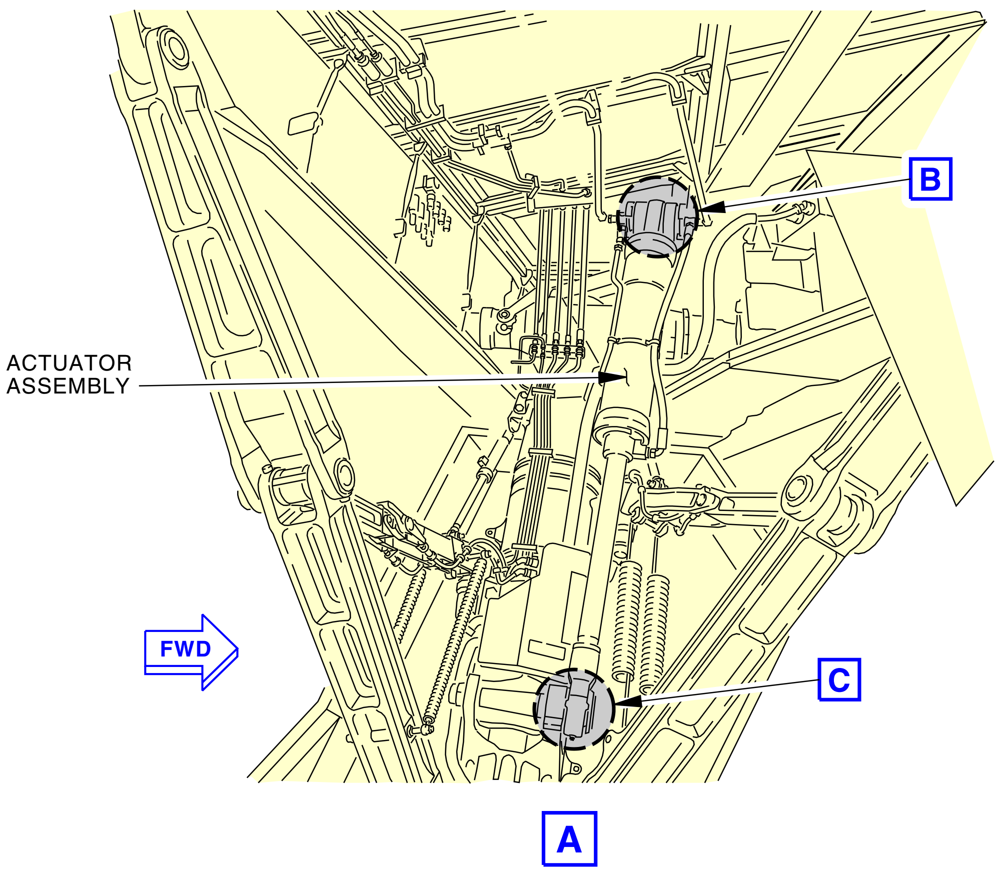
   NOTE: Take the OD measurement on the pins at points A-A and B-B where shown on the figures.

Main Landing Gear Retract Actuator Attach Pin Wear Limits

REF LETTER	MATING ITEM NO.	DESIGN DIMENSION				SERVICE WEAR LIMIT		
		DIMENSION		ASSEMBLY CLEARANCE		DIMENSION		MAXIMUM CLEARANCE
		MIN	MAX	MIN	MAX	MIN	MAX	
[A-A]	ID [1]	3.250	3.251	0.000	0.003		3.256	0.006
	OD PIN	3.248	3.250	0.000	0.003	3.244		
[B-B]	ID [2]	3.250	3.251	0.001	0.003		3.255	0.006
	OD PIN	3.248	3.249	0.001	0.003	3.244		

——— END OF TASK ———





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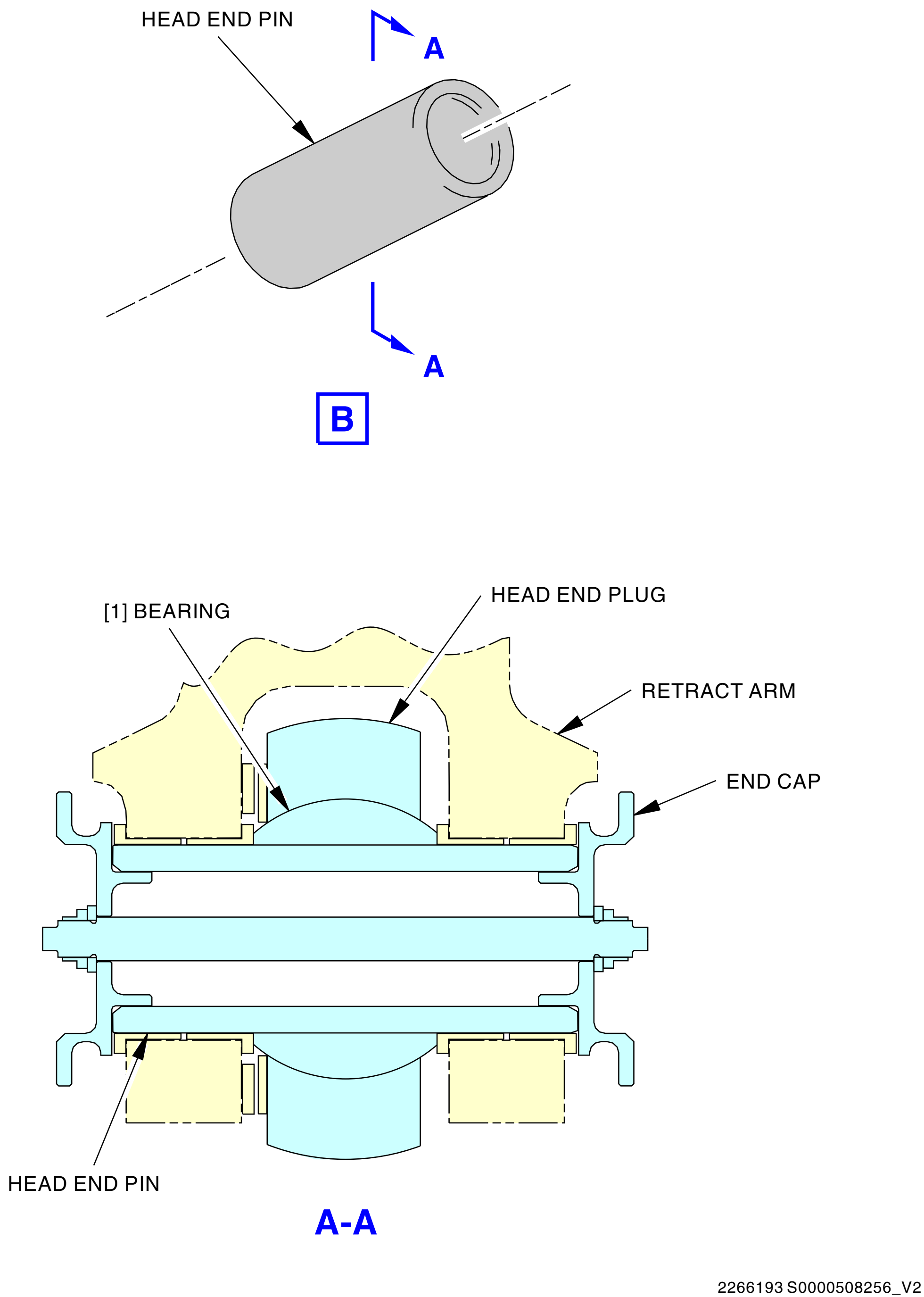
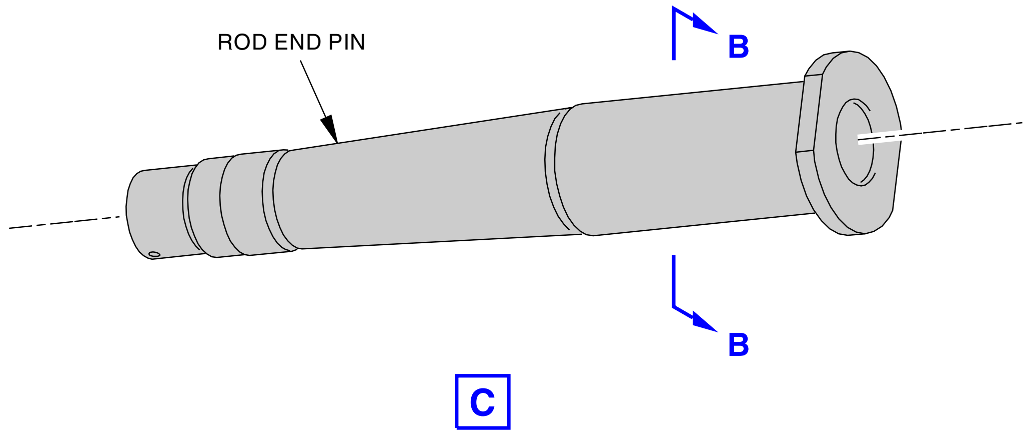
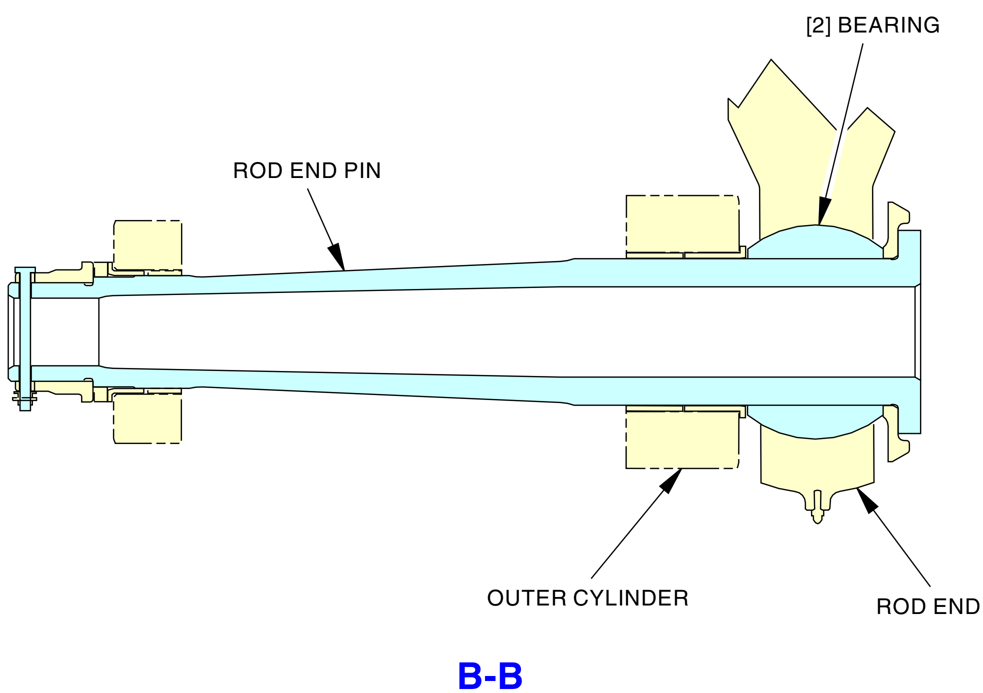
Main Landing Gear Retract Actuator Attachment Pins Wear Limits
Figure 601/32-32-01-990-810 (Sheet 1 of 3)



Main Landing Gear Retract Actuator Attachment Pins Wear Limits
Figure 601/32-32-01-990-810 (Sheet 2 of 3)





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Main Landing Gear Retract Actuator Attachment Pins Wear Limits
Figure 601/32-32-01-990-810 (Sheet 3 of 3)

MAIN LANDING GEAR UPLOCK ACTUATOR - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the uplock actuator for the main landing gear

(2) An installation of the uplock actuator for the main landing gear.

B. The illustrations in this procedure show the uplock actuator for the left main landing gear. This procedure is also applicable to the uplock actuator for the right main landing gear.

C. The uplock actuator can be manually extended or retracted.

TASK 32-32-02-020-801

2. Main Landing Gear Uplock Actuator Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

C. Prepare for the Removal

SUBTASK 32-32-02-860-001

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-02-860-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-02-860-003

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-32-02-480-003

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-02-480-001

(5) Install chocks around the tires of the main landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-32-02-860-004

(6) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-32-02-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(7) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

D. Main Landing Gear Uplock Actuator Removal

SUBTASK 32-32-02-020-001

(1) Disconnect the hydraulic lines [1] from the uplock actuator [9].

SUBTASK 32-32-02-480-002

(2) Install caps on the hydraulic lines [1].

SUBTASK 32-32-02-020-002

(3) Do the steps below to disconnect the rod end of the uplock actuator [9] from the uplock assembly [6]:

(a) Remove the cotter pin [5], the nut [7], and the washer [8] from the bolt [2].

(b) Remove the bolt [2] and the washer [3] from the uplock actuator [9] and the uplock assembly [6].

SUBTASK 32-32-02-020-003

(4) Do the steps below to disconnect the head end of the uplock actuator [9] from the uplock assembly [6]:

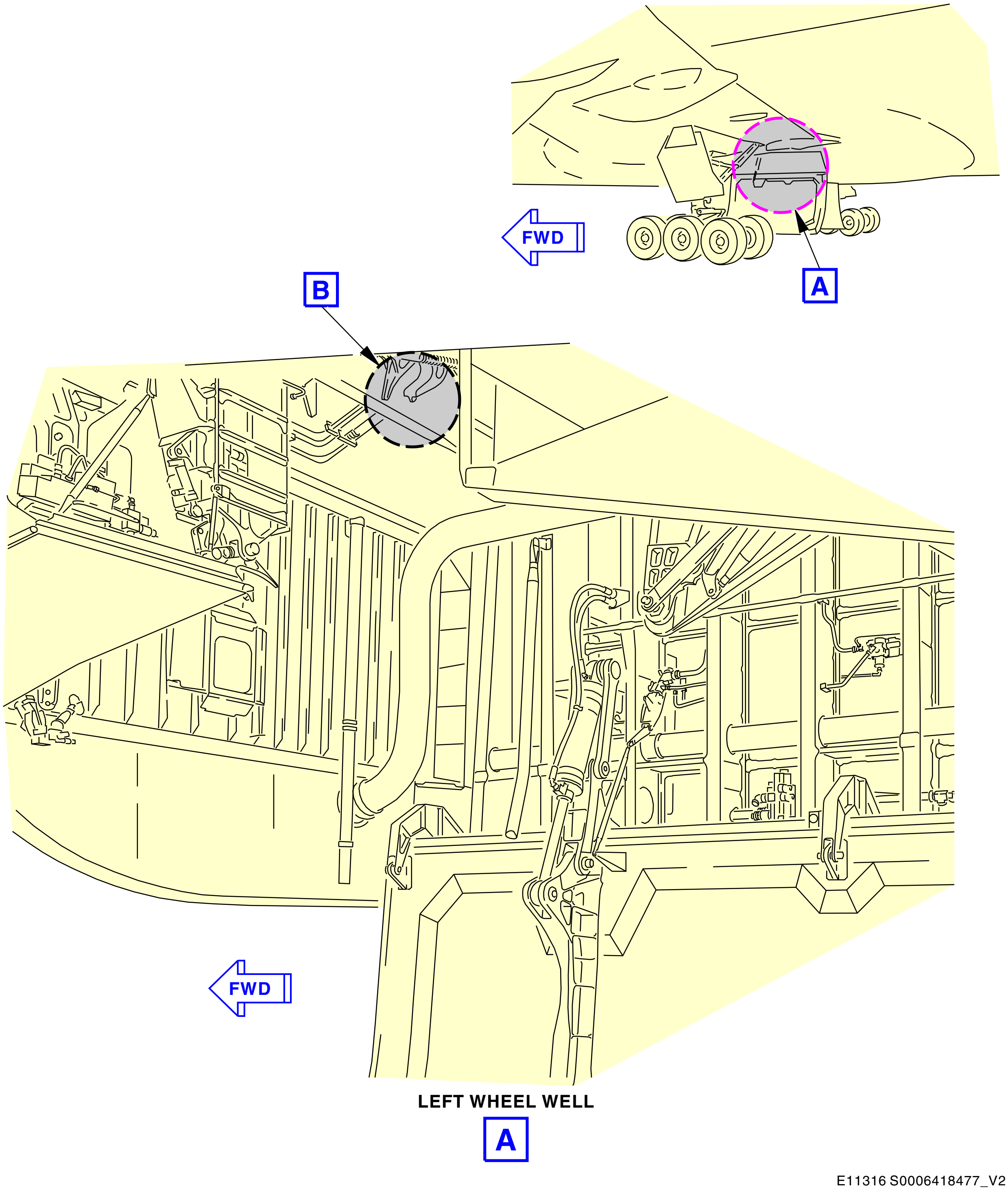
(a) Remove the cotter pin [5], the nut [7], and the washer [8] from the bolt [11].

(b) Remove the bolt [11] and the washer [3] from the uplock actuator [9] and the uplock assembly [6].

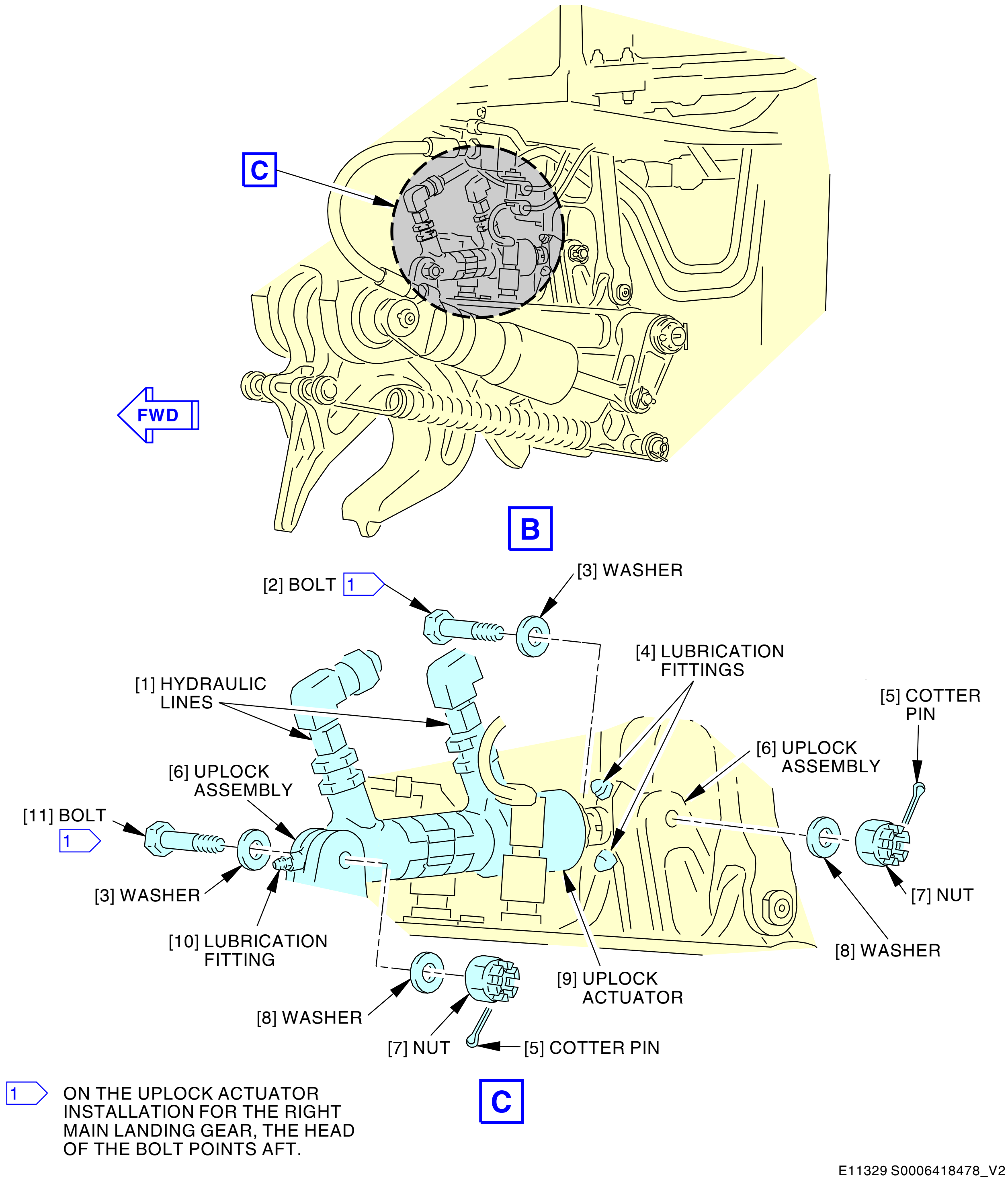
SUBTASK 32-32-02-020-004

(5) Remove the uplock actuator [9] from the uplock assembly [6].

END OF TASK



Main Landing Gear Uplock Actuator Installation
Figure 401/32-32-02-990-801 (Sheet 1 of 2)



Main Landing Gear Uplock Actuator Installation
Figure 401/32-32-02-990-801 (Sheet 2 of 2)

TASK 32-32-02-420-801

3. Main Landing Gear Uplock Actuator Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

B. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
D00633	Grease - Aircraft General Purpose	BMS3-33
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
5	Cotter pin	Not Specified	

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

E. Main Landing Gear Uplock Actuator Installation

SUBTASK 32-32-02-210-001

(1) Make sure the uplock actuator [9] is in the retracted position.

SUBTASK 32-32-02-210-002

(2) Make sure the uplock actuator [9] is filled with hydraulic fluid, D00153.

SUBTASK 32-32-02-420-001

(3) Put the uplock actuator [9] into its position on the uplock assembly [6].

SUBTASK 32-32-02-420-002

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(4) Do the steps below to connect the head end of the uplock actuator [9] to the uplock assembly [6]:

(a) Make sure, when you do steps below, that Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 does not touch these items:

- The shank of the bolt [11]
- The bushings of the uplock assembly [6]
- The head end bearing of the uplock actuator [9].

(b) Apply a thin layer of the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to one face of the washer [3].

(c) Install the washer [3] on the bolt [11].

1) Make sure, that you Install the washer [3] with the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 against the head of the bolt [11].

(d) Put the bolt [11] through the uplock assembly [6] and the uplock actuator [9].

(e) Apply a thin layer of the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the threads of the bolt [11] and to one face of the washer [8].

(f) Install the washer [8] and the nut [7] on the bolt [11].

1) Make sure, that you Install the washer [8] with the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 against the nut [7].

(g) Tighten the nut [7] from 100 in-lb (11.3 N·m) to 150 in-lb (16.9 N·m).

(h) Apply a thin layer of the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the cotter pin [5].

(i) Install the cotter pin [5] in the nut [7] and the bolt [11].

NOTE: If it is necessary, loosen the nut [7] until you can install the cotter pin [5].

SUBTASK 32-32-02-420-003

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(WARNING PRECEDES)

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(5) Do the steps below to connect the rod end of the uplock actuator [9] to the uplock assembly [6]:

(a) Make sure, when you do steps below, that Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 does not touch these items:

- The shank of the bolt [2]

- The bushings of the uplock assembly [6]

- The head end bearing of the uplock actuator [9].

(b) Apply a thin layer of the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to one face of the washer [3].

(c) Install the washer [3] on the bolt [2].

1) Make sure, that you install the washer [3] with the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 against the head of the bolt [2].

(d) Put the bolt [2] through the uplock assembly [6] and the uplock actuator [9].

(e) Apply a thin layer of the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the threads of the bolt [2] and one face of the washer [8].

(f) Install the washer [8] and the nut [7] on the bolt [2].

1) Make sure, that you install the washer [8] with the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 against the nut [7].

(g) Tighten the nut [7] from 100 in-lb (11.3 N·m) to 150 in-lb (16.9 N·m).

(h) Apply a thin layer of the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the cotter pin [5].

(i) Install the cotter pin [5] in the nut [7] and the bolt [2].

NOTE: If it is necessary, loosen the nut [7] until you can install the cotter pin [5].

SUBTASK 32-32-02-080-001

(6) Remove the caps from the hydraulic lines [1].

SUBTASK 32-32-02-420-004

(7) Connect the hydraulic lines [1] to the uplock actuator [9].

(a) Make sure that the hydraulic elbows are connected to the hydraulic lines [1].

(b) Tighten the B-nuts on the hydraulic lines [1] to 140 ±7 in-lb (16 ±1 N·m).

SUBTASK 32-32-02-640-001

(8) Apply grease, D00013 or grease, D00633, to the lubrication fittings [4] and lubrication fittings [10] to lubricate the bearings of the uplock actuator [9].

NOTE: The rod end bearing has two lubrication fittings. It is only necessary to apply the grease, D00013 or grease, D00633, to one of the lubrication fittings to lubricate the rod end bearing.

F. Main Landing Gear Uplock Actuator Installation Test

SUBTASK 32-32-02-980-001

(1) Make sure the uplock hook is in the unlocked position. (Figure 402)

SUBTASK 32-32-02-860-005

(2) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-02-860-006

(3) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-02-860-007

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-02-860-008

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-02-790-001

(6) Examine the uplock actuator [9] for leaks.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-02-410-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

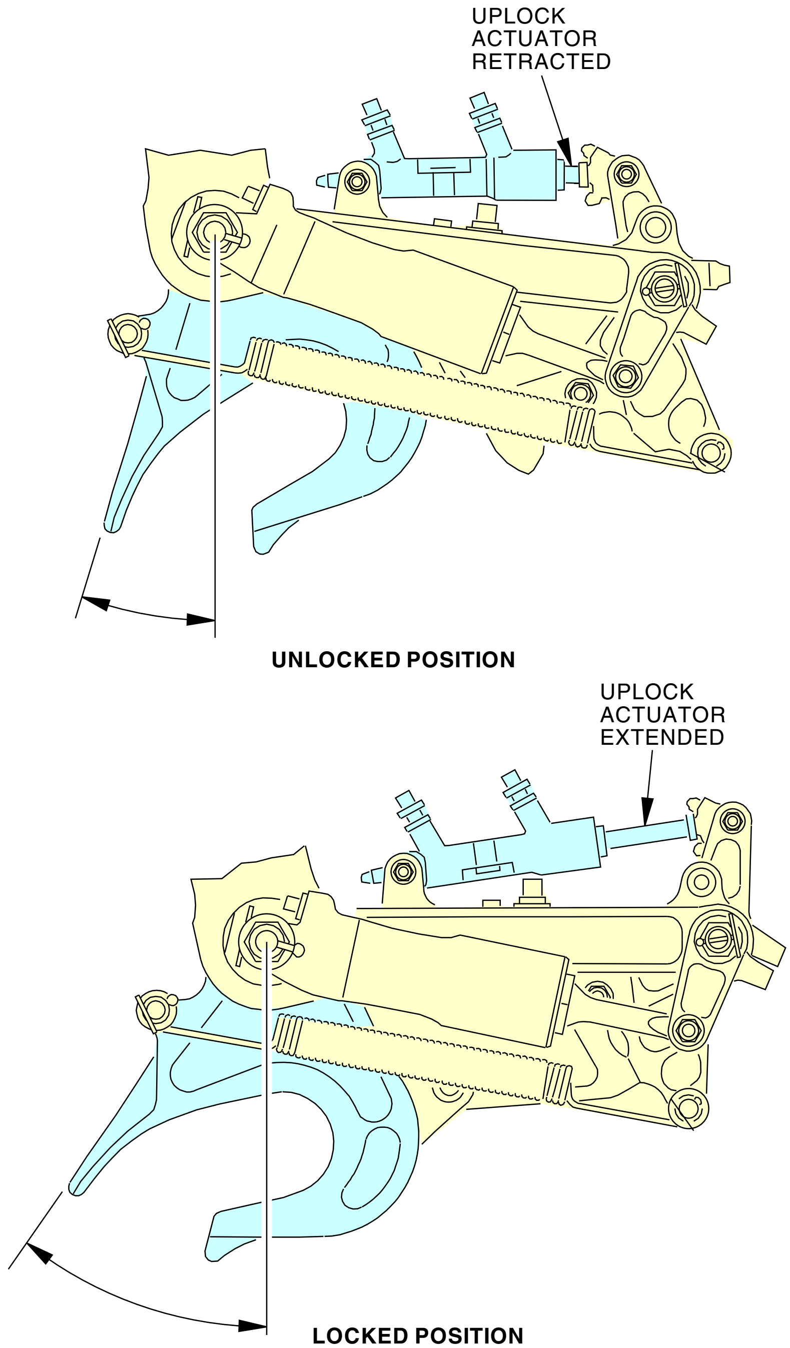
SUBTASK 32-32-02-860-009

(2) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-32-02-860-010

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———



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Main Landing Gear Uplock Hook Positions
Figure 402/32-32-02-990-802

MAIN LANDING GEAR UPLOCK ACTUATOR - INSPECTION/CHECK

1. **General**

   A. This procedure only has illustrations and wear limit tables which show the data for wear limits. There are no procedures for access, removal, or installation of the parts. Refer to MAIN LANDING GEAR UPLOCK ACTUATOR - REMOVAL/INSTALLATION, PAGEBLOCK 32-32-02/401 for procedures to do these tasks.

TASK 32-32-02-200-801

2. **Main Landing Gear Uplock Actuator - Wear Limits**

   (Figure 601)

   A. **References**

Reference	Title
32-32-02 P/B 401	MAIN LANDING GEAR UPLOCK ACTUATOR - REMOVAL/INSTALLATION

   B. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

   C. **General**

   SUBTASK 32-32-02-210-003

   (1) This procedure only has illustrations and wear limit tables which show the data for wear limits.

   (2) There are no procedures for access, removal, or installation of the parts. Refer to MAIN LANDING GEAR UPLOCK ACTUATOR - REMOVAL/INSTALLATION, PAGEBLOCK 32-32-02/401 for procedures to do these tasks.

   SUBTASK 32-32-02-220-001

   (3) Use this table for the permitted wear:

Nose Landing Gear Lock Actuator Wear Limits

INDEX NO.	PART NAME	DIM.	MINIMUM DIA. (DESIGN)	MAXIMUM DIA. (DESIGN)	PERMITTED DIM. (WEAR)	MAXIMUM CLEARANCE (WEAR)	REPAIR
1	Actuator	ID	0.4380 in. (11.125 mm)	0.4390 in. (11.151 mm)	0.4395 in. (11.163 mm)	0.0038 in. (0.097 mm)	
	Bolt	OD	0.4365 in. (11.087 mm)	0.4370 in. (11.100 mm)	0.4352 in. (11.054 mm)		X
2	Bushing	ID	0.4375 in. (11.112 mm)	0.4377 in. (11.118 mm)	0.4382 in. (11.130 mm)	0.0025 in. (0.064 mm)	
	Bolt	OD	0.4365 in. (11.087 mm)	0.4377 in. (11.118 mm)	0.4382 in. (11.130 mm)		X
3	Bushing	**	0.5480 in. (13.919 mm)	0.5624 in. (14.285 mm)	0.6148 in. (15.616 mm)	0.0648 in. (1.646 mm)	
	Bearing	**	0.5300 in. (13.462 mm)	0.5500 in. (13.970 mm)	0.4976 in. (12.639 mm)		

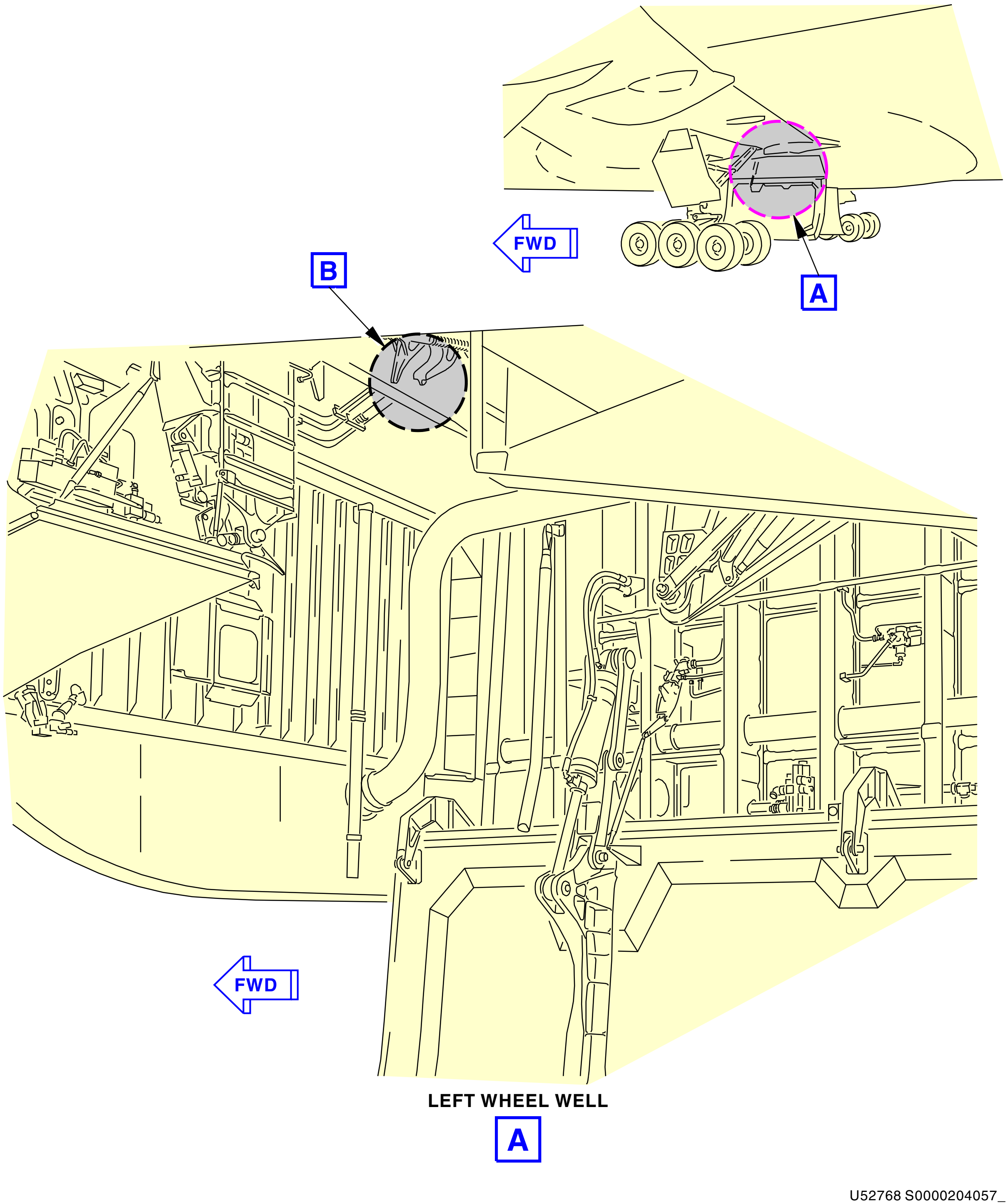
Nose Landing Gear Lock Actuator Wear Limits (Continued)

INDEX NO.	PART NAME	DIM.	MINIMUM DIA. (DESIGN)	MAXIMUM DIA. (DESIGN)	PERMITTED DIM. (WEAR)	MAXIMUM CLEARANCE (WEAR)	REPAIR
4	Bushing	ID	0.4404 in. (11.186 mm)	0.4412 in. (11.206 mm)	0.4417 in. (11.219 mm)	0.0060 in. (0.152 mm)	
	Bolt	OD	0.4365 in. (11.087 mm)	0.4370 in. (11.100 mm)	0.4352 in. (11.054 mm)		X
5	Bushing	**	0.5520 in. (14.021 mm)	0.5703 in. (14.486 mm)	0.6306 in. (16.017 mm)	0.0806 in. (2.047 mm)	
	Bearing	**	0.5300 in. (13.462 mm)	0.5500 in. (13.970 mm)	0.4897 in. (12.438 mm)		

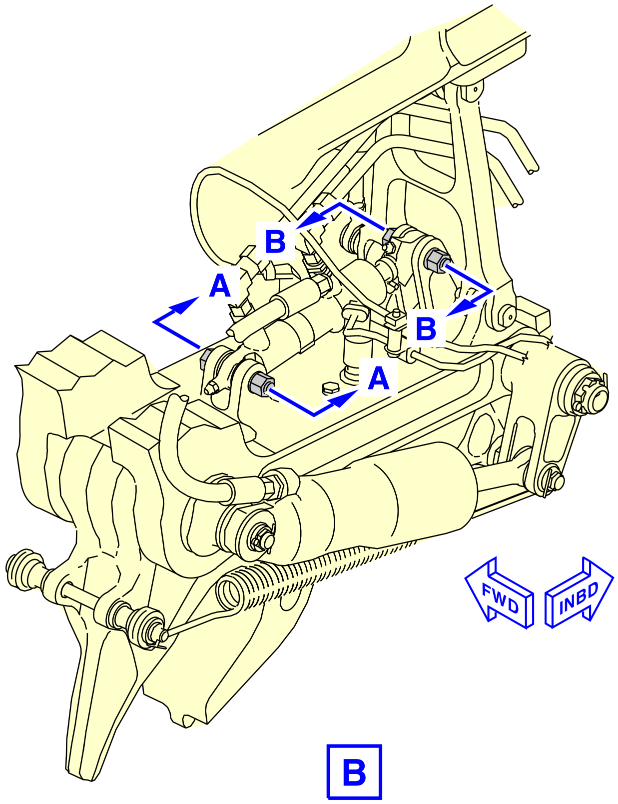
NOTE: Dimensions are in inches (mm).

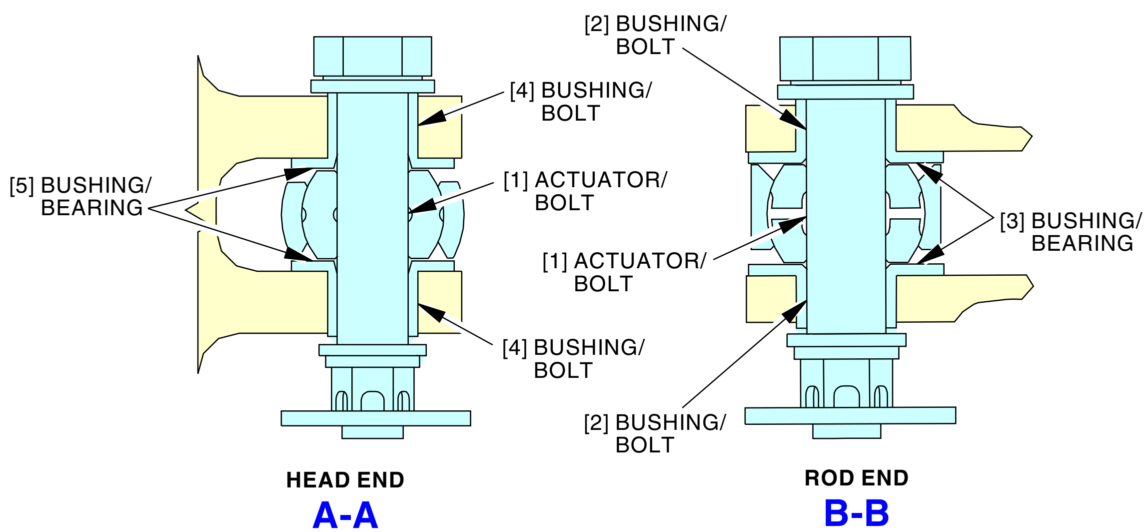
** = Sideplay values.

END OF TASK



Main Landing Gear Uplock Actuator Wear Limits
Figure 601/32-32-02-990-803 (Sheet 1 of 2)





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Main Landing Gear Uplock Actuator Wear Limits
Figure 601/32-32-02-990-803 (Sheet 2 of 2)

MAIN LANDING GEAR RETRACT ACTUATOR SWIVEL - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the swivel for the retract actuator for the main landing gear

(2) An installation of the swivel for the retract actuator for the main landing gear.

TASK 32-32-03-020-801

2. Main Landing Gear Retract Actuator Swivel Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Prepare for the Removal

SUBTASK 32-32-03-860-001

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-03-860-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-03-860-003

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-32-03-480-001

WARNING: MAKE SURE THAT YOU INSTALL THE DOWNLOCK PINS ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-03-480-002

(5) Install chocks around the tires of the main landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-32-03-480-003

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

D. Main Landing Gear Retract Actuator Removal

SUBTASK 32-32-03-020-001

(1) Do the steps below to remove the swivel assemblies [7] from the actuator assembly [1]:

(a) Disconnect the hydraulic line [3] from the elbow [4].

(b) Disconnect the hydraulic hose [2] from the fitting [8].

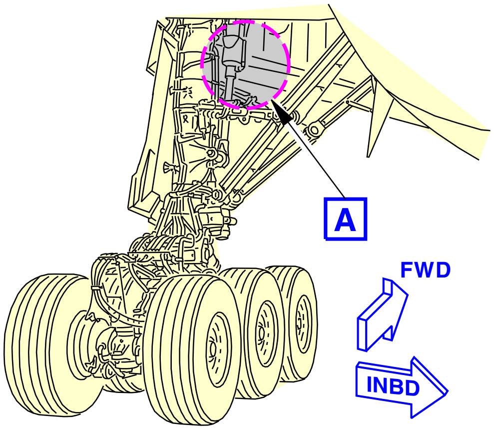
(c) Install caps on the elbow [4] and the fitting [8] and plugs in the hydraulic line [3] and hydraulic hose [2].

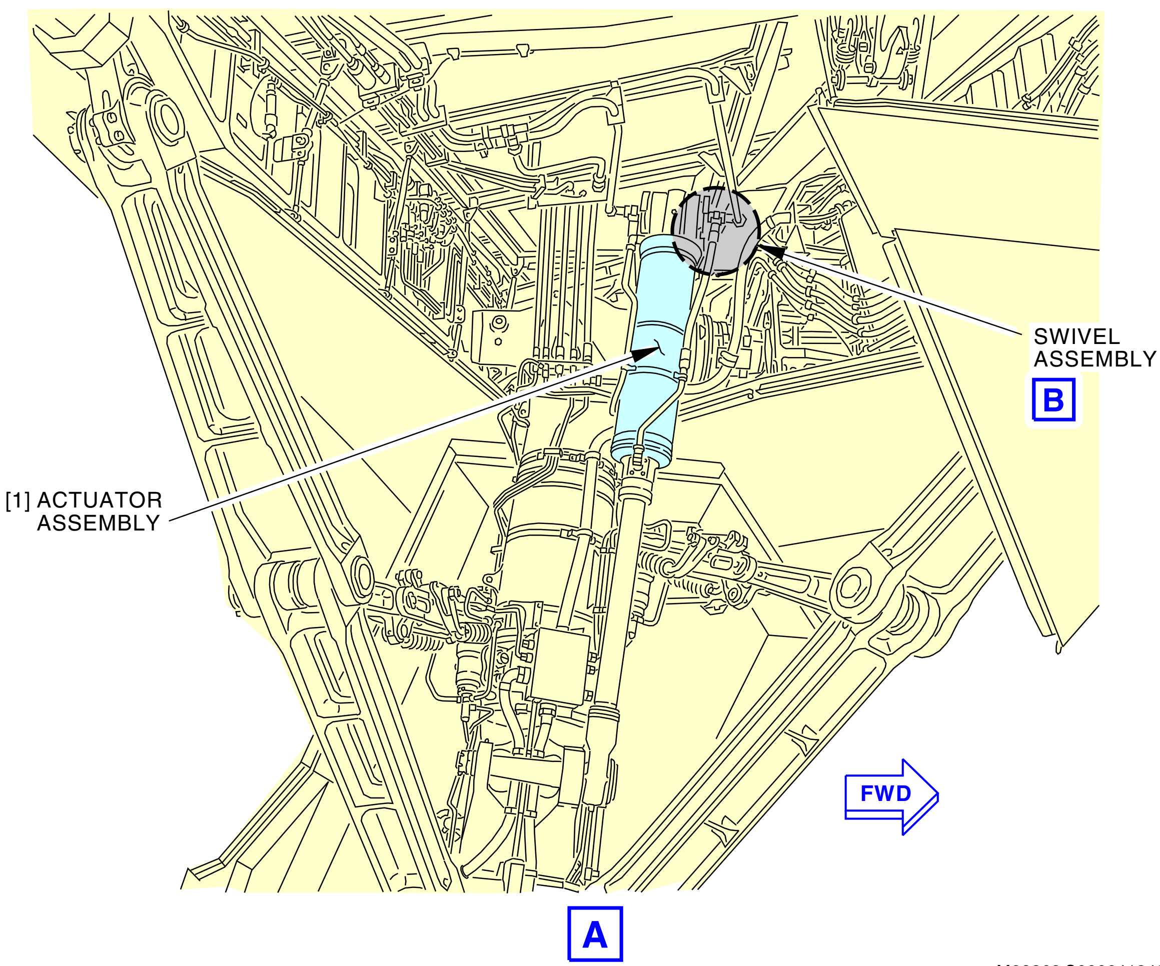
(d) Remove the lockwire [5] from the bolts [10].

(e) Remove the bolts [10] and the washers [9] that hold the hydraulic connection plate [11] to the bushing assemblies [12].

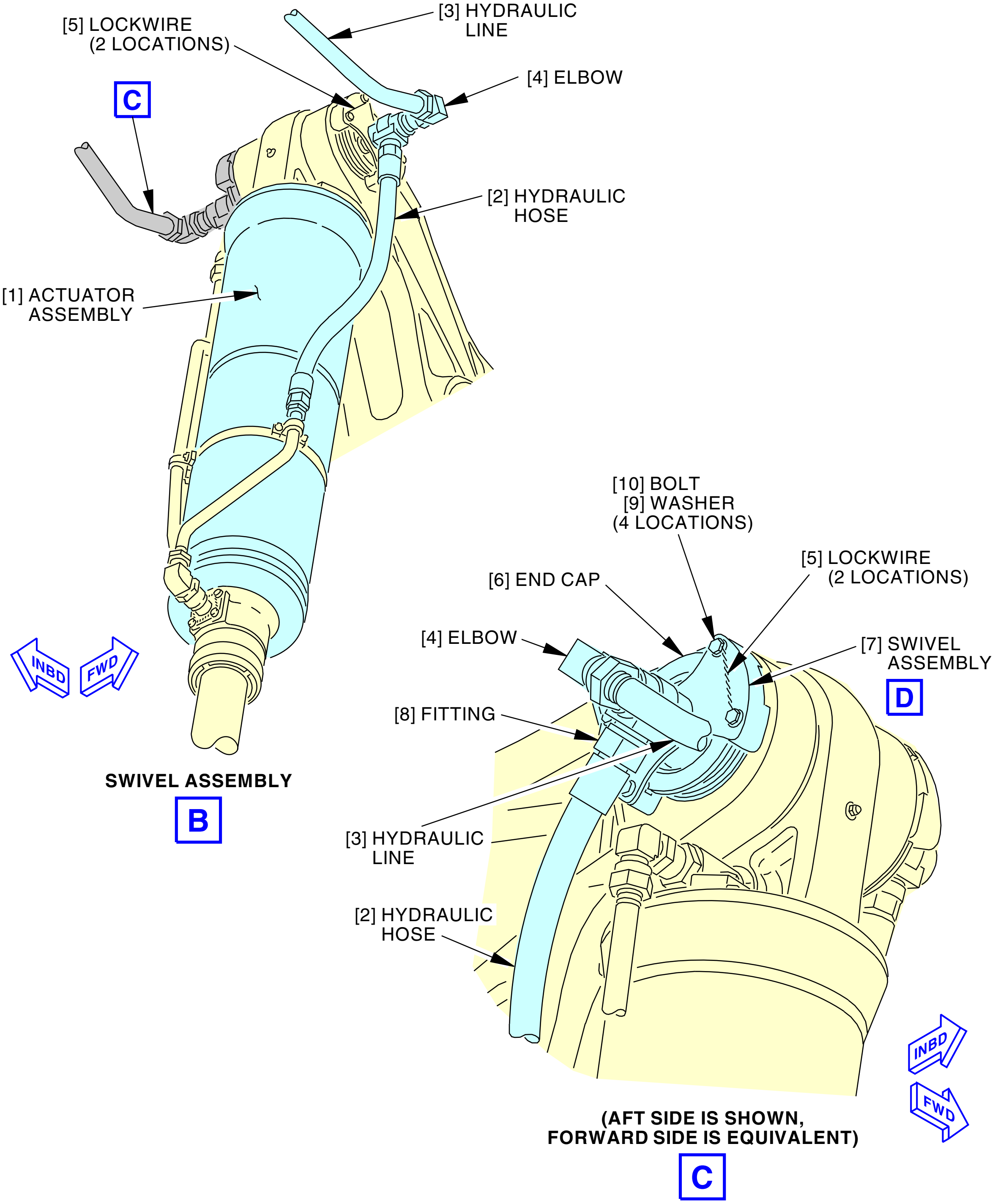
(f) Remove the hydraulic connection plate [11] and the two bushing assemblies [12] from the actuator assembly [1].

END OF TASK

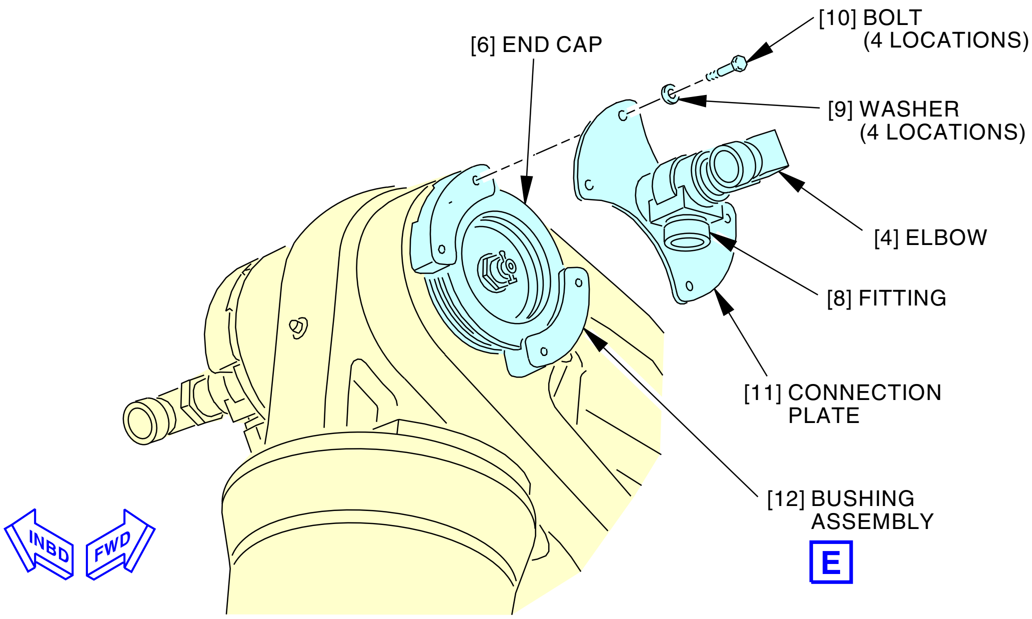




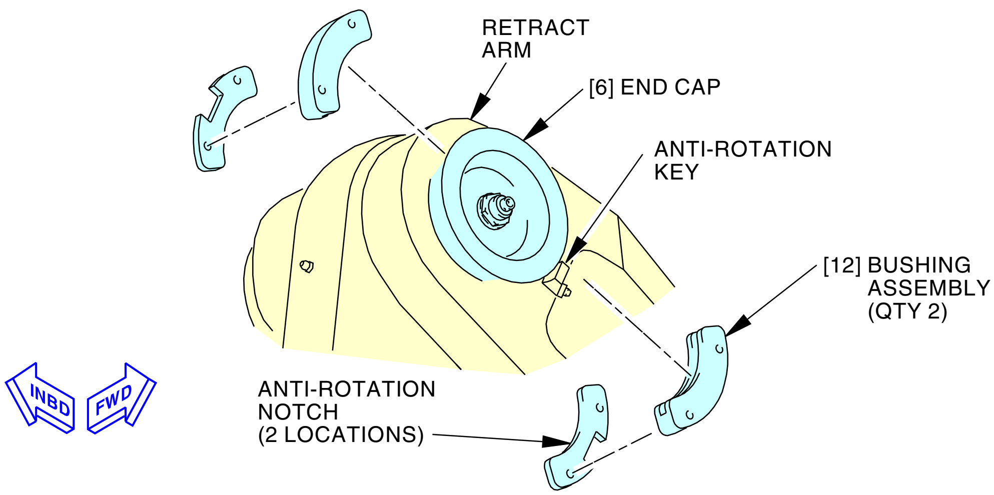
Main Landing Gear Retract Actuator Swivel Installation
Figure 401/32-32-03-990-801 (Sheet 1 of 3)



Main Landing Gear Retract Actuator Swivel Installation
Figure 401/32-32-03-990-801 (Sheet 2 of 3)



SWIVEL ASSEMBLY
(FORWARD SIDE IS SHOWN, AFT SIDE IS EQUIVALENT)
D



BUSHING ASSEMBLY
(FORWARD SIDE IS SHOWN, AFT SIDE IS EQUIVALENT)
E

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Main Landing Gear Retract Actuator Swivel Installation
Figure 401/32-32-03-990-801 (Sheet 3 of 3)

TASK 32-32-03-420-801

3. Main Landing Gear Retract Actuator Swivel Installation

(Figure 401)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

B. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Main Landing Gear Retract Actuator Swivel Installation

SUBTASK 32-32-03-420-001

(1) Do the steps below to install the swivel assemblies [7] on the actuator assembly [1].

(a) Put the two bushing assemblies [12] in their position on the end cap [6].

NOTE: Make sure you align the notch in the outboard bushing assembly with the key on the retract arm.

(b) Put the hydraulic connection plate [11] in its position on the bushing assemblies [12] and the end cap [6].

(c) Install the washer [9] and the bolt [10] to hold the hydraulic connection plate [11] to the bushing assemblies [12].

(d) Tighten the bolts [10] to 100 ±10 in-lb (11 ±1 N·m).

(e) Install the lockwire [5] on the bolts [10].

(f) Remove the plugs from the hydraulic hose [2] and hydraulic line [3] and the caps from the elbow [4] and the fitting [8].

(g) Connect the hydraulic line [3] to the elbow [4].

(h) Tighten the B-nut on the hydraulic line [3] to 1200 ±60 in-lb (136 ±7 N·m).

(i) Connect the hydraulic hose [2] to the fitting [8].

(j) Tighten the B-nut on the hydraulic hose [2] to 900 ±45 in-lb (102 ±5 N·m).

D. Main Landing Gear Retract Actuator Installation Test

NOTE: During this test, it is possible that the GEAR DISAGREE message will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the message go away. The message will go away automatically when you complete this test.

SUBTASK 32-32-03-860-004

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-03-860-005

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-03-860-006

(3) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-03-480-004

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-03-860-007

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-03-860-008

(6) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

SUBTASK 32-32-03-210-001

(7) Make sure the actuator assembly [1] tries to retract.

SUBTASK 32-32-03-860-009

(8) Move the control lever for the landing gear to the DN position.

SUBTASK 32-32-03-790-001

(9) Examine the actuator assembly [1] for leaks.

E. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-03-080-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-32-03-860-010

(2) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-32-03-860-011

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

MAIN LANDING GEAR SIDE BRACE DOWNLOCK ACTUATOR AND TRUNNION MOUNT SWIVEL - REMOVAL/INSTALLATION

1. General

A. This procedure has six tasks:

(1) A removal of the downlock actuator for the side brace of the main landing gear

(2) An installation of the downlock actuator for the side brace of the main landing gear.

(3) A removal of the trunnion mount swivel for the downlock actuator of the main landing gear.

(4) An installation of the trunnion mount swivel for the downlock actuator of the main landing gear.

(5) A removal of the lock link hydraulic swivel for the downlock actuator of the main landing gear.

(6) An installation of the lock link hydraulic swivel for the downlock actuator of the main landing gear.

B. The illustrations in this procedure show the downlock actuator and trunnion mount swivel for the side brace of the left main landing gear. This procedure is also applicable to the downlock actuator and trunnion mount swivel for the side brace of the right main landing gear.

C. In this procedure the downlock actuator is referred to as the actuator assembly.

TASK 32-32-04-020-804-002

2. Main Landing Gear Side Brace Downlock Actuator Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Prepare for the Removal

SUBTASK 32-32-04-860-032-002

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-04-860-033-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-04-860-034-002

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-32-04-480-017-002

(4) Install chocks around the tires of the main landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-32-04-480-018-002

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-04-010-007-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

D. Main Landing Gear Side Brace Downlock Actuator Removal

SUBTASK 32-32-04-020-012-002

(1) Disconnect the hydraulic line [14] and hydraulic line [15] from the pin swivel assembly [10] on the actuator assembly [7].

SUBTASK 32-32-04-480-019-002

(2) Install plugs in the hydraulic line [14] and hydraulic line [15].

SUBTASK 32-32-04-020-013-002

(3) Do the steps below to disconnect the head end of the actuator assembly [7] from the lock link [9]:

(a) Remove the nut [13], washer [12] and bolt [11] from the pin swivel assembly [10].

(b) Remove the pin swivel assembly [10] to disconnect the actuator assembly [7] from the lock link [9].

SUBTASK 32-32-04-020-014-002

(4) Do the steps below to disconnect the rod end of the actuator assembly [7] from the upper toggle assembly [17]:

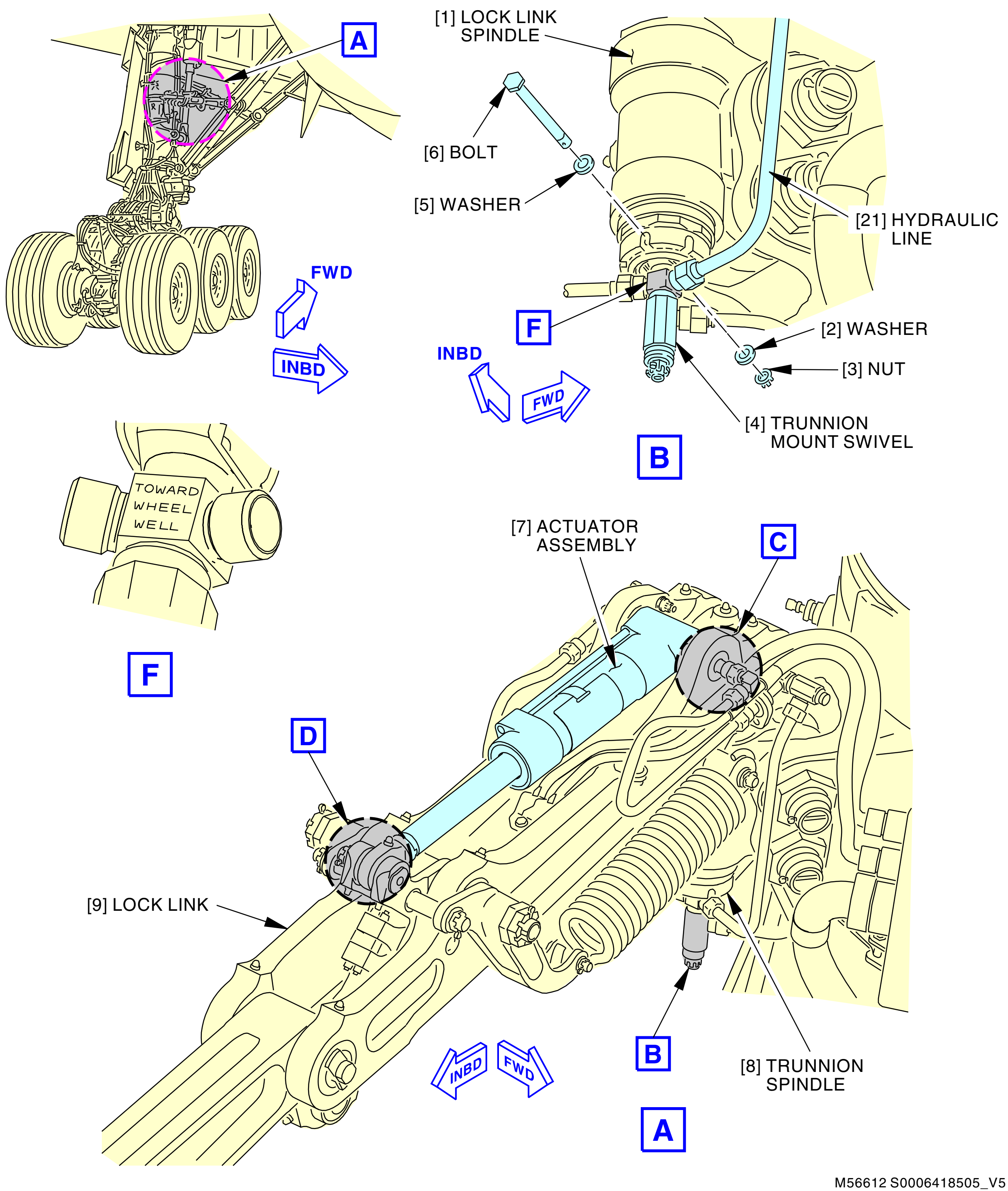
(a) Remove the cotter pin [19], the nut [20], and the washer [18] from the pin [16].

(b) Remove the pin [16] to disconnect the actuator assembly [7] from the upper toggle assembly [17].

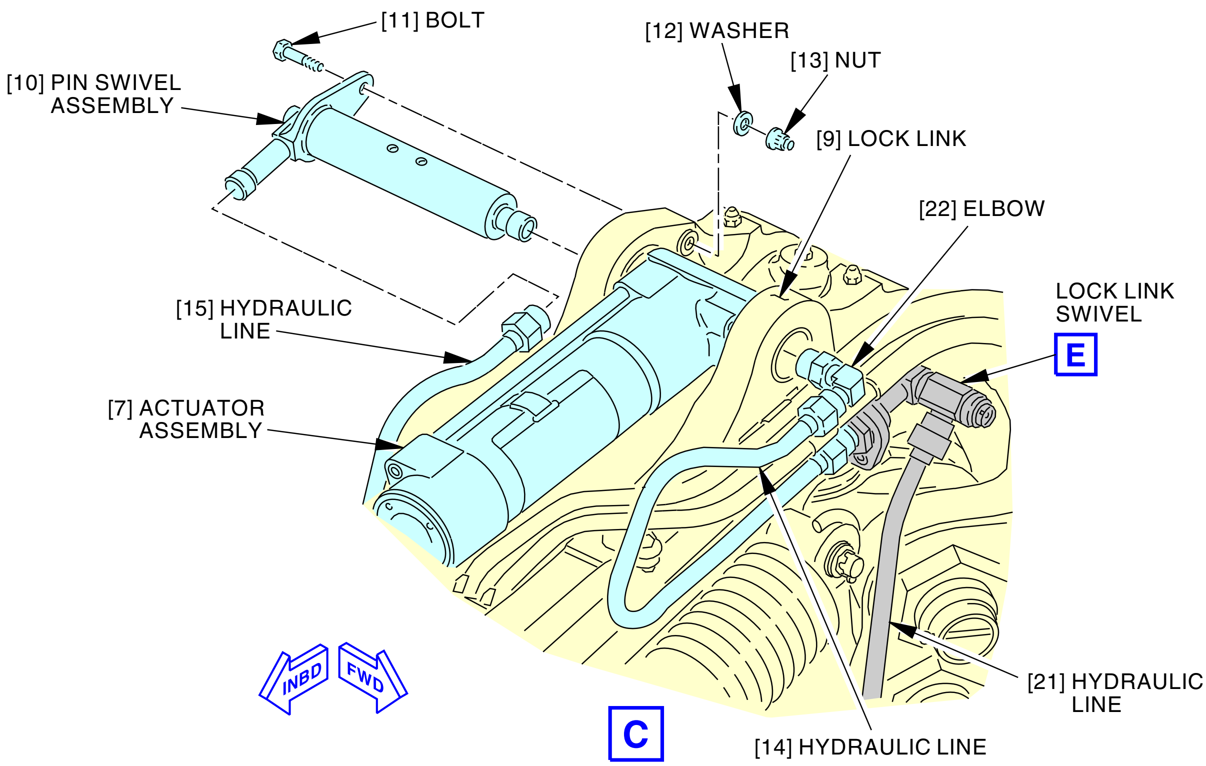
SUBTASK 32-32-04-020-015-002

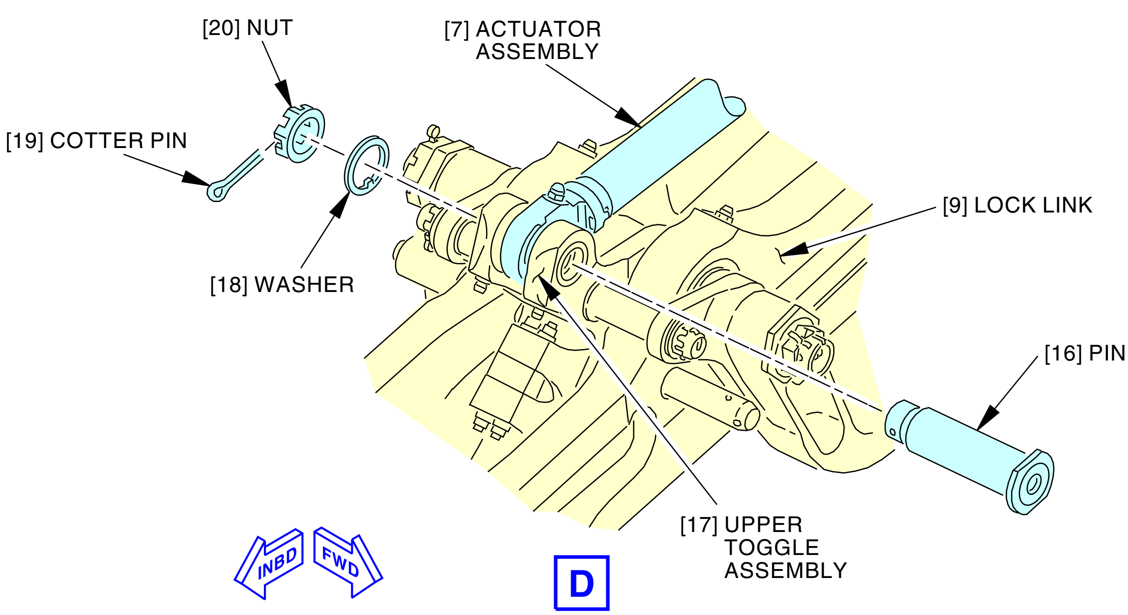
(5) Remove the actuator assembly [7] from the main landing gear.

END OF TASK



Main Landing Gear Side Brace Downlock Actuator Installation
Figure 401/32-32-04-990-803-002 (Sheet 1 of 3)





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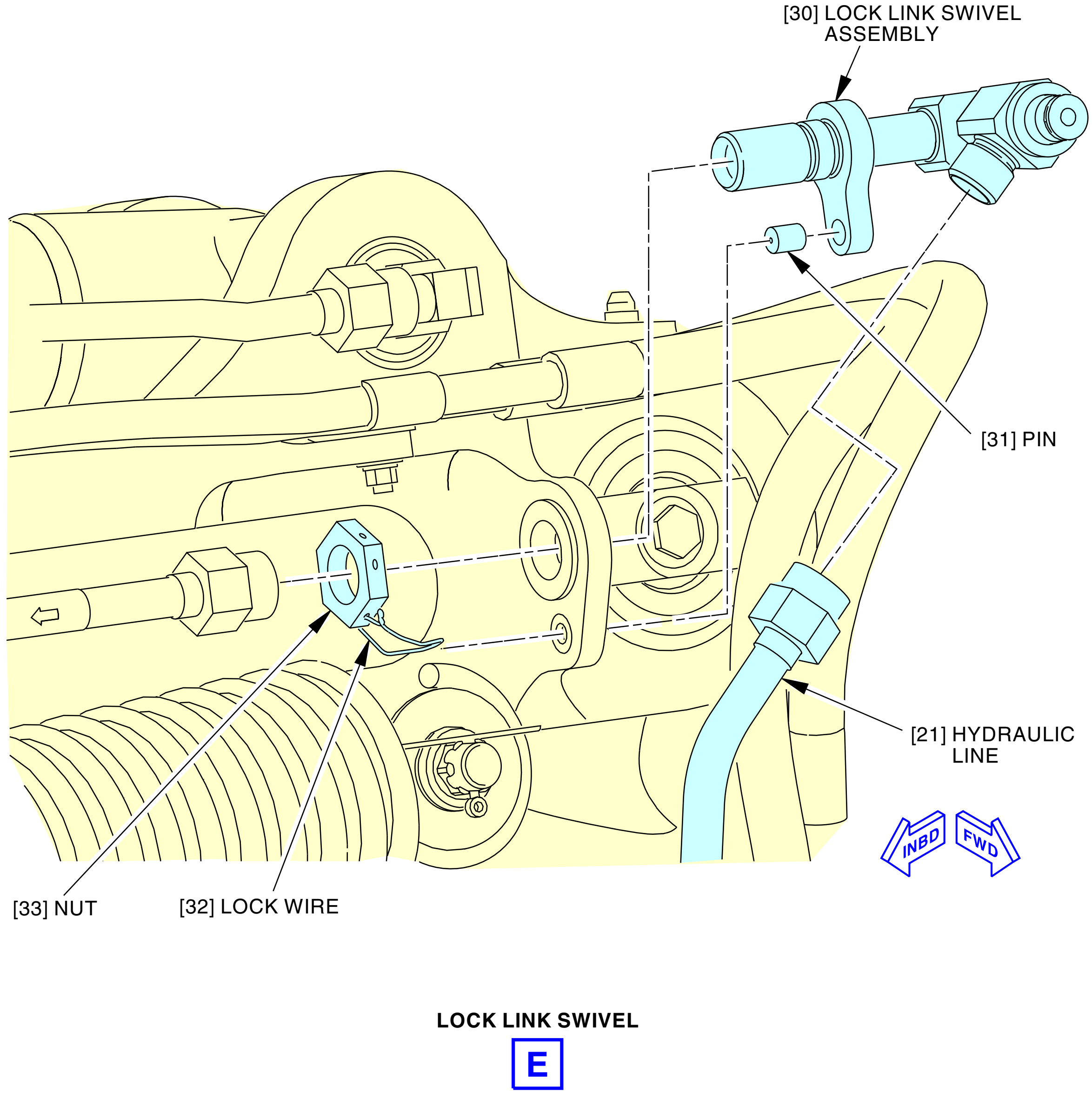
Main Landing Gear Side Brace Downlock Actuator Installation
Figure 401/32-32-04-990-803-002 (Sheet 2 of 3)



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Main Landing Gear Side Brace Downlock Actuator Installation
Figure 401/32-32-04-990-803-002 (Sheet 3 of 3)

TASK 32-32-04-420-804-002

3. **Main Landing Gear Side Brace Downlock Actuator Installation**

(Figure 401)

A. **References**

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. **Consumable Materials**

Reference	Description	Specification
D00054	Fluid - Hydraulic Assembly Lubricant - MCS 352B (Formerly Monsanto MCS 352B)	
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
D00633	Grease - Aircraft General Purpose	BMS3-33
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
19	Cotter pin	32-32-04-12-050	ARO ALL

D. **Location Zones**

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

E. **Main Landing Gear Side Brace Downlock Actuator Installation**

SUBTASK 32-32-04-210-006-002

(1) Make sure the actuator assembly [7] is in the extended position.

SUBTASK 32-32-04-210-007-002

(2) Make sure the actuator assembly [7] is filled with hydraulic fluid, D00153.

SUBTASK 32-32-04-420-011-002

WARNING

USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(3) Do the steps below to connect the rod end of the actuator assembly [7] to the upper toggle assembly [17]:

(a) Lubricate the pin [16] and the mating surfaces with the grease, D00633.

(b) Apply a thin layer of the Cor-Ban 27L Compound, G50237 to the threads of the pin [16], the thread relief of the nut [20], the faces of the washer [18], and the cotter pin [19].

CAUTION: ON THE LEFT GEAR, INSTALL THE ACTUATOR WITH THE PLACARD FACE FORWARD. ON THE RIGHT GEAR, INSTALL THE ACTUATOR WITH THE PLACARD FACE AFT. IF YOU INSTALL THE ACTUATOR INCORRECTLY, IT IS POSSIBLE TO ATTACH THE HYDRAULIC LINES TO THE INCORRECT ACTUATOR PORT. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

(c) Put the actuator assembly [7] in its position on the lock link [9].

NOTE: Make sure the actuator assembly [7] is installed in the correct position with the placard faced forward on the left gear or faced aft on the right gear.

(d) Put the pin [16] through the upper toggle assembly [17] and the actuator assembly [7].

(e) Install the washer [18] and the nut [20] on the pin [16].

(f) Tighten the nut [20] to 400 in-lb (45.2 N·m)-525 in-lb (59.3 N·m).

(g) Loosen the nut [20] to the nearest castellation to install the cotter pin [19].

(h) Install the cotter pin [19].

(i) Wipe off the excess Cor-Ban 27L Compound, G50237.

SUBTASK 32-32-04-420-012-002

(4) Do the steps below to connect the head end of the actuator assembly [7] to the lock link [9]:

(a) Apply a thin layer of the hydraulic fluid, D00153, or MCS 352B fluid, D00054, to the seals in the head end of the actuator assembly [7].

(b) Align the actuator assembly [7] with the lug on the lock link [9].

(c) Put the pin swivel assembly [10] through the lock link [9] and the actuator assembly [7].

(d) Install the bolt [11] , washer [12] , and nut [13] to attach the pin swivel assembly [10] to the lock link [9].

SUBTASK 32-32-04-080-003-002

(5) Remove the caps from the ports on the pin swivel assembly [10] and the plugs from the hydraulic line [14] and hydraulic line [15].

SUBTASK 32-32-04-420-013-002

(6) Connect the hydraulic line [14] with installed elbow [22] and hydraulic line [15] to the ports on the pin swivel assembly [10].

(a) If elbow [22] is not installed, install the elbow [22] on the hydraulic line [14].

1) Tighten the B-nut on the hydraulic line [14] to 270 ±14 in-lb (31 ±2 N·m).

(b) Connect the hydraulic line [14] with installed elbow [22] to the straight fitting end of the pin swivel assembly [10].

1) Tighten the B-nut on the elbow [22] to 270 ±14 in-lb (31 ±2 N·m).

(c) Connect the hydraulic line [15] to the angled fitting end of the pin swivel assembly [10].

1) Tighten the B-nut on the hydraulic line [15] to 270 ±14 in-lb (31 ±2 N·m).

F. Main Landing Gear Side Brace Downlock Actuator Installation Test

NOTE: During this test, it is possible that the GEAR DISAGREE and the GEAR DOOR messages will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the messages go away. The messages will go away automatically when you complete this test.

SUBTASK 32-32-04-860-035-002

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-04-860-036-002

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-04-860-037-002

(3) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-04-480-020-002

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-04-010-013-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(5) If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-04-860-062-002

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-04-750-013-002

(7) Do a check to make sure you can remove the downlock pin from the lock links of the side brace.

NOTE: This shows that the extend port of the actuator assembly [7] is pressurized.

If you remove the downlock pin, you must install it before you do the steps below.

SUBTASK 32-32-04-480-032-002

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(8) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-04-860-063-002

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(9) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

SUBTASK 32-32-04-750-014-002

WARNING	DO NOT REMOVE THE LANDING GEAR DOWNLOCK PINS. THE LANDING GEAR CAN RETRACT IF THE PINS ARE REMOVED. THIS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(10) Do a check to make sure you cannot remove the downlock pin from the lock links of the side brace.

NOTE: This shows that the retract port of the actuator assembly [7] is pressurized.

SUBTASK 32-32-04-860-064-002

(11) Move the control lever for the landing gear to the DN position.

SUBTASK 32-32-04-790-007-002

(12) Examine the actuator assembly [7] for leaks.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-04-410-007-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-32-04-860-065-002

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

TASK 32-32-04-020-807-002

4. Main Landing Gear Side Brace Downlock Actuator Trunnion Mount Swivel Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Prepare for the Removal

SUBTASK 32-32-04-860-066-002

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-04-860-067-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-04-860-068-002

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-32-04-480-033-002

(4) Install chocks around the tires of the main landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-32-04-480-034-002

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-04-010-014-002

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

D. Main Landing Gear Side Brace Downlock Actuator Trunnion Mount Swivel Removal

SUBTASK 32-32-04-020-023-002

(1) Disconnect all the hydraulic lines from the trunnion mount swivel [4].

SUBTASK 32-32-04-480-035-002

(2) Install caps on the trunnion mount swivel [4] and plugs in all the hydraulic lines.

SUBTASK 32-32-04-020-024-002

(3) Remove the nut [3], washer [2], bolt [6], and washer [5] from the side brace lock link spindle nut.

SUBTASK 32-32-04-020-025-002

(4) Remove the trunnion mount swivel [4] from the lock link spindle [1].

END OF TASK

TASK 32-32-04-420-807-002

5. Main Landing Gear Side Brace Downlock Actuator Trunnion Mount Swivel Installation

(Figure 401)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Consumable Materials

Reference	Description	Specification
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Main Landing Gear Side Brace Downlock Actuator Trunnion Mount Swivel Installation

SUBTASK 32-32-04-840-005-002

(1) Clean the inside diameter of the lock link spindle [1] to remove old sealant.

SUBTASK 32-32-04-840-006-002

> **WARNING**
> USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(2) Apply a thin layer of Cor-Ban 27L Compound, G50237 to the mating surfaces of the trunnion mount swivel [4] and the lock link spindle [1].

(a) Make sure the drain slots of swivel are not plugged.

> **WARNING**
> USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(b) Apply a thin coat of Cor-Ban 27L Compound, G50237 to the bolt [6], washer [5], washer [2] and nut [3].

SUBTASK 32-32-04-420-021-002

> **CAUTION**
> THE SWIVEL ASSY CAN BE INSTALLED 180 DEGREES OUT, THIS WILL RESULT IN THE HYDRAULIC LINES BEING HARD TO CONNECT AND REVERSE OPERATION OF THE SIDE BRACE DOWNLOCK ACTUATOR

(3) Install the trunnion mount swivel [4] in the lock link spindle [1].

(a) Make sure that the text TOWARD WHEEL WELL on the flat surface of the swivel assembly faces inboard toward the wheel well.

1) Make sure the hydraulic lines are aligned with the fittings on the trunnion mount swivel [4].

(b) Install bolt [6], washer [5], washer [2] and nut [3] to connect the lock link spindle [1] and the trunnion mount swivel [4].

(c) Torque nut [3] to 50 in-lb (5.6 N·m)-75 in-lb (8.5 N·m).

SUBTASK 32-32-04-080-005-002

(4) Remove the caps from the trunnion mount swivel [4] and the plugs from all the hydraulic lines.

SUBTASK 32-32-04-420-022-002

(5) Connect the hydraulic lines to the trunnion mount swivel [4].

(a) Tighten the B-nuts on all the hydraulic lines to 270 ±14 in-lb (31 ±2 N·m).

E. Main Landing Gear Side Brace Downlock Actuator Trunnion Mount Swivel Installation Test

NOTE: During this test, it is possible that the GEAR DISAGREE and the GEAR DOOR messages will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the messages go away. The messages will go away automatically when you complete this test.

SUBTASK 32-32-04-860-069-002

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-04-860-070-002

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-04-860-071-002

(3) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-04-480-036-002

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-04-010-015-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(5) If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-04-860-072-002

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-04-750-015-002

(7) Do a check to make sure you can remove the downlock pin from the lock links of the side brace.

NOTE: This shows that the extend port of the actuator assembly [7] is pressurized.

If you remove the downlock pin, you must install it before you do the steps below.

SUBTASK 32-32-04-480-037-002

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(8) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-04-860-073-002

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(9) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

SUBTASK 32-32-04-750-016-002

WARNING	DO NOT REMOVE THE LANDING GEAR DOWNLOCK PINS. THE LANDING GEAR CAN RETRACT IF THE PINS ARE REMOVED. THIS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(10) Do a check to make sure you cannot remove the downlock pin from the lock links of the side brace.

NOTE: This shows that the retract port of the actuator assembly [7] is pressurized.

SUBTASK 32-32-04-860-074-002

(11) Move the control lever for the landing gear to the DN position.

SUBTASK 32-32-04-790-008-002

(12) Examine the trunnion mount swivel [4] for leaks.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-04-410-008-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-32-04-860-075-002

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

TASK 32-32-04-020-809-002

6. Main Landing Gear Side Brace Downlock Actuator Hydraulic Swivel Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Prepare for the Removal

SUBTASK 32-32-04-860-086-002

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-04-860-087-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-04-860-088-002

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-32-04-480-044-002

(4) Install chocks around the tires of the main landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-32-04-480-045-002

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(5) If downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-04-420-025-002

> **WARNING**
> OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

D. Main Landing Gear Side Brace Downlock Actuator Hydraulic Swivel Removal

SUBTASK 32-32-04-020-030-002

(1) Disconnect the hydraulic line [14] and hydraulic line [21] from the lock link swivel assembly [30].

SUBTASK 32-32-04-420-026-002

(2) Install caps on the lock link swivel assembly [30] and plugs in the hydraulic line [14] and hydraulic line [21].

SUBTASK 32-32-04-020-031-002

(3) Remove the lock link swivel assembly [30] from the side brace locklink.

(a) Remove the lockwire [32] and nut [33].

(b) Remove the lock link swivel assembly [30] and pin [31] from the side brace locklink.

——— **END OF TASK** ———

TASK 32-32-04-420-809-002

7. Main Landing Gear Side Brace Downlock Actuator Hydraulic Swivel Installation

(Figure 401)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Consumable Materials

Reference	Description	Specification
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Main Landing Gear Side Brace Downlock Actuator Hydraulic Swivel Installation

SUBTASK 32-32-04-620-003-002

(1) Apply a thin layer of BMS 3-38 Cor-Ban 27L Compound, G50237 to the pin [31], faying surface and bushing hole.

SUBTASK 32-32-04-420-027-002

(2) Install the lock link swivel assembly [30] on the side brace locklink.

(a) Insert the pin [31] on the lock link swivel assembly [30].

(b) Install the lock link swivel assembly [30] on the side brace locklink.

1) Make sure that the pin [31] is aligned with the hole in the side brace locklink.

(c) Install the nut [33].

(d) Install the lockwire [32] through the nut [33] and pin [31] hole.

SUBTASK 32-32-04-430-002-002

CAUTION

MAKE SURE THAT THE HYDRAULIC LINES BETWEEN THE TRUNNION MOUNT SWIVEL AND LOCK LINK SWIVEL ARE IN THEIR CORRECT LOCATIONS. IT IS POSSIBLE TO INTERCHANGE THESE HYDRAULIC LINES WHICH COULD CAUSE DAMAGE TO THE HYDRAULIC LINES AT THEIR CONNECTIONS.

(3) Connect the hydraulic line [14] and hydraulic line [21] to the lock link swivel assembly [30].

(a) Remove the caps from the lock link swivel assembly [30] and the plugs from the hydraulic line [14] and hydraulic line [21].

(b) Connect the hydraulic line [14] and hydraulic line [21] to the lock link swivel assembly [30].

1) Tighten the B-nut on the hydraulic line [14] and hydraulic line [21] to 270 ±14 in-lb (31 ±2 N·m).

E. Main Landing Gear Side Brace Downlock Actuator Hydraulic Swivel Installation Test

NOTE: During this test, it is possible that the GEAR DISAGREE and the GEAR DOOR messages will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the messages go away. The messages will go away automatically when you complete this test.

SUBTASK 32-32-04-860-089-002

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-04-760-008-002

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-04-860-090-002

(3) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-04-480-046-002

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-04-480-047-002

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-04-860-091-002

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-04-750-019-002

(7) Do a check to make sure you can remove the downlock pin from the lock links of the side brace.

NOTE: This shows that the extend port of the downlock actuator is pressurized.

If you remove the downlock pin, you must install it before you do the steps below.

SUBTASK 32-32-04-480-048-002

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(8) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-04-860-092-002

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(9) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

SUBTASK 32-32-04-750-020-002

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(10) Do a check to make sure you cannot remove the downlock pin from the lock links of the side brace.

NOTE: This shows that the retract port of the downlock actuator is pressurized.

SUBTASK 32-32-04-860-093-002

(11) Move the control lever for the landing gear to the DN position.

SUBTASK 32-32-04-790-010-002

(12) Examine the lock link swivel assembly [30] for leaks.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-04-020-032-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-32-04-860-094-002

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

MAIN LANDING GEAR DRAG BRACE DOWNLOCK ACTUATOR AND TRUNNION MOUNT SWIVEL - REMOVAL/INSTALLATION

1. General

A. This procedure has six tasks:

(1) A removal of the downlock actuator for the drag brace of the main landing gear

(2) An installation of the downlock actuator for the drag brace of the main landing gear.

(3) A removal of the trunnion mount swivel for the downlock actuator of the main landing gear drag brace.

(4) An installation of the trunnion mount swivel for the downlock actuator of the main landing gear drag brace.

(5) A removal of the lock link hydraulic swivel for the downlock actuator of the main landing gear drag brace.

(6) An installation of the lock link hydraulic swivel for the downlock actuator of the main landing gear drag brace.

B. The illustrations in this procedure show the downlock actuator and trunnion mount swivel for the drag brace of the left main landing gear. This procedure is also applicable to the downlock actuator and trunnion mount swivel for the drag brace of the right main landing gear.

C. In this procedure the downlock actuator for the drag brace of the main landing gear is referred to as the actuator assembly [7].

TASK 32-32-05-020-804-002

2. Main Landing Gear Drag Brace Downlock Actuator Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Prepare for the Removal

SUBTASK 32-32-05-860-036-002

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-05-860-037-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-05-860-038-002

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-32-05-480-016-002

(4) Install chocks around the tires of the main landing gear CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-32-05-480-017-002

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-05-010-008-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

D. Main Landing Gear Drag Brace Downlock Actuator Removal

SUBTASK 32-32-05-020-011-002

(1) Disconnect the hydraulic lines [14] and [15] from the pin swivel assy [10] on the actuator assembly [7].

SUBTASK 32-32-05-480-018-002

(2) Install plugs in the hydraulic lines [14] and [15].

SUBTASK 32-32-05-020-012-002

(3) Do the steps below to disconnect the head end of the actuator assembly [7] from the lock link [9]:

(a) Remove the nut [13], washer [12], and bolt [11] from the pin swivel assembly [10].

(b) Remove the pin swivel assembly [10] to disconnect the actuator assembly [7] from the lock link [9].

SUBTASK 32-32-05-020-013-002

(4) Do the steps below to disconnect the rod end of the actuator assembly [7] from the upper toggle assembly [17]:

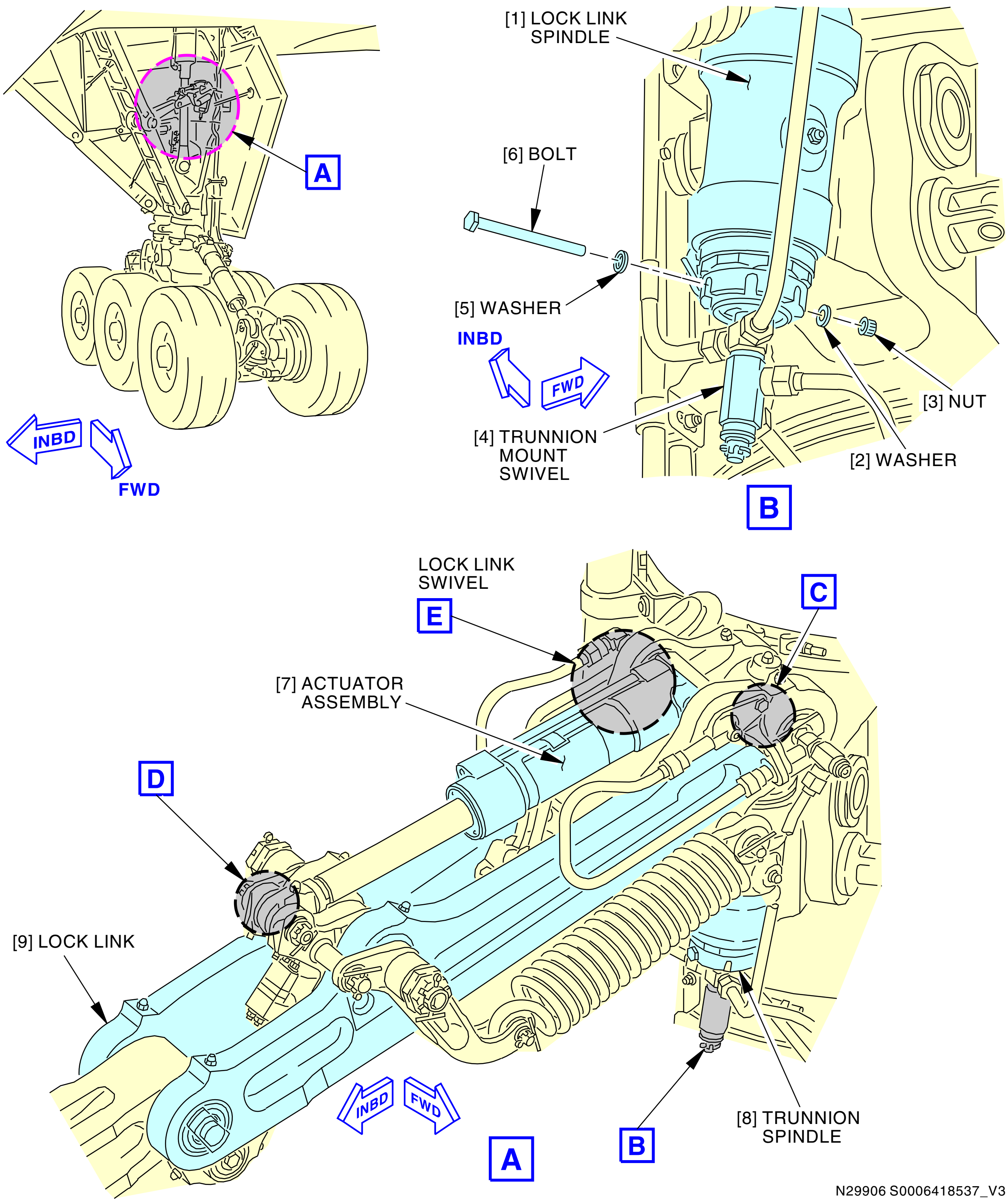
(a) Remove the cotter pin [19], the nut [20], and the washer [18] from the pin [16].

(b) Remove the pin [16] to disconnect the actuator assembly [7] from the upper toggle assembly [17].

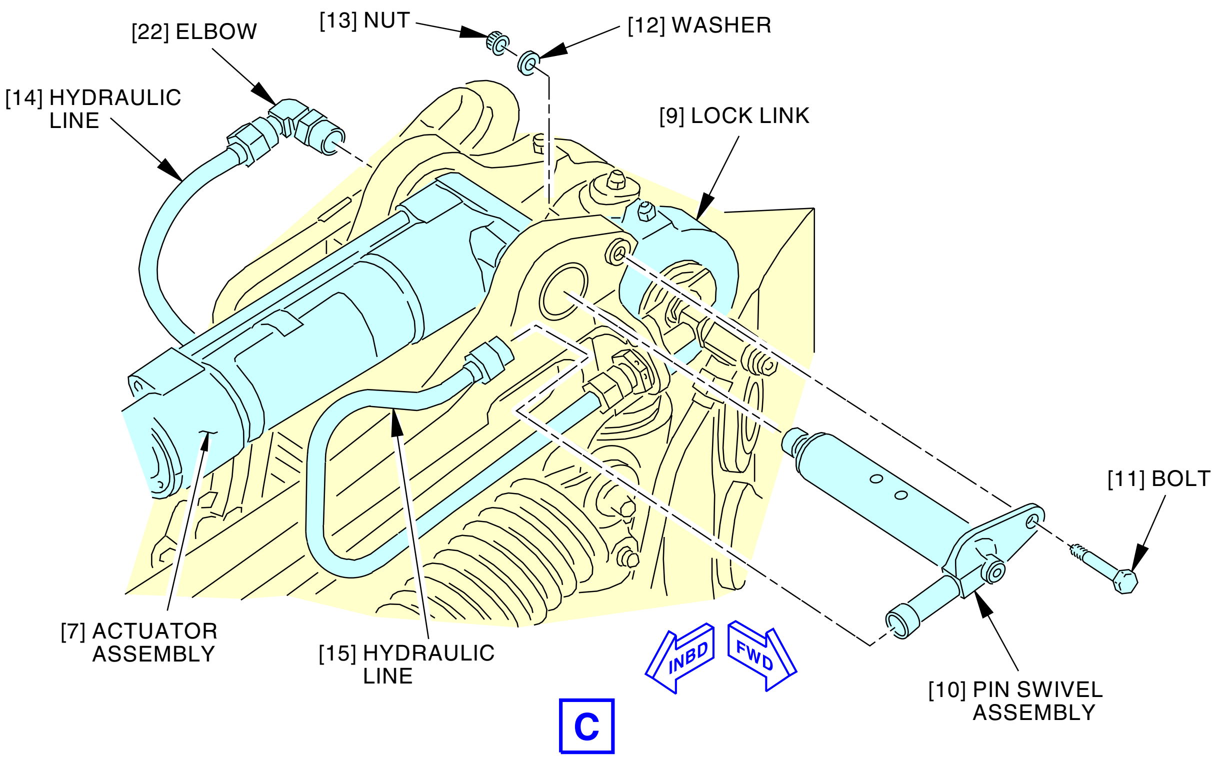
SUBTASK 32-32-05-020-014-002

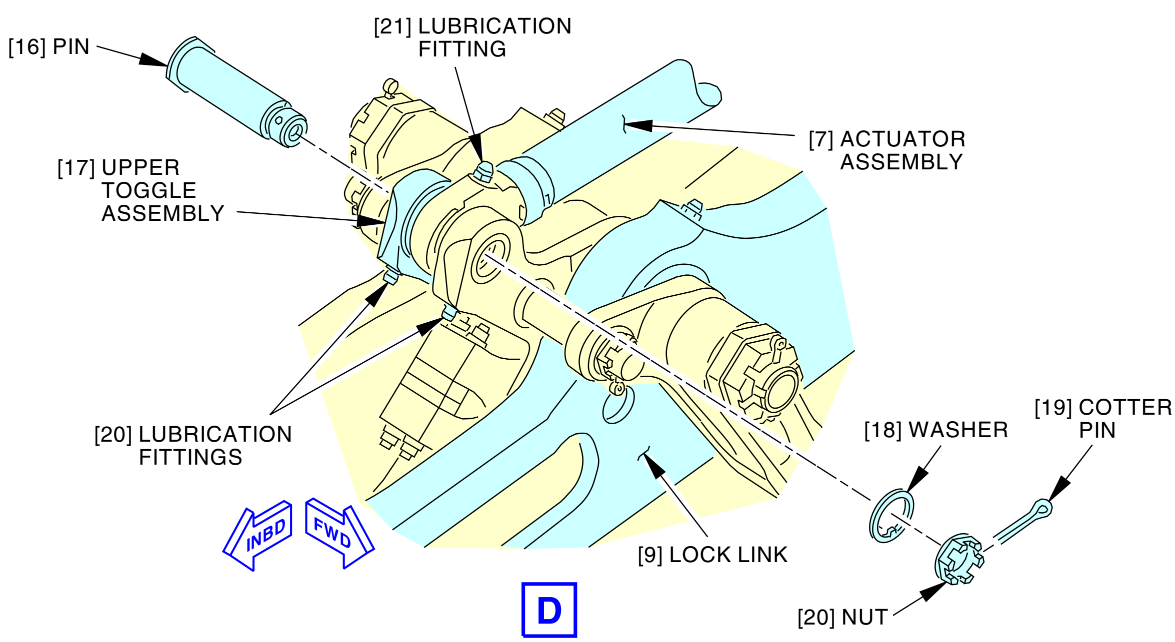
(5) Remove the actuator assembly [7] from the main landing gear.

———— END OF TASK ————



Main Landing Gear Drag Brace Downlock Actuator Installation
Figure 401/32-32-05-990-802-002 (Sheet 1 of 3)





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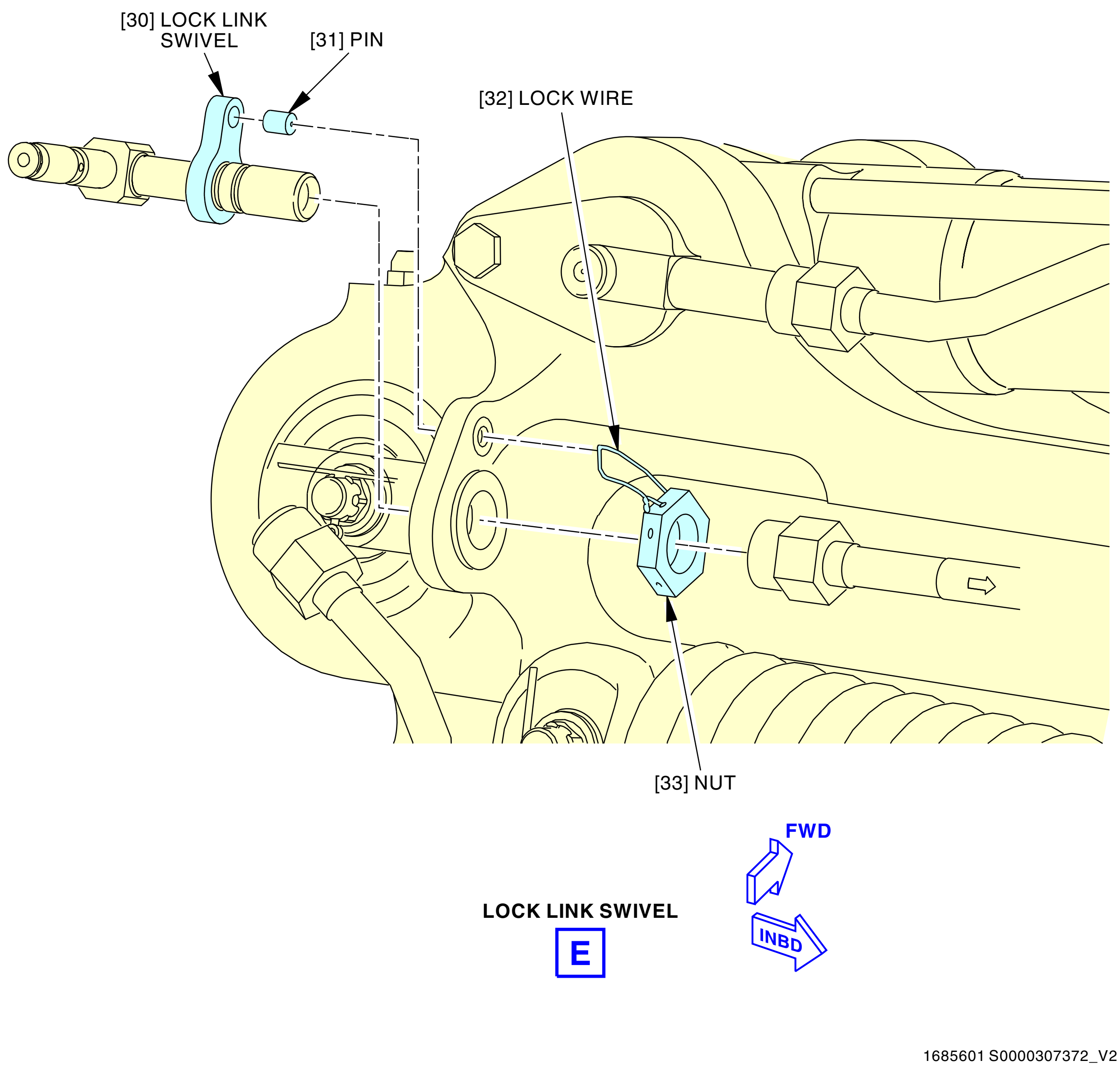
Main Landing Gear Drag Brace Downlock Actuator Installation
Figure 401/32-32-05-990-802-002 (Sheet 2 of 3)



Main Landing Gear Drag Brace Downlock Actuator Installation
Figure 401/32-32-05-990-802-002 (Sheet 3 of 3)

TASK 32-32-05-420-804-002

3. Main Landing Gear Drag Brace Downlock Actuator Installation

(Figure 401)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00054	Fluid - Hydraulic Assembly Lubricant - MCS 352B (Formerly Monsanto MCS 352B)	
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
D00633	Grease - Aircraft General Purpose	BMS3-33
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Main Landing Gear Drag Brace Downlock Actuator Installation

SUBTASK 32-32-05-210-005-002

(1) Make sure the actuator assembly [7] is in the extended position.

SUBTASK 32-32-05-210-006-002

(2) Make sure the actuator assembly [7] is filled with hydraulic fluid, D00153.

SUBTASK 32-32-05-420-009-002

WARNING

USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(3) Do the steps below to connect the rod end of the actuator assembly [7] to the upper toggle assembly [17]:

(a) Lubricate the pin [16] and the mating surfaces with the grease, D00633.

(b) Apply a thin layer of the Cor-Ban 27L Compound, G50237, to the threads of the pin [16], the thread relief of the nut [20], the faces of the washer [18], and the cotter pin [19].

CAUTION

ON THE LEFT GEAR, INSTALL THE ACTUATOR WITH THE PLACARD FACE FORWARD. ON THE RIGHT GEAR, INSTALL THE ACTUATOR WITH THE PLACARD FACE AFT. IF YOU INSTALL THE ACTUATOR INCORRECTLY, IT IS POSSIBLE TO ATTACH THE HYDRAULIC LINES TO THE INCORRECT ACTUATOR PORT. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

(c) Put the actuator assembly [7]in its position on the lock link [9].

NOTE: Make sure the actuator assembly [7] is installed in the correct position with the placard face forward.

(d) Put the pin [16] through the upper toggle assembly [17] and the actuator assembly [7].

(e) Install the washer [18] and the nut [20] on the pin [16].

(f) Tighten the nut [20] to 400 in-lb (45.2 N·m)-525 in-lb (59.3 N·m).

(g) loosen the nut [20] to the nearest castellation to install the cotter pin [19].

(h) Install the cotter pin [19].

(i) Wipe off the excess Cor-Ban 27L Compound, G50237.

SUBTASK 32-32-05-420-010-002

(4) Do the steps below to connect the head end of the actuator assembly [7] to the lock link [9]:

(a) Apply a thin layer of the hydraulic fluid, D00153, or MCS 352B fluid, D00054, to the seals in the head end of the actuator assembly [7].

(b) Align the actuator assembly [7] with the lug on the lock link [9].

(c) Put the pin swivel assembly [10] through the lock link [9] and the actuator assembly [7].

(d) Install the bolt [11], washer [12], and nut [13] to attach the pin swivel assembly [10] to the lock link [9].

SUBTASK 32-32-05-080-003-002

(5) Remove the caps from the ports on the pin swivel assembly [10] and the plugs from the hydraulic lines [14] and [15].

SUBTASK 32-32-05-420-011-002

(6) Connect the hydraulic line [14] with installed elbow [22] and hydraulic line [15] to the ports on the pin swivel assembly [10].

(a) If elbow [22] is not installed, install the elbow [22] on the hydraulic line [14].

1) Tighten the B-nut on the hydraulic line [14] to 270 ±14 in-lb (31 ±2 N·m).

(b) Connect the hydraulic line [14] with installed elbow [22] to the straight fitting end of the pin swivel assembly [10].

1) Tighten the B-nut on the elbow [22] to 270 ±14 in-lb (31 ±2 N·m).

(c) Connect the hydraulic line [15] to the angled fitting end of the pin swivel assembly [10].

1) Tighten the B-nut on the hydraulic line [15] to 270 ±14 in-lb (31 ±2 N·m).

SUBTASK 32-32-05-640-002-002

(7) Apply grease, D00633, to the lubrication fittings [20] and [21] to lubricate the rod end bearing and pin [16], View D (Figure 401).

E. Main Landing Gear Drag Brace Downlock Actuator Installation Test

NOTE: During this test, it is possible that the GEAR DISAGREE and the GEAR DOOR messages will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the messages go away. The messages will go away automatically when you complete this test.

SUBTASK 32-32-05-860-039-002

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-05-860-040-002

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-05-860-041-002

(3) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-05-480-019-002

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-05-010-009-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(5) If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-05-860-042-002

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-05-750-007-002

(7) Do a check to make sure you can remove the downlock pin from the lock links of the drag brace.

NOTE: This shows that the extend port of the actuator assembly [7] is pressurized.

If you remove the downlock pin, you must install it before you do the steps below.

SUBTASK 32-32-05-480-020-002

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(8) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-05-860-043-002

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(9) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

SUBTASK 32-32-05-750-008-002

WARNING	DO NOT REMOVE THE LANDING GEAR DOWNLOCK PINS. THE LANDING GEAR CAN RETRACT IF THE PINS ARE REMOVED. THIS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(10) Do a check to make sure you cannot remove the downlock pin from the lock links of the drag brace.

NOTE: This shows that the retract port of the actuator assembly [7] is pressurized.

SUBTASK 32-32-05-860-044-002

(11) Move the control lever for the landing gear to the DN position.

SUBTASK 32-32-05-790-005-002

(12) Examine the actuator assembly [7] for leaks.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-05-410-004-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-32-05-860-045-002

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

TASK 32-32-05-020-805-002

4. Main Landing Gear Drag Brace Downlock Actuator Trunnion Mount Swivel Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Prepare for the Removal

SUBTASK 32-32-05-860-046-002

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-05-860-047-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-05-860-048-002

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-32-05-480-021-002

(4) Install chocks around the tires of the main landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-32-05-480-022-002

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-05-010-010-002

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

D. Main Landing Gear Drag Brace Downlock Actuator Trunnion Mount Swivel Removal

SUBTASK 32-32-05-020-015-002

(1) Disconnect the hydraulic lines from the trunnion mount swivel assembly [4].

SUBTASK 32-32-05-480-023-002

(2) Install caps on the trunnion mount swivel assembly [4] and plugs in the hydraulic lines.

SUBTASK 32-32-05-020-016-002

(3) Remove the nut [3], washer [2], bolt [6] and washer [5] from the drag brace lock link spindle nut.

SUBTASK 32-32-05-020-017-002

(4) Remove the trunnion mount swivel assembly [4] from the lock link spindle [1].

——— END OF TASK ———

TASK 32-32-05-420-805-002

5. Main Landing Gear Drag Brace Downlock Actuator Trunnion Mount Swivel Installation

(Figure 401)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Main Landing Gear Drag Brace Downlock Actuator Trunnion Mount Swivel Installation

SUBTASK 32-32-05-840-003-002

(1) Clean the inside diameter of the lock link spindle [1] to remove old sealant.

SUBTASK 32-32-05-620-001-002

(2) Apply a thin layer of sealant, A00247 to the mating surfaces of the trunnion mount swivel assembly [4] and the lock link spindle [1].

NOTE: Make sure the drain slots of swivel are not plugged.

SUBTASK 32-32-05-840-004-002

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(3) Apply a thin coat of Cor-Ban 27L Compound, G50237 to the bolt [6], washer [5], washer [2] and nut [3].

SUBTASK 32-32-05-420-012-002

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

CAUTION	THE SWIVEL ASSY CAN BE INSTALLED 180 DEGREES OUT, THIS WILL RESULT IN THE HYDRAULIC LINES BEING HARD TO CONNECT AND REVERSE OPERATION OF THE DRAG BRACE DOWNLOCK ACTUATOR

(4) Install the trunnion mount swivel assembly [4] in the lock link spindle [1].

NOTE: Make sure the hydraulic lines are aligned with the fittings on the trunnion mount swivel.

(a) Apply a thin layer of Cor-Ban 27L Compound, G50237 between the trunnion mount swivel assembly [4] and the lock link spindle [1].

(b) Install bolt [6], washer [5], washer [2] and nut [3] to connect the lock link spindle [1] and the trunnion mount swivel assembly [4].

(c) Tighten the nut [3] to 50 in-lb (6 N·m) to 75 in-lb (8 N·m).

SUBTASK 32-32-05-080-004-002

(5) Remove the caps from the trunnion mount swivel assembly [4] and the plugs from the hydraulic lines.

SUBTASK 32-32-05-420-013-002

(6) Connect the hydraulic lines to the trunnion mount swivel assembly [4].

(a) Tighten the B-nuts on the hydraulic lines to 270 ±14 in-lb (31 ±2 N·m).

E. Main Landing Gear Drag Brace Downlock Actuator Trunnion Mount Swivel Installation Test

NOTE: During this test, it is possible that the GEAR DISAGREE and the GEAR DOOR messages will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the messages go away. The messages will go away automatically when you complete this test.

SUBTASK 32-32-05-860-049-002

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-05-860-050-002

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-05-860-051-002

(3) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-05-480-024-002

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-05-010-011-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(5) If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-05-860-052-002

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-05-750-009-002

(7) Do a check to make sure you can remove the downlock pin from the lock links of the drag brace.

NOTE: This shows that the extend port of the actuator assembly [7] is pressurized.

If you remove the downlock pin, you must install it before you do the steps below.

SUBTASK 32-32-05-480-025-002

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(8) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-05-860-053-002

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(9) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

SUBTASK 32-32-05-750-010-002

WARNING: DO NOT REMOVE THE LANDING GEAR DOWNLOCK PINS. THE LANDING GEAR CAN RETRACT IF THE PINS ARE REMOVED. THIS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(10) Do a check to make sure you cannot remove the downlock pin from the lock links of the drag brace.

NOTE: This shows that the retract port of the actuator assembly [7] is pressurized.

SUBTASK 32-32-05-860-054-002

(11) Move the control lever for the landing gear to the DN position.

SUBTASK 32-32-05-790-006-002

(12) Examine the trunnion mount swivel assembly [4] for leaks.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-05-410-005-002

WARNING: OBEY THE REMOVAL PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-32-05-860-055-002

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

TASK 32-32-05-020-808-002

6. Main Landing Gear Drag Brace Downlock Actuator Hydraulic Swivel Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Prepare for the Removal

SUBTASK 32-32-05-860-076-002

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-05-860-077-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-05-860-078-002

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-32-05-480-037-002

(4) Install chocks around the tires of the main landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-32-05-480-038-002

WARNING

MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(5) If downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-05-420-019-002

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

D. Main Landing Gear Drag Brace Downlock Actuator Hydraulic Swivel Removal

(Figure 401)

SUBTASK 32-32-05-020-025-002

(1) Disconnect the hydraulic lines [14] and [15] from the locklink swivel [30] assembly.

SUBTASK 32-32-05-420-020-002

(2) Install caps on the locklink swivel [30] assemblies and plugs in the hydraulic lines [14] and [15].

SUBTASK 32-32-05-020-026-002

(3) Remove the locklink swivel [30] assemblies from the drag brace locklink.

(a) Remove the lockwires [32] and nuts [33].

(b) Remove the locklink swivel [30] assemblies and pins [31] from the drag brace locklink.

END OF TASK

TASK 32-32-05-420-808-002

7. Main Landing Gear Drag Brace Downlock Actuator Hydraulic Swivel Installation

(Figure 401)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Consumable Materials

Reference	Description	Specification
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Main Landing Gear Drag Brace Downlock Actuator Hydraulic Swivel Installation

SUBTASK 32-32-05-620-004-002

(1) Apply a thin layer of BMS 3-38 Cor-Ban 27L Compound, G50237 to the pins [31], faying surface and bushing hole.

SUBTASK 32-32-05-420-021-002

(2) Install the locklink swivel [30] assemblies on the drag brace locklink.

(a) Insert the pins [31] on the locklink swivel [30] assemblies.

(b) Install the locklink swivel [30] assemblies on the drag brace locklink.

NOTE: Make sure that the pins [31] are aligned with the holes in the drag brace locklink.

(c) Install the jam nuts [33].

(d) Install the lockwires [32] through the jam nuts [33] and pins [31] hole.

SUBTASK 32-32-05-430-002-002

CAUTION	MAKE SURE THAT THE HYDRAULIC LINES BETWEEN THE TRUNNION MOUNT SWIVEL AND LOCK LINK SWIVEL ARE IN THEIR CORRECT LOCATIONS. IT IS POSSIBLE TO INTERCHANGE THESE HYDRAULIC LINES WHICH COULD CAUSE DAMAGE TO THE HYDRAULIC LINES AT THEIR CONNECTIONS.

(3) Connect the hydraulic lines [14] and [15] to the locklink swivel [30] assemblies.

(a) Remove the caps from the locklink swivel [30] assemblies and the plugs from the hydraulic lines [14] and [15].

(b) Connect the hydraulic lines [14] and [15] to the locklink swivel [30] assemblies.

1) Tighten the B-nuts on the hydraulic lines [14] and [15] to 270 ±14 in-lb (31 ±2 N·m).

(c) If it was removed, connect the hydraulic lines from the trunnion mount swivel [4] to the locklink swivel [30].

1) Tighten the B-nuts on the hydraulic lines to 270 ±14 in-lb (31 ±2 N·m).

E. Main Landing Gear Drag Brace Downlock Actuator Hydraulic Swivel Installation Test

NOTE: During this test, it is possible that the GEAR DISAGREE and the GEAR DOOR messages will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the messages go away. The messages will go away automatically when you complete this test.

SUBTASK 32-32-05-860-079-002

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-05-760-001-002

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-05-860-080-002

(3) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-05-480-039-002

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-05-480-040-002

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-05-860-081-002

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-05-750-015-002

(7) Do a check to make sure you can remove the downlock pin from the lock links of the drag brace.

NOTE: This shows that the extend port of the downlock actuator is pressurized.

If you remove the downlock pin, you must install it before you do the steps below.

SUBTASK 32-32-05-480-041-002

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(8) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-05-860-082-002

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(9) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

SUBTASK 32-32-05-750-016-002

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(10) Do a check to make sure you cannot remove the downlock pin from the lock links of the drag brace.

NOTE: This shows that the retract port of the downlock actuator is pressurized.

SUBTASK 32-32-05-860-083-002

(11) Move the control lever for the landing gear to the DN position.

SUBTASK 32-32-05-790-009-002

(12) Examine the locklink swivel [30]assemblies for leaks.

F. **Put the Airplane Back to Its Usual Condition**

SUBTASK 32-32-05-020-027-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-32-05-860-084-002

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

MAIN LANDING GEAR SIDE BRACE LOCK SPRING - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has these tasks:

      (1) A removal of the lock springs from the side brace on the main landing gear and inspection of: spring cranks, springs.

      (2) An installation of the lock springs on the side brace for the main landing gear.

TASK 32-32-06-000-803

2. **Main Landing Gear Side Brace Lock Spring Removal**
   (Figure 401 or Figure 402)

   A. General

      (1) This procedure provides instructions to remove the lock link springs for the main landing gear side brace.

      NOTE: The two springs for the main landing gear side brace will be removed together.

   B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   C. Tools/Equipment

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1563	Hoist - Fishpole (cable), minimum 500 lb capacity Part #: 10/3641 Supplier: K1425 Part #: PF51-003-1 Supplier: 1YRX6 Part #: PF51-009-1 Supplier: 1YRX6 Opt Part #: MINILIFT Supplier: K1425
SPL-11351	Removal/Installation Equipment, MLG Downlock Spring Part #: J32090-17 Supplier: 81205 Part #: J32090-53 Supplier: 81205 Part #: J32090-70 Supplier: 81205

   D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for the Removal

SUBTASK 32-32-06-480-003

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-06-010-003

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-06-860-003

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

F. Spring Crank and Spring Damage Inspection

SUBTASK 32-32-06-220-003

(1) Examine the installation of the side brace lock springs and do these checks if the spring hooks point down:

(a) Examine the spring cranks [53] for damage to the surface finish or the base metal. Refer to the component maintenance manual for repair instructions.

(b) Examine the springs [47] for damage to the Duralon nylon protective coating. Refer to the component maintenance manual for repairs.

(c) Examine the springs [47] for damage to the base metal.

1) Springs with small scratches or rubbing of base metal less than 0.003 in. (0.0762 mm) depth are acceptable for continued use after repair.

2) Remove and discard any spring [47] found with scratches, rubbing, or dents to the base metal greater than 0.003 in. (0.0762 mm) deep.

G. Procedure

SUBTASK 32-32-06-020-003

(1) Use the steps that follow to remove the spring [47] from the lock link [54]:

(a) If necessary, disconnect the hydraulic line to gain access to the spring [47].

(b) Install caps on the hydraulic lines.

(c) Install the downlock spring removal/installation equipment, SPL-11351, and the cable fishpole hoist, COM-1563, on the lock link springs [47].

(d) Extend the spring [47] a small amount to remove tension from the spring shaft [46] and the spring bolt [49].

(e) Remove the pin [56], nut [44], washer [43], shroud [55], and shaft [46] to disconnect the outboard end of the spring [47] from the lock links [54].

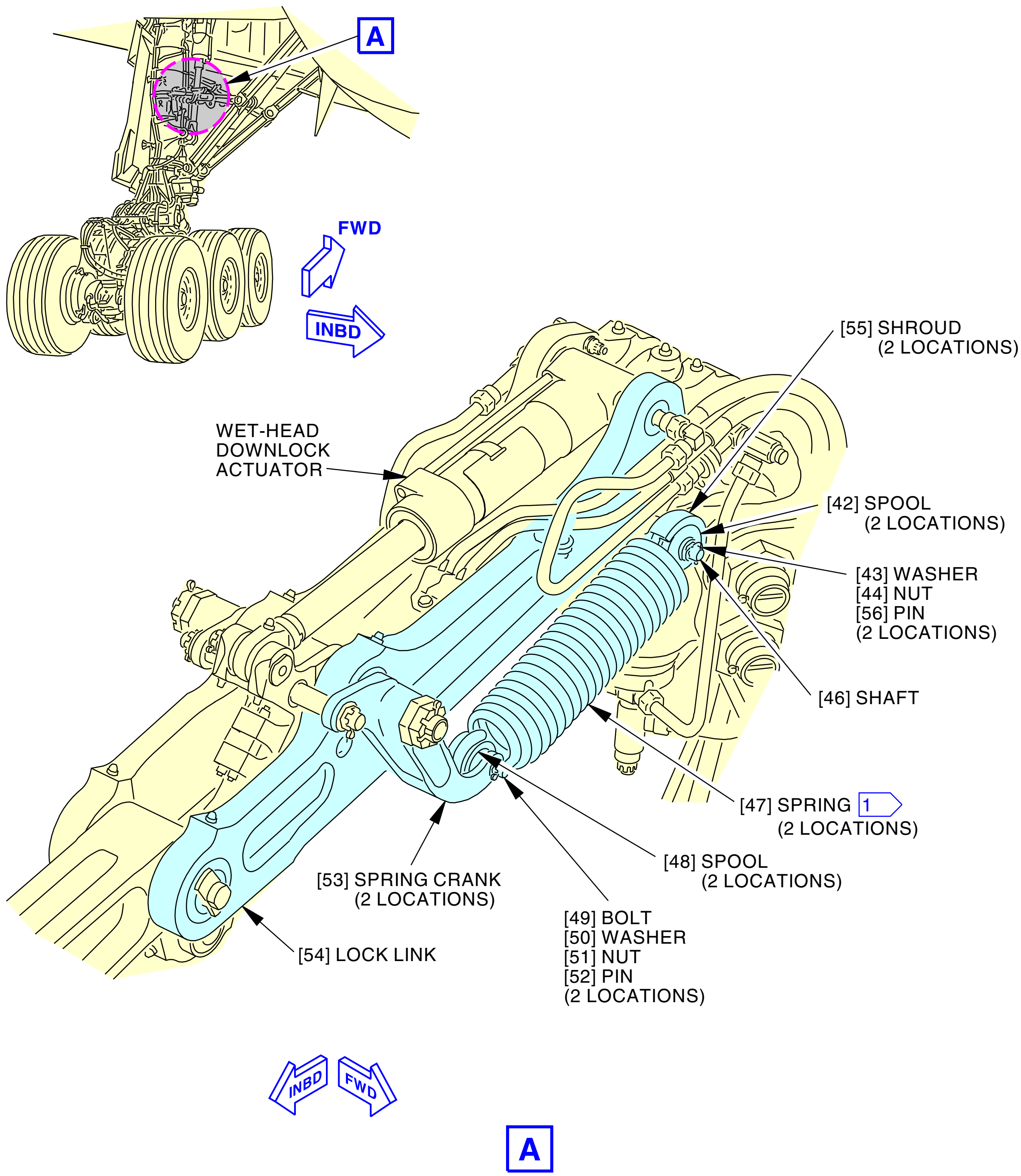
(f) Remove the pin [52], nut [51], washer [50], and bolt [49] to disconnect the inboard end of the spring [47] from the spring cranks [53].

(g) Remove the spool [42] and spool [48] from the spring [47].

(h) Remove the spring [47] for the lock links [54].

(i) Remove the spring [47] from the downlock spring removal/installation equipment, SPL-11351, and the cable fishpole hoist, COM-1563.

——— END OF TASK ———



1 INSTALL SPRINGS WITH HOOKS IN THE UP POSITION

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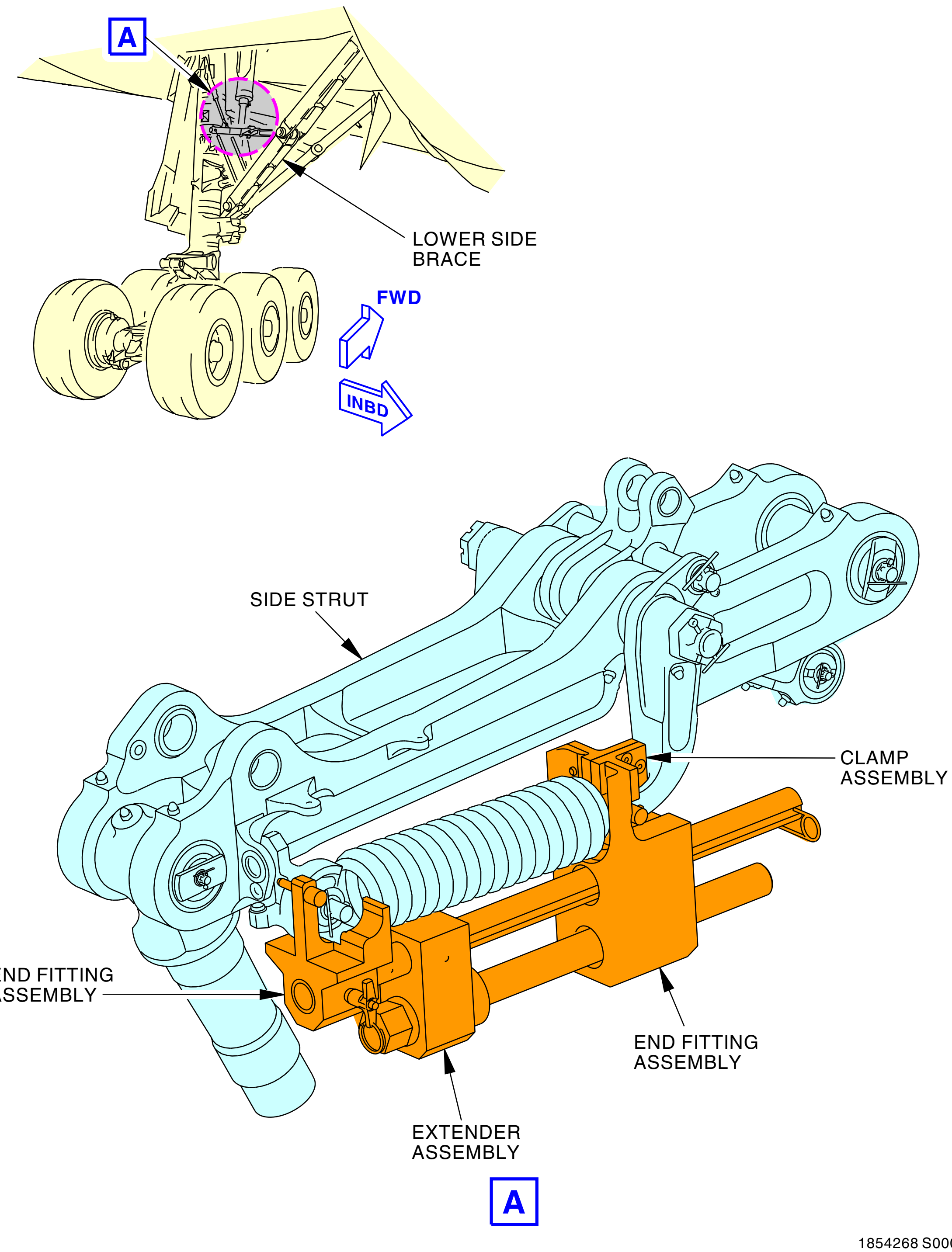
Main Landing Gear Side Brace Lock Spring Installation
Figure 401/32-32-06-990-806



Main Landing Gear Side Brace Lock Spring Tooling
Figure 402/32-32-06-990-808

TASK 32-32-06-400-803

3. Main Landing Gear Side Brace Lock Spring Installation

(Figure 401 or Figure 402)

A. General

(1) This procedure provides instructions to install the lock link springs for the main landing gear side brace.

NOTE: The two springs for the main landing gear side brace will be installed together.

B. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-32-04-420-804-002	Main Landing Gear Side Brace Downlock Actuator Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1563	Hoist - Fishpole (cable), minimum 500 lb capacity Part #: 10/3641 Supplier: K1425 Part #: PF51-003-1 Supplier: 1YRX6 Part #: PF51-009-1 Supplier: 1YRX6 Opt Part #: MINILIFT Supplier: K1425
SPL-11351	Removal/Installation Equipment, MLG Downlock Spring Part #: J32090-17 Supplier: 81205 Part #: J32090-53 Supplier: 81205 Part #: J32090-70 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
47	Spring	32-11-03-01D-180	ARO ALL
52	Pin	32-11-03-01D-146	ARO ALL
56	Pin	32-11-03-01D-110	ARO ALL

F. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

G. Procedure

SUBTASK 32-32-06-420-003

(1) Do the steps that follow to install the lock link spring [47]:

(a) Lubricate the mating surfaces of all parts with grease, D00633.

(b) Install the spool [42] and spool [48] in the spring [47].

(c) Install the downlock spring removal/installation equipment, SPL-11351, and the cable fishpole hoist, COM-1563, on the lock link springs [47].

(d) Put the spring [47] with the spool [42], spool [48], and shroud [55] in their position in the lock links [54].

NOTE: Install the springs with the open end of hook up. With the springs installed this way, there is sufficient clearance between the spring and the spring crank during landing gear extension and retraction.

(e) Install the spring shaft [46] through the spool [42], shroud [55], and outboard end of the lock links [54].

(f) Install the washer [43] and nut [44] on the two ends of the spring shaft [46].

(g) Use the downlock spring removal/installation equipment, SPL-11351, to align the spool [48] in the inboard end of the springs [47] in the spring cranks [53].

(h) Install the bolt [49] to connect the spring [47] to the spring crank [53] on the lock links [54].

(i) Install the washer [50] and nut [51] on the bolt [49].

(j) Remove the downlock spring removal/installation equipment, SPL-11351, and the cable fishpole hoist, COM-1563.

(k) Tighten the nut [51]:

1) Tighten the nut [51] to 100 in-lb (11.3 N·m) - 120 in-lb (13.6 N·m).

2) Loosen the nut [51] to the nearest castellation to align the hole for the pin [52].

3) Install the pin [52].

(l) Tighten the nut [44]:

1) Tighten the two nuts [44] at the same time until they are seated against the spool [42].

2) Tighten the nut [44] to 100 in-lb (11.3 N·m) - 120 in-lb (13.6 N·m).

3) Loosen the nut [44] up to the nearest castellation the hole for the pin [56].

4) Install the pin [56].

(m) If you removed the hydraulic line for access to the spring, connect the downlock actuator hydraulic line.

1) Examine the side brace lock mechanism for leaks (TASK 32-32-04-420-804-002).

H. Put the Airplane Back to its Usual Condition

SUBTASK 32-32-06-410-003

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

MAIN LANDING GEAR DRAG BRACE LOCK SPRINGS - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the lock springs from the drag brace on the main landing gear.

(2) An installation of the lock springs on the drag brace on the main landing gear.

TASK 32-32-07-000-803

2. Main Landing Gear Drag Brace Lock Spring Removal

(Figure 401 or Figure 402)

A. General

(1) This procedure provides instructions to remove the lock link springs for the main landing gear drag brace.

NOTE: The two springs for the main landing gear drag brace will be removed together.

B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1563	Hoist - Fishpole (cable), minimum 500 lb capacity Part #: 10/3641 Supplier: K1425 Part #: PF51-003-1 Supplier: 1YRX6 Part #: PF51-009-1 Supplier: 1YRX6 Opt Part #: MINILIFT Supplier: K1425
SPL-11351	Removal/Installation Equipment, MLG Downlock Spring Part #: J32090-17 Supplier: 81205 Part #: J32090-53 Supplier: 81205 Part #: J32090-70 Supplier: 81205

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for the Removal

SUBTASK 32-32-07-480-003

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-07-010-003

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-07-860-003

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

F. Procedure

SUBTASK 32-32-07-020-003

(1) Use the steps that follow to remove the lock link spring [49] from the lock links [42]:

(a) Remove the pin [46] and the pin [53].

NOTE: It is easier to remove the pins before you install the spring removal tool.

(b) Install the downlock spring removal/installation equipment, SPL-11351, and the cable fishpole hoist, COM-1563, on the lock link springs [49].

(c) Extend the spring [49] a small amount to remove tension from the outboard spring shaft [47] and the inboard spring bolt [50].

(d) Remove the washer [44] and nut [56] to disconnect the outboard end of the spring [49] from the shaft [47].

(e) Remove the shroud [55] from the lock link [42].

(f) Remove the washer [51], nut [52], and bolt [50] to disconnect the inboard end of the spring [49] from the spring cranks [54].

NOTE: The bolt may be difficult to remove even when all of the spring tension is removed.

(g) Adjust the downlock spring removal/installation equipment, SPL-11351, until the spring [49] is as compressed as it can be.

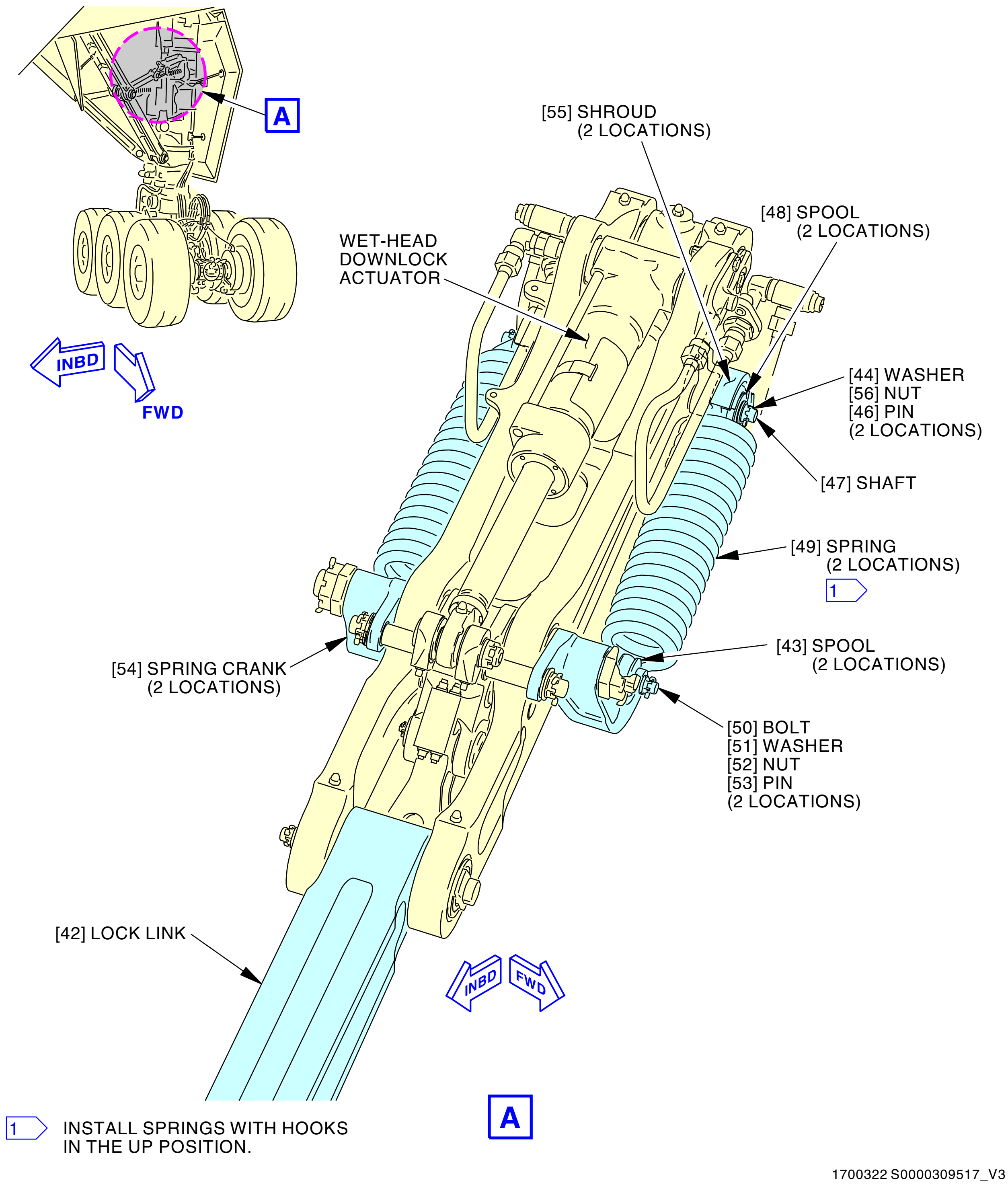
(h) Turn the inboard end of the spring [49] up, until you can remove the outboard end of the spring [49] from the shaft [47].

(i) Remove the spool [43] and spool [48] from the spring [49].

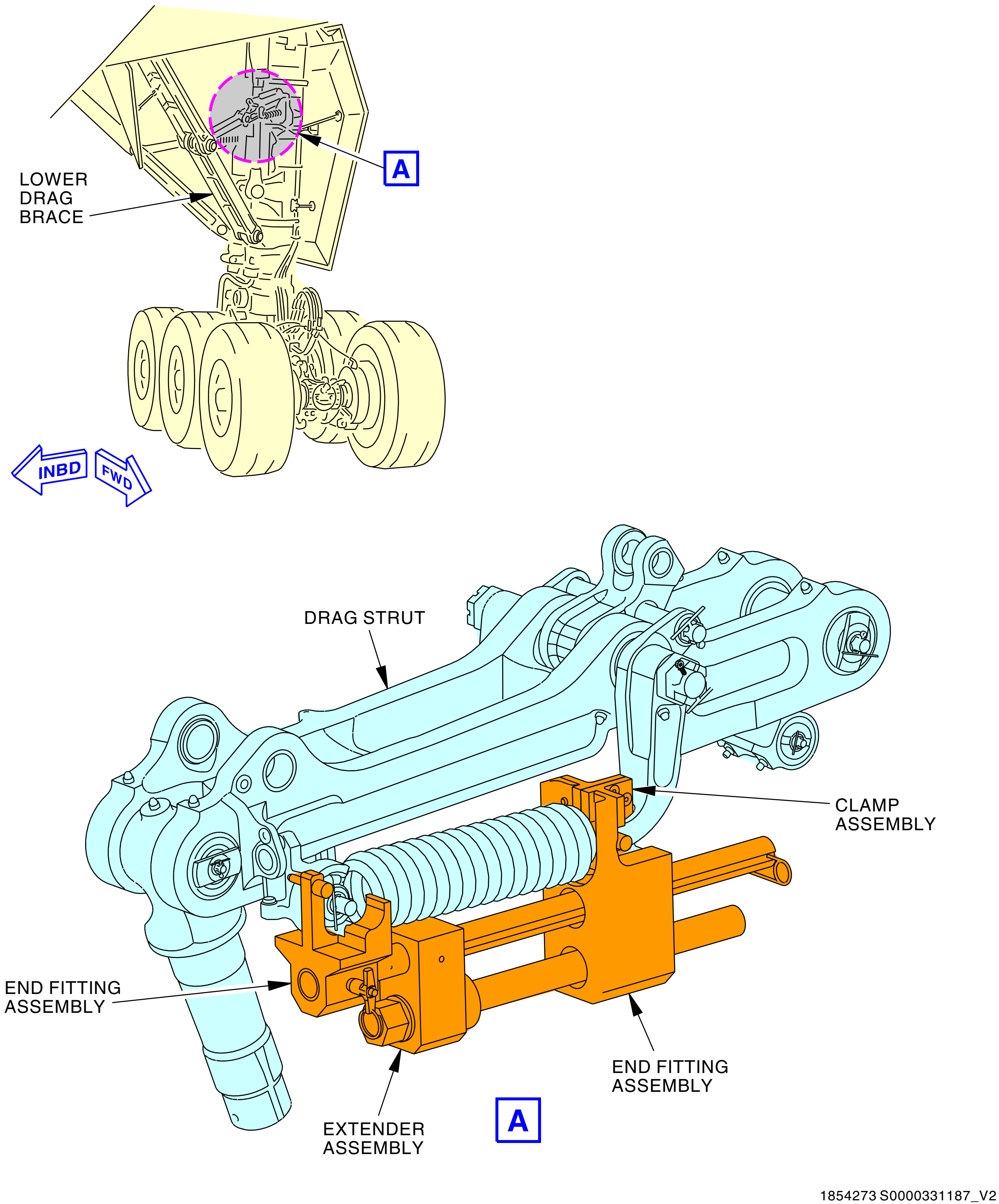
(j) Remove the spring [49] for the lock links [42].

(k) Remove the spring [49] from the downlock spring removal/installation equipment, SPL-11351, and cable fishpole hoist, COM-1563.

END OF TASK



Main Landing Gear Drag Brace Lock Spring Assembly Installation
Figure 401/32-32-07-990-806



Main Landing Gear Drag Brace Lock Spring Tooling
Figure 402/32-32-07-990-808

TASK 32-32-07-400-803

3. Main Landing Gear Drag Brace Lock Spring Installation

(Figure 401 or Figure 402)

A. General

(1) This procedure provides instructions to install the lock link springs for the main landing gear drag brace.

NOTE: The two springs for the main landing gear drag brace will be installed together.

B. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1563	Hoist - Fishpole (cable), minimum 500 lb capacity Part #: 10/3641 Supplier: K1425 Part #: PF51-003-1 Supplier: 1YRX6 Part #: PF51-009-1 Supplier: 1YRX6 Opt Part #: MINILIFT Supplier: K1425
SPL-11351	Removal/Installation Equipment, MLG Downlock Spring Part #: J32090-17 Supplier: 81205 Part #: J32090-53 Supplier: 81205 Part #: J32090-70 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33

E. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Procedure

SUBTASK 32-32-07-420-003

(1) Do the steps that follow to install the lock link spring [49]:

(a) Lubricate the mating surfaces of all parts with grease, D00633.

(b) Install the spool [43] and spool [48] in the spring [49].

(c) Use the downlock spring removal/installation equipment, SPL-11351, and the cable fishpole hoist, COM-1563, to hold the spring [49].

(d) Put the spring [49] with the spool [43], spool [48] and shroud [55] in their position in the lock links [42].

1) Install the springs with the open end of hook up.

NOTE: With the springs installed this way, there is sufficient clearance between the spring and the spring crank during landing gear extension and retraction.

(e) Install the washer [44] and nut [56] on the end of the spring shaft [47].

(f) Use the downlock spring removal/installation equipment, SPL-11351, to align the spool [43] in the inboard end of the spring [49] in the spring cranks [54].

(g) Install the bolt [50] to connect the spring [49] to the spring crank [54] on the lock links [42].

(h) Install the washer [51] and nut [52] on the bolt [50].

(i) Remove the downlock spring removal/installation equipment, SPL-11351, and the cable fishpole hoist, COM-1563.

(j) Tighten the nut [52]:

1) Tighten the nut [52] to 100 in-lb (11.3 N·m) - 120 in-lb (13.6 N·m).

2) Loosen the nut [52] to the nearest castellation to align the hole for the pin [53].

3) Install the pin [53].

(k) Tighten the nut [56]:

1) Tighten the two nuts [56] at the same time until they are seated against the spool [48].

2) Tighten the nut [56] to 100 in-lb (11.3 N·m) - 120 in-lb (13.6 N·m).

3) Loosen the nut [56] up to the nearest castellation the hole for the pin [46].

4) Install the pin [46].

G. Put the Airplane Back to its Usual Condition

SUBTASK 32-32-07-410-003

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

——— END OF TASK ———

MAIN LANDING GEAR DOOR-OPERATED SEQUENCE VALVE - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has these tasks:

      (1) A removal of the main landing gear door-operated sequence valve

      (2) An installation of the main landing gear door-operated sequence valve.

TASK 32-32-08-020-801

2. **Main Landing Gear Door-Operated Sequence Valve Removal**

   (Figure 401)

   A. References

Reference	Title
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

   B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

   C. Prepare for the Removal

SUBTASK 32-32-08-480-001

> **WARNING** MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-08-860-008

(2) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-32-08-010-001

> **WARNING** OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-08-860-001

(4) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

D. Main Landing Gear Door-Operated Sequence Valve Removal

SUBTASK 32-32-08-020-001

(1) Remove the nut [15], washer [13], washer [14], washer [16], and bolt [12] to disconnect the lever [17] from the sequence valve slide [19].

SUBTASK 32-32-08-020-002

(2) Disconnect the hydraulic lines [8] and hydraulic lines [28] from the sequence valve [1].

SUBTASK 32-32-08-480-002

(3) Put caps or plugs in the ports of the sequence valve [1].

SUBTASK 32-32-08-480-003

(4) Install caps on the hydraulic lines [8] and hydraulic lines [28].

SUBTASK 32-32-08-020-003

(5) Disconnect the sequence valve [1]:

(a) Hold the sequence valve [1] in its place.

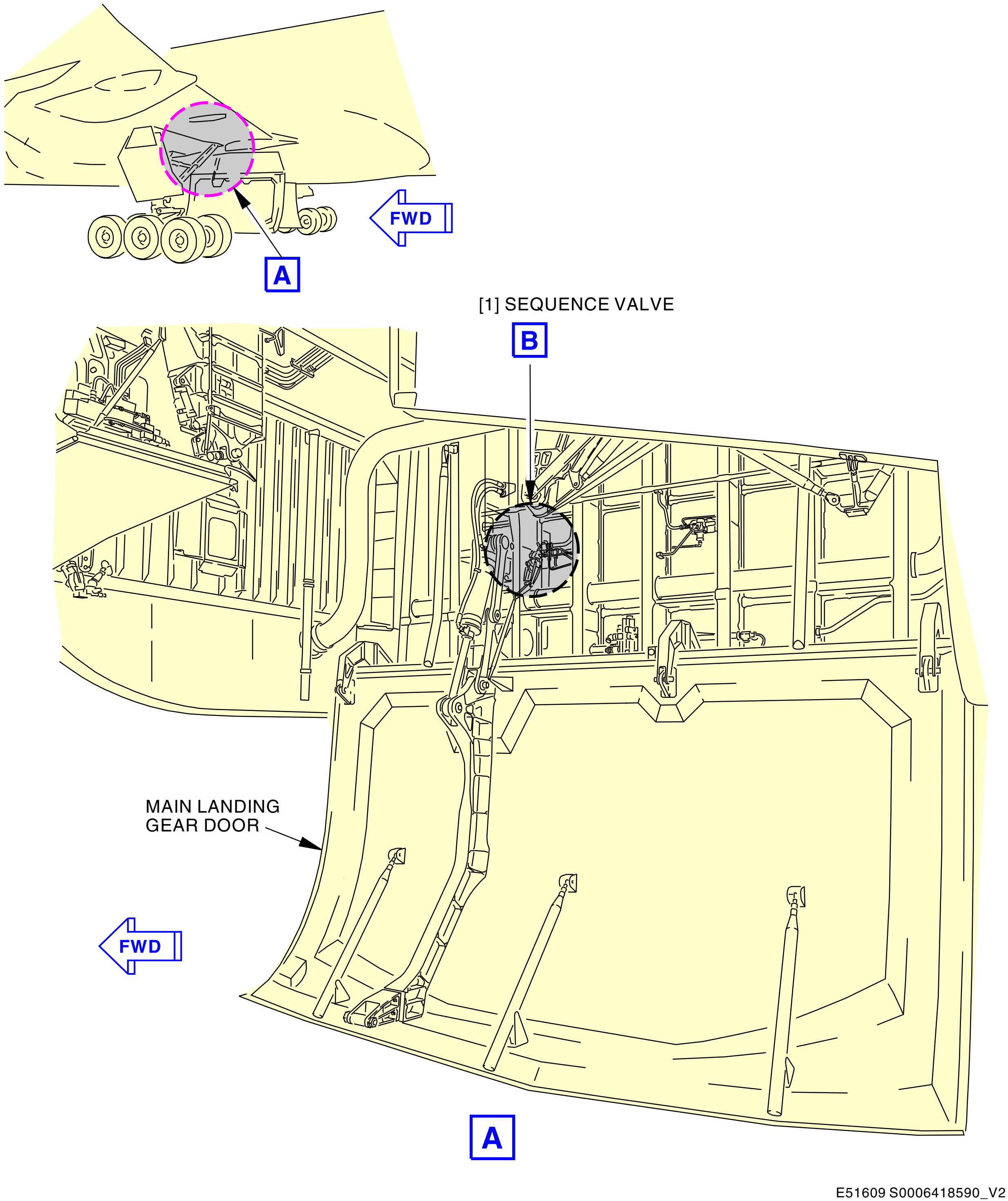
(b) Remove the bolts [9], washers [10], and nuts [11] which hold the sequence valve [1] to the link carrier [18].

(c) Remove the bolt [2], washer [3], washer [4], and nut [5] which holds the sequence valve [1] to the mounting bracket.

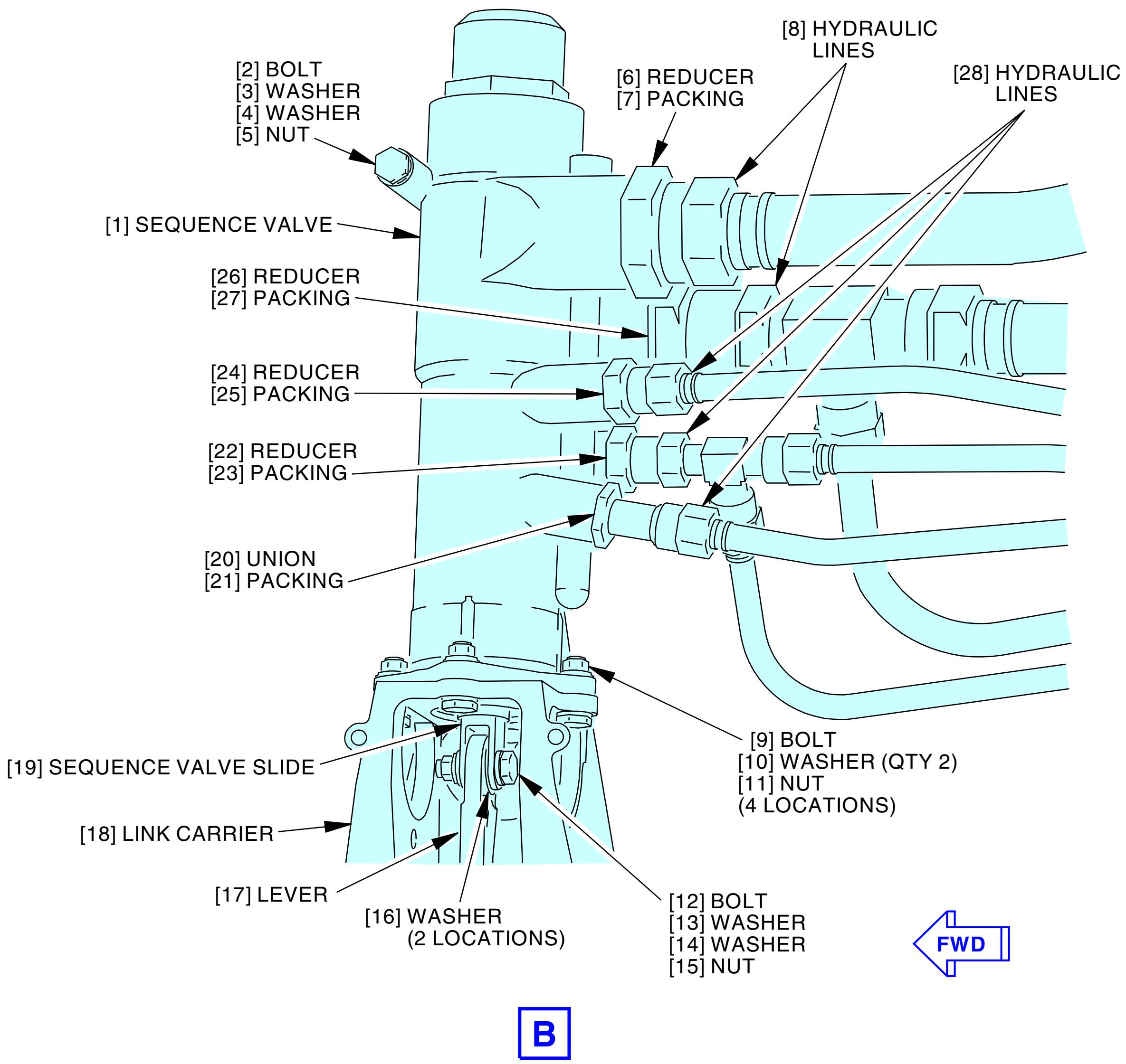
SUBTASK 32-32-08-020-004

(6) Remove the sequence valve [1] from the airplane.

END OF TASK



Main Landing Gear Door-Operated Sequence Valve Installation
Figure 401/32-32-08-990-801 (Sheet 1 of 2)



Main Landing Gear Door-Operated Sequence Valve Installation
Figure 401/32-32-08-990-801 (Sheet 2 of 2)

TASK 32-32-08-420-801

3. Main Landing Gear Door-Operated Sequence Valve Installation

(Figure 401)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

B. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Sequence valve	32-32-08-01A-170	ARO ALL
7	Packing	32-32-08-01A-160	ARO ALL
21	Packing	32-32-08-01A-165	ARO ALL
23	Packing	32-32-08-01A-165	ARO ALL
25	Packing	32-32-08-01A-165	ARO ALL
27	Packing	32-32-08-01A-160	ARO ALL

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

E. Main Landing Gear Door-Operated Sequence Valve Installation

SUBTASK 32-32-08-420-001

(1) If the replacement sequence valve [1] does not have reducer [6], union [20], reducer [22], reducer [24], and reducer [26] installed in the ports, do these steps:

(a) Remove the reducer [6], union [20], reducer [22], reducer [24], and reducer [26] from the used sequence valve [1].

(b) Remove the used packing [7], packing [21], packing [23], packing [25], and packing [27] from the reducer [6], union [20], reducer [22], reducer [24], and reducer [26].

(c) Fully clean the reducer [6], union [20], reducer [22], reducer [24], and reducer [26].

(d) Lubricate the new packing [7], packing [21], packing [23], packing [25], and packing [27] with hydraulic fluid, D00153.

(e) Install the new packing [7], packing [21], packing [23], packing [25], and packing [27] on the reducer [6], union [20], reducer [22], reducer [24], and reducer [26].

(f) Lubricate the threads of the reducer [6], union [20], reducer [22], reducer [24], and reducer [26] with hydraulic fluid, D00153.

(g) Install the reducer [6], union [20], reducer [22], reducer [24], and reducer [26] in the new sequence valve [1].

SUBTASK 32-32-08-480-004

(2) Put caps or plugs in the ports of the sequence valve [1].

SUBTASK 32-32-08-420-002

(3) Hold the sequence valve [1] to the mounting bracket and the link carrier [18].

SUBTASK 32-32-08-420-003

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(4) Apply Cor-Ban 27L Compound, G50237, or Mastinox 6856 K, C00913, to all areas of the hole where the bolt [2] is installed.

SUBTASK 32-32-08-420-008

(5) Install the bolt [2], washer [3], washer [4], and nut [5] to connect the sequence valve [1] to the mounting bracket.

SUBTASK 32-32-08-420-004

(6) Install the four bolts [9], sequence valve [1], and nuts [11] to connect the sequence valve [1] to the link carrier [18].

SUBTASK 32-32-08-080-001

(7) Remove the caps or plugs from the hydraulic lines [8] and hydraulic lines [28].

SUBTASK 32-32-08-420-005

(8) Connect the hydraulic lines [8] and hydraulic lines [28] to the sequence valve [1].

(a) Tighten the B-nuts on hydraulic lines [8] to 1200 ±60 in-lb (136 ±7 N·m)

(b) Tighten the B-nuts on hydraulic lines [28] to 270 ±14 in-lb (31 ±2 N·m)

SUBTASK 32-32-08-420-006

(9) Lubricate the bolt [12], washer [13], washer [14], washer [16], and nut [15] with grease, D00013, or grease, D00013, and install them to connect the sequence valve slide [19] to the lever [17].

F. Main Landing Gear Door-Operated Sequence Valve Installation Test

SUBTASK 32-32-08-860-002

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-08-480-005

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-08-750-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Remove the safety pins for the main and the nose landing gear doors (TASK 32-00-15-080-801).

SUBTASK 32-32-08-860-003

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-08-860-004

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(5) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-08-410-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(6) To close the main and nose landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-32-08-860-005

(7) Move the control lever for the landing gear to the UP position.

(a) You must push the LOCK OVRD button to do this.

SUBTASK 32-32-08-750-002

(8) Make sure that all of the landing gear doors open.

SUBTASK 32-32-08-750-003

(9) After the main landing gear doors open, make sure the main landing gear tries to retract.

SUBTASK 32-32-08-480-006

(10) Install the safety pins for the main landing gear doors (TASK 32-00-15-480-801).

SUBTASK 32-32-08-750-004

(11) Examine the sequence valve [1] for leaks.

SUBTASK 32-32-08-080-002

(12) Remove the safety pins for the main landing gear doors (TASK 32-00-15-080-801).

SUBTASK 32-32-08-860-006

(13) Move the control lever for the landing gear to the DN position.

SUBTASK 32-32-08-790-001

(14) Make sure that all of the landing gear doors close.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-08-860-007

(1) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

MAIN LANDING GEAR DOOR-OPERATED SEQUENCE VALVE MECHANISM - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has these tasks:

      (1) A removal of the mechanism for the door-operated sequence valve for the main landing gear

      (2) An installation of the mechanism for the door-operated sequence valve for the main landing gear.

   B. In this procedure the door-operated sequence valve mechanism is referred to as the sequence valve mechanism.

   C. The sequence valve mechanism has five parts: the control rod [2], crank [1], crank [4], link [3], and the link [6].

TASK 32-32-09-020-801

2. **Sequence Valve Mechanism Removal**

   (Figure 401)

   NOTE: This procedure is a scheduled maintenance task.

   A. General

      (1) This task has five parts:

         (a) The first part supplies instructions to remove only the control rod [2].

         (b) The second part supplies instructions to remove only the input crank [1].

         (c) The third part supplies instructions to remove only the input link [6].

         (d) The fourth part supplies instructions to remove only the intermediate crank [4].

         (e) The fifth part supplies instructions to remove only the valve link [3].

   B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

   D. Prepare for the Removal

   SUBTASK 32-32-09-480-001

   WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

      (1) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-09-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-09-860-001

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

E. Sequence Valve Mechanism Removal

SUBTASK 32-32-09-020-001

(1) Do the steps below if it is necessary to remove only the control rod [2]:

(a) Disconnect the control rod [2] from the input crank [1]:

1) Remove the nut [10] and the washer [11] from the bolt [8].

2) Remove the bolt [8], the washer [7], and the bushing [9] from the control rod [2] and the input crank [1].

(b) Disconnect the control rod [2] from the fitting [12] on the main landing gear door.

1) Remove the nut [14] and the washer [13] from the bolt [16].

2) Remove the bolt [16], the washer [17], and the bushing [15] from the control rod [2] and the fitting [12].

(c) Remove the control rod [2] from the airplane.

SUBTASK 32-32-09-020-002

(2) Do the steps below if it is necessary to remove only the input crank [1]:

(a) Disconnect the input crank [1] from the control rod [2]:

1) Remove the nut [10] and the washer [11] from the bolt [8].

2) Remove the bolt [8], the washer [7], and the bushing [9] from the input crank [1] and the control rod [2].

(b) Disconnect the input crank [1] from the input link [6]:

1) Turn the input crank [1] until you can see the connection between the input crank [1] and the input link [6].

2) Remove the nut [43] and the washer [44] from the bolt [41].

3) Remove the bolt [41], the washer [42], and the bushing [40] from the input link [6] and the input crank [1].

(c) Disconnect the input crank [1] from the support bracket [5]:

1) Remove the nut [47] and the washer [48] from the bolt [46].

2) Remove the bolt [46] and the washer [45] from the input crank [1] and the support bracket [5].

(d) Remove the input crank [1] from the airplane.

SUBTASK 32-32-09-020-003

(3) Do the steps below if it is necessary to remove only the input link [6]:

(a) Disconnect the input link [6] from the intermediate crank [4]:

1) Remove the nut [28] and the washer [29] from the bolt [26].

2) Remove the bolt [26], the washer [25], and the bushing [27] from the input link [6] and the intermediate crank [4]].

(b) Disconnect the input crank [1] from the control rod [2]:

1) Remove the nut [10] and the washer [11] from the bolt [8].

2) Remove the bolt [8], the washer [7], and the bushing [9] from the input crank [1] and the control rod [2].

(c) Disconnect the input link [6] from the input crank [1]:

1) Turn the input crank [1] until you can see the connection between the input crank [1] and the input link [6].

2) Remove the nut [43] and the washer [44] from the bolt [41].

3) Remove the bolt [41], the washer [42], and the bushing [40] from the input link [6] and the input crank [1].

(d) Remove the input link [6] from the airplane.

SUBTASK 32-32-09-020-004

(4) Do the steps below if it is necessary to remove only the intermediate crank [4]:

(a) Disconnect the intermediate crank [4] from the input link [6]:

1) Remove the nut [28] and the washer [29] from the bolt [26].

2) Remove the bolt [26], the washer [25], and the bushing [27] from the input link [6] and the intermediate crank [4].

(b) Disconnect the intermediate crank [4] from the support bracket [5]:

1) Remove the nut [38] and the washer [39] from the bolt [36].

2) Remove the bolt [36] and the washer [37] from the intermediate crank [4] and the support bracket [5].

(c) Disconnect the intermediate crank [4] from the valve link [3]:

1) Pull the intermediate crank [4] out until you can see the connection between the intermediate crank [4] and the valve link [3].

2) Remove the nut [34] and the washer [35] from the bolt [30].

3) Remove the bolt [30], the washer [31], and the bushing [32] from the valve link [3] and the intermediate crank [4].

(d) Remove the intermediate crank [4] from the airplane.

SUBTASK 32-32-09-020-005

(5) Do the steps below if it is necessary to remove only the valve link [3]:

(a) Disconnect the valve link [3] from the sequence valve input slide [18]:

1) Remove the nut [22] and the washer [23] from the bolt [20].

2) Remove the bolt [20] and the washer [19] from the valve link [3] and the sequence valve input slide [18].

NOTE: Make sure you catch the washers [21] when you remove the bolt [20].

(b) Disconnect the intermediate crank [4] from the support bracket [5]:

1) Remove the nut [38] and the washer [39] from the bolt [36].

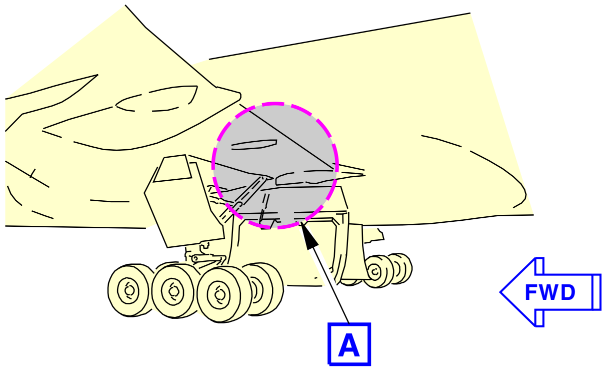
2) Remove the bolt [36] and the washer [37] from the intermediate crank [4] and the support bracket [5].

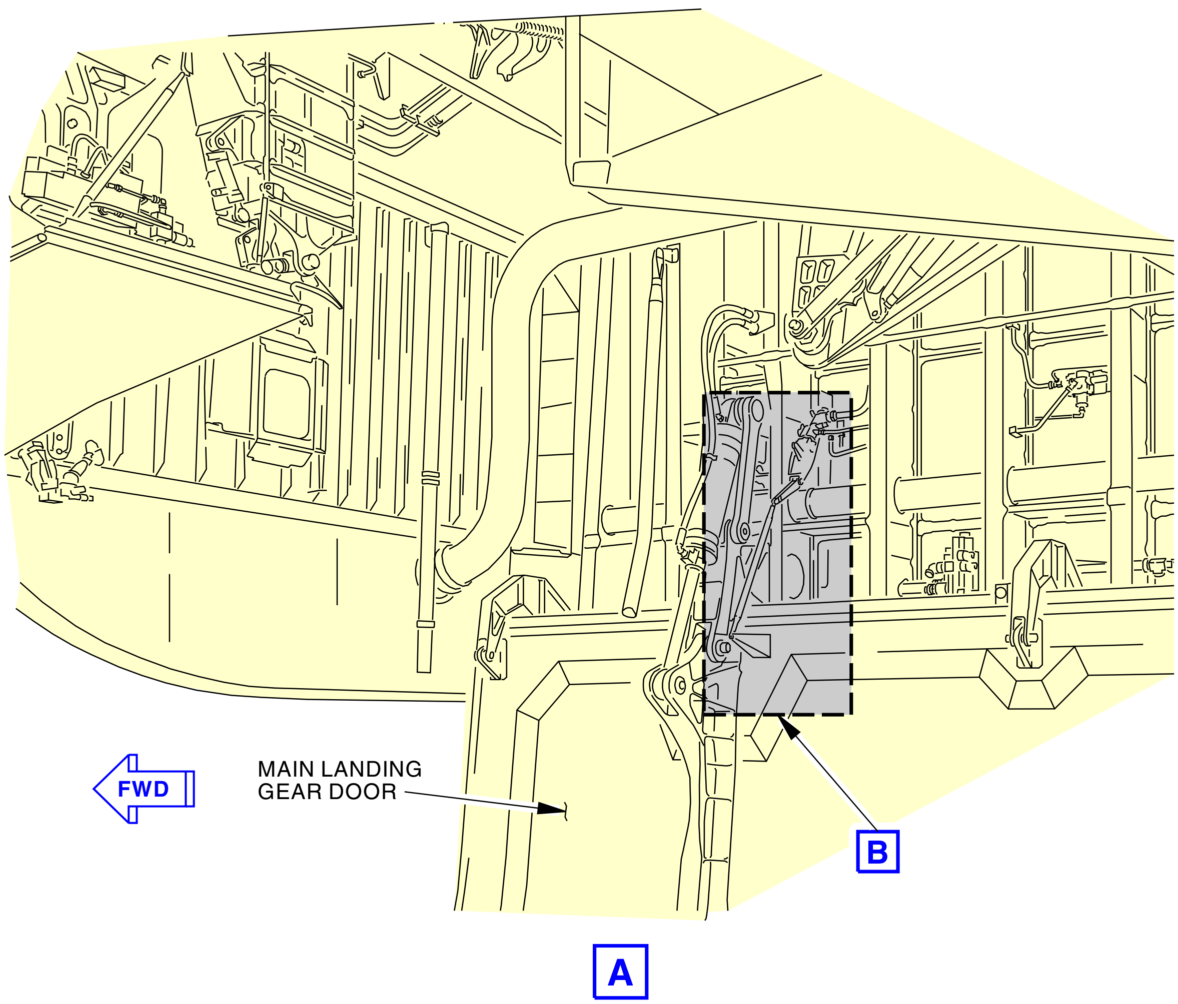
(c) Disconnect the valve link [3] from the intermediate crank [4]:

1) Turn the intermediate crank [4] out until you can see the connection between the intermediate crank and the valve link [3].
2) Remove the nut [34] and the washer [35] from the bolt [30].
3) Remove the bolt [30], the washer [31], and the bushing [32] from the valve link [3] and the intermediate crank [4].

(d) Remove the valve link [3] from the airplane.

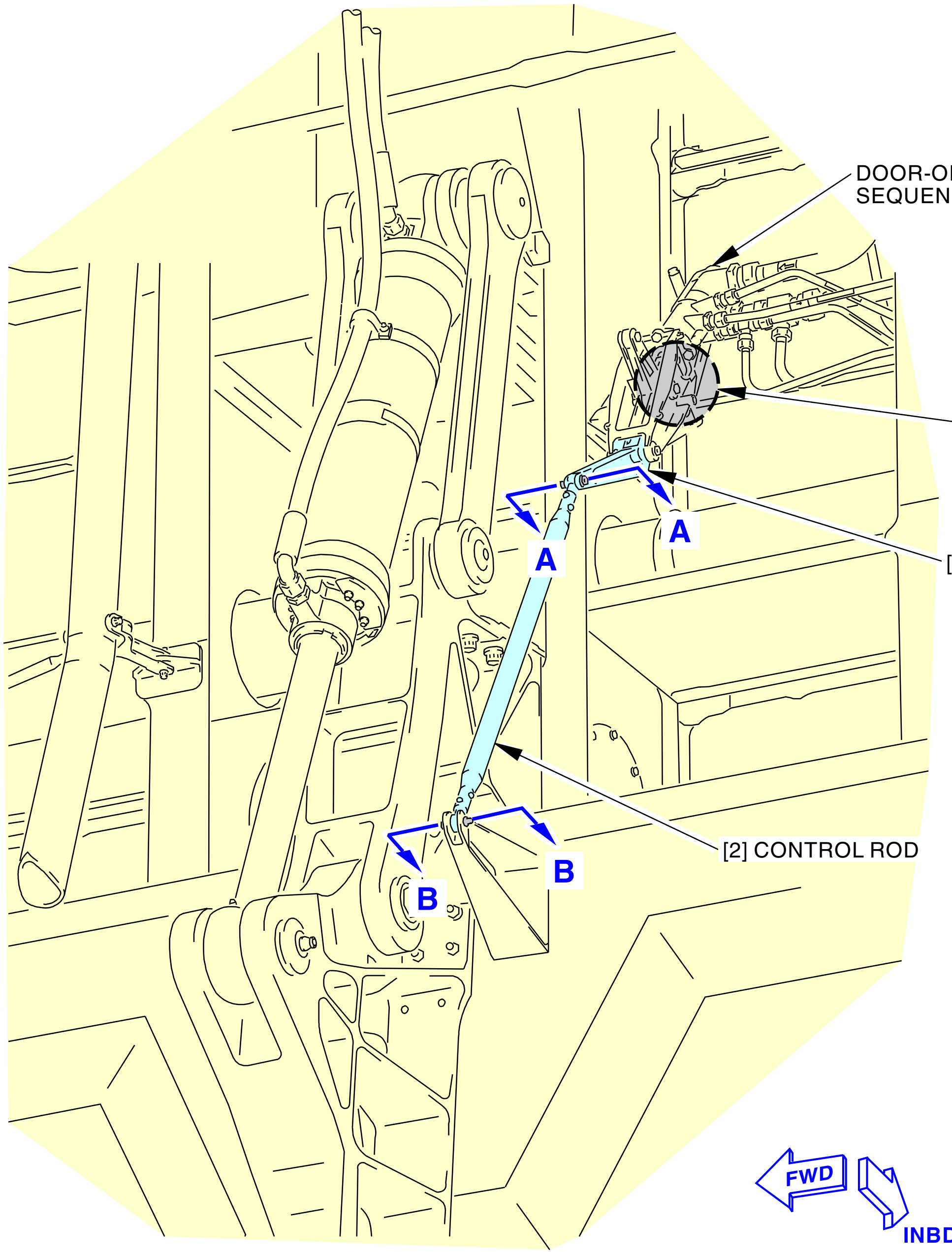
END OF TASK





E52238 S0006418596_V2

Main Landing Gear Door-Operated Sequence Valve Mechanism Installation
Figure 401/32-32-09-990-801 (Sheet 1 of 7)



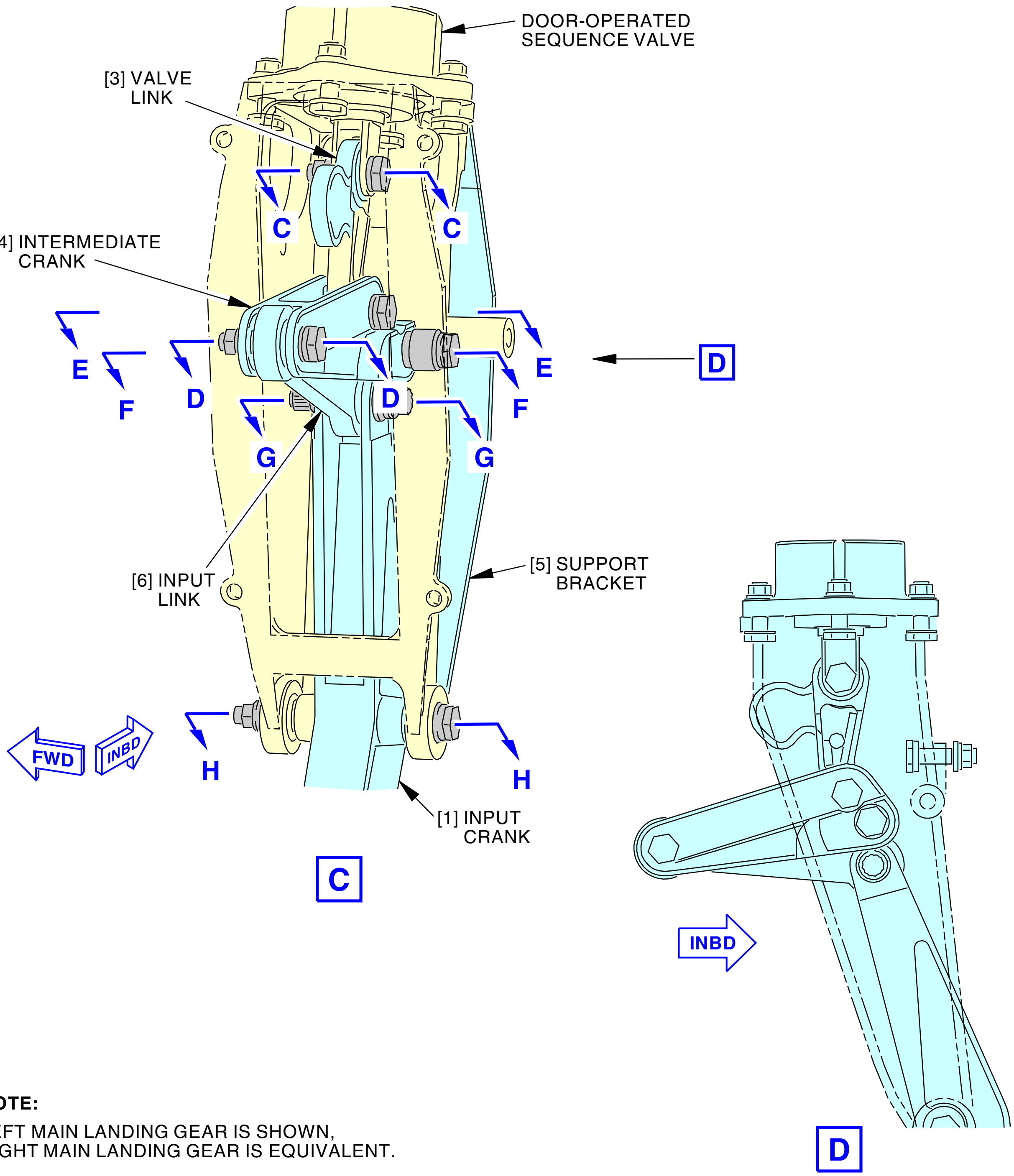
B

NOTE:

LEFT MAIN LANDING GEAR IS SHOWN,
RIGHT MAIN LANDING GEAR IS EQUIVALENT.

E52270 S0006418597_V3

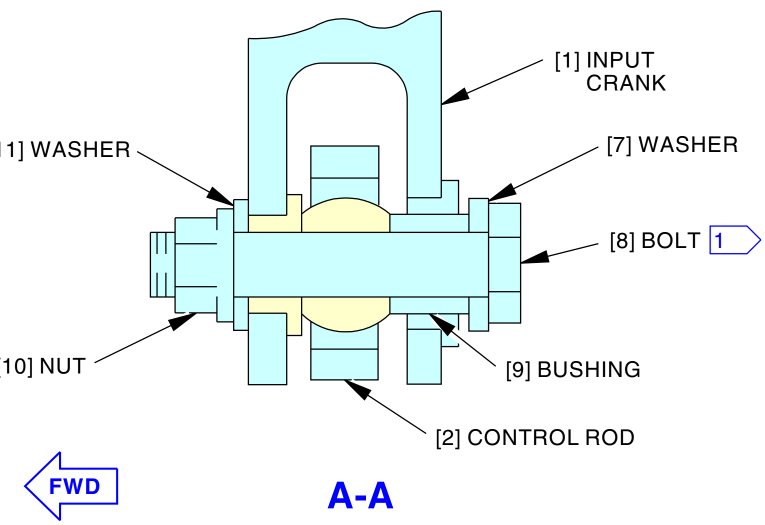
Main Landing Gear Door-Operated Sequence Valve Mechanism Installation
Figure 401/32-32-09-990-801 (Sheet 2 of 7)

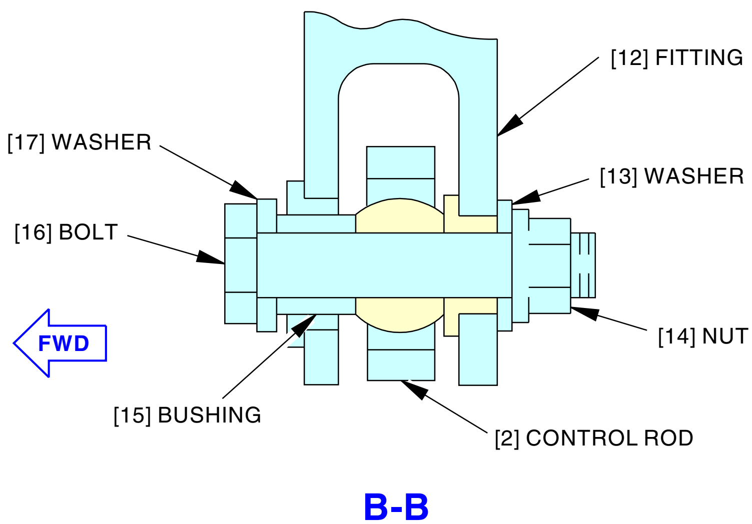


NOTE:
LEFT MAIN LANDING GEAR IS SHOWN,
RIGHT MAIN LANDING GEAR IS EQUIVALENT.

D32797 S0000151388_V4

Main Landing Gear Door-Operated Sequence Valve Mechanism Installation
Figure 401/32-32-09-990-801 (Sheet 3 of 7)

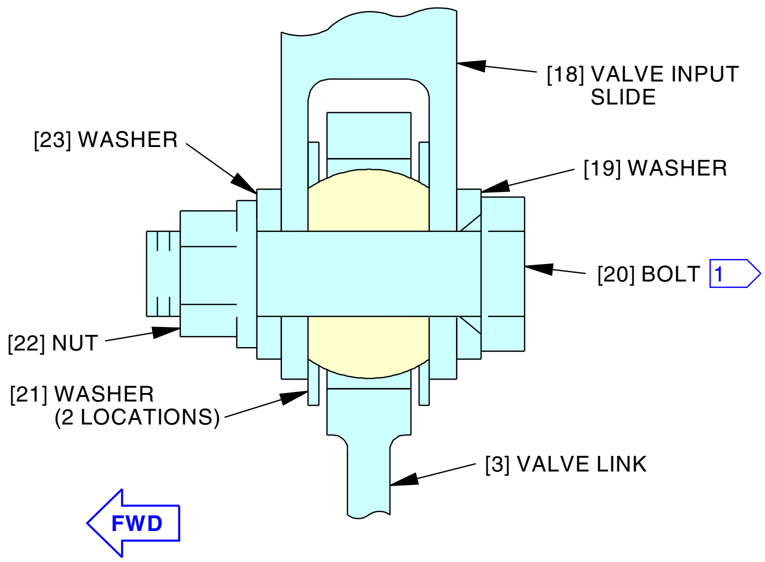




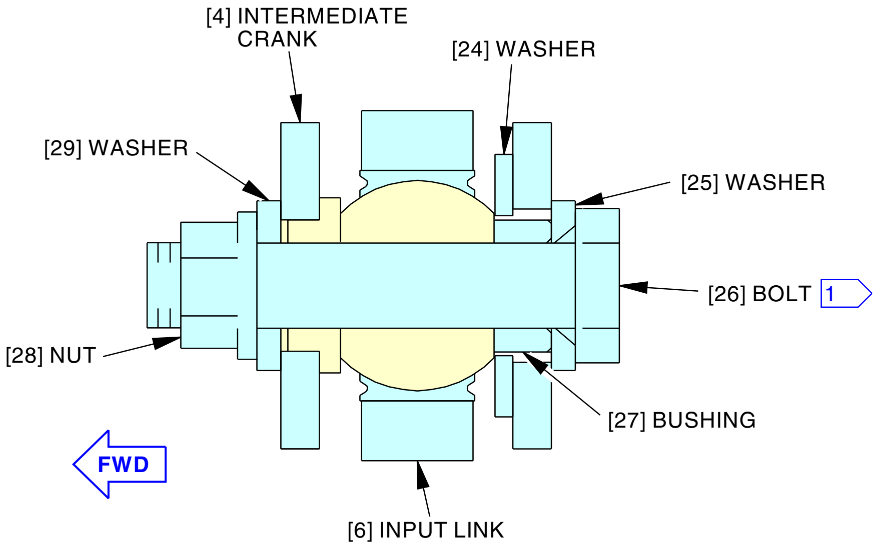
1 LEFT MAIN LANDING GEAR, BOLT HEAD FACES AFT
RIGHT MAIN LANDING GEAR, BOLT HEAD FACES FORWARD

E52506 S0006418599_V3

Main Landing Gear Door-Operated Sequence Valve Mechanism Installation
Figure 401/32-32-09-990-801 (Sheet 4 of 7)



C-C

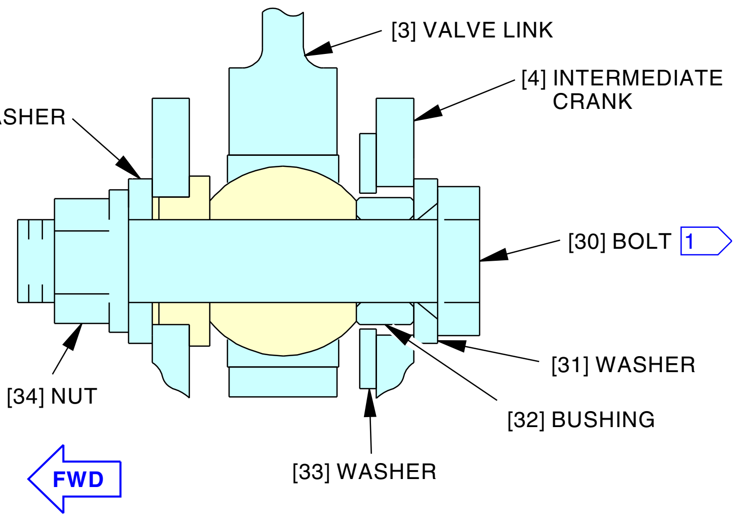


D-D

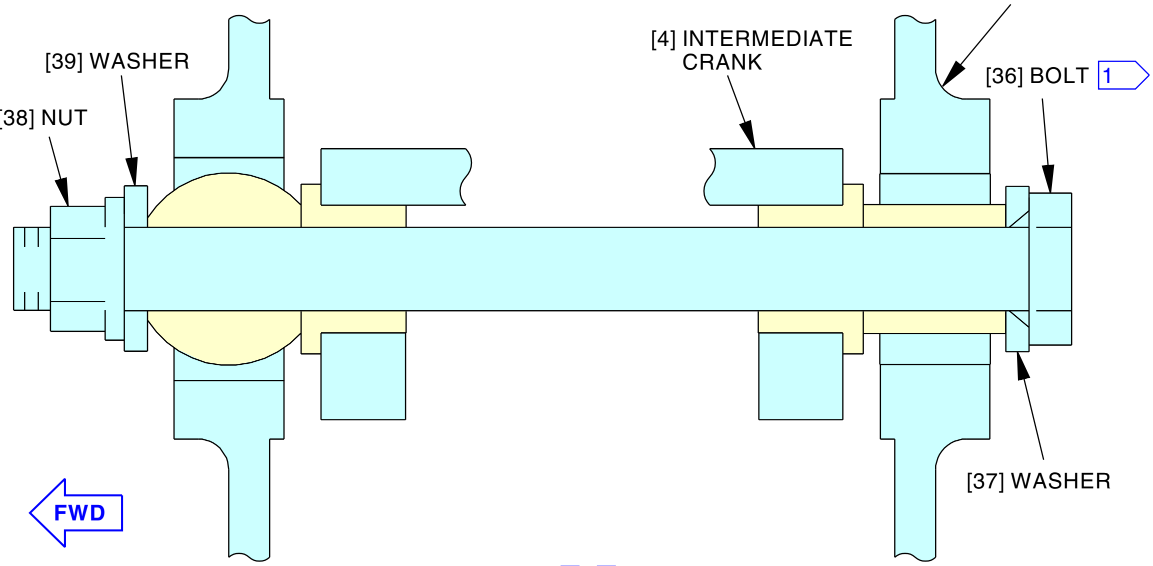
1 LEFT MAIN LANDING GEAR, BOLT HEAD FACES AFT
RIGHT MAIN LANDING GEAR, BOLT HEAD FACES FORWARD

E52508 S0006418600_V3

Main Landing Gear Door-Operated Sequence Valve Mechanism Installation
Figure 401/32-32-09-990-801 (Sheet 5 of 7)



E-E

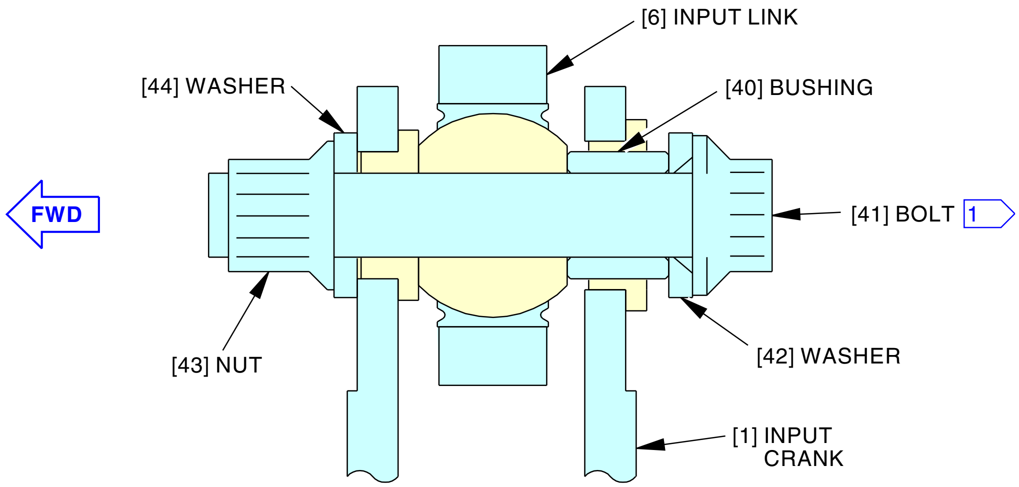


F-F

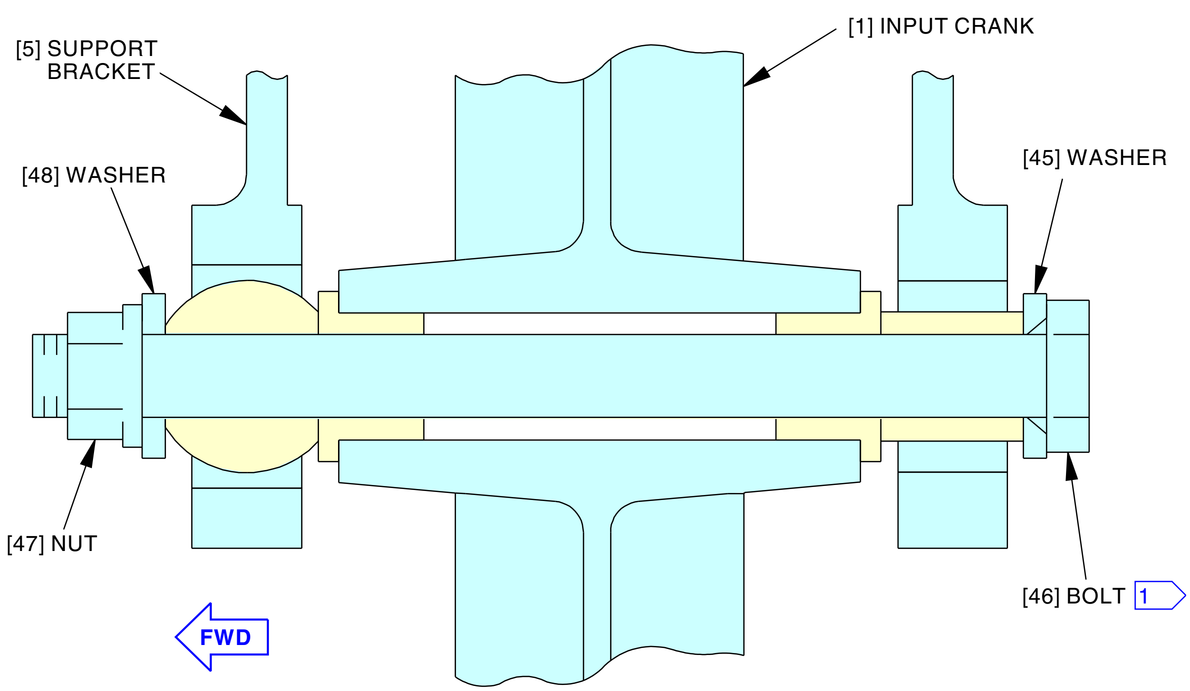
1 LEFT MAIN LANDING GEAR, BOLT HEAD FACES AFT
RIGHT MAIN LANDING GEAR, BOLT HEAD FACES FORWARD

E52522 S0006418601_V3

Main Landing Gear Door-Operated Sequence Valve Mechanism Installation
Figure 401/32-32-09-990-801 (Sheet 6 of 7)



G-G



H-H

1 LEFT MAIN LANDING GEAR, BOLT HEAD FACES AFT
RIGHT MAIN LANDING GEAR, BOLT HEAD FACES FORWARD

E52527 S0006418602_V3

Main Landing Gear Door-Operated Sequence Valve Mechanism Installation
Figure 401/32-32-09-990-801 (Sheet 7 of 7)

TASK 32-32-09-420-801

3. Sequence Valve Mechanism Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This task has five parts:

(a) The first part supplies instructions to install only the control rod [2]

(b) The second part supplies instructions to install only the input crank [1]

(c) The third part supplies instructions to install only the input link [6]

(d) The fourth part supplies instructions to install only the intermediate crank [4]

(e) The fifth part supplies instructions to install only the valve link [3].

B. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

C. Consumable Materials

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Crank	32-32-08-01A-350	ARO ALL
2	Rod	32-32-08-01A-035	ARO ALL
3	Link	32-32-08-01A-210	ARO ALL
4	Crank	32-32-08-01A-265	ARO ALL
6	Link	32-32-08-01A-315	ARO ALL

E. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

F. Sequence Valve Mechanism Installation

SUBTASK 32-32-09-420-001

(1) Do the steps below if it is necessary to install only the control rod [2]:

(a) Connect the control rod [2] to the fitting [12] on the main landing gear door:

1) Put the rod [2] in position in the fitting [12].

2) Install the washer [17] and the bushing [15] on the bolt [16].

3) Put the bolt [16] through the fitting [12] and the control rod [2].

4) Install the washer [13] and the nut [14] on the bolt [16].

(b) Connect the control rod [2] to the input crank [1]:

1) Install the washer [7] and the bushing [9] on the bolt [8].

2) Put the bolt [8] through the input crank [1] and the control rod [2].

3) Install the washer [11] and the nut [10] on the bolt [8].

SUBTASK 32-32-09-420-002

(2) Do the steps below if it is necessary to install only the input crank [1]:

(a) Connect the input crank [1] to the support bracket [5]:

1) Lubricate the inner diameter of the bushing in the support bracket [5] and bolt hole in the input crank [1] with grease, D00013 or grease, D00013.

2) Put the input crank [1] in its position in the support bracket [5].

3) Install the washer [45] on the bolt [46].

4) Put the bolt [46] through the support bracket [5] and the input crank [1].

5) Install the washer [48] and the nut [47] on the bolt [46].

(b) Connect the input crank [1] to the input link [6]:

1) Lubricate the inner diameter of the bushing [40] and bolt hole in the input crank [1] with grease, D00013 or grease, D00013.

2) Install the washer [42] and the bushing [40] on the bolt [41].

3) Put the bolt [41] through the input crank [1] and the input link [6].

4) Install the washer [44] and the nut [43] on the bolt [41].

(c) Connect the input crank [1] to the control rod [2]:

1) Install the washer [7] and the bushing [9] on the bolt [8].

2) Put the bolt [8] through the input crank [1] and the control rod [2].

3) Install the washer [11] and the nut [10] on the bolt [8].

SUBTASK 32-32-09-420-003

(3) Do the steps below if it is necessary to install only the input link [6]:

(a) Connect the input link [6] to the input crank [1]:

1) Lubricate the inner diameter of the bushing [40] and bolt hole in the input crank [1] with grease, D00013 or grease, D00013.

2) Put the input link [6] in its position in the input crank [1].

3) Install the washer [42] and the bushing [40] on the bolt [41].

4) Put the bolt [41] through the input crank [1] and the input link [6].

5) Install the washer [44] and the nut [43] on the bolt [41].

(b) Connect the input crank [1] to the control rod [2]:

1) Install the washer [7] and the bushing [9] on the bolt [8].

2) Put the bolt [8] through the control rod [2] and the input crank [1].

3) Install the washer [11] and the nut [10] on the bolt [8].

(c) Connect the input link [6] to the intermediate crank [4].

1) Install the washer [25] and the bushing [27] on the bolt [26].

2) Put the bolt [26] through the intermediate crank [4] and the input link [6].

3) Install the washer [29] and the nut [28] on the bolt [26].

SUBTASK 32-32-09-420-004

(4) Do the steps below if it is necessary to install only the intermediate crank [4]:

(a) Connect the intermediate crank [4] to the valve link [3]:

1) Put the intermediate crank [4] in it position in the valve link [3].
2) Install the washer [31] and the bushing [32] on the bolt [30].
3) Put the bolt [30] through the valve link [3] and the intermediate crank [4].
4) Install the washer [35] and the nut [34] on the bolt [30].

(b) Connect the intermediate crank [4] to the support bracket [5]:

1) Install the washer [37] on the bolt [36].
2) Put the bolt [36] through the intermediate crank [4] and the support bracket [5].
3) Install the washer [39] and the nut [38] on the bolt [36].

(c) Connect the intermediate crank [4] to the input link [6]:

1) Install the washer [25] and the bushing [27] on the bolt [26].
2) Put the bolt [26] through the intermediate crank [4] and the input link [6].
3) Install the washer [29] and the nut [28] on the bolt [26].

SUBTASK 32-32-09-420-005

CAUTION	MAKE SURE YOU INSTALL THE VALVE LINK CORRECTLY. IF YOU DO NOT INSTALL THE VALVE LINK CORRECTLY, THE VALVE LINK CAN INTERFERE WITH OTHER PARTS AND PREVENT THE SEQUENCE VALVE FROM OPERATING CORRECTLY. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

(5) Do the steps below if it is necessary to install only the valve link [3]:

NOTE: Make sure you install the valve link as shown on figure 401, view D. The point that connects to the intermediate link must be facing the wall of the wheel well.

(a) Connect the valve link [3] to the intermediate crank [4]:

1) Put the valve link [3] in its position on the intermediate crank [4].
2) Install the washer [31] and the bushing [32] on the bolt [30].
3) Put the bolt [30] through the intermediate crank [4] and the valve link [3].
4) Install the washer [35] and the nut [34] on the bolt [30].

(b) Connect the intermediate crank [4] to the support bracket [5]:

1) Install the washer [37] on the bolt [36].
2) Put the bolt [36] through the support bracket [5] and the intermediate crank [4].
3) Install the washer [39] and the nut [38] on the bolt [36].

(c) Connect the valve link [3] to the sequence valve input slide [18]:

1) Lubricate the bolt hole in the valve input slide [18] and the bolt hole in the valve link [3] with grease, D00013 or grease, D00013.
2) Install the washer [19] on the bolt [20].
3) Hold the two washers [21] in their positions between the valve input slide [18] and the valve link [3].
4) Put the bolt [20] through the sequence valve input slide [18], the two washers [21], and the valve link [3].
5) Install the washer [23] and the nut [22] on the bolt [20].

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-09-410-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

——— END OF TASK ———

MAIN LANDING GEAR DOOR-OPERATED SEQUENCE VALVE MECHANISM - INSPECTION/CHECK

1. General

A. This procedure only has illustrations and wear limit tables which show the data for wear limits. There are no procedures for access, removal, or installation of the parts. Refer to MAIN LANDING GEAR DOOR-OPERATED SEQUENCE VALVE MECHANISM - REMOVAL/INSTALLATION, PAGEBLOCK 32-32-09/401 for procedures to do these tasks.

TASK 32-32-09-200-801

2. Main Landing Gear Door-Operated Sequence Valve Mechanism - Inspection/Check

(Figure 601)

A. References

Reference	Title
32-32-09 P/B 401	MAIN LANDING GEAR DOOR-OPERATED SEQUENCE VALVE MECHANISM - REMOVAL/INSTALLATION

B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

C. General

SUBTASK 32-32-09-210-001

(1) This procedure only has illustrations and wear limit tables which show the data for wear limits. There are no procedures for access, removal, or installation of the parts. Refer to MAIN LANDING GEAR DOOR-OPERATED SEQUENCE VALVE MECHANISM - REMOVAL/INSTALLATION, PAGEBLOCK 32-32-09/401 for procedures to do these tasks.

SUBTASK 32-32-09-220-001

(2) Use the following table to see the permitted quantity of wear:

Main Landing Gear Door-Operated Sequence Valve Mechanism Wear Limits

INDEX NO.	PART NAME	DIM.	DESIGN LIMITS DIAMETER inches (millimeters)		WEAR LIMITS inches (millimeters)		REPAIR
			MIN	MAX	ALLOWED WEAR DIM.	MAX CLEARANCE	
1	Bearing/ Bushing	ID	0.2500 in. (6.350 mm)	0.2515 in. (6.388 mm)	0.2530 in. (6.426 mm)	0.0040 in. (0.102 mm)	
	Bolt	OD	0.2485 in. (6.312 mm)	0.2495 in. (6.337 mm)	0.2480 in. (6.299 mm)		X
2	Bushing	ID	0.2500 in. (6.350 mm)	0.2505 in. (6.363 mm)	0.2525 in. (6.414 mm)	0.0030 in. (0.076 mm)	
	Bolt	OD	0.2485 in. (6.312 mm)	0.2495 in. (6.337 mm)	0.2480 in. (6.299 mm)		X

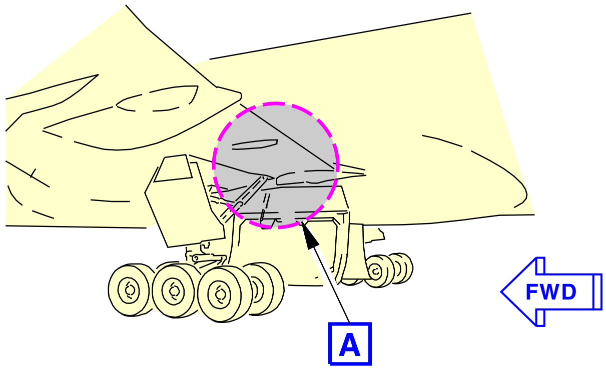
Main Landing Gear Door-Operated Sequence Valve Mechanism Wear Limits (Continued)

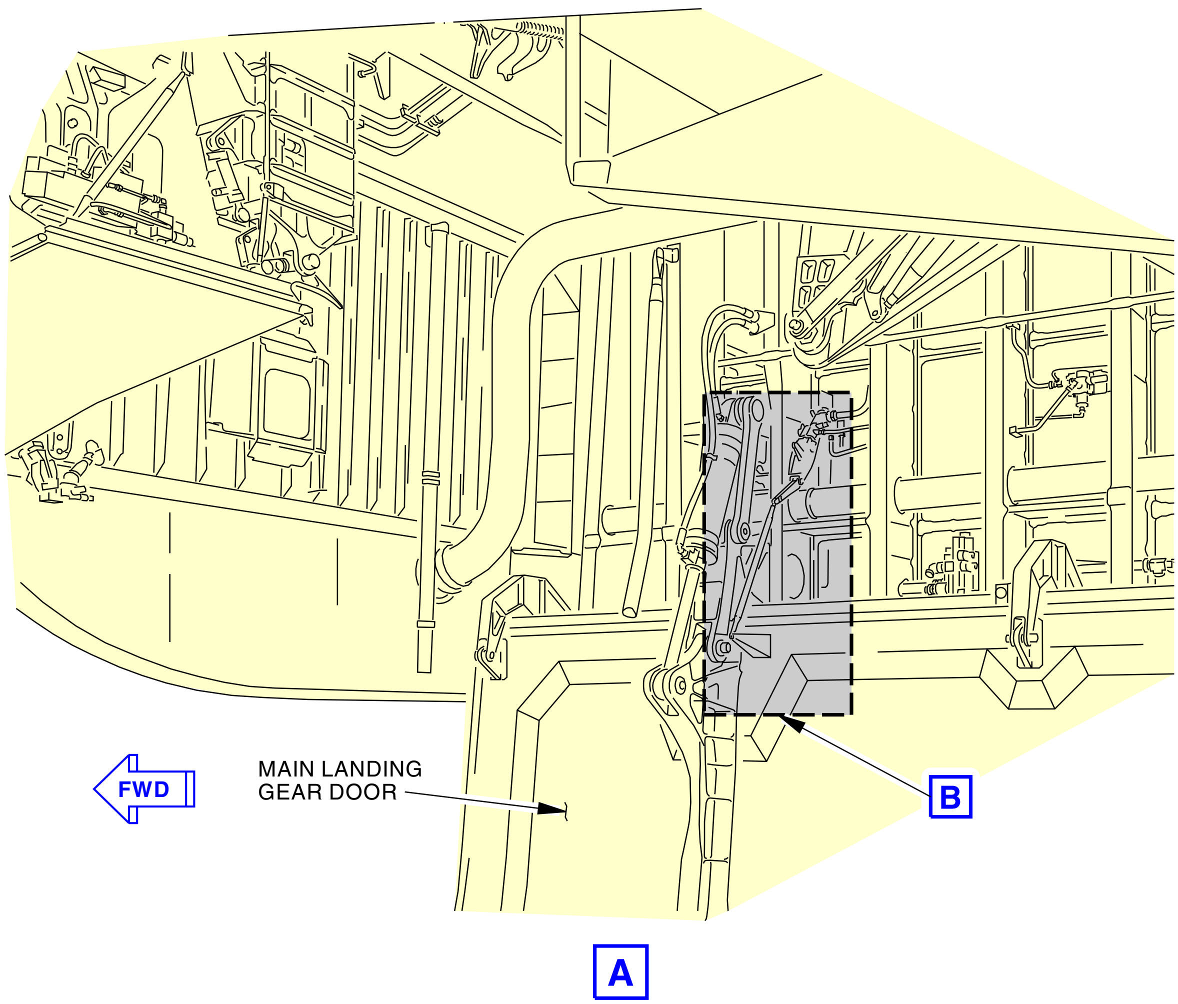
INDEX NO.	PART NAME	DIM.	DESIGN LIMITS DIAMETER inches (millimeters)		WEAR LIMITS inches (millimeters)		REPAIR
			MIN	MAX	ALLOWED WEAR DIM.	MAX CLEARANCE	
3	Bushing	ID	0.3800 in. (9.652 mm)	0.3810 in. (9.677 mm)	0.3825 in. (9.716 mm)	0.0080 in. (0.203 mm)	
	Bushing	OD	0.3740 in. (9.500 mm)	0.3745 in. (9.512 mm)	0.3720 in. (9.449 mm)		
4	Bushing	ID	0.3750 in. (9.525 mm)	0.3756 in. (9.540 mm)	0.3775 in. (9.589 mm)	0.0030 in. (0.076 mm)	
	Bushing	OD	0.3740 in. (9.500 mm)	0.3745 in. (9.512 mm)	0.3730 in. (9.474 mm)		X
5	Input Slide	ID	0.3750 in. (9.525 mm)	0.3756 in. (9.540 mm)	0.3761 in. (9.553 mm)	0.0028 in. (0.071 mm)	
	Bolt	OD	0.3740 in. (9.500 mm)	0.3745 in. (9.512 mm)	0.3728 in. (9.469 mm)		X
6	Bearing	ID	0.2500 in. (6.350 mm)	0.2505 in. (6.363 mm)	0.2515 in. (6.388 mm)	0.0030 in. (0.076 mm)	
	Bolt	OD	0.2485 in. (6.312 mm)	0.2495 in. (6.337 mm)	0.2475 in. (6.286 mm)		X
7	Bushing	ID	0.3750 in. (9.525 mm)	0.3756 in. (9.540 mm)	0.3761 in. (9.553 mm)	0.0028 in. (0.071 mm)	
	Bolt	OD	0.3740 in. (9.500 mm)	0.3745 in. (9.512 mm)	0.3728 in. (9.469 mm)		
8	Bearing	ID	0.2495 in. (6.337 mm)	0.2500 in. (6.350 mm)	0.2510 in. (6.375 mm)	0.0020 in. (0.051 mm)	
	Bolt	OD	0.2485 in. (6.312 mm)	0.2495 in. (6.337 mm)	0.2480 in. (6.299 mm)		
9	Bushing	ID	0.2500 in. (6.350 mm)	0.2505 in. (6.363 mm)	0.2510 in. (6.375 mm)	0.0025 in. (0.064 mm)	
	Bolt	OD	0.2485 in. (6.312 mm)	0.2495 in. (6.337 mm)	0.2480 in. (6.299 mm)		
10	Bushing	ID	0.3770 in. (9.576 mm)	0.3810 in. (9.677 mm)	0.3820 in. (9.703 mm)	0.0075 in. (0.191 mm)	
	Bushing	OD	0.3740 in. (9.500 mm)	0.3745 in. (9.512 mm)	0.3730 in. (9.474 mm)		
11	Bushing	ID	0.2500 in. (6.350 mm)	0.2515 in. (6.388 mm)	0.2555 in. (6.490 mm)	0.0030 in. (0.076 mm)	
	Bolt	OD	0.2485 in. (6.312 mm)	0.2495 in. (6.337 mm)	0.2480 in. (6.299 mm)		

Main Landing Gear Door-Operated Sequence Valve Mechanism Wear Limits (Continued)

INDEX NO.	PART NAME	DIM.	DESIGN LIMITS DIAMETER inches (millimeters)		WEAR LIMITS inches (millimeters)		REPAIR
			MIN	MAX	ALLOWED WEAR DIM.	MAX CLEARANCE	
12	Bearing	ID	0.2495 in. (6.337 mm)	0.2500 in. (6.350 mm)	0.2510 in. (6.375 mm)	0.0015 in. (0.038 mm)	
	Bolt	OD	0.2485 in. (6.312 mm)	0.2495 in. (6.337 mm)	0.2480 in. (6.299 mm)		
13	Bushing	ID	0.3770 in. (9.576 mm)	0.3810 in. (9.677 mm)	0.3815 in. (9.690 mm)	0.0070 in. (0.178 mm)	
	Bushing	OD	0.3740 in. (9.500 mm)	0.3745 in. (9.512 mm)	0.3730 in. (9.474 mm)		
14	Bushing	ID	0.2500 in. (6.350 mm)	0.2505 in. (6.363 mm)	0.2515 in. (6.388 mm)	0.0020 in. (0.051 mm)	
	Bolt	OD	0.2485 in. (6.312 mm)	0.2495 in. (6.337 mm)	0.2480 in. (6.299 mm)		
15	Bearing/ Bushing	ID	0.2495 in. (6.337 mm)	0.2500 in. (6.350 mm)	0.2520 in. (6.401 mm)	0.0025 in. (0.064 mm)	
	Bolt	OD	0.2485 in. (6.312 mm)	0.2495 in. (6.337 mm)	0.2480 in. (6.299 mm)		
16	Bushing	ID	0.2500 in. (6.350 mm)	0.2515 in. (6.388 mm)	0.2530 in. (6.426 mm)	0.0040 in. (0.102 mm)	
	Bolt	OD	0.2485 in. (6.312 mm)	0.2495 in. (6.337 mm)	0.2580 in. (6.553 mm)		
17	Bushing	ID	0.3800 in. (9.652 mm)	0.3810 in. (9.677 mm)	0.3820 in. (9.703 mm)	0.0075 in. (0.191 mm)	
	Bushing	OD	0.3740 in. (9.500 mm)	0.3745 in. (9.512 mm)	0.3730 in. (9.474 mm)		
18	Bushing	ID	0.2500 in. (6.350 mm)	0.2505 in. (6.363 mm)	0.2520 in. (6.401 mm)	0.0025 in. (0.064 mm)	
	Bolt	OD	0.2485 in. (6.312 mm)	0.2495 in. (6.337 mm)	0.2480 in. (6.299 mm)		

——— END OF TASK ———





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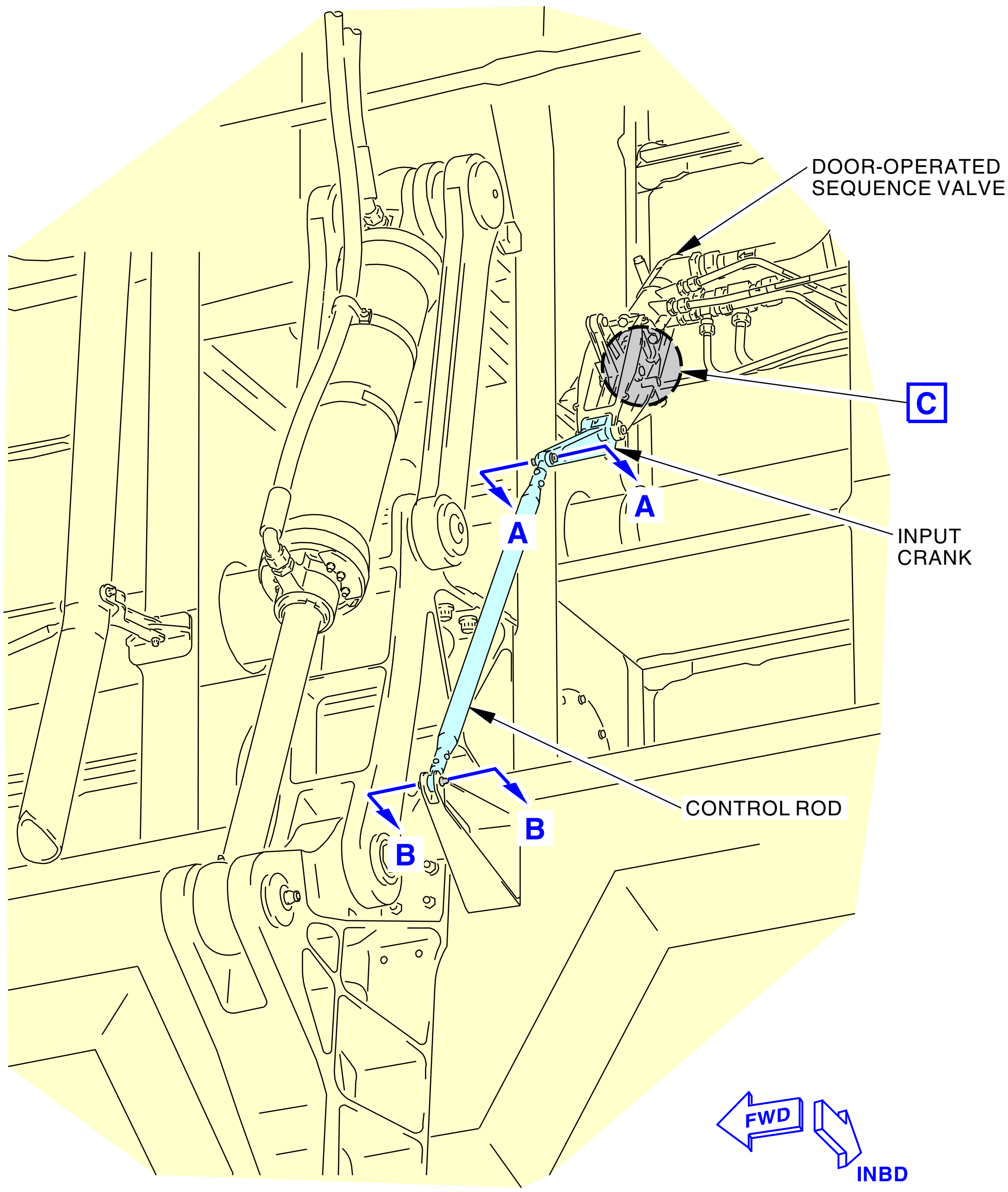
Main Landing Gear Door-Operated Sequence Valve Mechanism - Wear Limits
Figure 601/32-32-09-990-802 (Sheet 1 of 7)

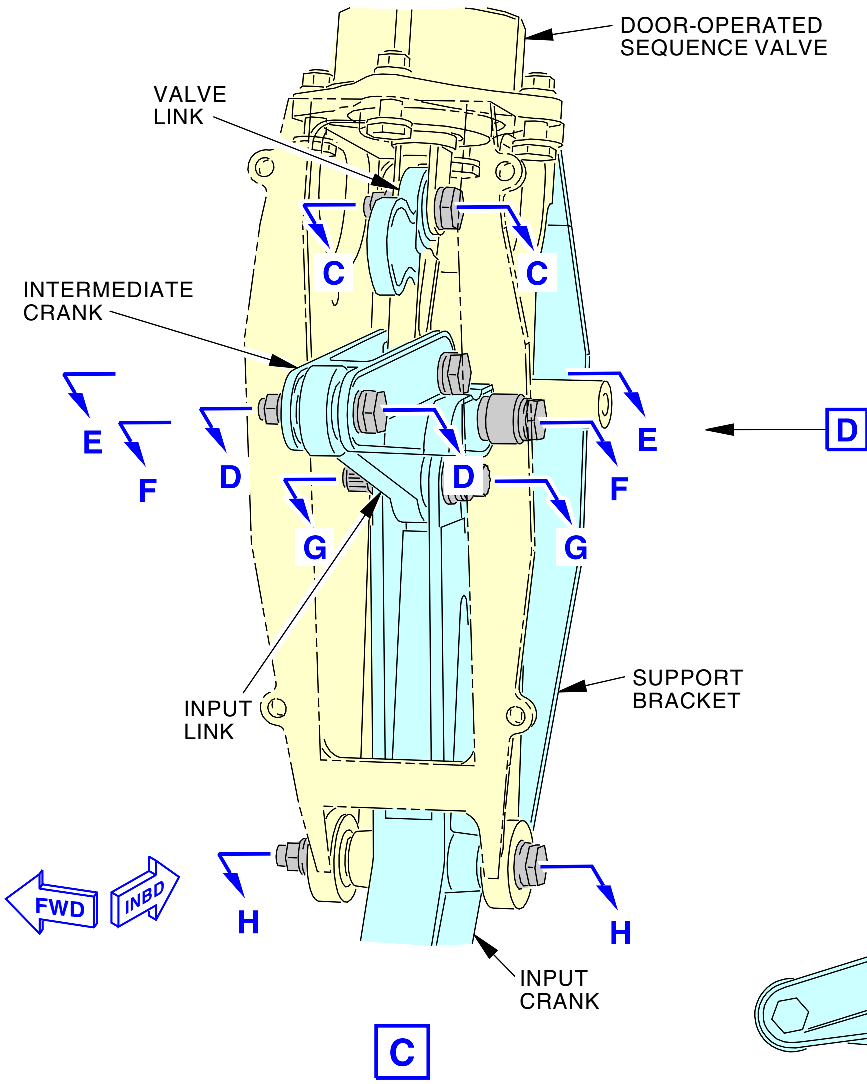


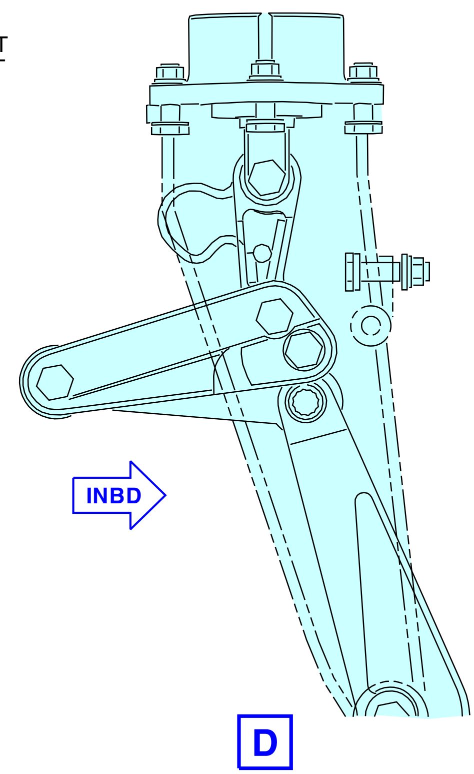
B

NOTE:
LEFT MAIN LANDING GEAR IS SHOWN,
RIGHT MAIN LANDING GEAR IS EQUIVALENT.

U57592 S0000208115_V3

Main Landing Gear Door-Operated Sequence Valve Mechanism - Wear Limits
Figure 601/32-32-09-990-802 (Sheet 2 of 7)



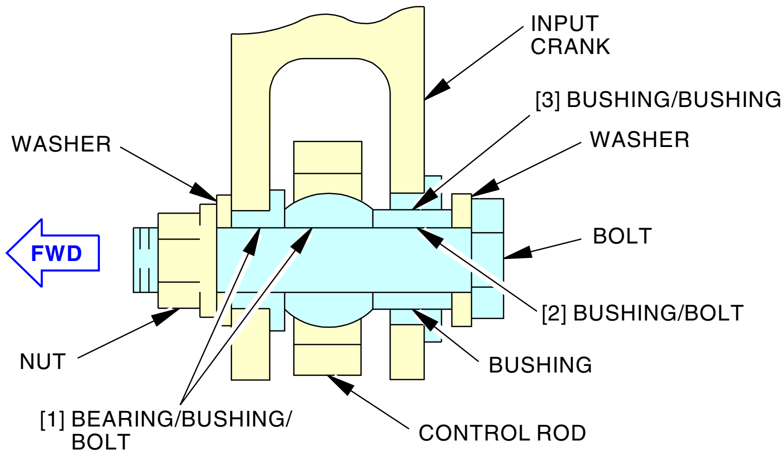


NOTE:

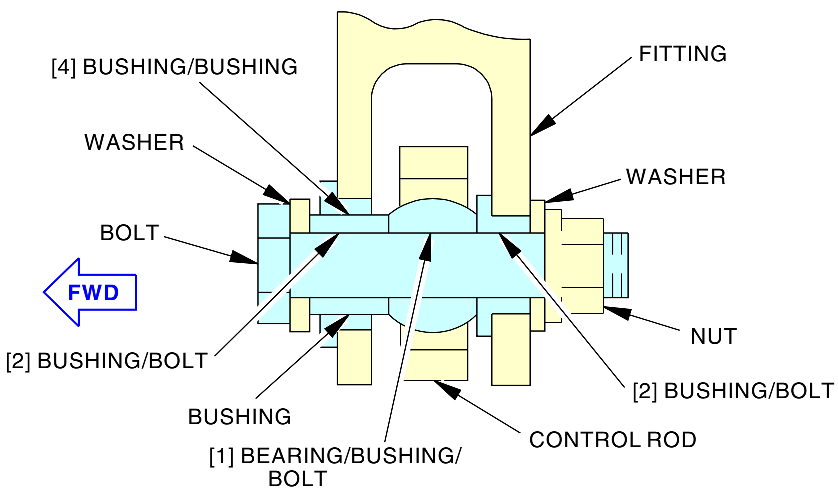
LEFT MAIN LANDING GEAR IS SHOWN,
RIGHT MAIN LANDING GEAR IS EQUIVALENT.

U57596 S0000208117_V3

Main Landing Gear Door-Operated Sequence Valve Mechanism - Wear Limits
Figure 601/32-32-09-990-802 (Sheet 3 of 7)



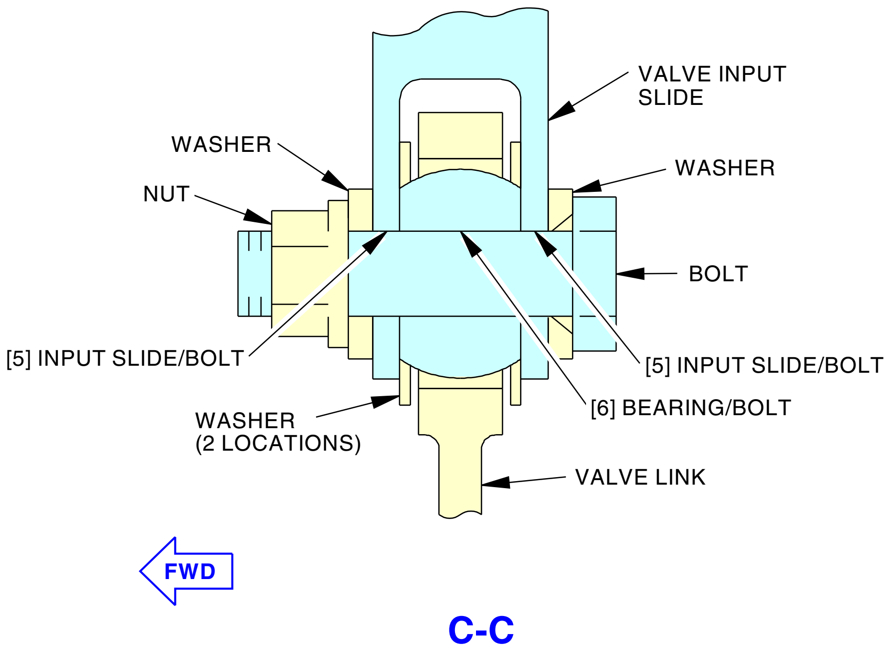
A-A

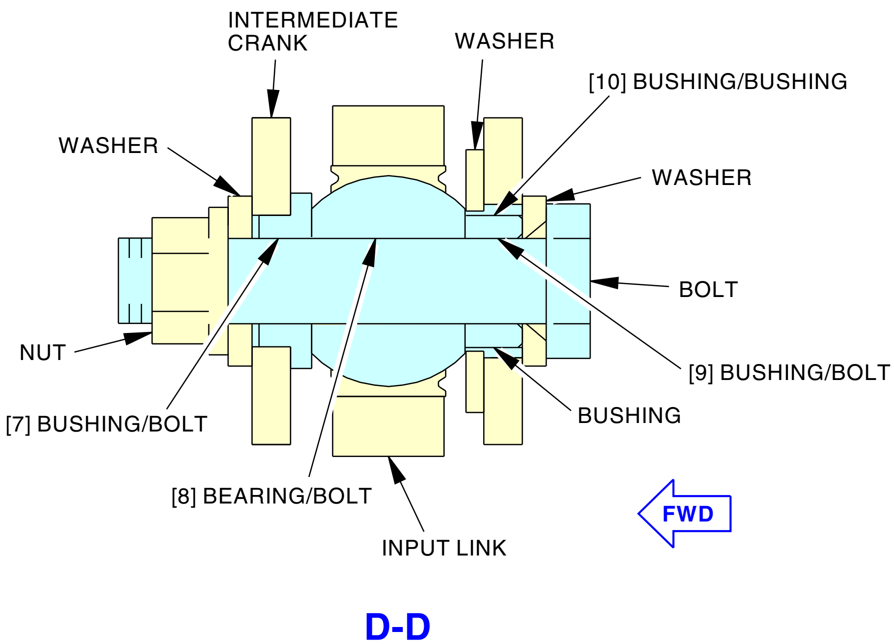


B-B

U57603 S0000208118_V2

Main Landing Gear Door-Operated Sequence Valve Mechanism - Wear Limits
Figure 601/32-32-09-990-802 (Sheet 4 of 7)





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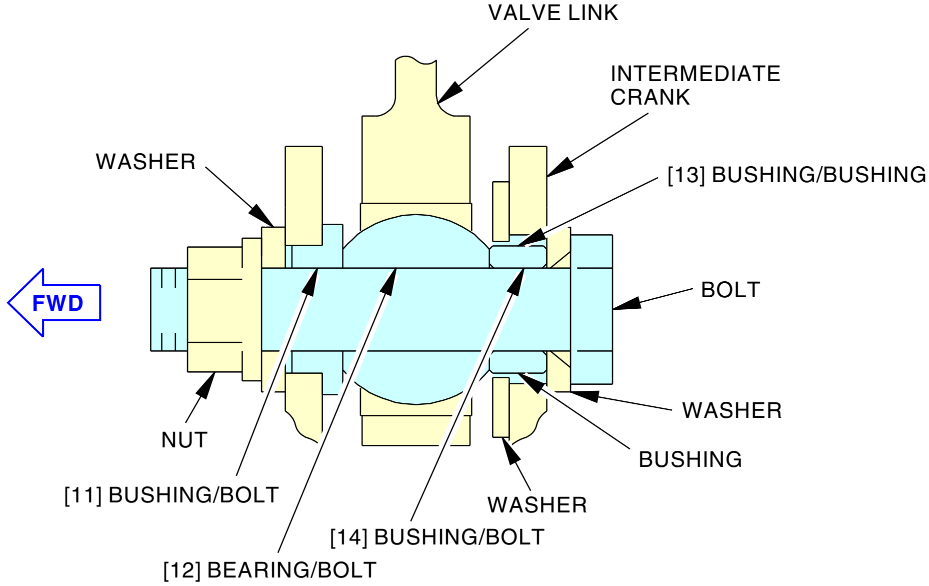
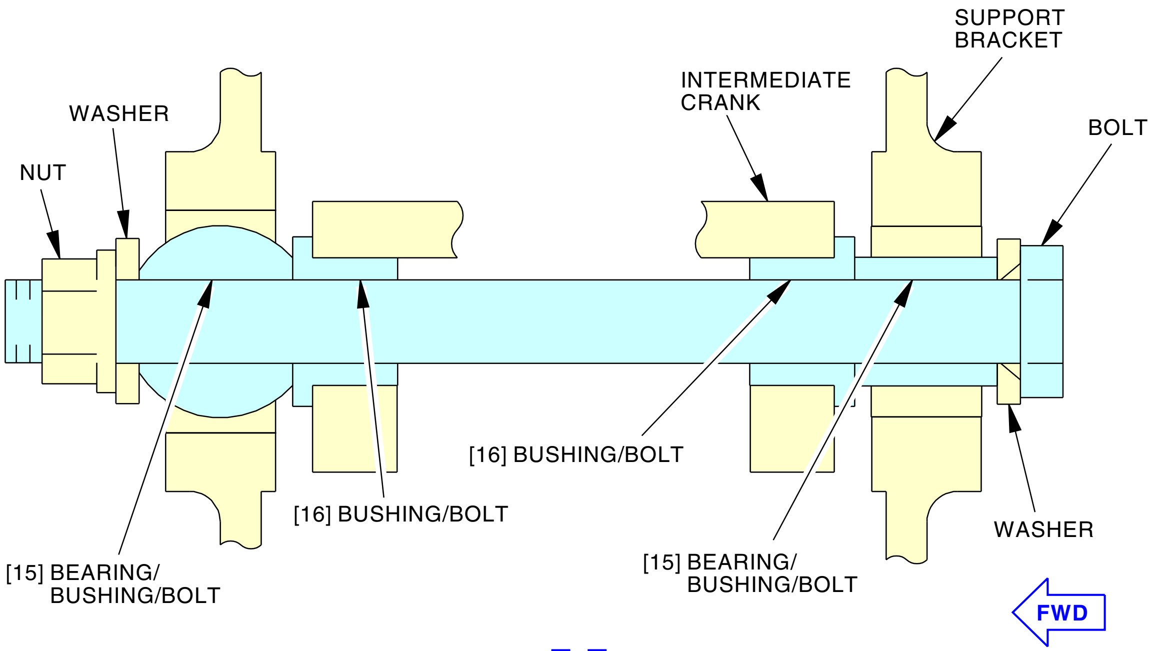
Main Landing Gear Door-Operated Sequence Valve Mechanism - Wear Limits
Figure 601/32-32-09-990-802 (Sheet 5 of 7)



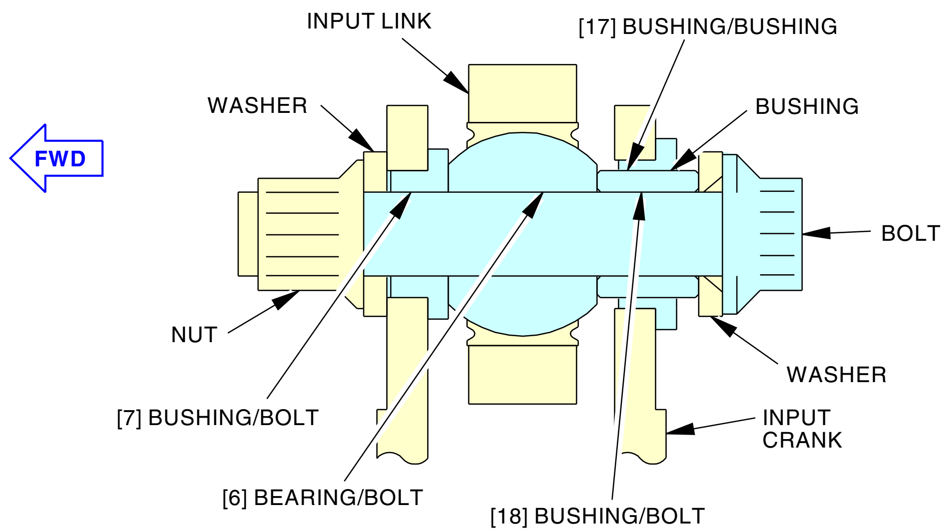
E-E



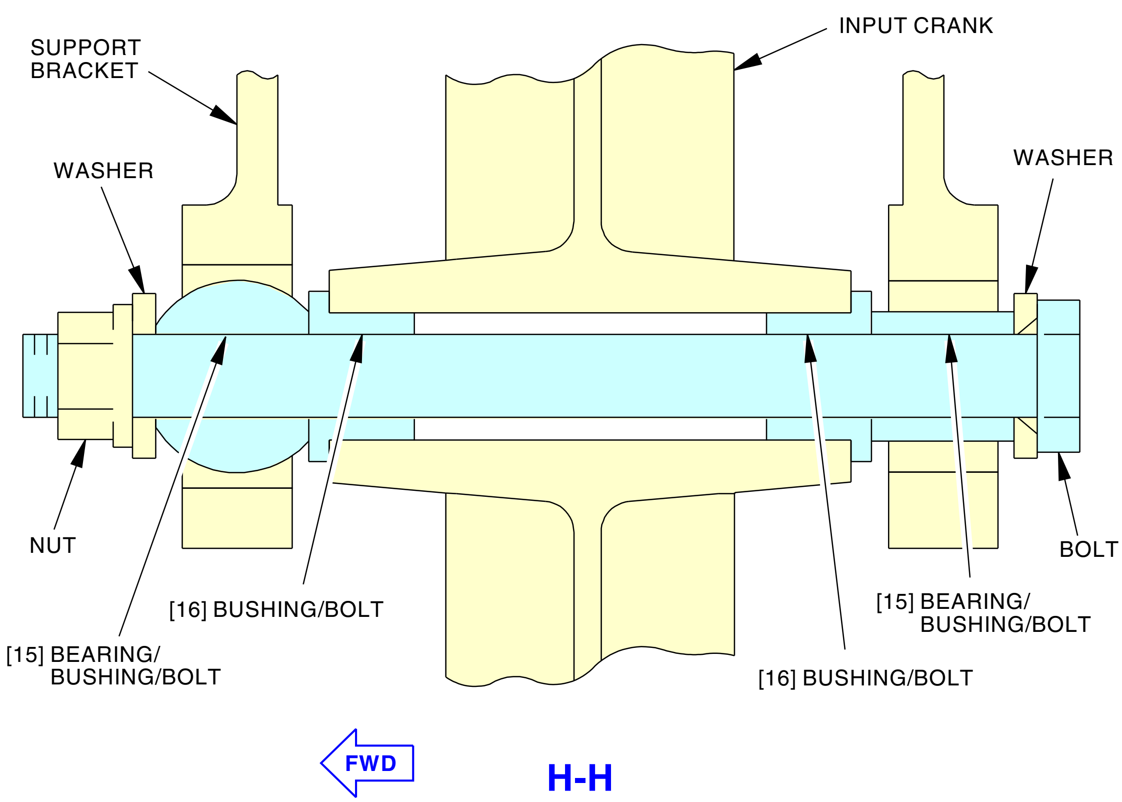
F-F

U57625 S0000208120_V2

Main Landing Gear Door-Operated Sequence Valve Mechanism - Wear Limits
Figure 601/32-32-09-990-802 (Sheet 6 of 7)



G-G



H-H

U57653 S0000208121_V2

Main Landing Gear Door-Operated Sequence Valve Mechanism - Wear Limits
Figure 601/32-32-09-990-802 (Sheet 7 of 7)

MAIN LANDING GEAR UPLOCK-OPERATED SEQUENCE VALVE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the main landing gear uplock-operated sequence valve

(2) An installation of the main landing gear uplock-operated sequence valve.

TASK 32-32-10-020-801

2. Main Landing Gear Uplock-Operated Sequence Valve Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

C. Prepare for the Removal

SUBTASK 32-32-10-480-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-10-860-008

(2) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-32-10-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-10-860-001

(4) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

D. Main Landing Gear Uplock-Operated Sequence Valve Removal

SUBTASK 32-32-10-020-001

(1) Remove the cotter pin [12], nut [11], washer [9], washer [10], and bolt [8] to disconnect the control rod [15] from the sequence valve slide [16].

SUBTASK 32-32-10-020-002

(2) Disconnect the hydraulic lines [17] from the sequence valve assembly [1].

SUBTASK 32-32-10-480-002

(3) Put caps or plugs in the ports of the sequence valve assembly [1].

SUBTASK 32-32-10-480-003

(4) Install caps on the hydraulic lines [17].

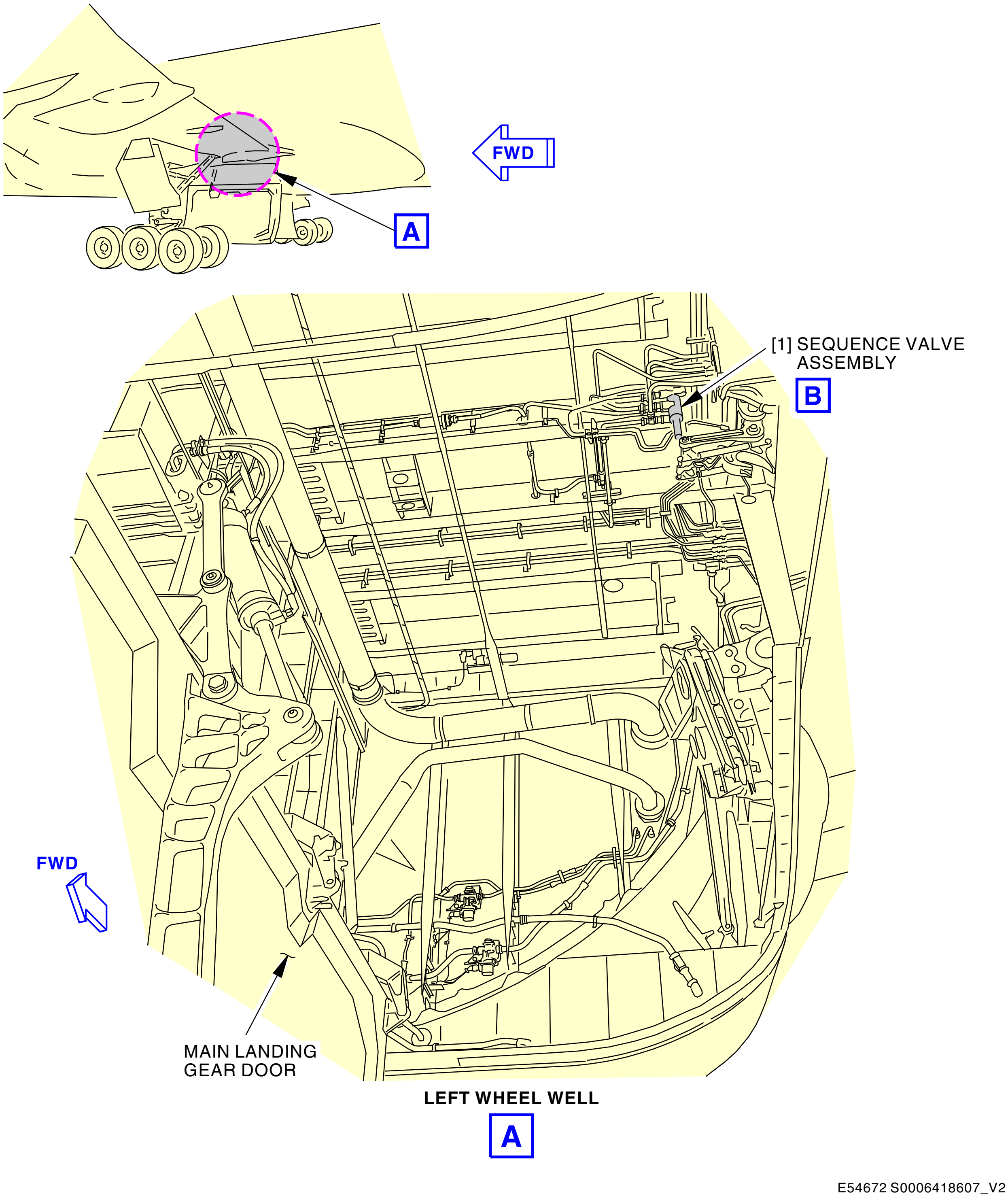
SUBTASK 32-32-10-020-003

(5) Hold the sequence valve assembly [1] and remove the bolts [2], washers [3], washers [4], and nuts [5] which hold the sequence valve to the mounting bracket.

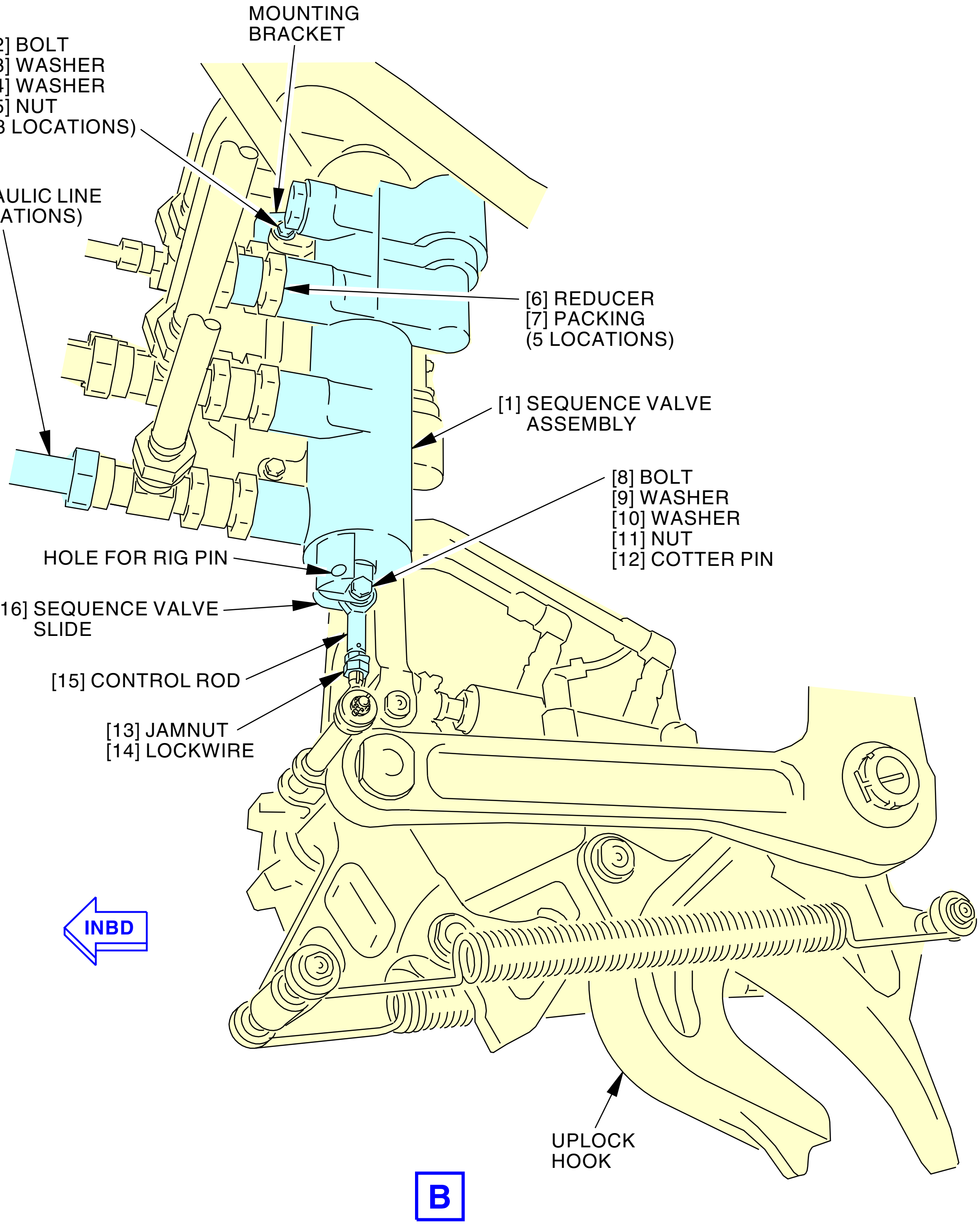
SUBTASK 32-32-10-020-004

(6) Remove the sequence valve assembly [1] from the airplane.

——— END OF TASK ———



Main Landing Gear Uplock-Operated Sequence Valve Installation
Figure 401/32-32-10-990-801 (Sheet 1 of 2)



Main Landing Gear Uplock-Operated Sequence Valve Installation
Figure 401/32-32-10-990-801 (Sheet 2 of 2)

TASK 32-32-10-420-801

3. **Main Landing Gear Uplock-Operated Sequence Valve Installation**

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. **References**

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

B. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

C. **Consumable Materials**

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G01505	Lockwire - Safety And Lock	NASM20995

D. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Valve assembly	32-32-10-01-070	ARO ALL
7	Packing	32-32-10-01-080	ARO ALL
12	Cotter pin	32-32-10-01-010	ARO ALL

E. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

F. **Main Landing Gear Uplock-Operated Sequence Valve Installation**

SUBTASK 32-32-10-420-001

(1) If the replacement sequence valve assembly [1] does not have reducers [6] installed in the ports, do these steps:

(a) Remove the reducers [6] from the used sequence valve assembly [1].

(b) Remove the used packings [7] from the reducers [6].

(c) Fully clean the reducers [6].

(d) Lubricate the new packings [7] with hydraulic fluid, D00153.

(e) Install the new packings [7] on the reducers [6].

(f) Lubricate the threads of the reducers [6] with hydraulic fluid, D00153.

(g) Install the reducers [6] in the new sequence valve assembly [1].

SUBTASK 32-32-10-480-004

(2) Remove caps or plugs from the ports of the sequence valve assembly [1].

SUBTASK 32-32-10-420-002

(3) Apply sealant, A00247, to the three bolts [2], washers [3], washers [4], and nuts [5].

SUBTASK 32-32-10-420-003

(4) Hold the sequence valve assembly [1] to the mounting bracket.

SUBTASK 32-32-10-420-004

(5) Install the bolts [2], washers [3], washers [4], and nuts [5] to hold the sequence valve assembly [1] to the mounting bracket.

SUBTASK 32-32-10-080-001

(6) Remove the caps or plugs from the hydraulic lines [17].

SUBTASK 32-32-10-420-005

(7) Connect the hydraulic lines [17] to the sequence valve assembly [1].

NOTE: Make sure that all hydraulic tees connected to the hydraulic lines [17].

(a) Tighten the B-nuts on the hydraulic lines [17] to 900 ±45 in-lb (102 ±5 N·m).

SUBTASK 32-32-10-420-006

(8) Adjust the sequence valve:

(a) Make sure the uplock mechanism is in the unlocked position.

WARNING	MAKE SURE THAT THE CENTER HYDRAULIC SYSTEM IS DEPRESSURIZED DURING THE RIGGING PROCEDURE. THE SEQUENCE VALVE CAN OPERATE IF THE CENTER HYDRAULIC SYSTEM IS PRESSURIZED. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(b) Install rig pin LGU1 or LGU2 from the rigging pin set, SPL-2532, in the rig pin hole in the sequence valve slide [16] and through the rig pin holes in the valve assembly [1].

(c) Loosen the jamnuts [13] and adjust the length of the control rod [15] such that the rig pin fits loosely between the sequence valve slide [16] and the valve assembly [1] when the rod is attached at the two ends.

(d) Tighten the jamnuts [13] on the control rod [15].

(e) Install lockwire, G01505 [14], on the control rod [15].

SUBTASK 32-32-10-420-007

(9) Install the bolt [8], washer [9], washer [10], nut [11], and cotter pin [12] to connect the control rod [15] to the sequence valve slide [16].

G. Main Landing Gear Uplock-Operated Sequence Valve Installation Test

SUBTASK 32-32-10-860-002

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-10-480-005

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-10-750-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Remove the safety pins for the main and the nose landing gear doors (TASK 32-00-15-080-801).

SUBTASK 32-32-10-860-003

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-10-860-004

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(5) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-10-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(6) To close the main and nose landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-32-10-860-005

(7) Move the control lever for the landing gear to the UP position.

(a) You must push the LOCK OVRD button to do this.

SUBTASK 32-32-10-750-002

(8) Make sure that all of the landing gear doors open.

SUBTASK 32-32-10-750-003

(9) After the main landing gear doors open, make sure the main landing gear tries to retract.

SUBTASK 32-32-10-480-006

(10) Install the safety pins for the main landing gear doors (TASK 32-00-15-480-801).

SUBTASK 32-32-10-750-004

(11) Examine the sequence valve assembly [1] for leaks.

SUBTASK 32-32-10-080-002

(12) Remove the safety pins for the main landing gear doors (TASK 32-00-15-080-801).

SUBTASK 32-32-10-860-006

(13) Move the control lever for the landing gear to the DN position.

SUBTASK 32-32-10-790-001

(14) Make sure that all of the landing gear doors close.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-10-860-007

(1) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

MAIN LANDING GEAR UPLOCK-OPERATED SEQUENCE VALVE MECHANISM - REMOVAL/ INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the mechanism for the uplock-operated sequence valve for the main landing gear.

(2) An installation of the mechanism for the uplock-operated sequence valve for the main landing gear.

B. In this procedure, the uplock-operated sequence valve mechanism is referred to as the sequence valve mechanism.

TASK 32-32-11-020-801

2. Sequence Valve Mechanism Removal

(Figure 401)

A. General

(1) This task supplies instructions to remove the control rod [7] and the sequence valve pin [15] for the sequence valve mechanism.

B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

D. Prepare for the Removal

SUBTASK 32-32-11-480-001

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-11-010-001

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-11-860-001

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

E. Sequence Valve Mechanism Removal

SUBTASK 32-32-11-020-001

(1) Do the steps below to remove the control rod [7]:

(a) Disconnect the control rod [7] from the sequence valve slide [20]:

1) Remove the pin [6], nut [5], and washer [3] from the bolt [2].

2) Remove the bolt [2] and washer [4] from the control rod [7] and the sequence valve slide [20].

(b) Disconnect the control rod [7] from the sequence valve pin [15]:

1) Remove the pin [19], nut [18], and washer [16] from the sequence valve pin [15].

2) Remove the control rod [7] and washer [17] from the sequence valve pin [15].

(c) Remove the control rod [7] from the airplane.

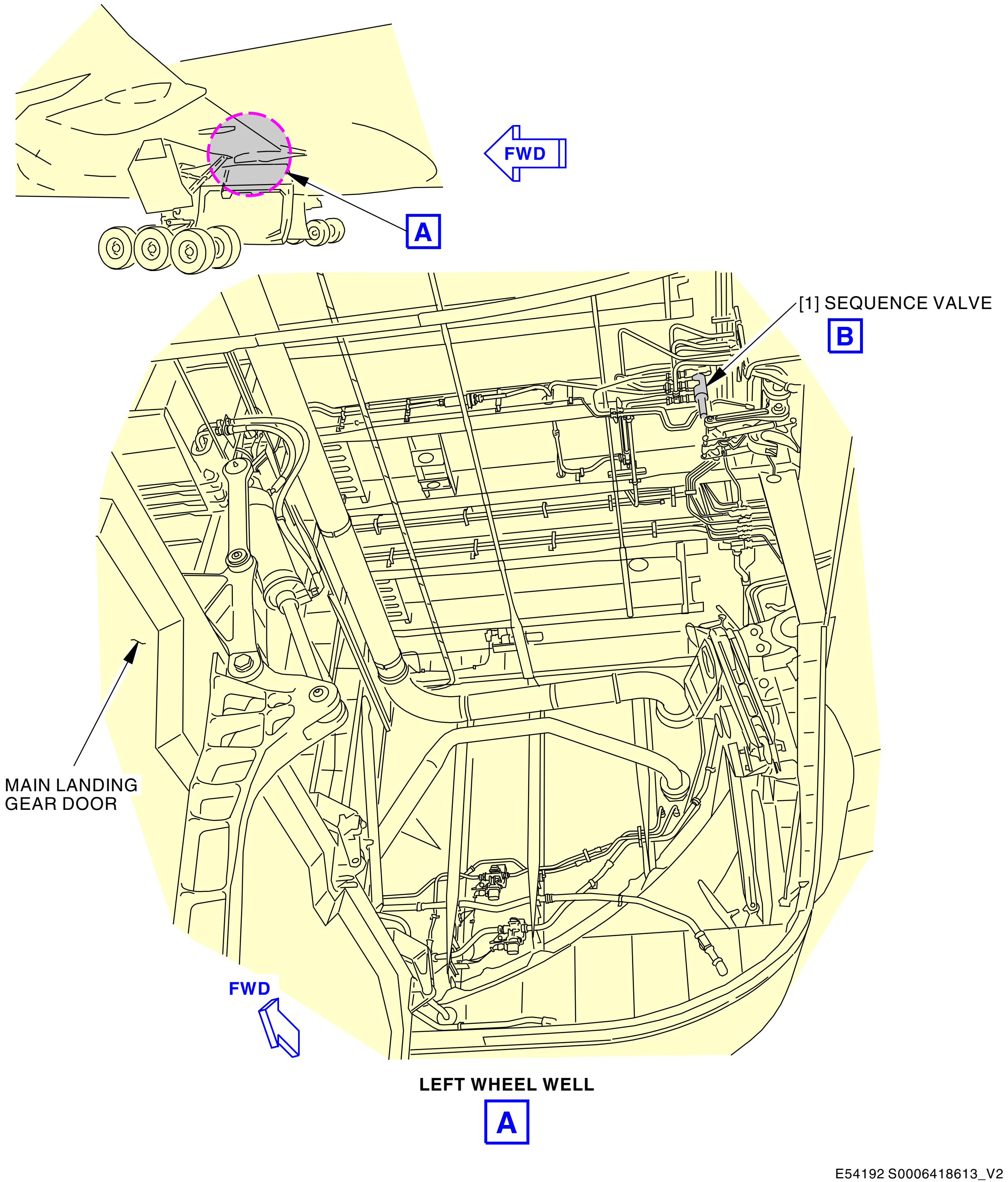
SUBTASK 32-32-11-020-002

(2) Do the steps below to remove the sequence valve pin [15] from the upper link [14] for the uplock hook [10]:

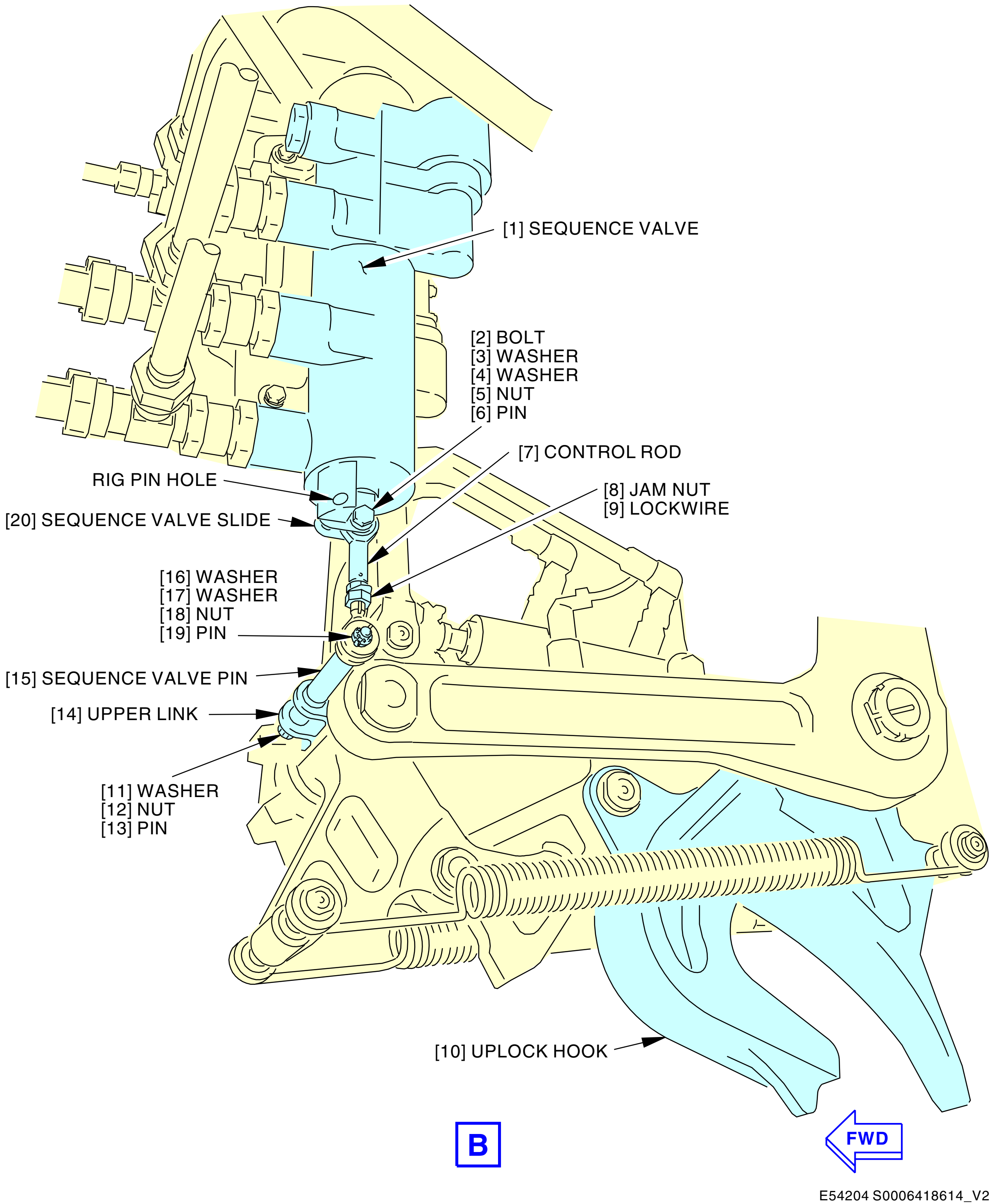
(a) Remove the pin [13], nut [12], and washer [11] from the pin [15].

(b) Remove the pin [15] from the upper link [14] for the uplock hook [10].

——— END OF TASK ———



Main Landing Gear Uplock-Operated Sequence Valve Mechanism Installation
Figure 401/32-32-11-990-801 (Sheet 1 of 2)



Main Landing Gear Uplock-Operated Sequence Valve Mechanism Installation
Figure 401/32-32-11-990-801 (Sheet 2 of 2)

TASK 32-32-11-420-801

3. Sequence Valve Mechanism Installation

(Figure 401)

A. General

(1) This task supplies instructions to install the control rod [7] and the sequence valve pin [15].

B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2537	Pin - Rig (J20003-6 Assembly Included in Kit J20003-34) Part #: J20003-34 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
6	Pin	32-32-10-01-010	ARO ALL
7	Rod	32-32-10-01-090	ARO ALL
13	Pin	32-32-03-01A-160	ARO ALL
15	Pin	32-32-03-01A-165	ARO ALL
19	Pin	32-32-10-01-012	ARO ALL

F. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

G. Sequence Valve Mechanism Installation

SUBTASK 32-32-11-860-002

(1) Make sure the center hydraulic system power is removed (TASK 29-11-00-860-808).

SUBTASK 32-32-11-420-001

(2) Do the steps below to install the sequence valve pin [15] in the upper link [14] for the uplock hook [10]:

(a) Lubricate the sequence valve pin [15] with grease, D00013, or grease, D00013.

(b) Put the sequence valve pin [15] in its position in the upper link [14] for the uplock hook [10].

(c) Install the washer [11] and nut [12] on the sequence valve pin [15].

(d) Tighten the nut [12] to 75 in-lb (8.5 N·m) - 150 in-lb (16.9 N·m).

(e) Install the pin [13].

1) If necessary, loosen the nut [12] to the nearest castellation to align the holes for the pin [13].

SUBTASK 32-32-11-420-002

(3) Do the steps below to install the control rod [7]:

(a) Install rigging pin LGU1 or LGU2, rig pin (Included in Kit J20003-34), SPL-2537, in the rig pin hole in the sequence valve [1] and through the rig pin hole in the sequence valve slide [20].

NOTE: The placard on the inside of the box for the Rigging Pin Set identifies the different rigging pins.

(b) Connect the control rod [7] to the sequence valve slide [20]:

1) Install the washer [4] on the bolt [2].

2) Put the control rod [7] in its position in the sequence valve slide [20].

a) Make sure the adjustable end of the control rod [7] is down.

3) Put the bolt [2] through the sequence valve slide [20] and control rod [7].

4) Install the washer [3] and loosely install the nut [5] on the bolt [2].

(c) Loosen the jam nut [8] and turn the rod end of the control rod [7] until it aligns with the sequence valve pin [15].

(d) Disconnect the control rod [7] from the sequence valve slide [20]:

1) Remove the nut [5] and washer [3] from the bolt [2].

2) Remove the bolt [2] and washer [4] from the control rod [7] and sequence valve slide [20].

(e) Connect the control rod [7] to the sequence valve pin [15]:

1) Put the washer [17] on the sequence valve pin [15] with the chamfered side of the washer against the shoulder of the pin.

2) Put the adjustable end of the control rod [7] on the sequence valve pin [15].

3) Install the washer [16] and nut [18] on the sequence valve pin [15].

4) Install the pin [19].

(f) Connect the control rod [7] to the sequence valve slide [20]:

1) Install the washer [4] on the bolt [2].

2) Push the control rod [7] up to its position in the sequence valve slide [20].

3) Put the bolt [2] through the sequence valve slide [20] and the control rod [7].

4) Install the washer [3] and nut [5] on the bolt [2].

5) Install the pin [6].

(g) Tighten the jam nut [8] and install the lockwire [9] on the control rod [7].

(h) Remove rigging pin LGU1 or LGU2, rig pin (Included in Kit J20003-34), SPL-2537.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-11-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

MAIN LANDING GEAR DRAG-BRACE-OPERATED SEQUENCE VALVE - REMOVAL/INSTALLATION

1. **General**

A. This procedure has these tasks:

(1) A removal of the drag-brace-operated sequence valve for the main landing gear

(2) An installation of the drag-brace-operated sequence valve for the main landing gear.

TASK 32-32-12-020-801

2. **Main Landing Gear Drag-Brace-Operated Sequence Valve Removal**

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. **References**

Reference	Title
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

C. **Prepare for the Removal**

SUBTASK 32-32-12-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-12-860-008

(2) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-32-12-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-12-860-001

(4) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

D. Main Landing Gear Drag-Brace-Operated Sequence Valve Removal

SUBTASK 32-32-12-020-001

(1) Remove the nut [17], washer [14], washer [15], and bolt [16] to disconnect the control rod assembly [2] from the lever assembly [13] for the sequence valve assembly [1].

NOTE: The control rod assembly [2] must not be connected to the lever assembly [13] until the new sequence valve assembly [1] is rigged.

SUBTASK 32-32-12-020-002

(2) Remove the nut [21], washer [18], washer [20], and bolt [19] to disconnect the link assembly [11] from the sequence valve input slide [12].

SUBTASK 32-32-12-020-003

(3) Disconnect the hydraulic lines [5] and hydraulic line [6] from the sequence valve assembly [1].

SUBTASK 32-32-12-480-002

(4) Put caps or plugs in the ports of the sequence valve assembly [1].

SUBTASK 32-32-12-480-003

(5) Install caps on the hydraulic lines [5] and hydraulic line [6].

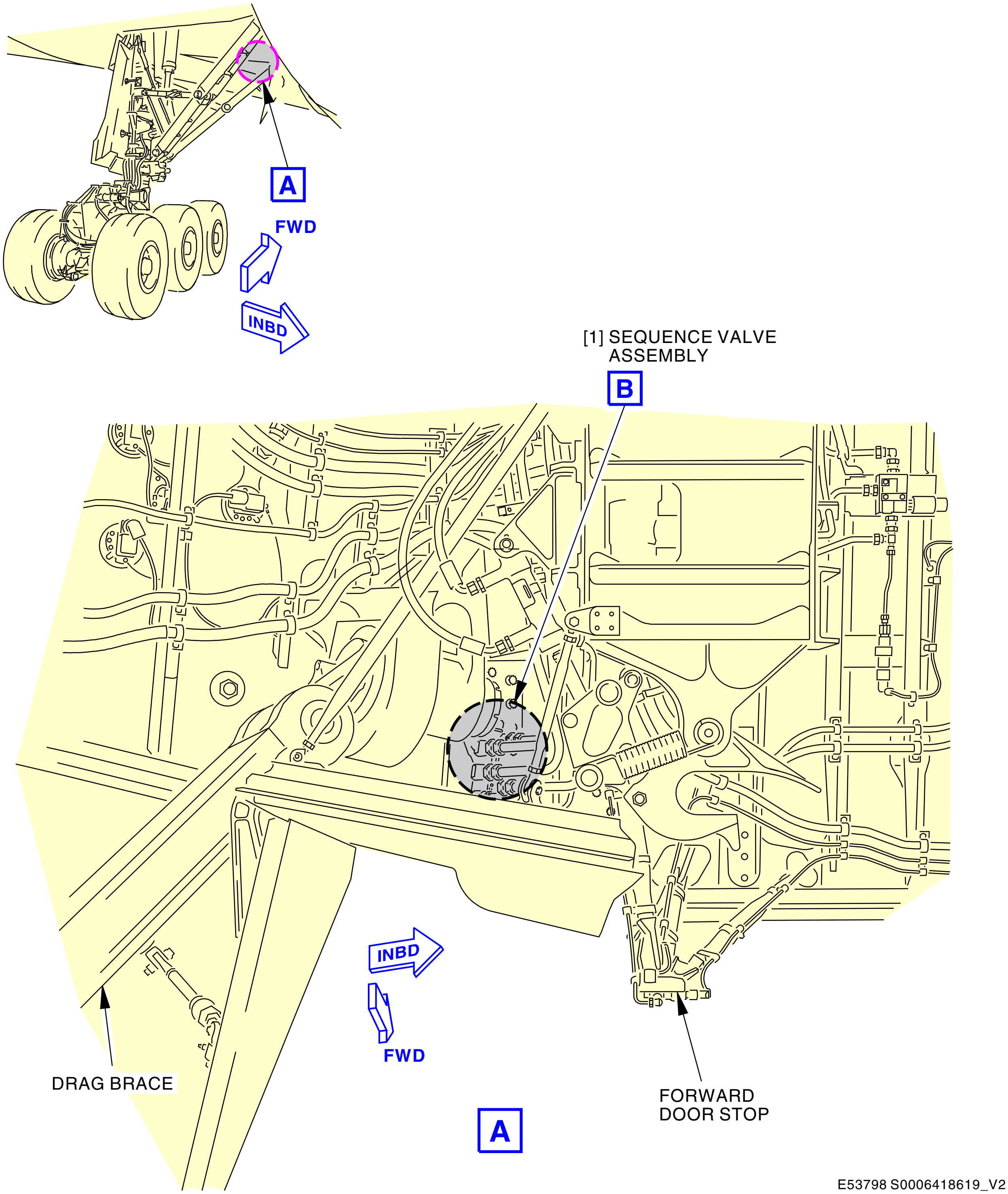
SUBTASK 32-32-12-020-004

(6) Hold the sequence valve assembly [1] and remove the three bolts [9] and washers [10] which hold the sequence valve assembly [1] to the mounting bracket on the rear spar.

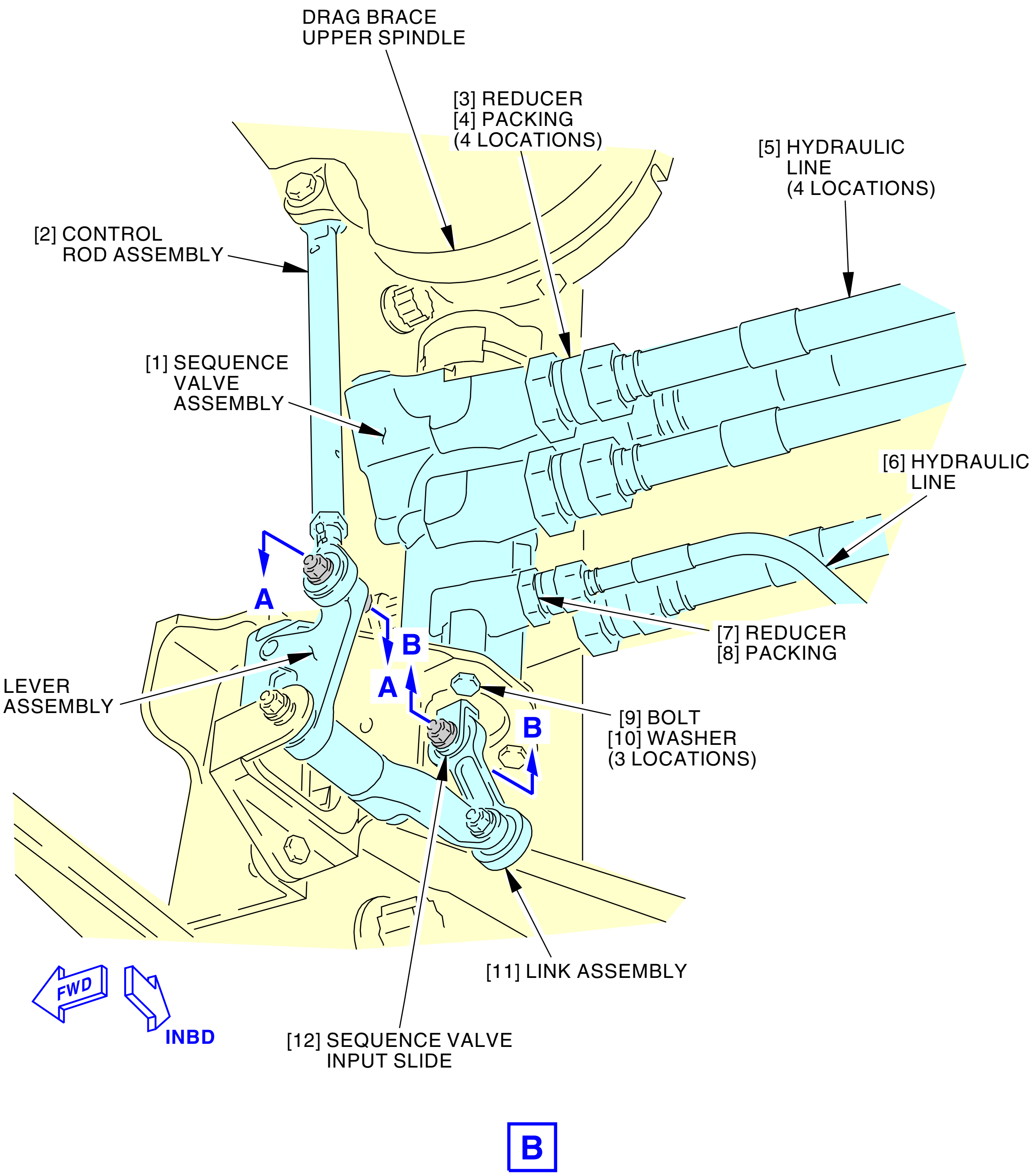
SUBTASK 32-32-12-020-005

(7) Remove the sequence valve assembly [1] from the airplane.

END OF TASK



Main Landing Gear - Drag Brace Operated Sequence Valve Installation
Figure 401/32-32-12-990-801 (Sheet 1 of 3)



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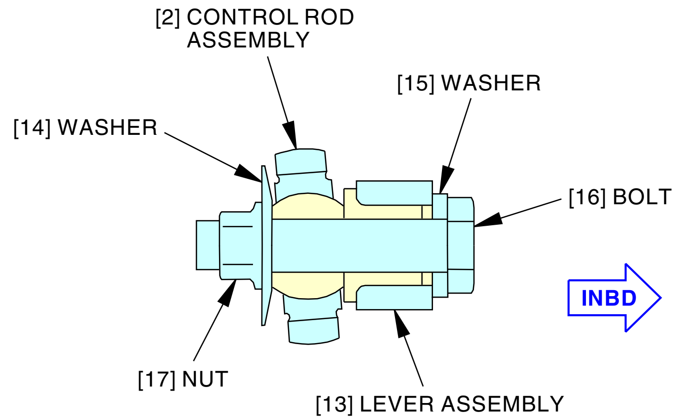
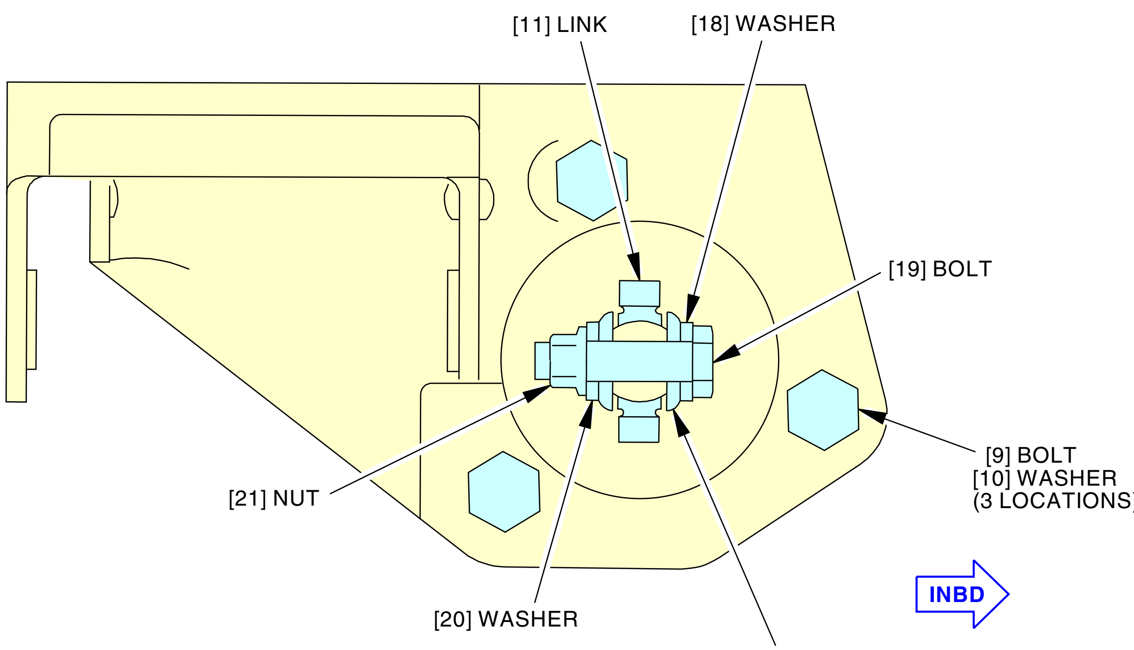
Main Landing Gear - Drag Brace Operated Sequence Valve Installation
Figure 401/32-32-12-990-801 (Sheet 2 of 3)



A-A



B-B

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Main Landing Gear - Drag Brace Operated Sequence Valve Installation
Figure 401/32-32-12-990-801 (Sheet 3 of 3)

TASK 32-32-12-420-801

3. Main Landing Gear Drag-Brace-Operated Sequence Valve Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
20-11-00-910-801	Standard Torque Values (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G01505	Lockwire - Safety And Lock	NASM20995
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Valve assembly	32-32-12-01-150	ARO ALL
2	Rod assembly	32-32-12-01-030	ARO ALL
4	Packing	32-32-12-01-170	ARO ALL
8	Packing	32-32-12-01-165	ARO ALL

E. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Main Landing Gear Drag-Brace-Operated Sequence Valve Installation

SUBTASK 32-32-12-420-001

(1) If the replacement valve assembly [1] does not have reducers [3] and reducer [7] installed in the ports, do these steps:

(a) Remove the reducers [3] and reducer [7] from the used sequence valve assembly [1].

(b) Remove the used packings [4] and packing [8] from the reducers [3] and reducer [7].

(c) Fully clean the reducers [3] and reducer [7].

(d) Lubricate the new packings [4] and packing [8] with hydraulic fluid, D00153.

(e) Install the new packings [4] and packing [8] on the reducers [3] and reducer [7].

(f) Lubricate the threads of the reducers [3] and reducer [7] with hydraulic fluid, D00153.

(g) Install the reducers [3] and reducer [7] in the new sequence valve assembly [1].

SUBTASK 32-32-12-480-004

(2) Put caps or plugs in the ports of the sequence valve assembly [1].

SUBTASK 32-32-12-420-002

(3) Hold the sequence valve assembly [1] to the mounting bracket.

SUBTASK 32-32-12-420-003

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(4) Apply Mastinox 6856 K, C00913, or Cor-Ban 27L Compound, G50237, to the three bolts [9] and washers [10] and install them to hold the sequence valve assembly [1] to the mounting bracket on the rear spar (TASK 20-11-00-910-801).

SUBTASK 32-32-12-080-001

(5) Remove the caps or plugs from the hydraulic lines [5] and hydraulic line [6].

SUBTASK 32-32-12-420-004

(6) Connect the hydraulic lines [5] and hydraulic line [6] to the sequence valve assembly [1].

(a) Tighten the B-nuts on the hydraulic lines [5] to 900 ±45 in-lb (102 ±5 N·m).

(b) Tighten the B-nut on the hydraulic line [6] to 270 ±14 in-lb (31 ±2 N·m).

SUBTASK 32-32-12-420-005

(7) Install the bolt [19], washer [18], washer [20], and nut [21] to connect the sequence valve input slide [12] to the link assembly [11].

SUBTASK 32-32-12-420-006

(8) Adjust the sequence valve assembly [1]:

WARNING	MAKE SURE THAT THE CENTER HYDRAULIC SYSTEM IS DEPRESSURIZED DURING THE RIGGING PROCEDURE. THE SEQUENCE VALVE CAN OPERATE IF THE CENTER HYDRAULIC SYSTEM IS PRESSURIZED. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) Install rig pin LGE1 or LGE2, from the rigging pin set, SPL-2532, in the rig pin hole in the lever assembly [13] and through the two rig pin holes in the bracket.

(b) Adjust the length of the control rod assembly [2] such that the rig pin fits loosely between the bracket and lever assembly [13] when the rod is attached at the two ends.

(c) Tighten the jamnuts on the control rod assembly [2].

(d) Install lockwire, G01505, on the control rod assembly [2].

(e) Remove the rig pin.

SUBTASK 32-32-12-420-007

(9) Connect the control rod assembly [2] to the lever assembly [13].

(a) Install the washer [15] on the bolt [16].

(b) Install the bolt [16] through the lever assembly [13] and control rod assembly [2].

(c) Install the washer [14] and nut [17] on the bolt [16].

G. Main Landing Gear Drag-Brace-Operated Sequence Valve Installation Test

SUBTASK 32-32-12-860-002

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-12-480-005

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-12-750-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Remove the safety pins for the main and the nose landing gear doors (TASK 32-00-15-080-801).

SUBTASK 32-32-12-860-003

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-12-860-004

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(5) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-12-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(6) To close the main and nose landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-32-12-860-005

(7) Move the control lever for the landing gear to the UP position.

(a) Push the LOCK OVRD button to do this.

SUBTASK 32-32-12-750-002

(8) Make sure that all of the landing gear doors open.

SUBTASK 32-32-12-750-003

(9) After the main landing gear doors open, make sure the main landing gear tries to retract.

SUBTASK 32-32-12-480-006

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(10) Install the safety pins for the main landing gear doors (TASK 32-00-15-480-801).

SUBTASK 32-32-12-750-004

(11) Examine the sequence valve assembly [1] for leaks.

SUBTASK 32-32-12-080-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(12) Remove the safety pins for the main landing gear doors (TASK 32-00-15-080-801).

SUBTASK 32-32-12-860-006

(13) Move the control lever for the landing gear to the DN position.

SUBTASK 32-32-12-790-001

(14) Make sure that all of the landing gear doors close.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-12-860-007

(1) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

MAIN LANDING GEAR DRAG-BRACE-OPERATED SEQUENCE VALVE MECHANISM - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the mechanism for the drag-brace-operated sequence valve for the main landing gear

(2) An installation of the mechanism for the drag-brace-operated sequence valve for the main landing gear.

B. In this procedure, the drag-brace-operated sequence valve mechanism is referred to as the sequence valve mechanism.

C. The sequence valve mechanism has three parts: the control rod assembly [2], the lever assembly [7], and the link assembly [5].

TASK 32-32-13-020-801

2. Sequence Valve Mechanism Removal

(Figure 401)

A. General

(1) This task has three parts:

(a) The first part supplies instructions to remove only the control rod assembly [2].

(b) The second part supplies instructions to remove only the lever assembly [7].

(c) The third part supplies instructions to remove only the link assembly [5].

B. References

Reference	Title
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

D. Prepare for the Removal

SUBTASK 32-32-13-480-001

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-13-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-13-040-001

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

E. Sequence Valve Mechanism Removal

SUBTASK 32-32-13-020-001

(1) Do the steps below if it is necessary to remove only the control rod assembly [2]:

(a) Disconnect the control rod assembly [2] from the lever assembly [7]:

1) Remove the nut [15] and washer [12] from the bolt [14].

2) Remove the bolt [14] and washer [13] from the control rod assembly [2] and lever assembly [7].

(b) Disconnect the control rod assembly [2] from the washer [3] for the drag brace spindle:

1) Remove the nut [9] and washer [8] from the bolt [11].

2) Remove the control rod assembly [2] from the bolt [11].

NOTE: The bolt [11] with its washer [10] cannot be removed unless you remove the spindle nut and washer [3].

(c) Remove the control rod assembly [2] from the airplane.

SUBTASK 32-32-13-020-002

(2) Do the steps below if it is necessary to remove only the lever assembly [7]:

(a) Disconnect the lever assembly [7] from the control rod assembly [2]:

1) Remove the nut [15] and washer [12] from the bolt [14].

2) Remove the bolt [14] and washer [13] from the control rod assembly [2] and lever assembly [7].

(b) Disconnect the lever assembly [7] from the link assembly [5]:

1) Remove the nut [19] and washer [20] from the bolt [21].

2) Remove the bolt [21] and washer [22] from the link assembly [5] and lever assembly [7].

(c) Disconnect the lever assembly [7] from the support bracket [6]:

1) Remove the nut [16] and washer [17] from the bolt [23].

2) Remove the bolt [23], with the washer [24] and bushing [18], from the lever assembly [7] and support bracket [6].

(d) Remove the lever assembly [7] from the airplane.

SUBTASK 32-32-13-020-003

(3) Do the steps below if it is necessary to remove only the link assembly [5]:

(a) Disconnect the link assembly [5] from the lever assembly [7]:

1) Remove the nut [19] and washer [20] from the bolt [21].

2) Remove the bolt [21] and washer [22] from the link assembly [5] and lever assembly [7].

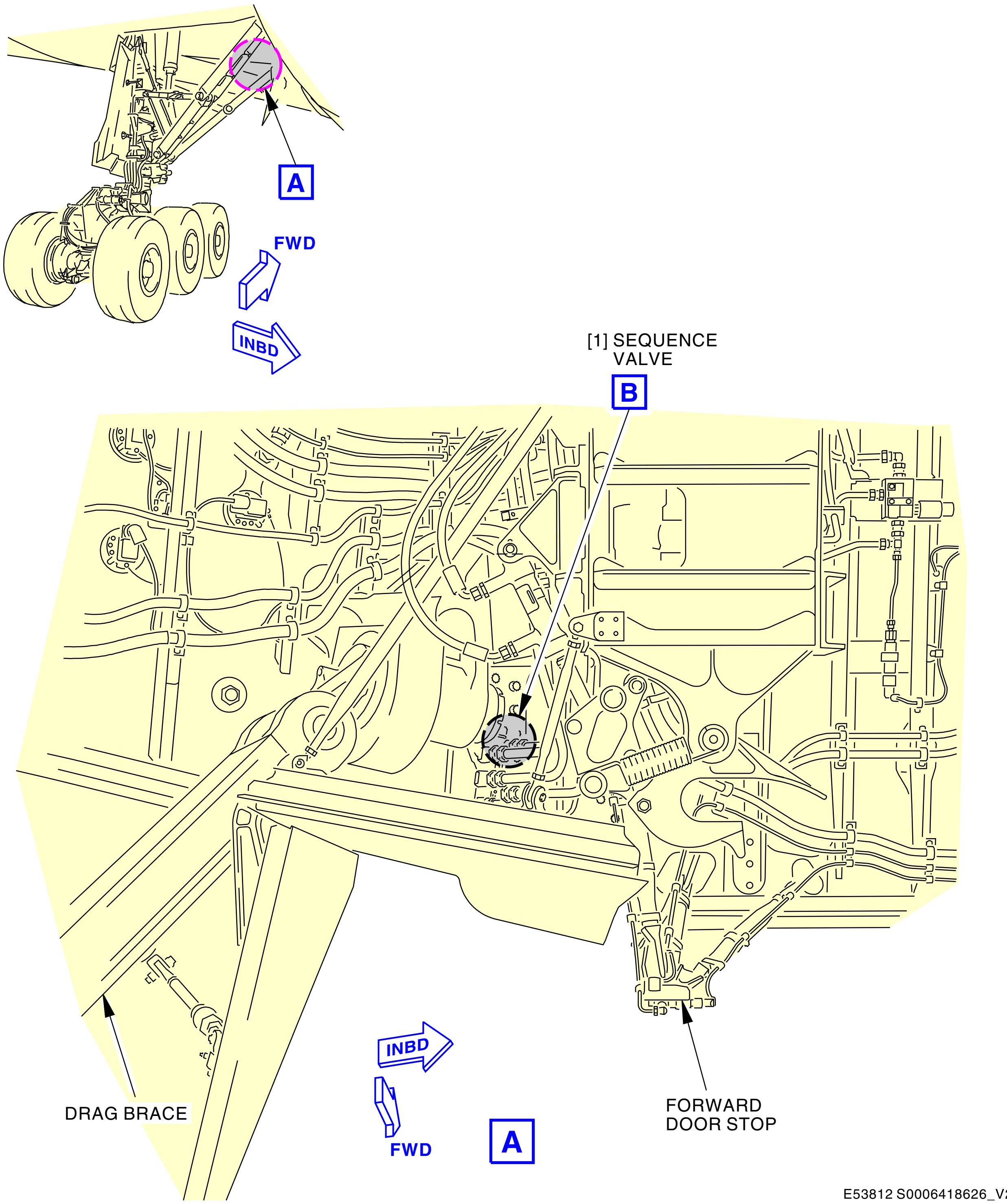
(b) Disconnect the link assembly [5] from the sequence valve input slide [4]:

1) Remove the nut [28] and washer [27] from the bolt [26].

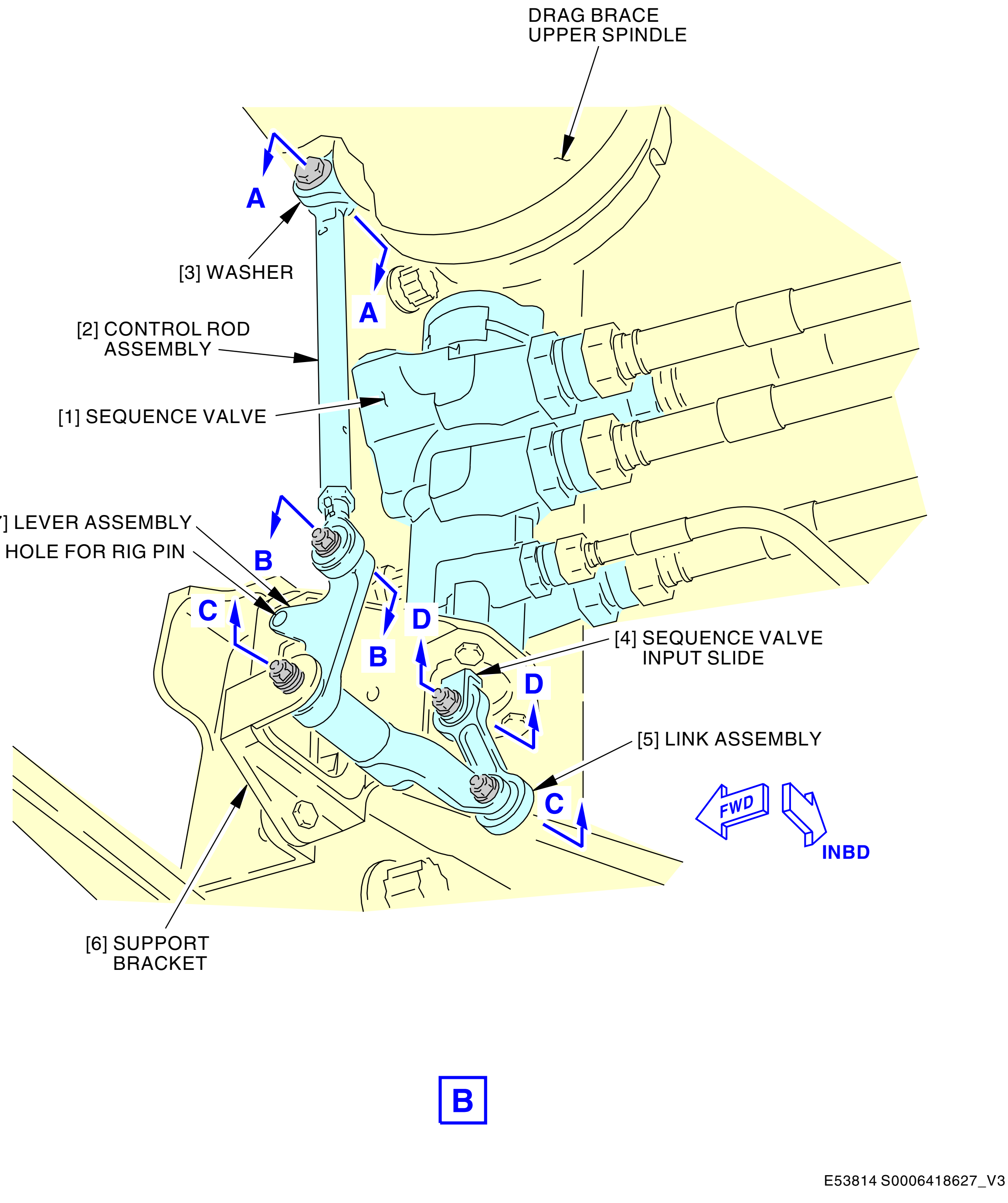
2) Remove the bolt [26] and washer [25] from the link assembly [5] and sequence valve input slide [4].

(c) Remove the link assembly [5] from the airplane.

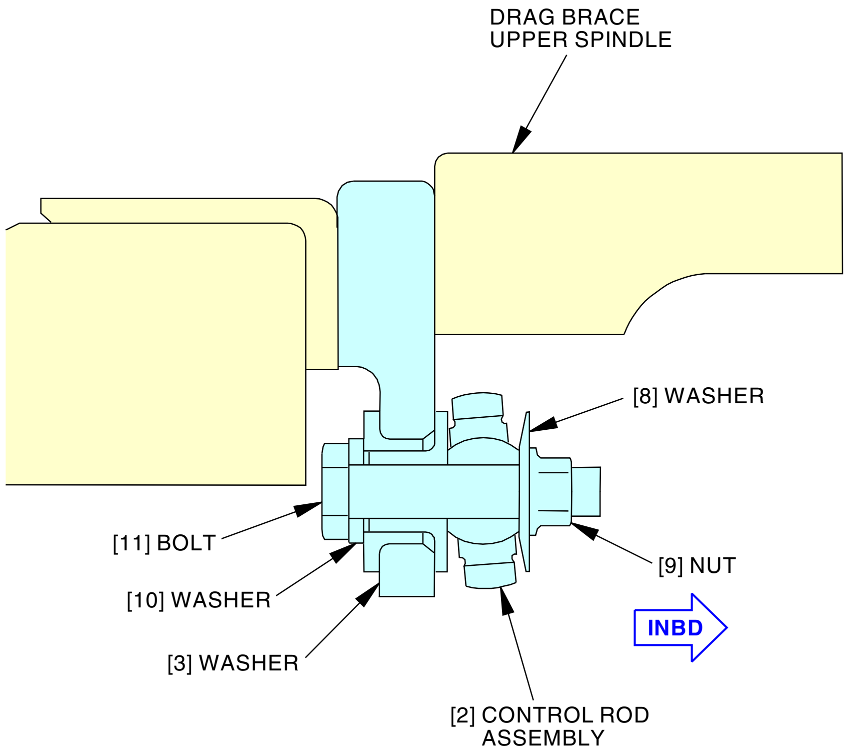
END OF TASK



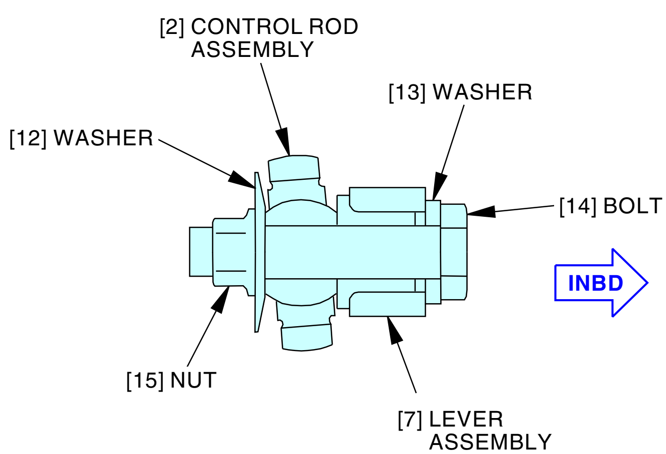
Main Landing Gear - Drag Brace Operated Sequence Valve Mechanism Installation
Figure 401/32-32-13-990-801 (Sheet 1 of 4)



Main Landing Gear - Drag Brace Operated Sequence Valve Mechanism Installation
Figure 401/32-32-13-990-801 (Sheet 2 of 4)



A-A



B-B

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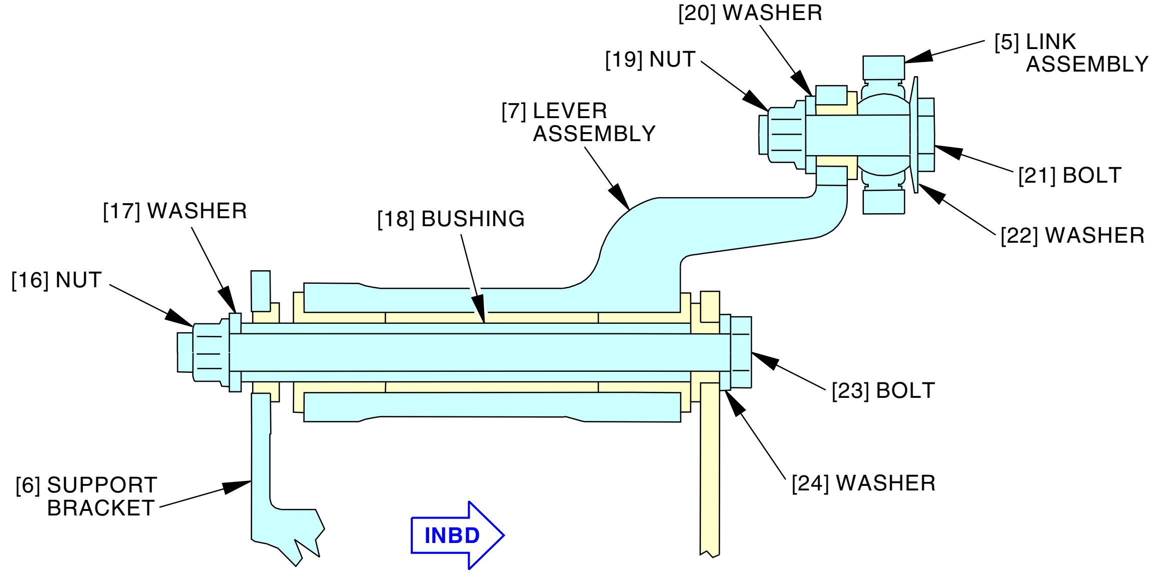
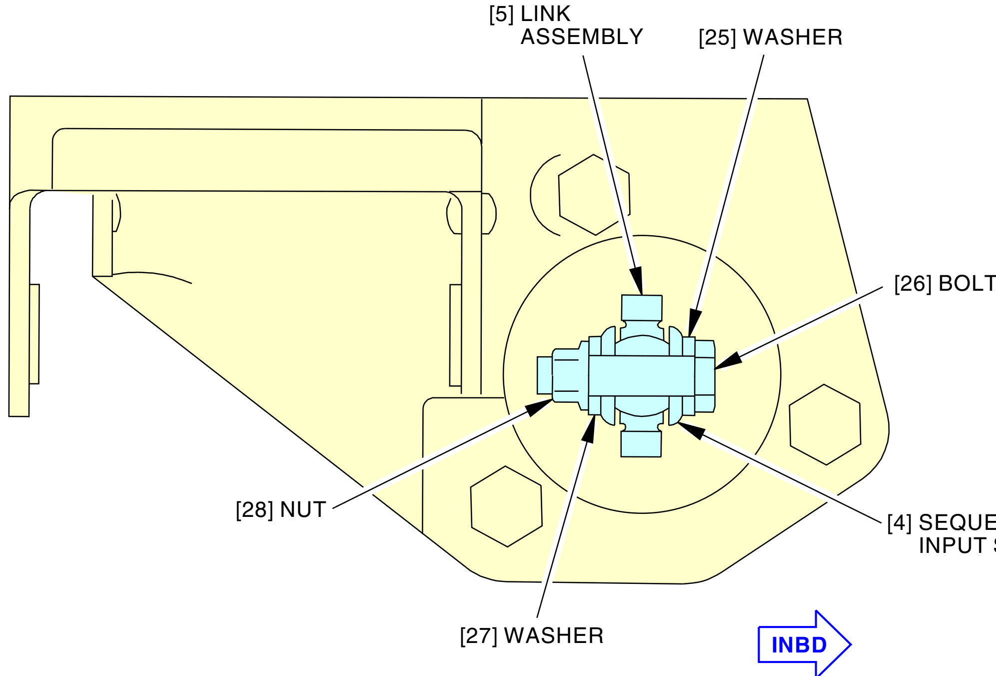
Main Landing Gear - Drag Brace Operated Sequence Valve Mechanism Installation
Figure 401/32-32-13-990-801 (Sheet 3 of 4)



C-C



D-D

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Main Landing Gear - Drag Brace Operated Sequence Valve Mechanism Installation
Figure 401/32-32-13-990-801 (Sheet 4 of 4)

TASK 32-32-13-420-801

3. Sequence Valve Mechanism Installation

(Figure 401)

A. General

(1) This task has three parts:

(a) The first part supplies instructions to install only the control rod assembly [2].

(b) The second part supplies instructions to install only the lever assembly [7].

(c) The third part supplies instructions to install only the link assembly [5].

B. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-32-12-420-801	Main Landing Gear Drag-Brace-Operated Sequence Valve Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
G01505	Lockwire - Safety And Lock	NASM20995

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Rod assembly	32-32-12-01-030	ARO ALL
5	Link assembly	32-32-12-01-135	ARO ALL
7	Lever assembly	32-32-12-01-080	ARO ALL
		32-32-12-01-085	ARO ALL

F. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

G. Sequence Valve Mechanism Installation

SUBTASK 32-32-13-420-001

(1) Do the steps below if it is necessary to install only the control rod assembly [2]:

NOTE: The bolt [11] and washer [10] must be installed on the washer [3] before the spindle nut and washer [3] are installed.

(a) Install rigging pin LGE1 or LGE2, from rigging pin set, SPL-2532, through the support bracket [6] and lever assembly [7].

NOTE: The placard on the inside of the box for the Rigging Pin Set identifies the different rigging pins.

(b) Put the control rod assembly [2] into its position on the washer [3] for the drag brace spindle and lever assembly [7].

(c) Connect the control rod assembly [2] to the washer [3] for the drag brace spindle:

1) Put the bolt [11] which is on the washer [3] for the drag brace spindle through the control rod assembly [2].

2) Install the washer [8] and nut [9] on the bolt [11].

3) Tighten the nut [9] to 63 in-lb (7 N·m) - 67 in-lb (8 N·m).

(d) Loosen the jamnut on the control rod assembly [2], turn the rod end until it aligns with the lever assembly [7] and make sure the rigging pin fits loosely.

(e) Connect the control rod assembly [2] to the lever assembly [7]:

1) Install the washer [13] on the bolt [14].

2) Put the bolt [14] through the lever assembly [7] and control rod assembly [2].

3) Install the washer [12] and nut [15] on the bolt [14].

4) Tighten the nut [15] to 63 in-lb (7 N·m) - 67 in-lb (8 N·m).

(f) Tighten the jamnut and install the lockwire, G01505, on the control rod assembly [2].

(g) Remove rigging pin.

SUBTASK 32-32-13-420-002

(2) Do the steps below if it is necessary to install only the lever assembly [7]:

(a) Put the lever assembly [7] into its position in the support bracket [6].

(b) Connect the lever assembly [7] to the support bracket [6]:

1) Install the washer [24] on the bolt [23].

2) Put the bolt [23] through the support bracket [6] and lever assembly [7].

3) Put the bushing [18] on the bolt [23] and into the lever assembly [7].

4) Install the washer [17] and nut [16] on the bolt [23].

(c) Connect the lever assembly [7] to the link assembly [5]:

1) Install the washer [22] on the bolt [21].

2) Put the bolt [21] through the link assembly [5] and lever assembly [7].

3) Install the washer [20] and nut [19] on the bolt [21].

(d) Install rigging pin LGE1 or LGE2, from rigging pin set, SPL-2532, through the support bracket [6] and lever assembly [7].

NOTE: The placard on the inside of the box for the Rigging Pin Set identifies the different rigging pins.

(e) Connect the lever assembly [7] to the control rod assembly [2]:

1) Install the washer [13] on the bolt [14].

2) Put the bolt [14] through the lever assembly [7] and control rod assembly [2].

a) If you cannot put the bolt [14] through the lever assembly [7] and control rod assembly [2], do the steps below.

<1> Remove the lockwire from the jamnut on the control rod assembly [2].

<2> Loosen the jamnut on the control rod assembly [2], turn the rod end until it aligns with the lever assembly [7] and rigging pin fits loosely.

<3> Put the bolt [14] through the lever assembly [7] and control rod assembly [2].

3) Install the washer [12] and nut [15] on the bolt [14].

(f) If you adjusted the control rod assembly [2], tighten the jamnut and install the lockwire, G01505, on the control rod assembly [2].

(g) Remove rigging pin.

SUBTASK 32-32-13-420-003

(3) Do the steps below if it is necessary to install only the link assembly [5]:

(a) Put the link assembly [5] into its position on the lever assembly [7] and sequence valve input slide [4].

(b) Connect the link assembly [5] to the sequence valve input slide [4]:

1) Install the washer [25] on the bolt [26].

2) Put the bolt [26] through the sequence valve input slide [4] and link assembly [5].

3) Install the washer [27] and nut [28] on the bolt [26].

(c) Connect the link assembly [5] to the lever assembly [7]:

1) Install the washer [22] on the bolt [21].

2) Put the bolt [21] through the link assembly [5] and lever assembly [7].

3) Install the washer [20] and nut [19] on the bolt [21].

SUBTASK 32-32-13-710-002

(4) Do the installation test for the main landing gear operated sequence valve (TASK 32-32-12-420-801).

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-13-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

MAIN LANDING GEAR DOOR ACTUATOR - REMOVAL/INSTALLATION

1. **General**
   A. This procedure has these tasks:
      (1) A removal of the actuator for the main landing gear door
      (2) An installation of the actuator for the main landing gear door.
   B. The door actuator weighs 72 pounds (32.7 kg).

TASK 32-32-14-020-801

2. **Main Landing Gear Door Actuator Removal**

NOTE: This procedure is a scheduled maintenance task.

A. **References**

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1858	Sling - Assembly, Main Landing Gear Door Part #: J32017-18 Supplier: 81205 Opt Part #: J32017-10 Supplier: 81205

C. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

D. **Prepare for the Removal**

SUBTASK 32-32-14-860-001

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-14-860-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-14-860-003

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-32-14-480-001

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-14-480-002

(5) Install chocks around the tires of the main landing gear (PAGEBLOCK 10-11-05/201).

SUBTASK 32-32-14-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

E. Main Landing Gear Door Actuator Removal

SUBTASK 32-32-14-480-003

CAUTION	IN 10 KNOT OR MORE WIND, USE A ROPE OR OTHER RESTRAINT TO HOLD THE MAIN LANDING GEAR DOOR. THE BUMPER CAN CAUSE DAMAGE TO THE DOOR.

(1) If the wind is over 10 knots (19 km/h), support the main landing gear door [2] in its position with a rope.

SUBTASK 32-32-14-020-001

(2) Do the steps below to disconnect the hydraulic line [3] from the actuator assembly [1] at the band clamp [9] (Figure 401):

(a) Remove the nuts [6] and washers [7] from the bolts [8].

(b) Remove the top saddle clamp [5].

(c) Move the hydraulic line [3] away from the bottom saddle clamp [4].

(d) Remove the bottom saddle clamp [4] from the bolts [8].

(e) Remove the blocks [30] and bolts [8].

(f) Remove the band clamp [9].

SUBTASK 32-32-14-020-002

(3) Do the steps below to remove the hydraulic lines [3] from the actuator assembly [1]:

(a) Disconnect the hydraulic lines [3] from the actuator assembly [1].

(b) Install caps on the hydraulic lines [3].

SUBTASK 32-32-14-480-004

(4) Install the main landing gear door sling, SPL-1858, on the actuator assembly [1] (Figure 402):

(a) Install the band clamps [40] on the actuator assembly [1].

(b) Install the bolts [44] and sling assembly [43] on the band clamp [40].

(c) Install the washers [41] and nuts [42] to connect the sling assembly [43] to the band clamps [40].

SUBTASK 32-32-14-480-005

(5) Connect the hoist, SPL-1556, to the sling assembly [43].

SUBTASK 32-32-14-020-003

(6) Do the steps below to disconnect the actuator assembly [1] from the fitting [14] in the wheel well (Figure 401):

(a) Remove the cotter pin [11], nut [19], and washer [12] from the bolt [16].

(b) Remove the bolt [16] and washer [15].

(c) Remove the collars [18] from the head end pin [13].

(d) Remove the head end pin [13] from the actuator assembly [1] and fitting [14] in the wheel well.

(e) Turn the two reaction links [17] inboard, against the wheel well.

NOTE: The reaction links [17] are a matched set. If you remove the reaction links after you disconnect the actuator assembly [1], make sure you keep them together.

SUBTASK 32-32-14-560-001

(7) Use the hoist to carefully lift the actuator assembly [1] until its weight is removed from the rod end pin [22].

SUBTASK 32-32-14-020-004

(8) Do the steps below to disconnect the actuator assembly [1] from the fitting [23] on the main landing gear door [2]:

(a) Remove the cotter pin [25], nut [26], and washer [24] from the bolt [20].

(b) Remove the bolt [20] and washer [21].

(c) Remove the collars [27] from the rod end pin [22].

(d) Remove the rod end pin [22] from the actuator assembly [1] and fitting [23] on the main landing gear door [2].

SUBTASK 32-32-14-020-005

(9) Use the hoist to lower the actuator assembly [1] to the ground.

SUBTASK 32-32-14-020-006

(10) Loosen the nut [10] on the band clamp [9].

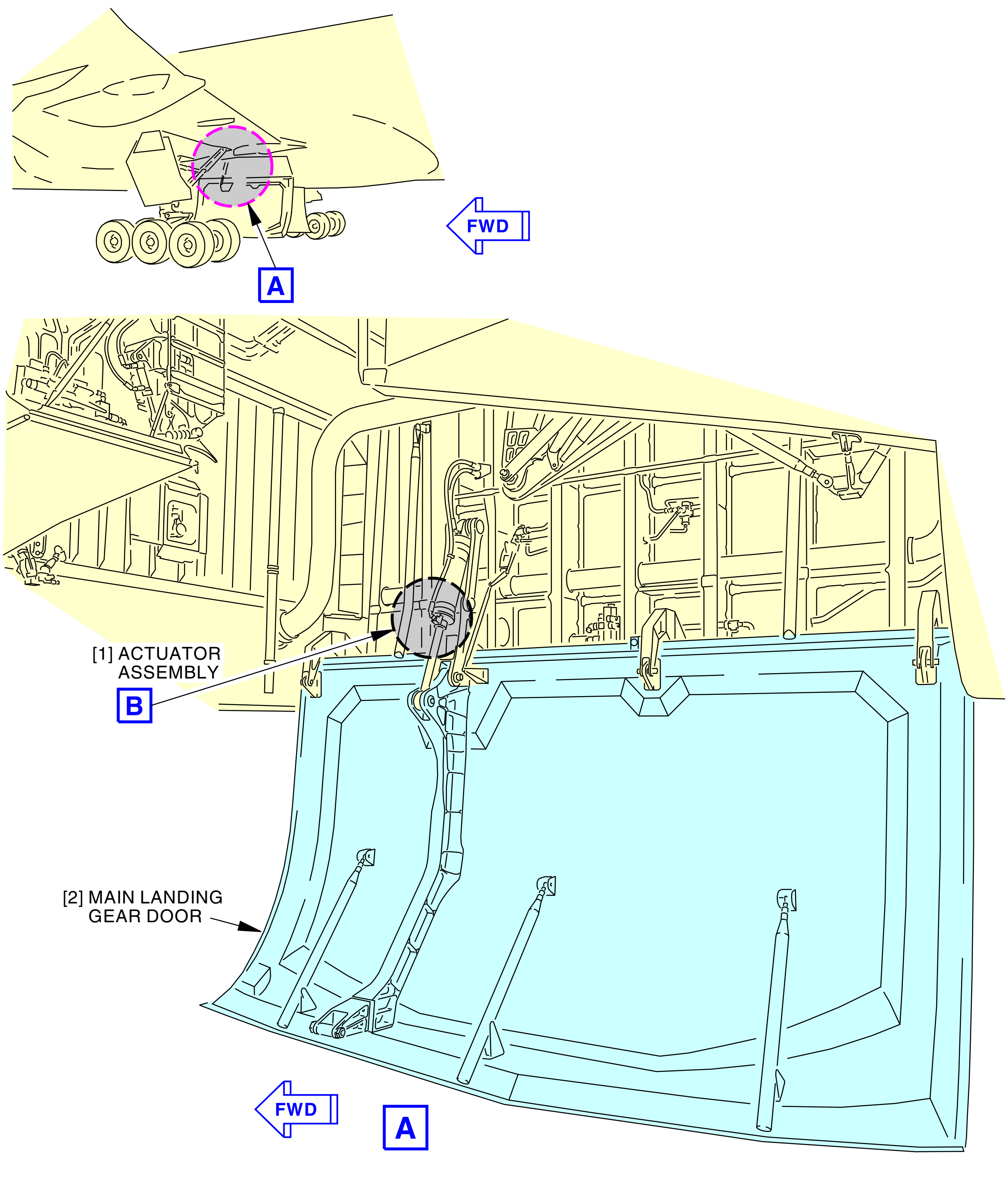
SUBTASK 32-32-14-020-007

(11) Remove the band clamp [9] from the actuator assembly [1].

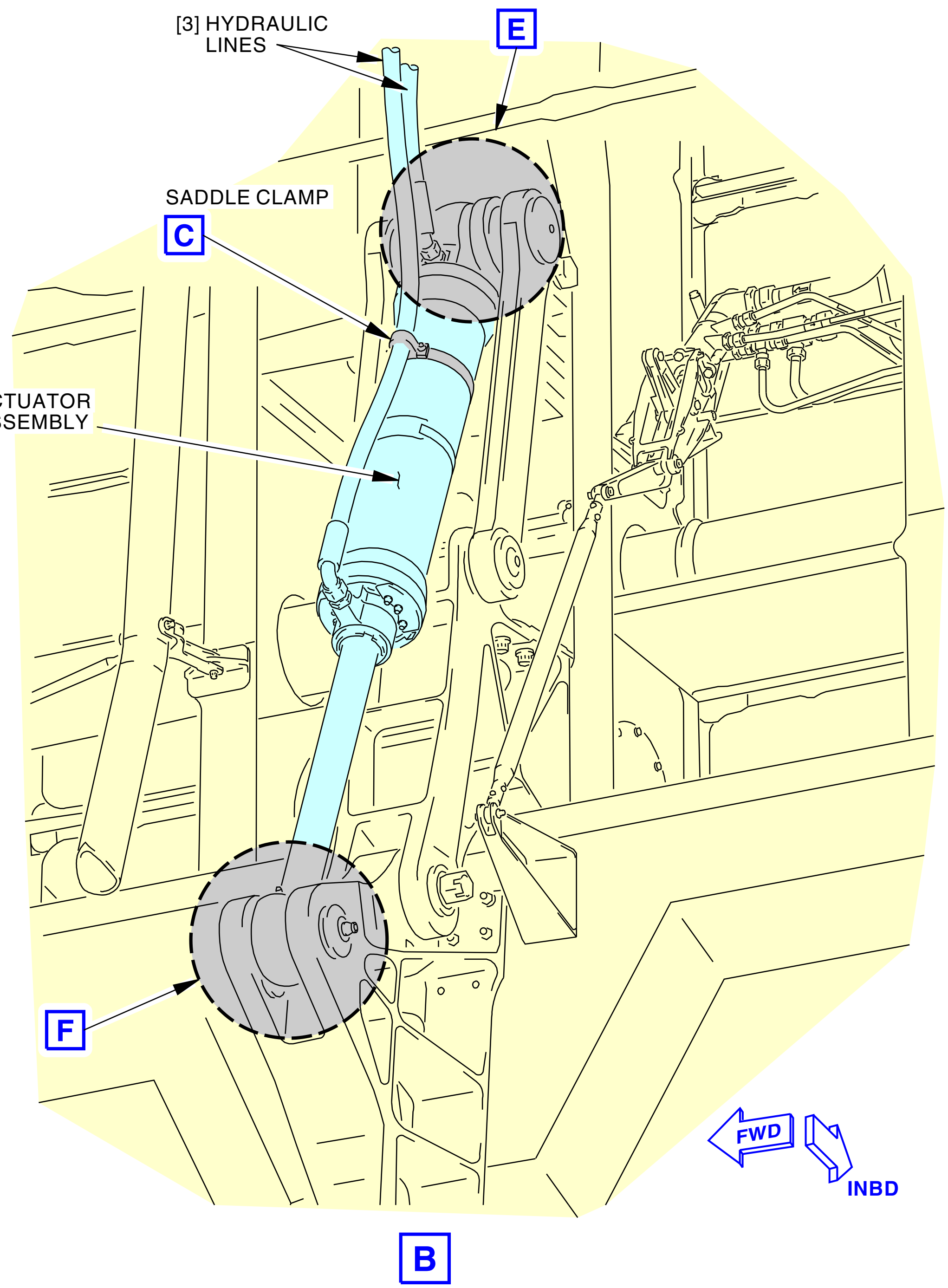
SUBTASK 32-32-14-080-001

(12) Disconnect the main landing gear door sling, SPL-1858, from the actuator assembly [1] and remove the band clamps [40].

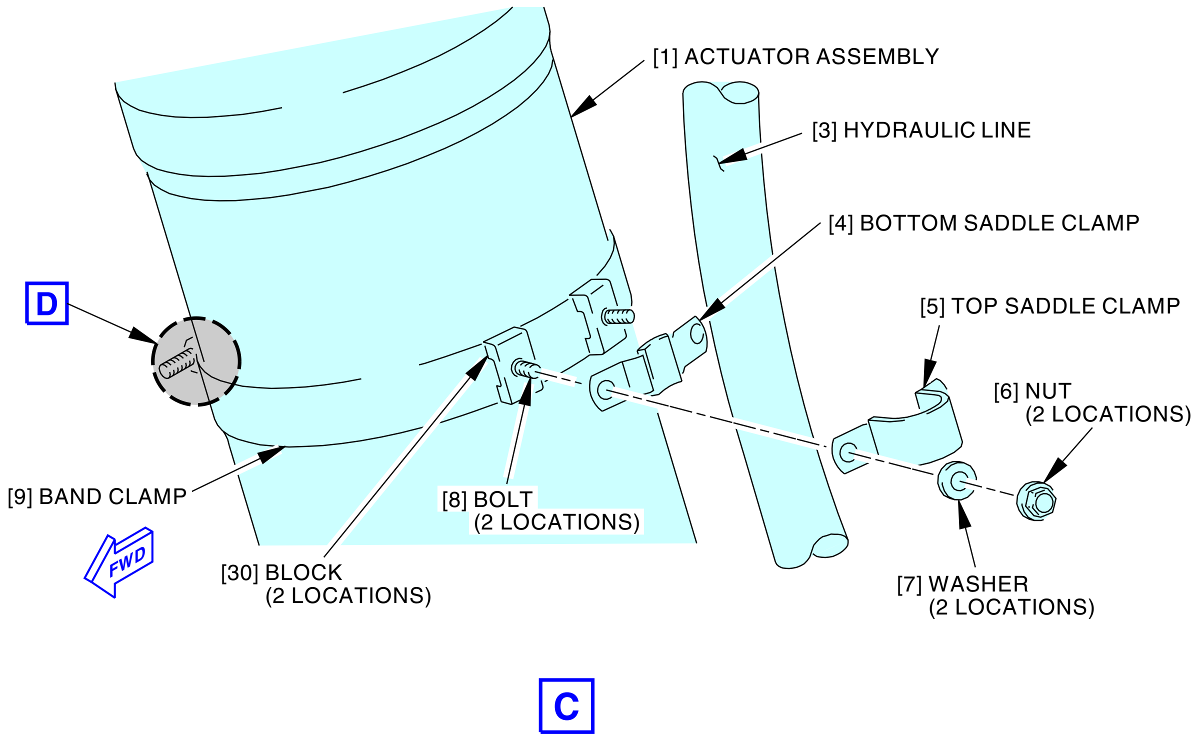
END OF TASK

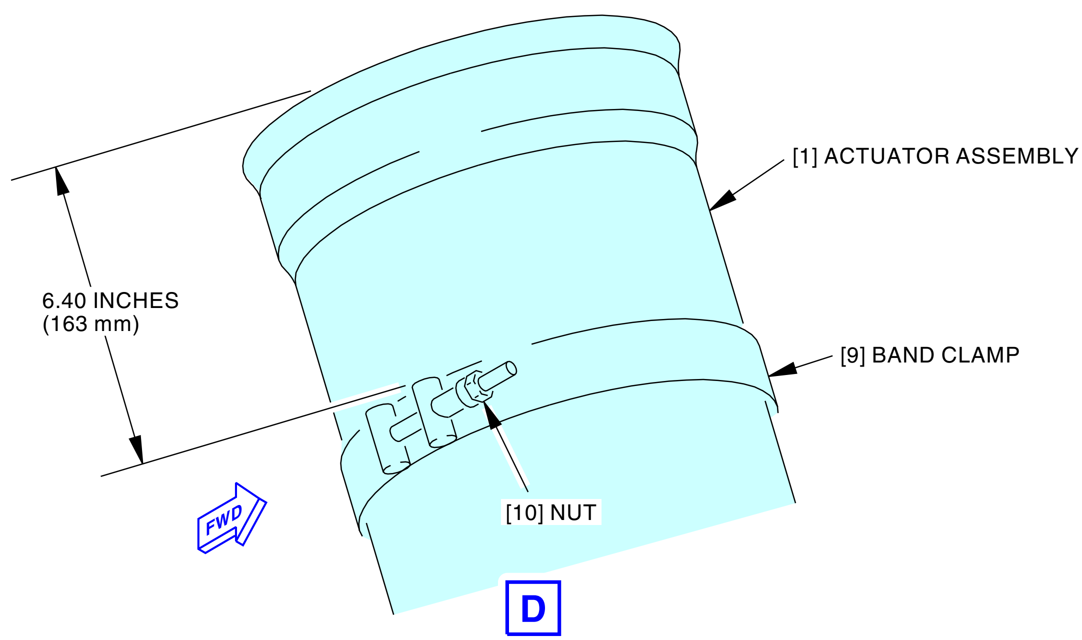


Main Landing Gear Door Actuator Installation
Figure 401/32-32-14-990-801 (Sheet 1 of 5)



Main Landing Gear Door Actuator Installation
Figure 401/32-32-14-990-801 (Sheet 2 of 5)





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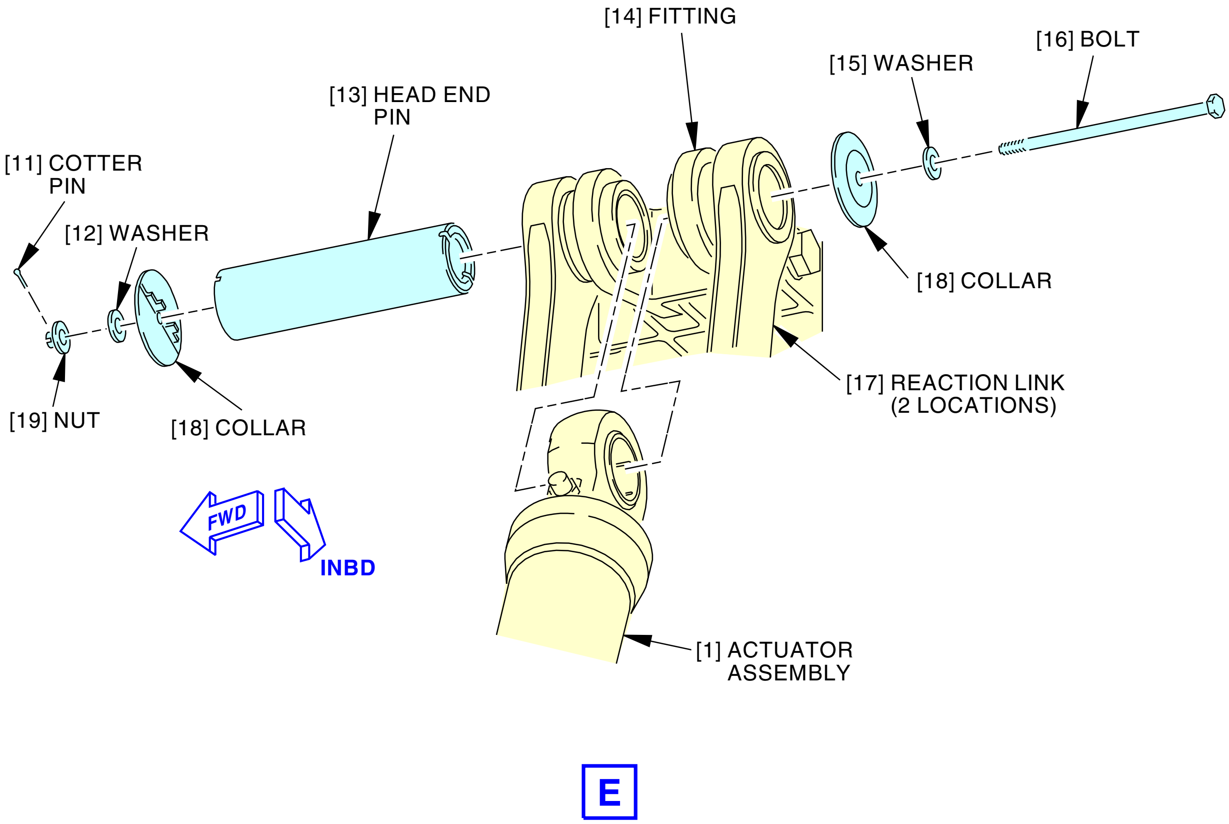
Main Landing Gear Door Actuator Installation
Figure 401/32-32-14-990-801 (Sheet 3 of 5)



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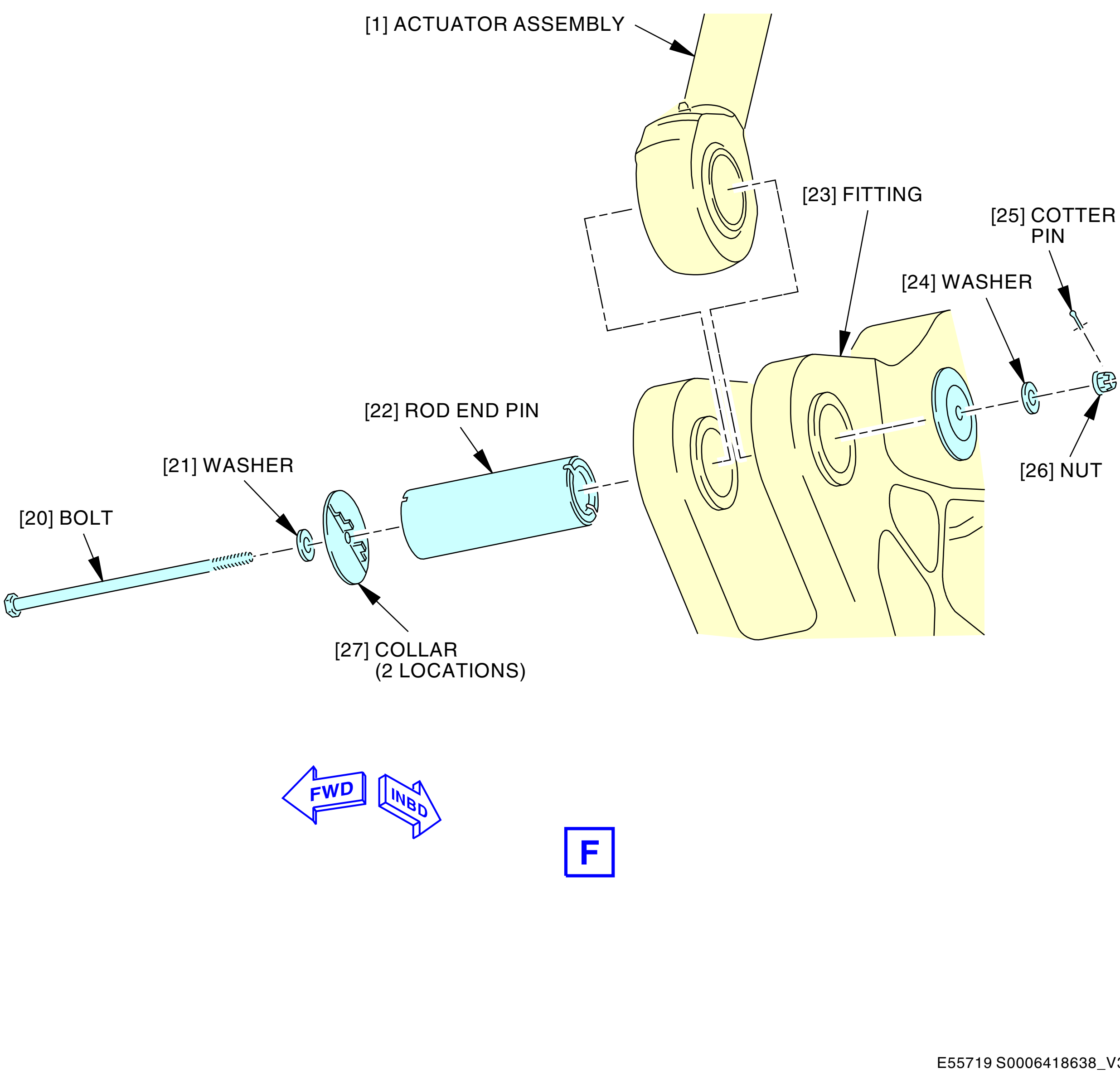
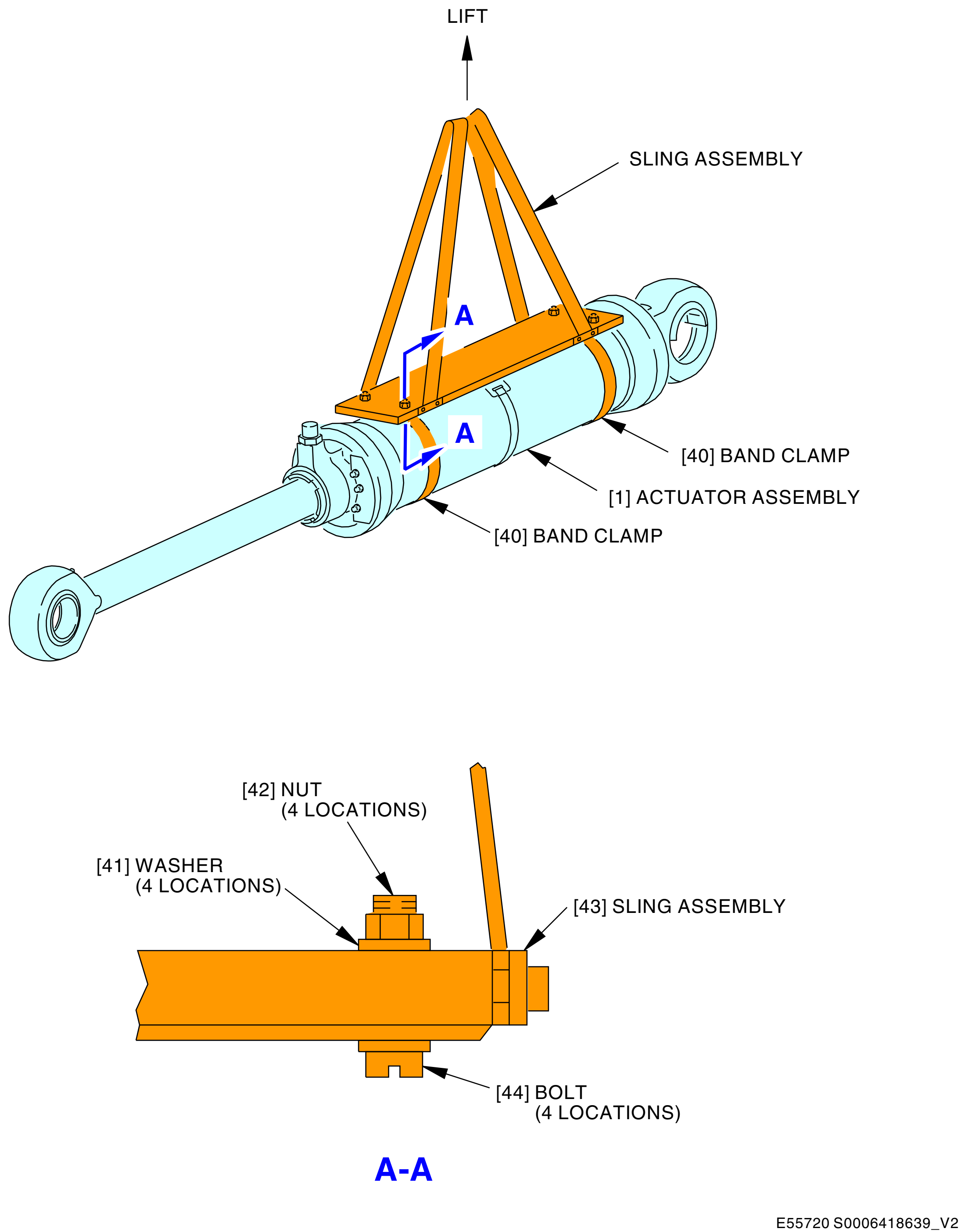
Main Landing Gear Door Actuator Installation
Figure 401/32-32-14-990-801 (Sheet 4 of 5)



Main Landing Gear Door Actuator Installation
Figure 401/32-32-14-990-801 (Sheet 5 of 5)



Main Landing Gear Door Actuator Sling
Figure 402/32-32-14-990-802

TASK 32-32-14-420-801

3. Main Landing Gear Door Actuator Installation

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
12-21-15-640-802-002	Main Landing Gear Doors and Actuating Mechanisms Lubrication (P/B 301)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1858	Sling - Assembly, Main Landing Gear Door Part #: J32017-18 Supplier: 81205 Opt Part #: J32017-10 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
D00633	Grease - Aircraft General Purpose	BMS3-33
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Actuator assembly	32-32-14-01-115	ARO ALL
11	Cotter pin	32-32-14-01-055	ARO ALL

(Continued)

AMM Item	Description	AIPC Reference	AIPC Effectivity
25	Cotter pin	32-32-14-01-085	ARO ALL

E. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Main Landing Gear Door Actuator Installation

SUBTASK 32-32-14-420-001

(1) Install the band clamp [9] on the actuator assembly [1].

SUBTASK 32-32-14-480-006

(2) Install the main landing gear door sling, SPL-1858, on the actuator assembly [1] (Figure 402):

(a) Install the band clamps [40] on the actuator assembly [1].

(b) Install the bolts [44] and the sling assembly [43] on the band clamps [40].

(c) Install the washers [41] and nuts [42] to connect the sling assembly [43] to the band clamps [40].

SUBTASK 32-32-14-480-007

(3) Connect the hoist, SPL-1556, to the sling assembly [43].

SUBTASK 32-32-14-420-002

(4) Use the hoist, SPL-1556, to lift the actuator assembly [1] off of the ground.

SUBTASK 32-32-14-210-001

(5) Make sure the actuator assembly [1] is filled with hydraulic fluid, D00153.

SUBTASK 32-32-14-420-003

(6) Use the hoist, SPL-1556, to lift the actuator assembly [1] to the height necessary to connect it to the main landing gear door [2] and fitting [23] in the wheel well.

SUBTASK 32-32-14-420-004

WARNING: USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING: DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(7) Do the steps below to connect the actuator assembly [1] to the main landing gear door [2] (Figure 401):

(a) Lubricate the rod end pin [22] and the pin mating surfaces with grease, D00633, or grease, D00013.

(b) Install the rod end pin [22] through the fitting [23] on the main landing gear door [2] and the actuator assembly [1].

(c) Apply a thin layer of the Cor-Ban 27L Compound, G50237, or Mastinox 6856 K, C00913, to one face of the washer [21].

(d) Install the washer [21] on the bolt [20] with the Cor-Ban 27L Compound, G50237, or Mastinox 6856 K, C00913, against the head end of the bolt [20].

(e) Make sure there is no Cor-Ban 27L Compound, G50237, or Mastinox 6856 K, C00913, on the shank of the bolt [20].

(f) Install the collar [27] on the rod end pin [22].

(g) Install the bolt [20] through the collar [27].

(h) Apply a thin layer of Cor-Ban 27L Compound, G50237, or Mastinox 6856 K, C00913, to one face of the washer [24] and the threads of the bolt [20].

(i) Install the washer [24] and nut [26] on the bolt [20], with the Cor-Ban 27L Compound, G50237, or Mastinox 6856 K, C00913, between the washer [24] and nut [26].

(j) Tighten the nut [26].

1) If Mastinox 6856 K, C00913, is used, tighten to 60 in-lb (6.8 N·m)-95 in-lb (10.7 N·m).

2) If Cor-Ban 27L Compound, G50237, is used, tighten to 3 in-lb (0.3 N·m)-32 in-lb (3.6 N·m) above the run-on torque.

(k) Install the cotter pin [25].

1) If necessary, loosen the nut [26] to the nearest castellation to align the holes for the cotter pin [25].

SUBTASK 32-32-14-560-002

(8) Use the hoist to carefully lift the actuator assembly [1] until the head end of the actuator is in the fitting [14] in the wheel well.

SUBTASK 32-32-14-420-005

CAUTION

ADDITIONAL ROTATION OF THE MAIN LANDING-GEAR DOOR-ACTUATOR CAN CAUSE THE ZERK FITTING TO DAMAGE THE LINK ASSEMBLY.

WARNING

USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(9) Do the steps below to connect the actuator assembly [1] to the fitting [14] in the wheel well.

(a) Lubricate the head end pin [13] and the mating surfaces of the reaction links [17] and fitting [14] with the grease, D00633, or grease, D00013.

(b) Turn the two reaction links [17] until you can install the head end pin [13] through the links and the fitting [14] in the wheel well.

NOTE: You will install the head end pin [13] in a subsequent step.

(c) Install the collars [18] on the head end pin [13].

(d) Apply a thin layer of the Cor-Ban 27L Compound, G50237, to one face of the washer [15].

(e) Put the washer [15] on the bolt [16] with the Cor-Ban 27L Compound, G50237, against the head end of the bolt [16].

(f) Make sure there is no Cor-Ban 27L Compound, G50237, on the shank of the bolt [20].

(g) Install the bolt [16] through the collars [18] and head end pin [13].

(h) Apply a thin layer of Cor-Ban 27L Compound, G50237, to one face of the washer [12] and the threads of the bolt [16].

(i) Install the washer [12] and nut [19] on the bolt [16], with the Cor-Ban 27L Compound, G50237, between the washer [12] and nut [19].

(j) Tighten the nut [19] to 3 in-lb (0.3 N·m) - 32 in-lb (3.6 N·m) above the run-on torque.

(k) Install the cotter cotter pin [11].

1) If necessary, loosen the nut [19] to the nearest castellation to align the holes for the cotter cotter pin [11].

SUBTASK 32-32-14-080-002

(10) Disconnect the main landing gear door sling, SPL-1858,from the actuator assembly [1] and remove the band clamps [40].

SUBTASK 32-32-14-420-006

(11) Do the steps below to connect the hydraulic lines [3] to the actuator assembly [1]:

(a) Remove the caps from the hydraulic lines [3].

(b) Connect the hydraulic lines [3] to the actuator assembly [1].

NOTE: Make sure the hydraulic lines [3] are in-line and parallel to the actuator assembly [1].

(c) Tighten the B-nuts on hydraulic lines [3] to 700 ±35 in-lb (79 ±4 N·m).

SUBTASK 32-32-14-420-007

(12) Do the steps below to connect the hydraulic line [3] to the band clamp [9]:

(a) Loosen the nut [10] on the band clamp [9].

(b) Move the band clamp [9] into its correct position on the actuator assembly [1] until one of the bolts [8] is on each side of the hydraulic line [3].

NOTE: The band clamp [9] should be approximately 6.4 in. (163 mm) from the top of the actuator assembly [1].

(c) Lightly tighten the nut [10] on the band clamp [9].

(d) Do the steps below for the bottom saddle clamp [4] and top saddle clamp [5]:

1) Install the bolts [8] and blocks [30].

2) Install the bottom saddle clamp [4] on the bolts [8].

3) Move the hydraulic line [3] against the bottom saddle clamp [4].

4) Install the top saddle clamp [5] on the bolts [8].

5) Install the washers [7] and nuts [6] on the bolts [8].

(e) Make sure the hydraulic line [3] is in it correct position and tighten the nut [10] on the band band clamp [9].

SUBTASK 32-32-14-640-001

(13) Apply the grease, D00013, or grease, D00013, to the lubrication fittings on the actuator assembly [1] (TASK 12-21-15-640-802-002).

G. Main Landing Gear Door Actuator Installation Test

NOTE: During this test, it is possible that the GEAR DISAGREE message will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the message go away. The message will go away automatically when you complete this test.

SUBTASK 32-32-14-860-004

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-14-080-003

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) For the Main Landing gear door for which you removed the actuator, do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801

SUBTASK 32-32-14-860-005

(3) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-14-860-006

(4) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-14-860-007

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(5) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-14-480-008

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-14-860-008

(7) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-32-14-210-002

(8) Make sure the main landing gear door [2] closes and latches.

SUBTASK 32-32-14-860-009

(9) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-32-14-790-001

(10) Make sure the main landing gear door [2] opens.

SUBTASK 32-32-14-010-002

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(11) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-14-790-002

(12) Examine the actuator assembly [1] for leaks.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-14-080-004

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-32-14-860-010

(2) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-32-14-860-011

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

MAIN LANDING GEAR DOOR UPLOCK ACTUATOR - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has two tasks:

      (1) A removal of the uplock actuator for the main landing gear door

      (2) An installation of the uplock actuator for the main landing gear door.

   B. The illustrations in this procedure show the uplock actuator for the left main landing gear door. This procedure is also applicable to the uplock actuator for the right main landing gear door.

TASK 32-32-15-020-801

2. **Main Landing Gear Door Uplock Actuator Removal**

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

   A. **References**

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

   B. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

   C. **Prepare for the Removal**

SUBTASK 32-32-15-860-001

      (1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-15-860-002

      (2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-15-860-003

      (3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-32-15-480-001

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-15-480-002

(5) Install chocks around the tires of the main landing gear (PAGEBLOCK 10-11-05/201).

SUBTASK 32-32-15-860-004

(6) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-32-15-480-003

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(7) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

D. Main Landing Gear Door Uplock Actuator Removal

SUBTASK 32-32-15-020-001

(1) Disconnect the hydraulic hoses [10] from the actuator assembly [9].

SUBTASK 32-32-15-480-004

(2) Install caps on the hydraulic hoses [10].

SUBTASK 32-32-15-020-002

(3) Do the steps below to disconnect the actuator assembly [9] from the uplock mechanism [8]:

(a) Remove the cotter pin [5] from the bolt [11].

(b) Remove the nut [6] and washer [7] from the bolt [11].

(c) Remove the bolt [11] from the actuator assembly [9], washers [1], and uplock mechanism [8].

SUBTASK 32-32-15-020-003

(4) Do the steps below to disconnect the actuator assembly [9] from the attachment fitting [4]:

(a) Remove the cotter pin [5] from the bolt [2].

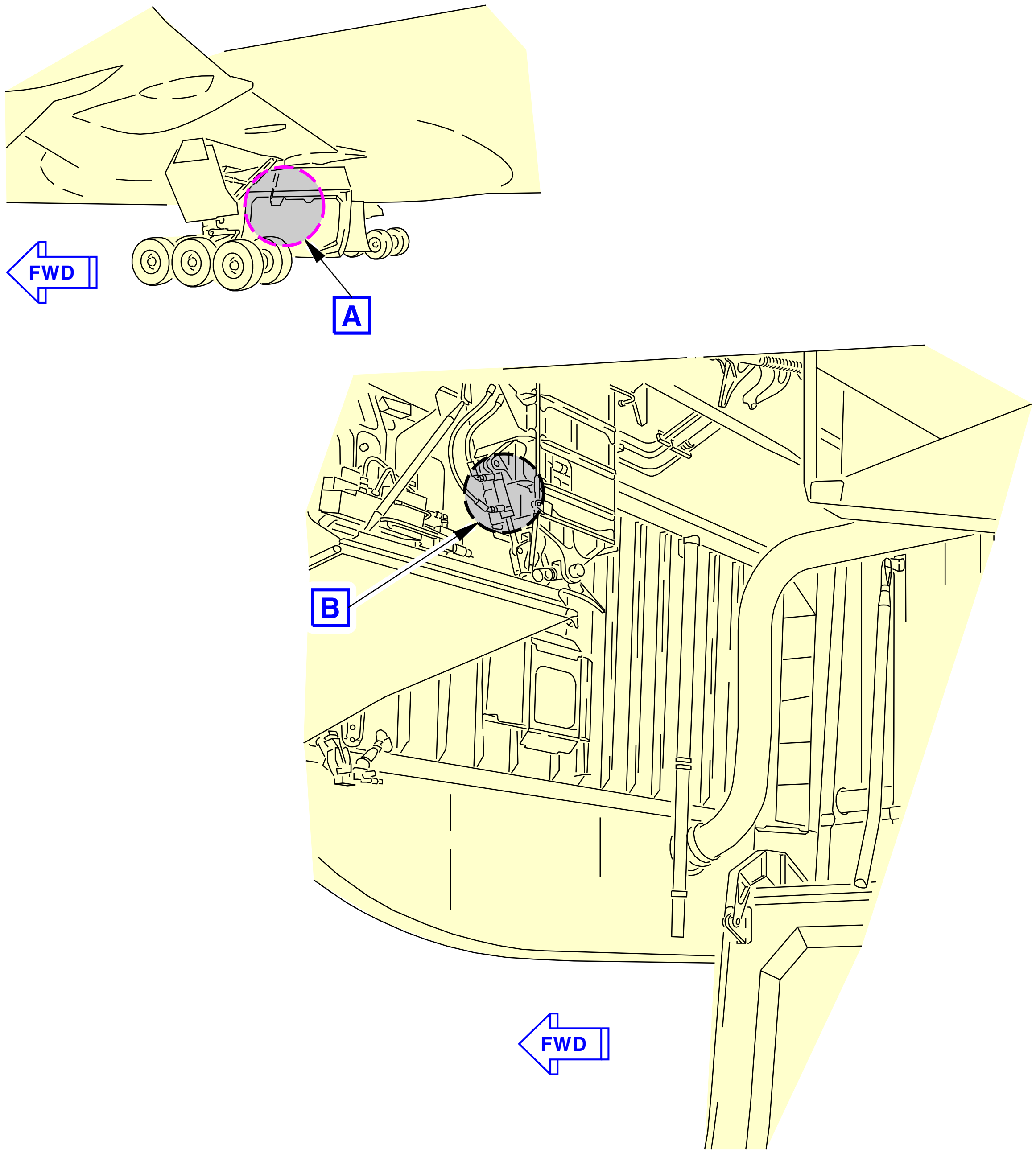
(b) Remove the nut [6] and washer [7] from the bolt [2].

(c) Remove the bolt [2] from the actuator assembly [9], washers [1], and attachment fitting [4].

SUBTASK 32-32-15-020-004

(5) Carefully remove the actuator assembly [9] and washers [1] from the attachment fitting [4] and the uplock mechanism [8].

END OF TASK

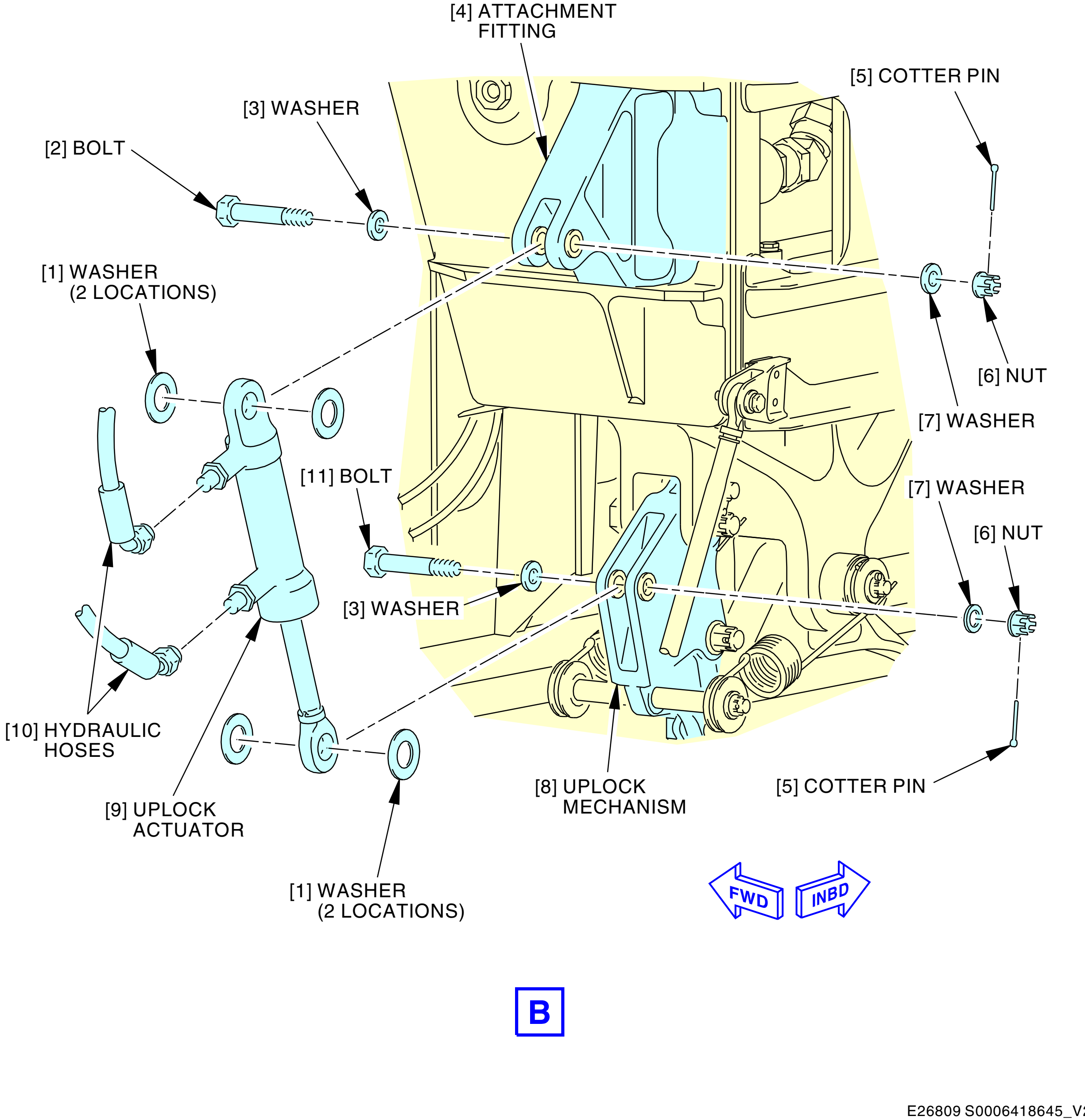


LEFT WHEEL WELL

A

E26796 S0006418644_V2

Main Landing Gear Door Uplock Actuator Installation
Figure 401/32-32-15-990-801 (Sheet 1 of 2)



Main Landing Gear Door Uplock Actuator Installation
Figure 401/32-32-15-990-801 (Sheet 2 of 2)

TASK 32-32-15-420-801

3. Main Landing Gear Door Uplock Actuator Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
5	Cotter pin	32-32-15-01-020	ARO ALL
9	Actuator assembly	32-32-15-01-055	ARO ALL

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

E. Main Landing Gear Door Uplock Actuator Installation

SUBTASK 32-32-15-620-001

WARNING: USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(1) Apply a thin layer of the Cor-Ban 27L Compound, G50237, to one face of the washer [3].

SUBTASK 32-32-15-420-001

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(2) Install the washer [3] on the bolt [2], with the Cor-Ban 27L Compound, G50237, against the head of the bolt.

SUBTASK 32-32-15-210-001

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(3) Make sure there is no Cor-Ban 27L Compound, G50237, on the shank of the bolt [2].

SUBTASK 32-32-15-210-002

(4) Make sure the actuator assembly [9] is in the retracted position.

SUBTASK 32-32-15-210-003

(5) Make sure the actuator assembly [9] is filled with hydraulic fluid, D00153.

SUBTASK 32-32-15-420-002

(6) Put the actuator assembly [9] and washers [1] into their position on the uplock mechanism [8] and attachment fitting [4].

SUBTASK 32-32-15-420-003

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(7) Do these steps to connect the actuator assembly [9] to the attachment fitting [4]:

(a) Put the bolt [2] through the attachment fitting [4], washers [1], and actuator assembly [9].

(b) Apply a thin layer of the Cor-Ban 27L Compound, G50237, to one face of the washer [7] and the threads of bolt [2].

(c) Install the washer [7] and nut [6] on the bolt [2] with the Cor-Ban 27L Compound, G50237, between the washer [7] and nut [6].

(d) Tighten the nut [6] to 5 in-lb (0.6 N·m) - 47 in-lb (5.3 N·m) above the run-on torque.

1) Backoff to align for the cotter pin [5].

(e) Apply a thin layer of the Cor-Ban 27L Compound, G50237, to the cotter pin [5].

(f) Install the cotter pin [5] in the bolt [2].

NOTE: If it is necessary, loosen the nut [6] until you can install the cotter pin [5].

SUBTASK 32-32-15-420-004

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(8) Do the steps below to connect the actuator assembly [9] to the uplock mechanism [8]:

(a) Apply a thin layer of the Cor-Ban 27L Compound, G50237, to one face of the washer [3].

(b) Install the washer [3] on the bolt [11] with the Cor-Ban 27L Compound, G50237, against the head of the bolt [11].

(c) Make sure there is no Cor-Ban 27L Compound, G50237, on the shank of the bolt [11].

(d) Put the bolt [11] through the uplock mechanism [8], washers [1], and actuator assembly [9].

(e) Apply a thin layer of the Cor-Ban 27L Compound, G50237, to one face of the washer [7] and the threads of the bolt [11].

(f) Install the washer [7] and nut [6] on the bolt [11], with the Cor-Ban 27L Compound, G50237, between the washer [7] and nut [6].

(g) Tighten the nut [6] to 5 in-lb (0.6 N·m) - 47 in-lb (5.3 N·m) above the run-on torque.

1) Backoff to align for the cotter pin [5].

(h) Apply a thin layer of the Cor-Ban 27L Compound, G50237, to the cotter pin [5].

(i) Install the cotter pin [5] in the bolt [11].

NOTE: If it is necessary, loosen the nut [6] until you can install the cotter pin [5].

SUBTASK 32-32-15-080-001

(9) Remove the caps from the hydraulic hoses [10].

SUBTASK 32-32-15-420-005

(10) Connect the hydraulic hoses [10] to the actuator assembly [9].

(11) Tighten the B-nuts on the hydraulic hoses [10] to 140 ±7 in-lb (16 ±1 N·m).

F. Main Landing Gear Door Uplock Actuator Installation Test

NOTE: During this test, it is possible that the GEAR DISAGREE message will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the messages go away. The messages will go away automatically when you complete this test.

SUBTASK 32-32-15-080-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) For the main landing gear doors, do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-32-15-860-005

(2) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-15-860-006

(3) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-15-860-007

(4) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-15-860-008

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(5) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-15-860-009

(6) For the main landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-32-15-480-005

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(7) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-15-860-010

(8) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

SUBTASK 32-32-15-210-004

(9) Make sure the main landing gear doors open.

SUBTASK 32-32-15-790-001

(10) Examine the uplock actuator assembly [9] for leaks.

SUBTASK 32-32-15-860-011

(11) Move the control lever for the landing gear to the DN position.

SUBTASK 32-32-15-210-005

(12) Make sure the main landing gear doors close.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-15-080-003

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) For the nose landing gear doors, do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-32-15-860-012

(2) For the nose landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-32-15-860-013

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

MAIN LANDING GEAR DOOR UPLOCK HOOK - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the uplock hook for the main landing gear door

(2) An installation of the uplock hook for the main landing gear door.

B. In this procedure the uplock hook for the main landing gear door is referred to as the uplock hook mechanism [1].

TASK 32-32-16-000-801

2. Main Landing Gear Door Uplock Hook Removal

(Figure 401)

A. General

(1) This procedure supplies instructions to remove the uplock hook mechanism [1] for the main landing gear door.

B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)
32-32-21-000-801	Main Landing Gear Door Uplock Spring Removal (P/B 401)

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

D. Prepare for the Removal

SUBTASK 32-32-16-480-001

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-16-860-002

(2) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-32-16-010-001

> **WARNING** OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-16-860-001

(4) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

E. Main Landing Gear Door Uplock Hook Removal

SUBTASK 32-32-16-020-001

(1) Remove the springs [6] (TASK 32-32-21-000-801).

SUBTASK 32-32-16-020-004

(2) Disconnect the uplock actuator from uplock hook mechanism [1]:

(a) Remove the pin [23], nut [22], washer [21], washers [25], washer [26] and bolt [20].

SUBTASK 32-32-16-020-002

(3) Disconnect the uplock hook mechanism [1] from the support assembly:

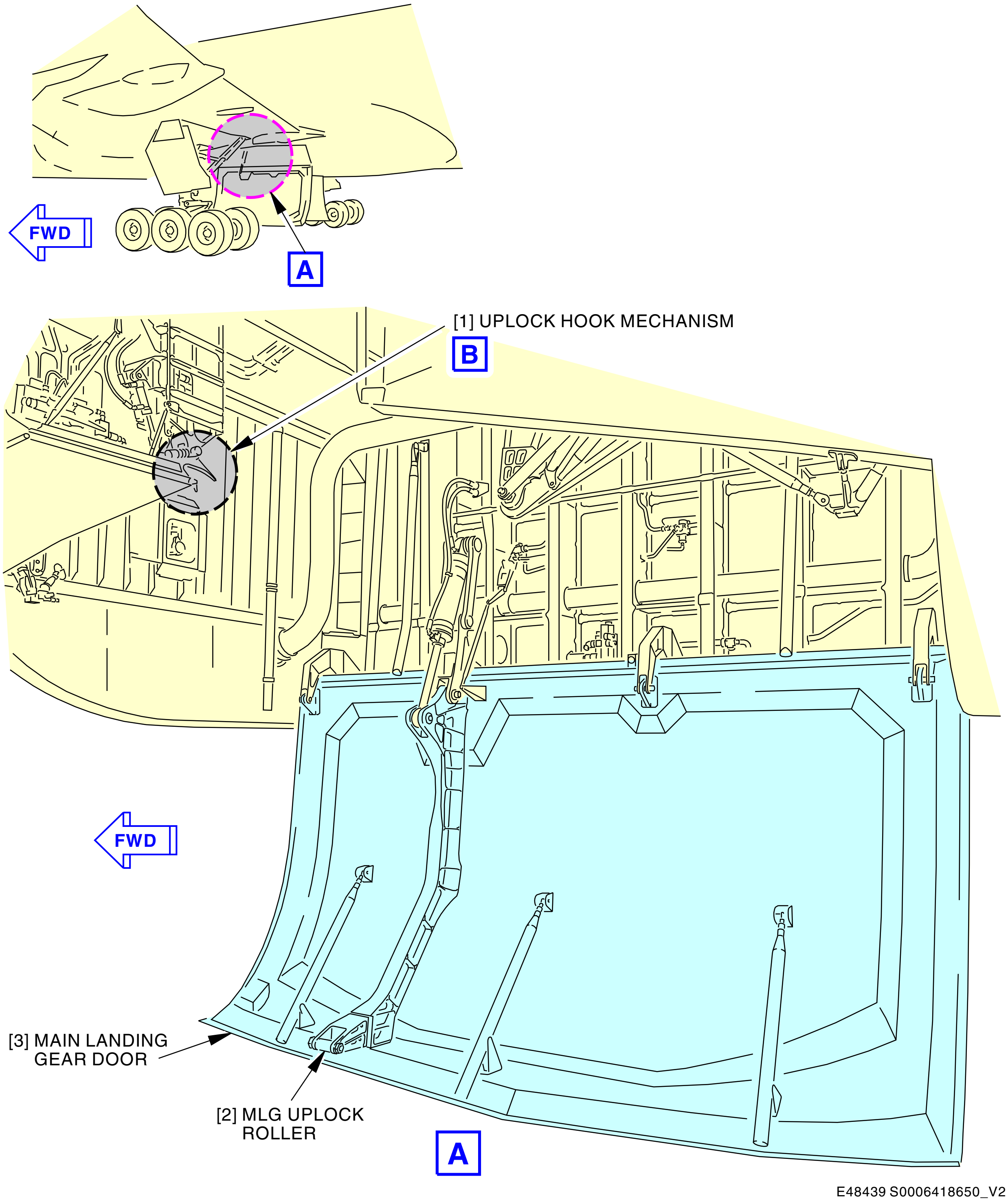
(a) Remove the pin [14], nut [5], washers [9], washer [11], spool assemblies [13], bushings [12], spacers [7], pin [8] and bolt [10].

(b) Remove the pin [19], nut [15], washer [16], washer [18] and bolt [17].

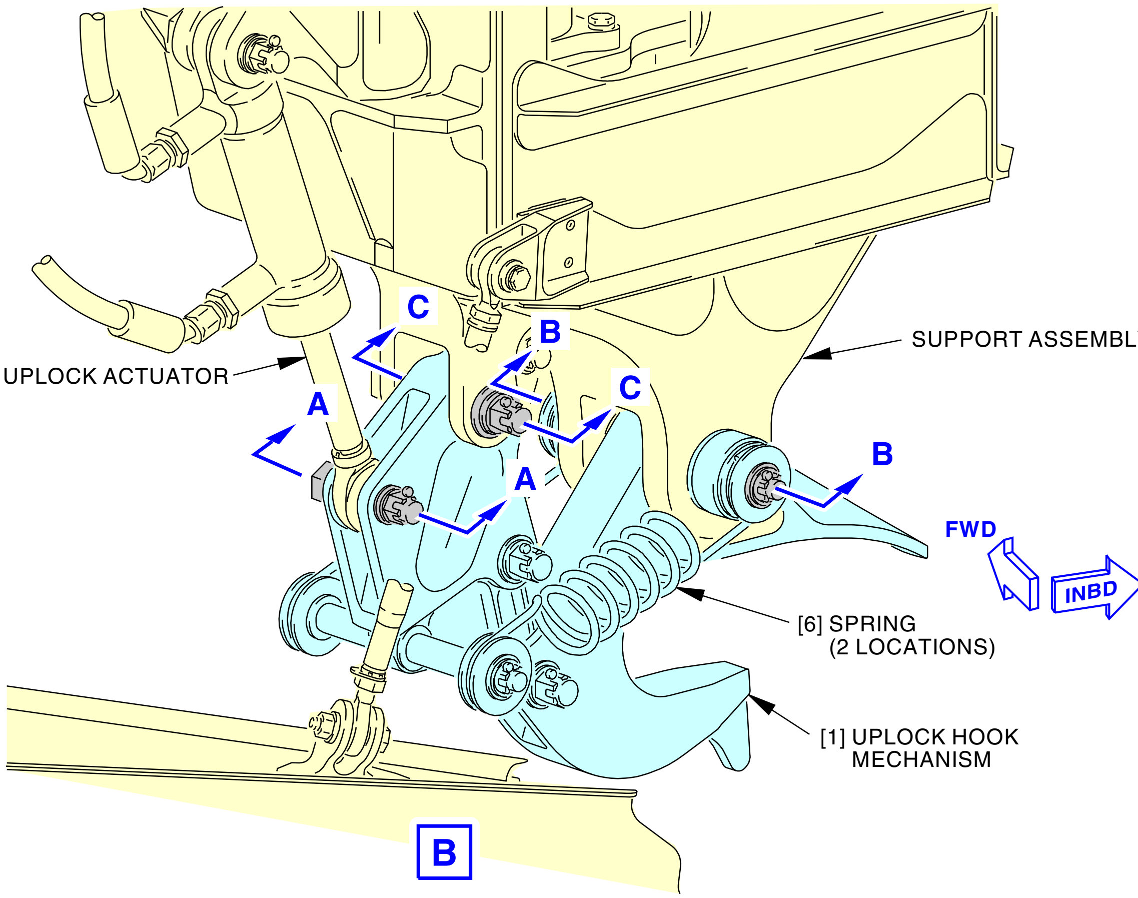
SUBTASK 32-32-16-020-003

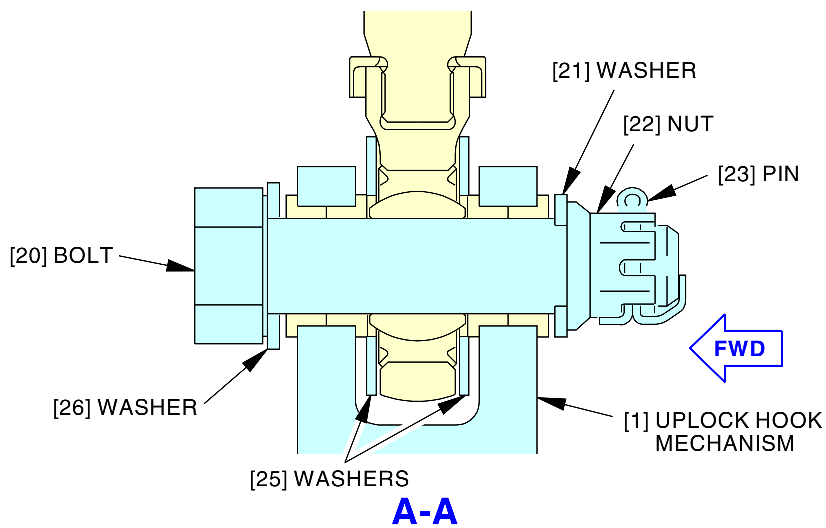
(4) Remove the uplock hook mechanism [1].

——— END OF TASK ———



Main Landing Gear Door Uplock Hook Installation
Figure 401/32-32-16-990-801 (Sheet 1 of 3)





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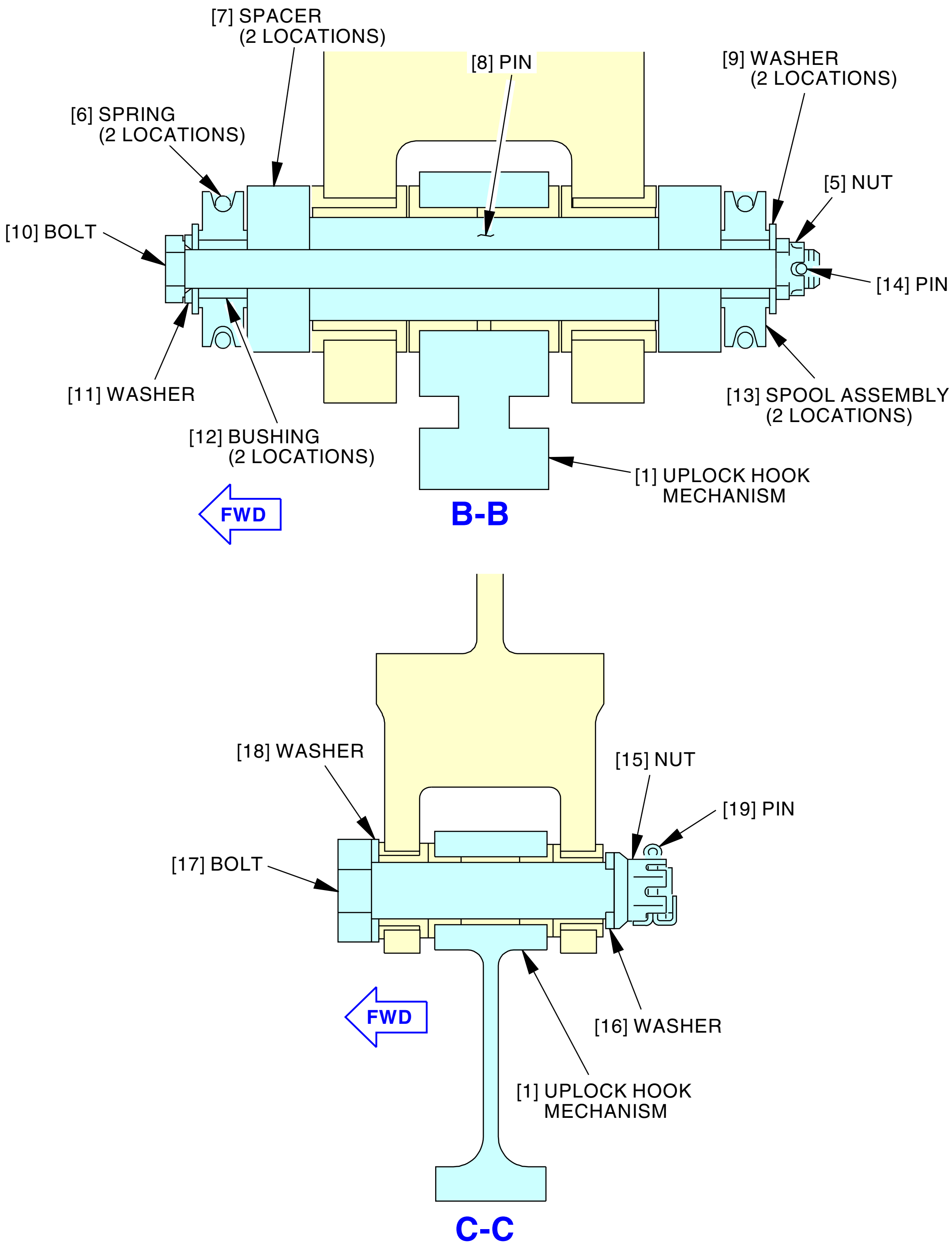
Main Landing Gear Door Uplock Hook Installation
Figure 401/32-32-16-990-801 (Sheet 2 of 3)



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Main Landing Gear Door Uplock Hook Installation
Figure 401/32-32-16-990-801 (Sheet 3 of 3)

TASK 32-32-16-400-801

3. Main Landing Gear Door Uplock Hook Installation

(Figure 401)

A. General

(1) This procedure provides instructions to install the uplock hook mechanism [1] for the main landing gear door.

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)
32-12-00-910-805	Main Landing Gear Body Door Adjustment (P/B 501)
32-32-21-400-801	Main Landing Gear Door UpLock Spring Installation (P/B 401)

C. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Uplock hook mechanism	52-81-00-01-215	ARO 001-017
14	Pin	52-81-00-01-135	ARO 001-017
19	Pin	52-81-00-01-140	ARO 001-017
23	Pin	32-32-15-01-020	ARO ALL

E. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

F. Main Landing Gear Door Uplock Hook Installation

SUBTASK 32-32-16-420-002

(1) Connect the uplock hook mechanism [1] to the support assembly:

(a) Lubricate the bolt [17], washer [18], washer [16], nut [15] and pin [19] with grease, D00633, or grease, D00013.

(b) Install the bolt [17], washer [18], washer [16] and nut [15] to connect the uplock hook mechanism [1] to support assembly.

(c) Lubricate the bolt [10], washer [11], washers [9], pin [8], nut [5] and pin [14] with grease, D00633, or grease, D00013.

(d) Install the bolt [10], washer [11], washers [9], bushings [12], spacers [7], spool assemblies [13], pin [8] and nut [5].

NOTE: You can use up to two extra washers [9] to make the pin [14] engage the cotter pin hole in the nut [5].

(e) Tighten the nut [15] to 150 in-lb (16.9 N·m) - 200 in-lb (22.6 N·m).

(f) If it is necessary, loosen the nut [15] until you can install the pin [19].

(g) Tighten the nut [5] to 160 in-lb (18.1 N·m) - 240 in-lb (27.1 N·m).

(h) If it is necessary, loosen the nut [5] until you can install the pin [14].

SUBTASK 32-32-16-420-003

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(2) Connect the uplock hook mechanism [1] to uplock actuator:

(a) Apply a layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to one face of the washer [26].

(b) Install the washer [26] on bolt [20] with Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913, against the head of the bolt [20].

(c) Make sure there is no Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913, on the shank of the bolt [20].

(d) Put the bolt [20] and washer [26] through the uplock hook mechanism [1], washer [25], uplock actuator, and washer [25].

(e) Apply a layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to one face of washer [21] and the threads of bolt [20].

(f) Install the washer [21] and nut [22] on bolt [20] with Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913, between washer [21] and nut [22].

(g) Tighten the nut [22]:

1) If Cor-Ban 27L Compound, G50237 is used, tighten to 5 in-lb (0.6 N·m)-47 in-lb (5.3 N·m) above the run-on torque.

2) If Mastinox 6856 K, C00913 is used, tighten to 100 in-lb (11.3 N·m)-150 in-lb (16.9 N·m).

(h) If it is necessary, loosen the nut [22] until you can install the pin [23].

SUBTASK 32-32-16-420-004

(3) Install the springs [6] (TASK 32-32-21-400-801).

G. Main Landing Gear Door Uplock Hook Installation Test

SUBTASK 32-32-16-410-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) For the main landing gear door for which you removed the uplock hook, do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801

SUBTASK 32-32-16-860-003

(2) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-16-860-004

(3) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-16-860-005

(4) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-16-860-006

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-16-860-007

(6) For the main landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-32-16-420-001

(7) Make sure the hook of the uplock hook mechanism [1] engages the uplock roller [2] on the main landing gear door [3].

(a) If the hook of the uplock hook mechanism [1] does not engage the uplock roller [2] on the main landing gear door [3], do this task: Main Landing Gear Body Door Adjustment, TASK 32-12-00-910-805.

SUBTASK 32-32-16-860-008

(8) For the main landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-32-16-420-005

(9) Make sure the hook of the uplock hook mechanism [1] disengages the uplock roller [2] on the main landing gear door [3].

(a) If the hook of the uplock hook mechanism [1] does not disengage the uplock roller [2] on the main landing gear door [3], do this task: Main Landing Gear Body Door Adjustment, TASK 32-12-00-910-805.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-16-080-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) For the nose landing gear doors and the main landing gear door for which you did not remove the uplock hook, do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-32-16-860-009

(2) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-32-16-860-010

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

MAIN LANDING GEAR DOOR PRIORITY/RELIEF VALVE - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the priority/relief valve for the main landing gear door

(2) An installation of the priority/relief valve for the main landing gear door.

B. The illustrations in this procedure show the priority/relief valve for the left main landing gear door. This procedure is also applicable to the priority/relief valve for the right main landing gear door.

TASK 32-32-17-020-801

2. Main Landing Gear Door Priority/Relief Valve Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

C. Prepare for the Removal

SUBTASK 32-32-17-860-001

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-17-860-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-17-860-003

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-32-17-480-001

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-17-480-002

(5) Install chocks around the tires of the main landing gear (PAGEBLOCK 10-11-05/201).

SUBTASK 32-32-17-860-004

(6) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-32-17-480-003

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(7) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

D. Main Landing Gear Door Priority/Relief Valve Removal

SUBTASK 32-32-17-020-001

(1) Loosen the connections between the hydraulic lines [1] and the priority/relief valve [2].

SUBTASK 32-32-17-020-002

(2) Remove the nuts [5] and the washers [4] from the screws [3].

SUBTASK 32-32-17-020-003

(3) Remove the screws [3], the washers [4], and the saddle clamps [7] from the support bracket [6].

SUBTASK 32-32-17-020-004

(4) Disconnect the hydraulic lines [1] from the priority/relief valve [2].

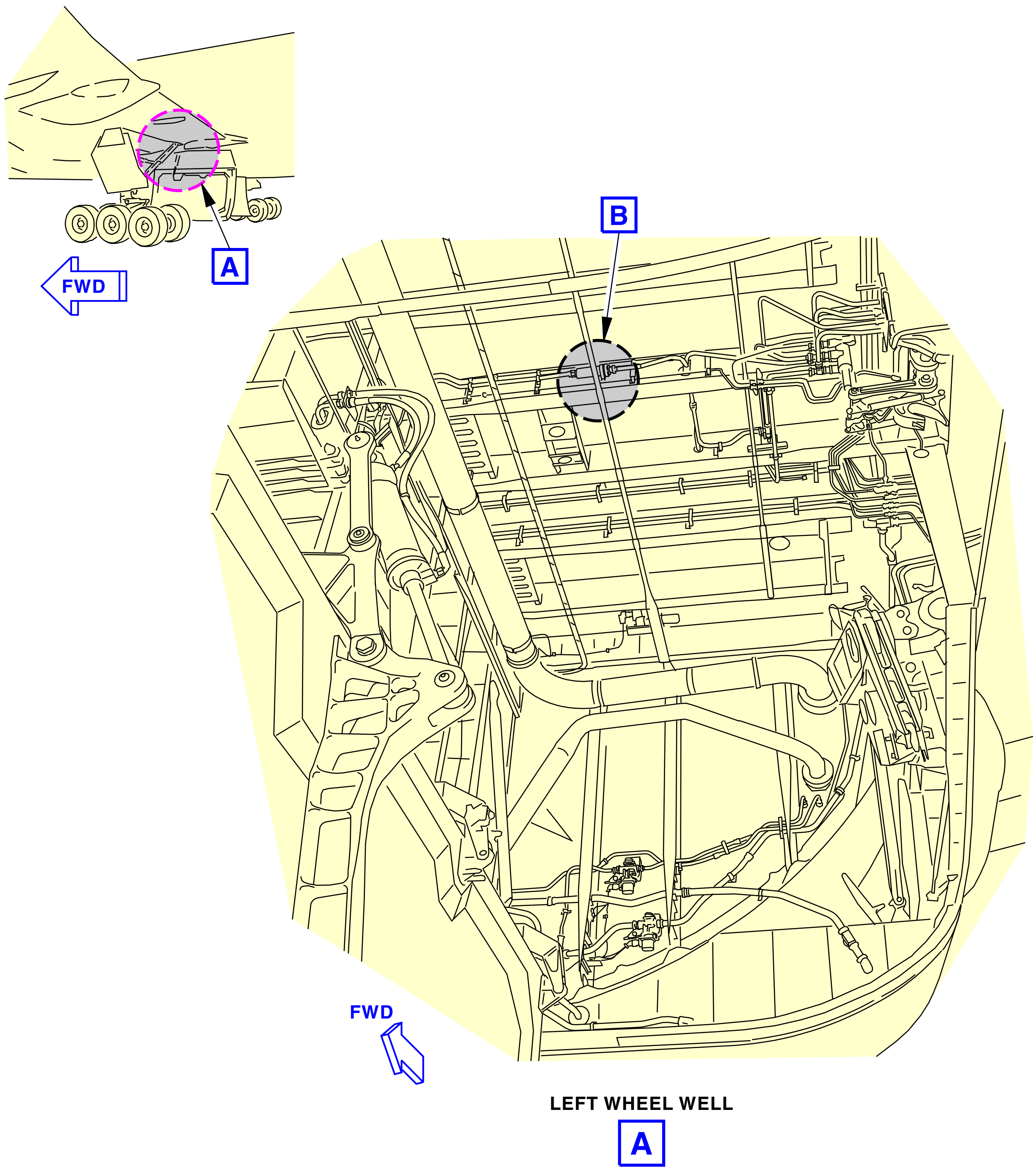
SUBTASK 32-32-17-020-005

(5) Remove the priority/relief valve [2].

SUBTASK 32-32-17-480-004

(6) Install caps on the hydraulic lines [1].

END OF TASK



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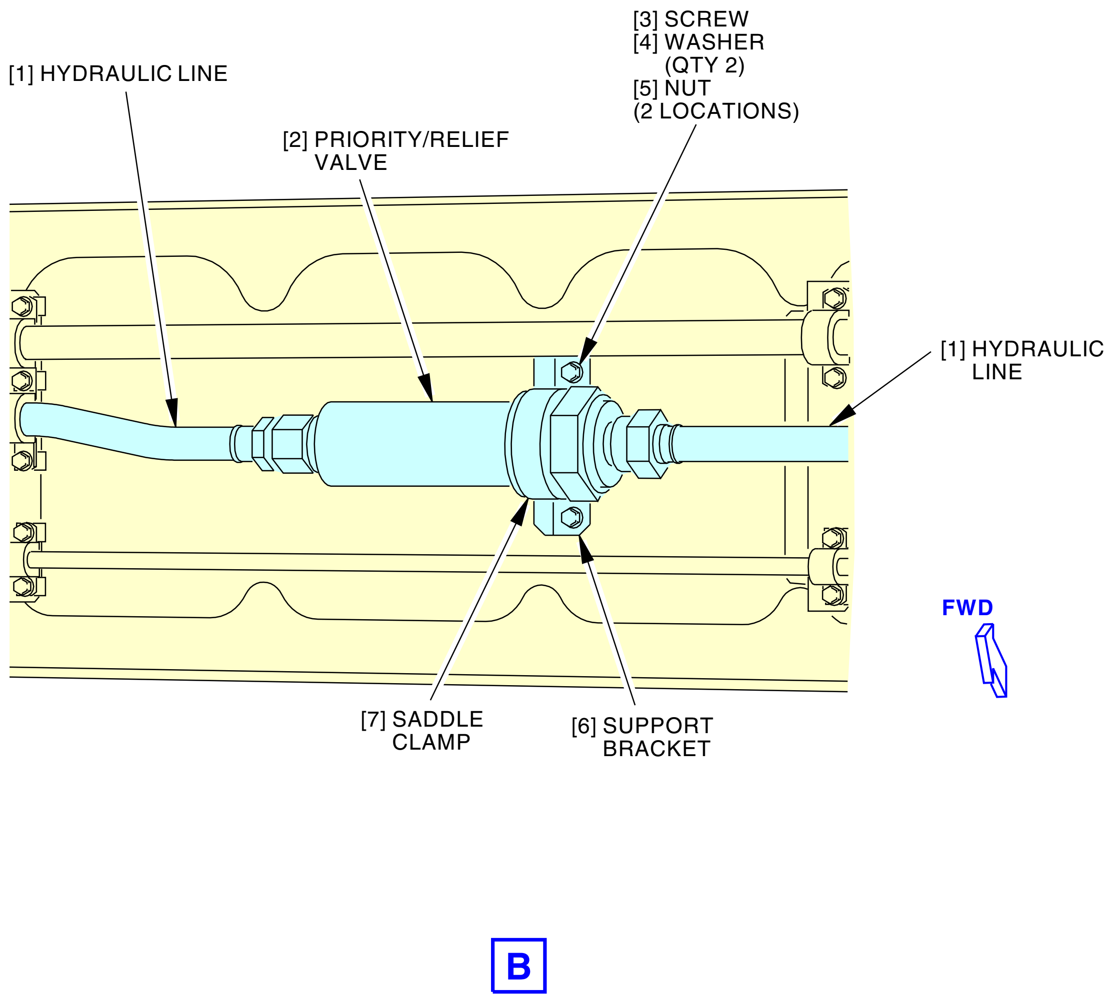
Main Landing Gear Door Priority/Relief Valve Installation
Figure 401/32-32-17-990-801 (Sheet 1 of 2)



Main Landing Gear Door Priority/Relief Valve Installation
Figure 401/32-32-17-990-801 (Sheet 2 of 2)

TASK 32-32-17-420-801

3. Main Landing Gear Door Priority/Relief Valve Installation

(Figure 401)

A. References

Reference	Title
20-11-00-910-801	Standard Torque Values (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Valve	32-32-17-01-030	ARO ALL

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

E. Main Landing Gear Door Priority/Relief Valve Installation

SUBTASK 32-32-17-080-001

(1) Remove the caps from the hydraulic lines [1].

SUBTASK 32-32-17-420-001

(2) Put the priority/relief valve [2] into its position between the hydraulic lines [1].

SUBTASK 32-32-17-420-002

(3) Loosely connect the hydraulic lines [1] to the priority/relief valve [2].

SUBTASK 32-32-17-620-001

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(4) Apply the Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237 to these items:

(a) The saddle clamp [7], where it touches the support bracket [6].

(b) The screws [3].

(c) The washers [4].

(d) The nuts [5].

SUBTASK 32-32-17-420-003

(5) Install the washers [4] on the screws [3].

SUBTASK 32-32-17-420-004

(6) Put the saddle clamp [7] into its position on the priority/relief valve [2].

SUBTASK 32-32-17-420-005

(7) Put the screws [3] through the saddle clamp [7] and the support bracket [6].

SUBTASK 32-32-17-420-006

(8) Install washers [4] and nuts [5] on the screws [3] (TASK 20-11-00-910-801).

SUBTASK 32-32-17-420-007

(9) Tighten the connections between the hydraulic lines [1] and the priority/relief valve [2] to 900 ±45 in-lb (102 ±5 N·m).

F. Main Landing Gear Door Priority/Relief Valve Installation Test

NOTE: During this test, it is possible that the GEAR DISAGREE message will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the messages go away. The messages will go away automatically when you complete this test.

SUBTASK 32-32-17-080-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) For the applicable main landing gear door, do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-32-17-860-005

(2) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-17-860-006

(3) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-17-860-007

(4) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-17-860-008

WARNING: KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-17-860-009

(6) For the main landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

NOTE: This will close the applicable main landing gear door. The other main landing gear door will stay open.

SUBTASK 32-32-17-480-005

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(7) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-17-860-010

(8) Move the control lever for the landing gear to the UP position.

(a) Push the LOCK OVRD button to do this.

SUBTASK 32-32-17-210-001

(9) Make sure the applicable main landing gear door opens.

SUBTASK 32-32-17-860-011

(10) Move the control lever for the landing gear to the DN position.

SUBTASK 32-32-17-210-002

(11) Make sure the applicable main landing gear door closes.

SUBTASK 32-32-17-860-012

(12) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

NOTE: This will open the applicable main landing gear door.

SUBTASK 32-32-17-480-006

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(13) For the applicable main landing gear door, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-17-790-001

(14) Examine the priority/relief valve [2] for leaks.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-17-080-003

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-32-17-860-013

(2) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-32-17-860-014

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

MAIN LANDING GEAR HYDRAULIC FUSES - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the hydraulic fuses for the main landing gear

(2) An installation of the hydraulic fuses for main landing gear.

B. There are two fuses in each wing box for the main landing gear. One fuse is for the hydraulic tilt lines and the other is for the main landing gear hydraulic stow lines.

TASK 32-32-19-020-801

2. Main Landing Gear Hydraulic Fuses Removal

(Figure 401)

A. References

Reference	Title
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Fuse assembly	32-32-51-60B-845	ARO ALL
2	Fuse assembly	32-32-51-60B-845	ARO ALL

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

D. Prepare for the Removal

SUBTASK 32-32-19-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-19-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-19-860-001

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

E. Main Landing Gear Hydraulic Fuses Removal

NOTE: This procedure will remove one of the two hydraulic fuses for the main landing gear. You can use this procedure for either fuse.

SUBTASK 32-32-19-020-001

(1) Disconnect the hydraulic lines [3] from the fuse assembly [1] and fuse assembly [2].

SUBTASK 32-32-19-480-002

(2) Put caps or plugs in the ports of the fuse assembly [1] and fuse assembly [2].

SUBTASK 32-32-19-480-003

(3) Install caps on the hydraulic lines [3].

SUBTASK 32-32-19-020-002

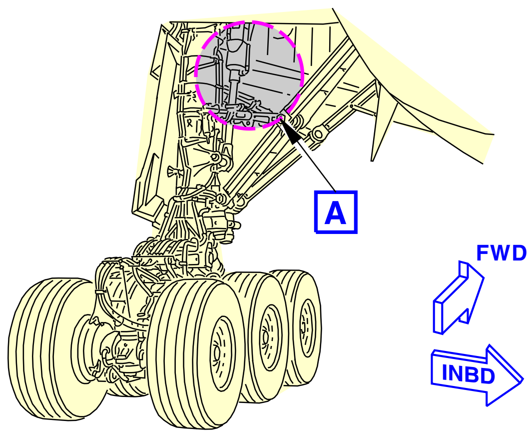
(4) Do the step below to remove the clamp block assembly from the fuse:

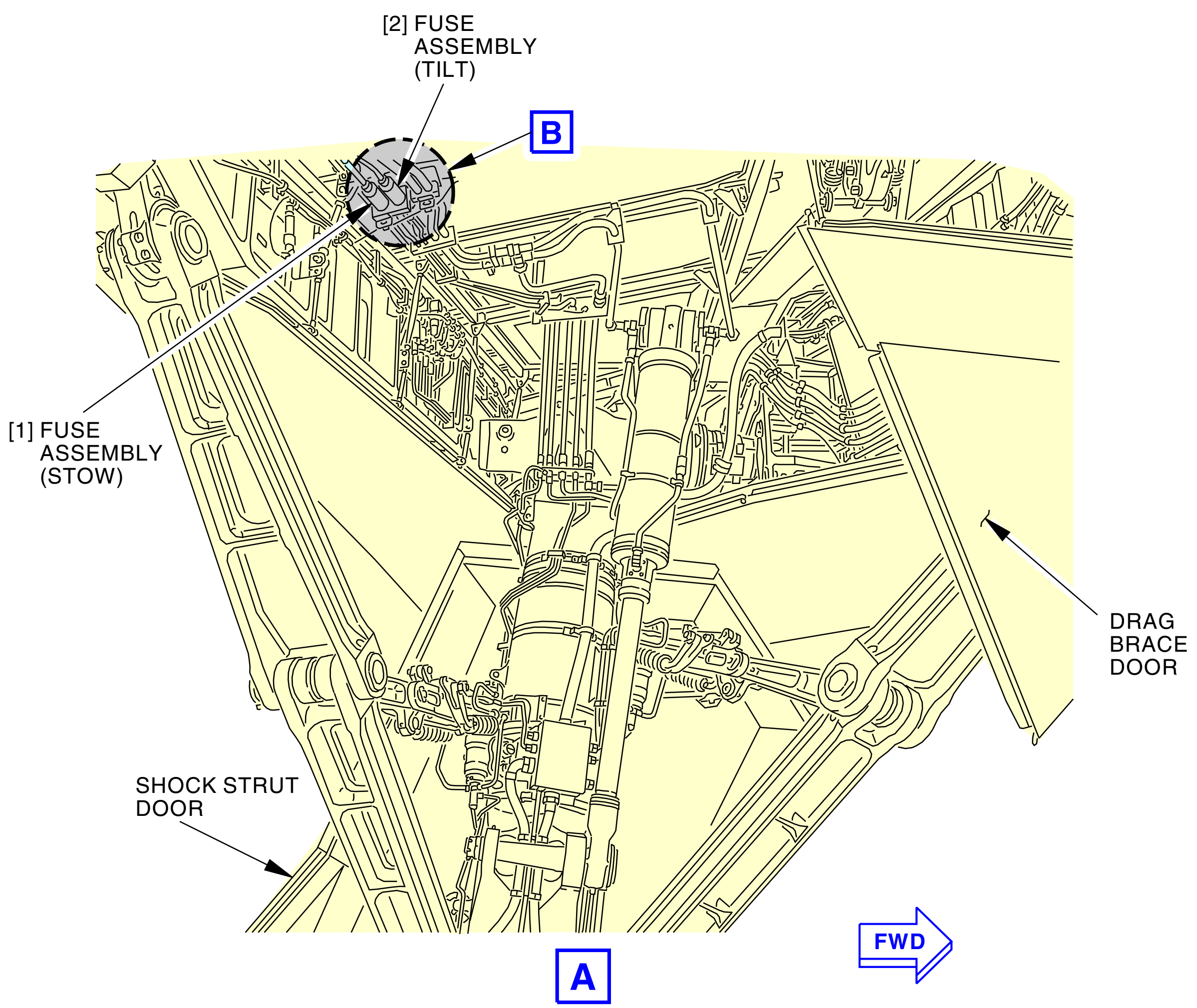
(a) Remove the screws [8], washers [7], bracket [9], upper clamp block [4], middle clamp block [5], lower clamp block [10], and spacers [6] to disconnect the fuse assembly [1] and fuse assembly [2].

SUBTASK 32-32-19-020-003

(5) Remove the fuse assembly [1] and fuse assembly [2] from the airplane.

———— END OF TASK ————





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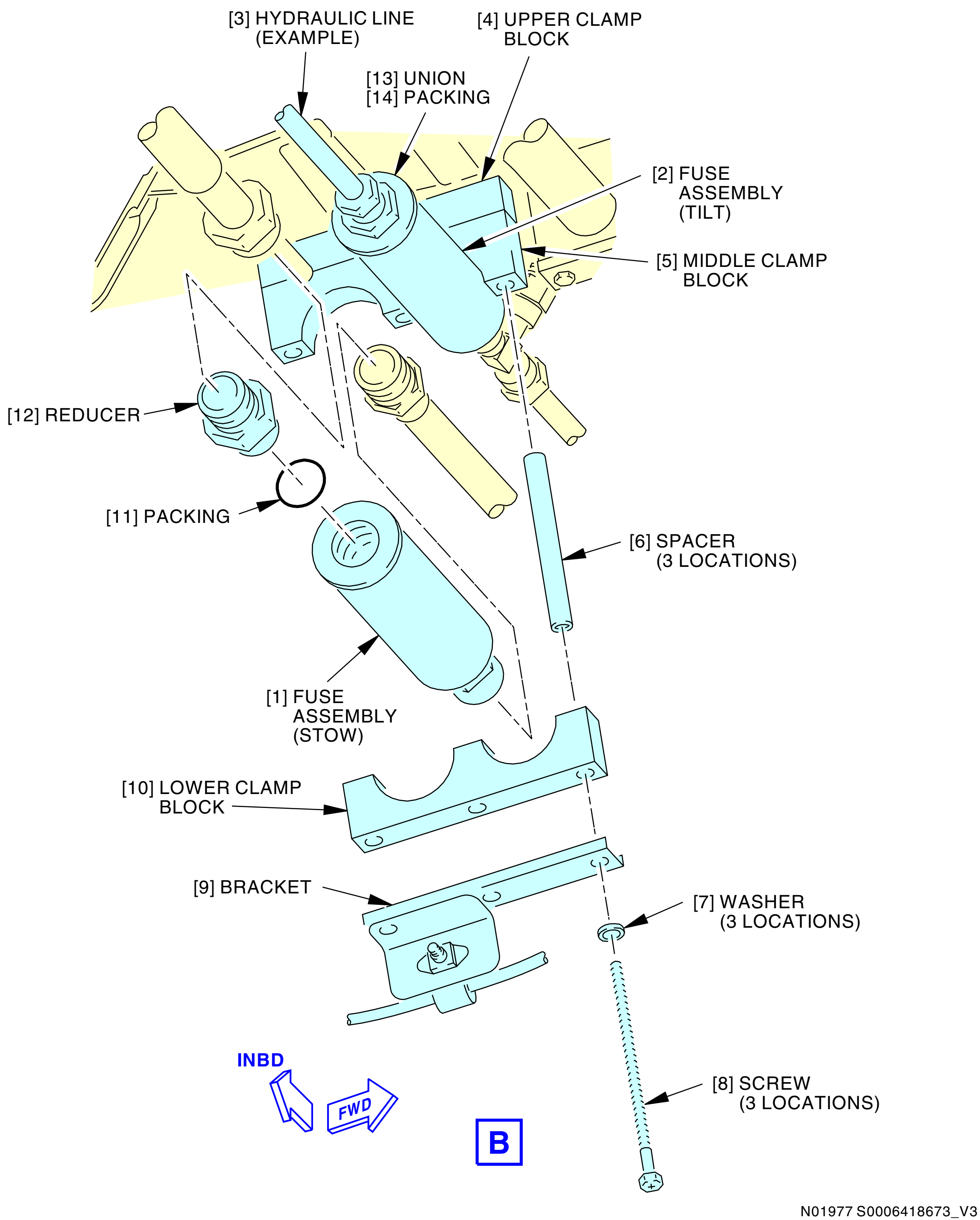
Main Landing Gear Hydraulic Fuses Installation
Figure 401/32-32-19-990-801 (Sheet 1 of 2)



Main Landing Gear Hydraulic Fuses Installation
Figure 401/32-32-19-990-801 (Sheet 2 of 2)

TASK 32-32-19-420-801

3. Main Landing Gear Hydraulic Fuses Installation

A. References

Reference	Title
12-12-01-610-801	Hydraulic Reservoir Fluid Level Check (P/B 301)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-32-25-420-801	Main Landing Gear (SLG) Hydraulic Strut Installation (P/B 401)

B. Consumable Materials

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Fuse assembly	32-32-51-60B-845	ARO ALL
2	Fuse assembly	32-32-51-60B-845	ARO ALL

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

E. Main Landing Gear Hydraulic Fuses Installation

SUBTASK 32-32-19-420-001

(1) If the replacement fuse assembly [1] or fuse assembly [2] does not have a reducer [12] or union [13] installed in the port, do these steps (Figure 401):

(a) Remove the reducer [12] or union [13] from the used fuse assembly [1] or fuse assembly [2].

(b) Remove the used packing [11] or packing [14] from the reducer [12] or union [13].

(c) Fully clean the reducer [12] or union [13].

(d) Lubricate the new packing [11] or packing [14] with hydraulic fluid, D00153.

(e) Install the new packing [11] or packing [14] on the reducer [12] or union [13].

(f) Lubricate the threads of the reducer [12] or union [13] with hydraulic fluid, D00153.

(g) Install the reducer [12] or union [13] in the new fuse assembly [1] or fuse assembly [2].

SUBTASK 32-32-19-080-002

(2) Remove the caps or plugs from the hydraulic lines [3].

SUBTASK 32-32-19-420-004

(3) Install the fuse assembly [1] and fuse assembly [2] on the hydraulic lines [3].

SUBTASK 32-32-19-420-002

(4) Do the steps below to install the clamp block:

(a) Install the upper clamp block [4], the middle clamp block [5], and the lower clamp block [10] on the fuse assembly [1], and the fuse assembly [2].

(b) Put the spacers [6] through the upper clamp block [4], the middle clamp block [5], and the lower clamp block [10].

(c) Install the bracket [9] on the lower clamp block [10].

(d) Install the washers [7] on the screws [8].

(e) Install the screws [8] through the bracket [9], the upper clamp block [4], the middle clamp block [5], and the lower clamp block [10].

SUBTASK 32-32-19-870-002

(5) Bleed air from the fuse assembly [1], fuse assembly [2], and the hydraulic strut [35] (Figure 402)

(a) Refer to the hydraulic strut [35] air bleed steps in Main Landing Gear (SLG) Hydraulic Strut Installation, TASK 32-32-25-420-801.

F. Main Landing Gear Hydraulic Fuse Installation Test

NOTE: If fuses set during this test, then reset them by depressurizing the hydraulic system below 5 PSIG (34 kPa) for at least one minute.

SUBTASK 32-32-19-860-002

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-19-480-004

(2) Make sure the downlock pins are installed in all the landing gear (TASK 32-00-30-480-801).

SUBTASK 32-32-19-480-005

(3) Make sure the door safety pins are installed for all of the landing gear doors (TASK 32-00-15-480-801).

SUBTASK 32-32-19-860-003

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-19-860-004

WARNING: KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-19-860-005

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(6) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

NOTE: Let the control lever stay in each position for 5-10 seconds.

SUBTASK 32-32-19-860-006

(7) Move the control lever for the landing gear to the DN position.

SUBTASK 32-32-19-750-001

(8) Examine the fuse assembly [1] and fuse assembly [2] for leaks.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-19-010-002

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

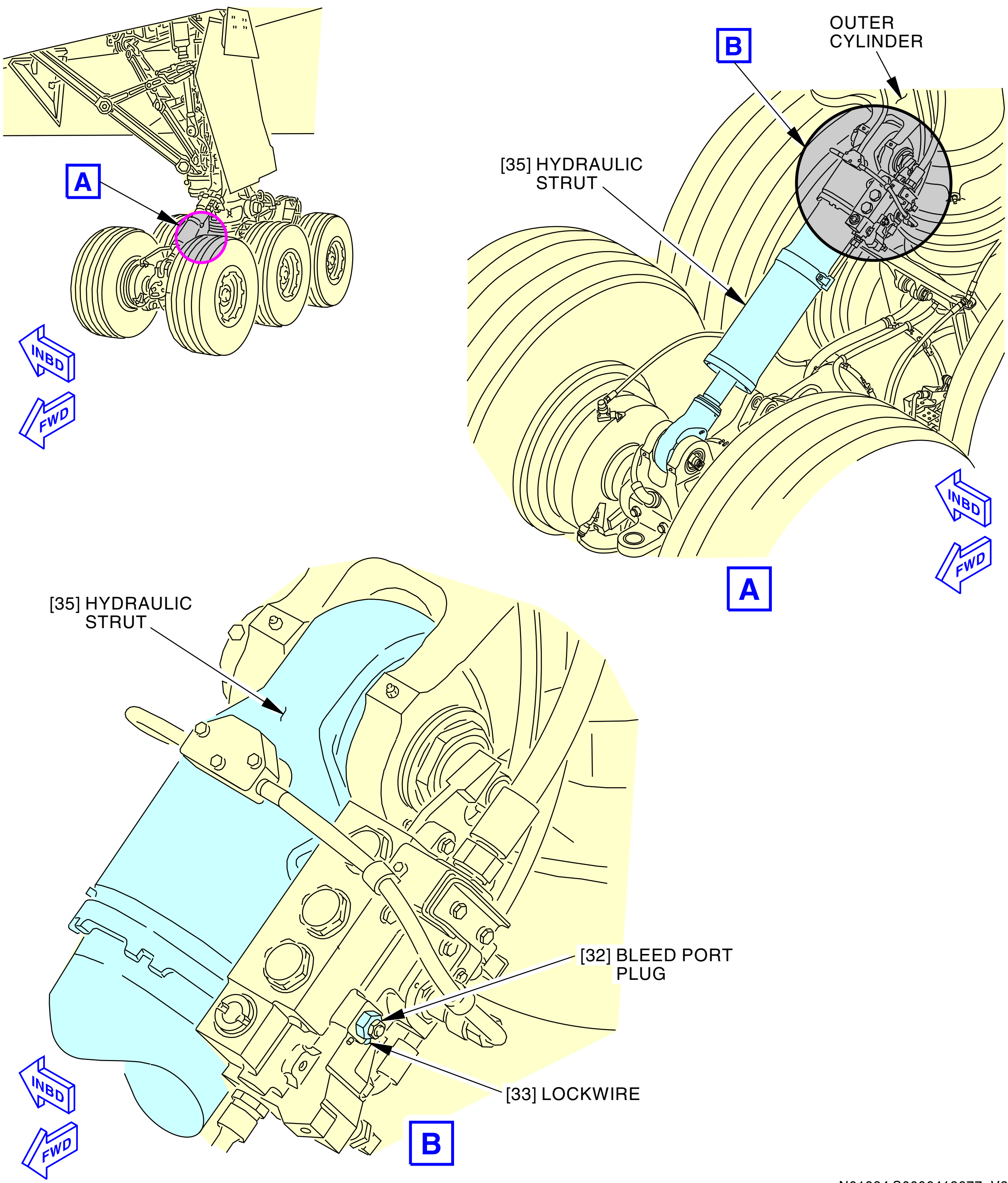
SUBTASK 32-32-19-860-007

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-32-19-610-001

(3) Make sure the fluid in the hydraulic reservoir is at the correct level, do this task: Hydraulic Reservoir Fluid Level Check, TASK 12-12-01-610-801.

END OF TASK



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Main Landing Gear Hydraulic Strut
Figure 402/32-32-19-990-803

MAIN LANDING GEAR UPLOCK SPRINGS - REMOVAL/INSTALLATION

1. **General**

A. This procedure has these tasks:

(1) A removal of the main landing gear uplock springs.

(2) An installation of the main landing gear uplock springs.

TASK 32-32-20-000-801

2. **Main Landing Gear Uplock Spring Removal**

(Figure 401)

A. General

(1) This procedure provides instructions to remove the uplock springs [2] for the main landing gear.

NOTE: The two uplock springs [2] for the main landing gear uplock will be removed together.

B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1872	Equipment - Removal/Installation, MLG and NLG Springs Part #: J32037-138 Supplier: 81205 Part #: J32037-139 Supplier: 81205 Opt Part #: J32037-120 Supplier: 81205 Opt Part #: J32037-122 Supplier: 81205 Opt Part #: J32037-123 Supplier: 81205

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

E. Prepare for the Removal

SUBTASK 32-32-20-480-001

WARNING

MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-20-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-20-860-001

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

F. Procedure

SUBTASK 32-32-20-020-001

WARNING	MAKE SURE YOU REMOVE THE TWO SPRINGS TOGETHER. IF YOU ONLY REMOVE THE SPRING FROM THE END OF THE BOLTS WITH THE NUTS, THE SPRING PIVOT BOLTS CAN DISENGAGE FROM THE UPLOCK HOOK AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Use the steps that follow to remove the uplock springs [2]:

(a) Install the spring removal tools, from MLG and NLG springs equipment, SPL-1872, on the uplock springs [2].

(b) Extend the uplock springs [2] a small amount to remove pressure from the pins [4].

(c) Remove the pin [8], the nut [7], and the washers [6] to disconnect the uplock springs [2] from the uplock hook [1].

(d) Remove the pin [8], the nut [7], the washers [6] to disconnect the other end of the uplock springs [2] from the link assembly [3].

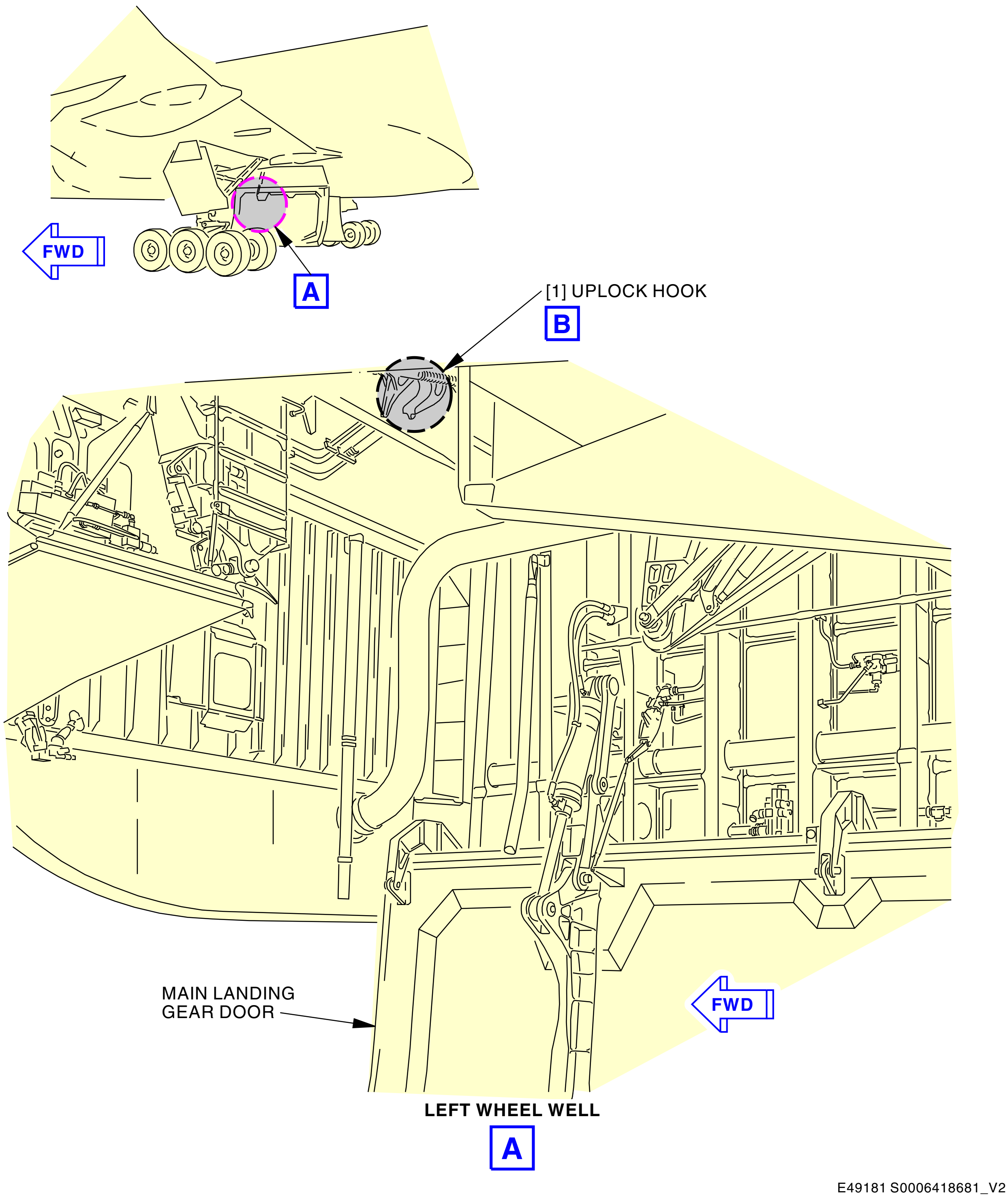
(e) Remove the pins [4] to disconnect the uplock springs [2] from the uplock assembly.

1) Make sure you catch the spacers [9], the spacers [11], the washers [6], and the bushings [5] that come loose when the pins [4] are removed.

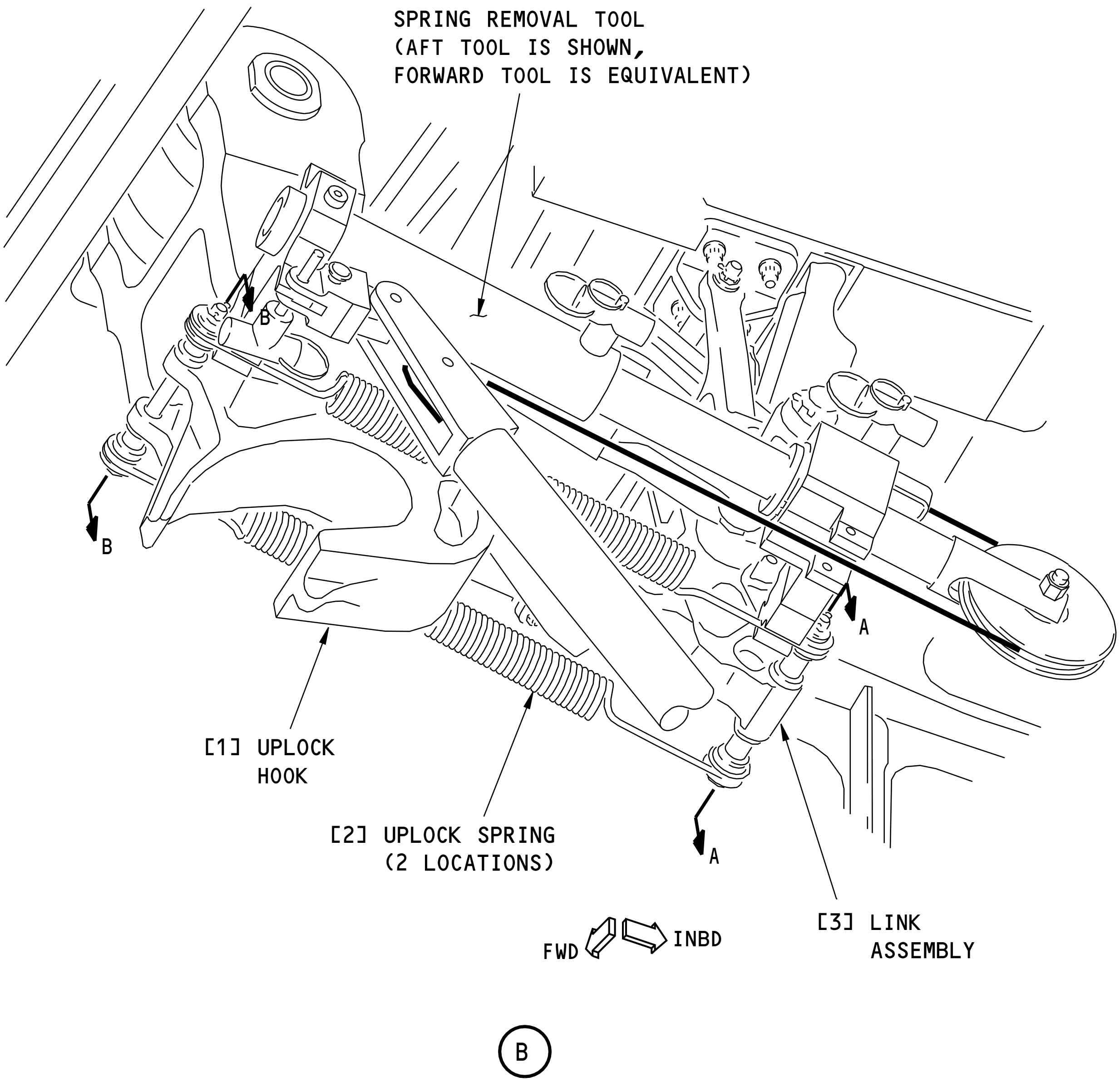
(f) Remove the spool assembly [10] from the spring.

(g) Remove the tension from the uplock springs [2] and remove the uplock springs [2] from the spring removal tools.

END OF TASK



Main Landing Gear Uplock Springs Installation
Figure 401/32-32-20-990-801 (Sheet 1 of 3)



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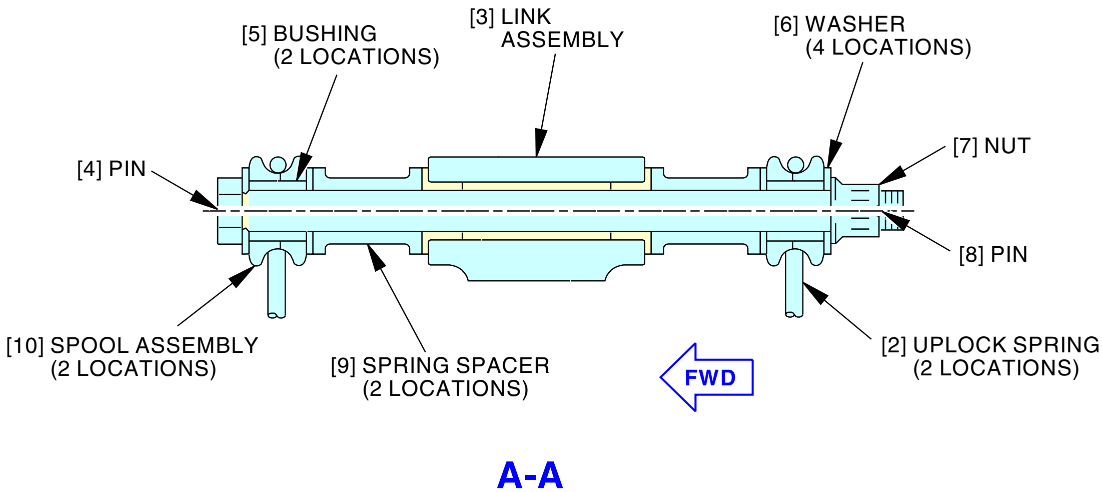
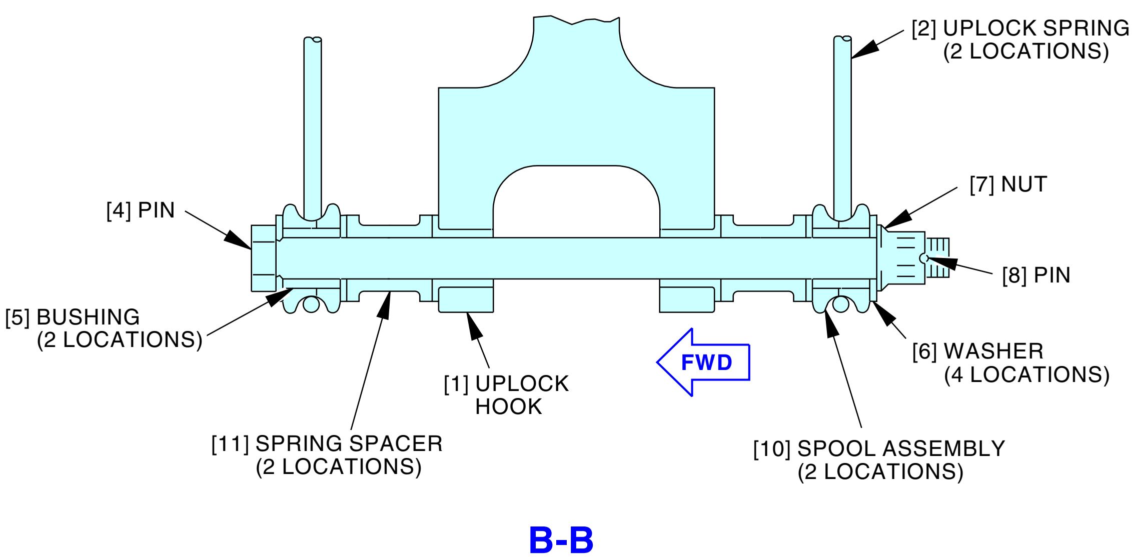
Main Landing Gear Uplock Springs Installation
Figure 401/32-32-20-990-801 (Sheet 2 of 3)





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Main Landing Gear Uplock Springs Installation
Figure 401/32-32-20-990-801 (Sheet 3 of 3)

TASK 32-32-20-400-801

3. Main Landing Gear UpLock Spring Installation

(Figure 401)

A. General

(1) This procedure provides instructions to install the uplock springs [2] for the main landing gear.

NOTE: The two uplock springs [2] for the main landing uplock must be installed together.

B. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

C. Consumable Materials

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Uplock spring	32-32-03-01A-060	ARO ALL
8	Pin	32-32-03-01A-010	ARO ALL

E. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

F. Install the Uplock Springs

SUBTASK 32-32-20-420-001

WARNING

MAKE SURE YOU INSTALL THE TWO SPRINGS TOGETHER. IF YOU DO NOT INSTALL THE SPRINGS TOGETHER, THE SPRING PIVOT BOLTS CAN DISENGAGE FROM THE UPLOCK HOOK AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

CAUTION

POINT THE LONGER HOOK END OUTBOARD WHEN YOU INSTALL THE SPRING. THE SPRING DOES NOT HAVE SYMMETRICAL LENGTH HOOKS ON THE ENDS. IF YOU INSTALL THE SPRING INCORRECTLY, DAMAGE TO THE SPRING CAN OCCUR.

(1) Do the steps that follow to install the uplock springs [2]:

(a) Lubricate the chromed surfaces of the pins [4] with grease, D00013 or grease, D00633.

(b) Put the uplock springs [2] in the spring removal tools such that they will be installed as shown in (Figure 401).

(c) Put one of the washers [6] and one of the bushings [5] on each of the pins [4].

(d) Put the uplock springs [2] in their position in the uplock assembly with the longer hook outboard.

1) Install the springs with the hook ends up.

(e) Use the spring removal tools to align the spool assemblies [10] in the ends of the uplock springs [2] with the holes in the uplock hook [1] and link assembly [3].

(f) Install the pins [4] through the spool assemblies [10] on one of the uplock springs [2] such that you can install the first set of spacer [9] and spacer [11].

(g) Install one of the washers [6] and one of the spacer [9] and spacer [11] in their positions on each of the pins [4].

(h) Push the pins [4] through the uplock hook [1] and link assembly [3] such that you can install the second set of spacer [9] and spacer [11].

(i) Install the spacer [9] and spacer [11] and one of the washers [6] in their positions on each of the pins [4].

(j) Push the pins [4] completely through the spool assemblies [10] on the other uplock springs [2].

(k) Install the bushings [5], the washers [6], and the nuts [7] on the pins [4].

(l) Remove the spring removal tools.

(m) Tighten the nuts [7] to 75 in-lb (8.5 N·m) - 150 in-lb (16.9 N·m).

(n) Loosen the nuts [7] to the nearest castellation and install the pins [8].

1) Make sure the uplock remains in the unlocked position.

G. Put the Airplane Back to its Usual Condition

SUBTASK 32-32-20-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

MAIN LANDING GEAR DOOR UPLOCK SPRINGS - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the main landing gear door uplock spring.

(2) An installation of the main landing gear door uplock spring.

TASK 32-32-21-000-801

2. Main Landing Gear Door Uplock Spring Removal

(Figure 401)

A. General

(1) This procedure provides instructions to remove the uplock springs for the main landing gear door.

(2) This procedure removes the springs together, as a pair.

B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

D. Prepare for the Removal

SUBTASK 32-32-21-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-21-860-002

(2) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-32-21-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-21-860-001

(4) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

E. Procedure

ARO 001-013 PRE SB 777-32-0105

SUBTASK 32-32-21-020-001

(1) Use the steps that follow to remove the springs [1]:

> **CAUTION**
> DO NOT EXTEND THE SPRING MORE THAN 10 INCHES. IF YOU EXTEND THE SPRING MORE THAN 10 INCHES, DAMAGE TO THE SPRING WILL OCCUR.

(a) Put a rope or rag on a hook of the spring [1].

NOTE: Do not use tools that could nick or damage the springs [1] during removal.

(b) Pull on the rope or rag to extend the spring [1] and remove the hook from one of the spools.

NOTE: This operation uses approximately 30.0 lb (13.6 kg) of pull.

(c) Remove the spring [1] from the other spool.

1) Make sure you do not extend the spring more than 10.0 in. (254.0 mm) when you remove the spring. if the spring is extended more than 10.0 in. (254.0 mm) you must replace it.

(d) Remove the spring retainer cord.

(e) Do the procedure for the other spring [1].

ARO 014-999; ARO 001-013 POST SB 777-32-0105

SUBTASK 32-32-21-020-002

(2) Use the steps that follow to remove the springs [1]:

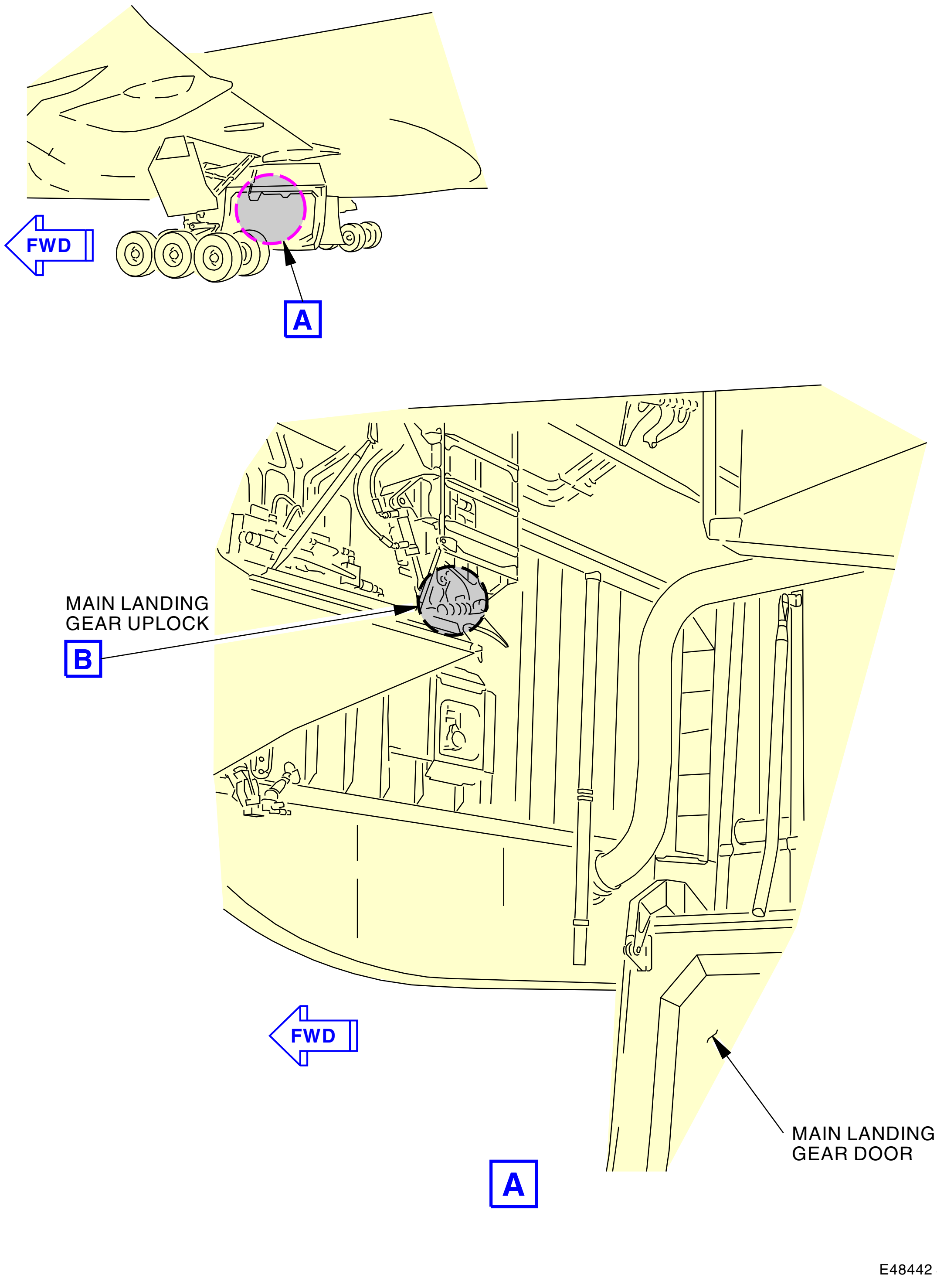
(a) Remove the cotter pin [2] and cotter pin [14].

(b) Remove the nut [3], washer [4], washer [5], spacer [6], washer [7], washer [8], spacer [9], washer [10], washer [11], washer [12], and bolt [13].

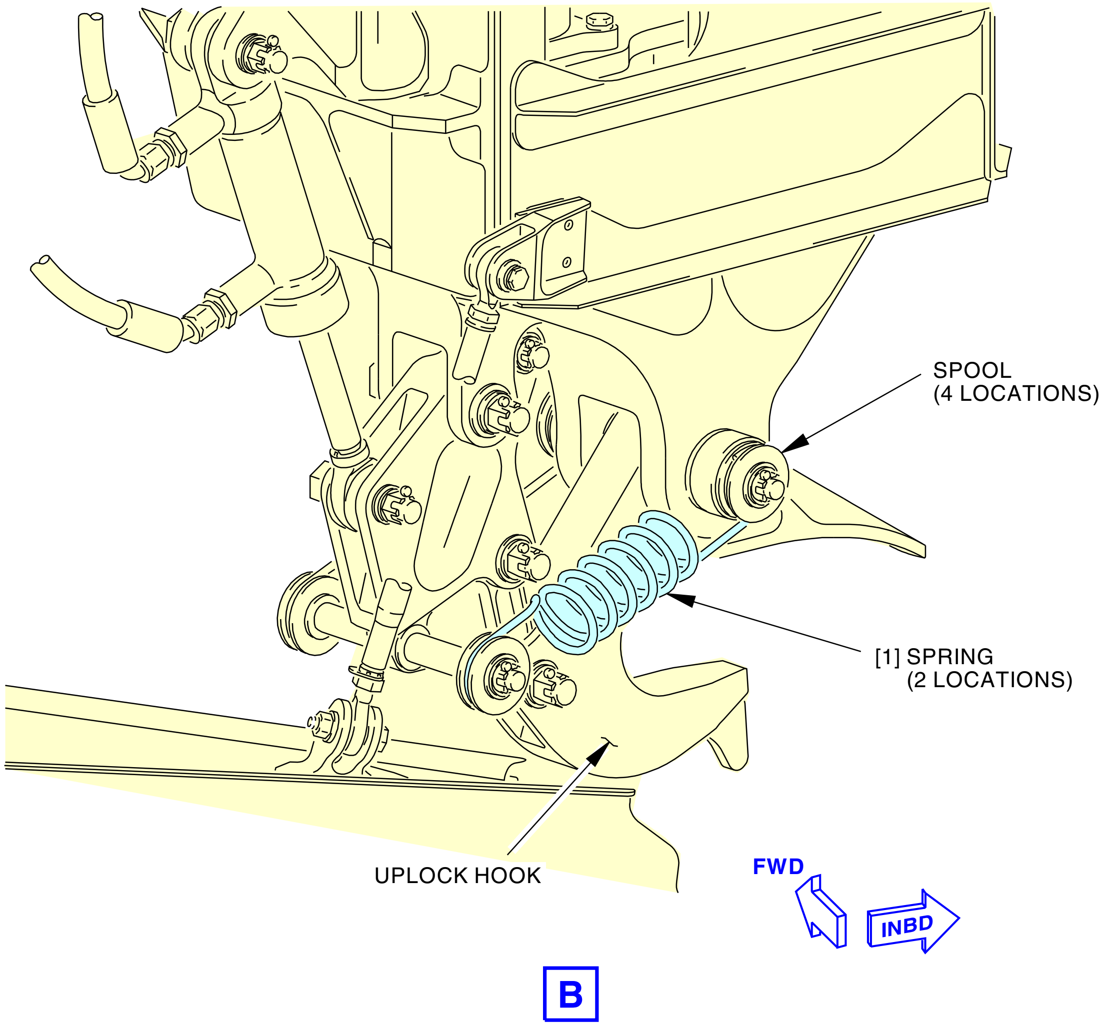
(c) Remove the nut [15], washer [16], spring [1], bushing [17], bushing [18], spring [1], washer [19], washer [20], and bolt [21].

ARO ALL

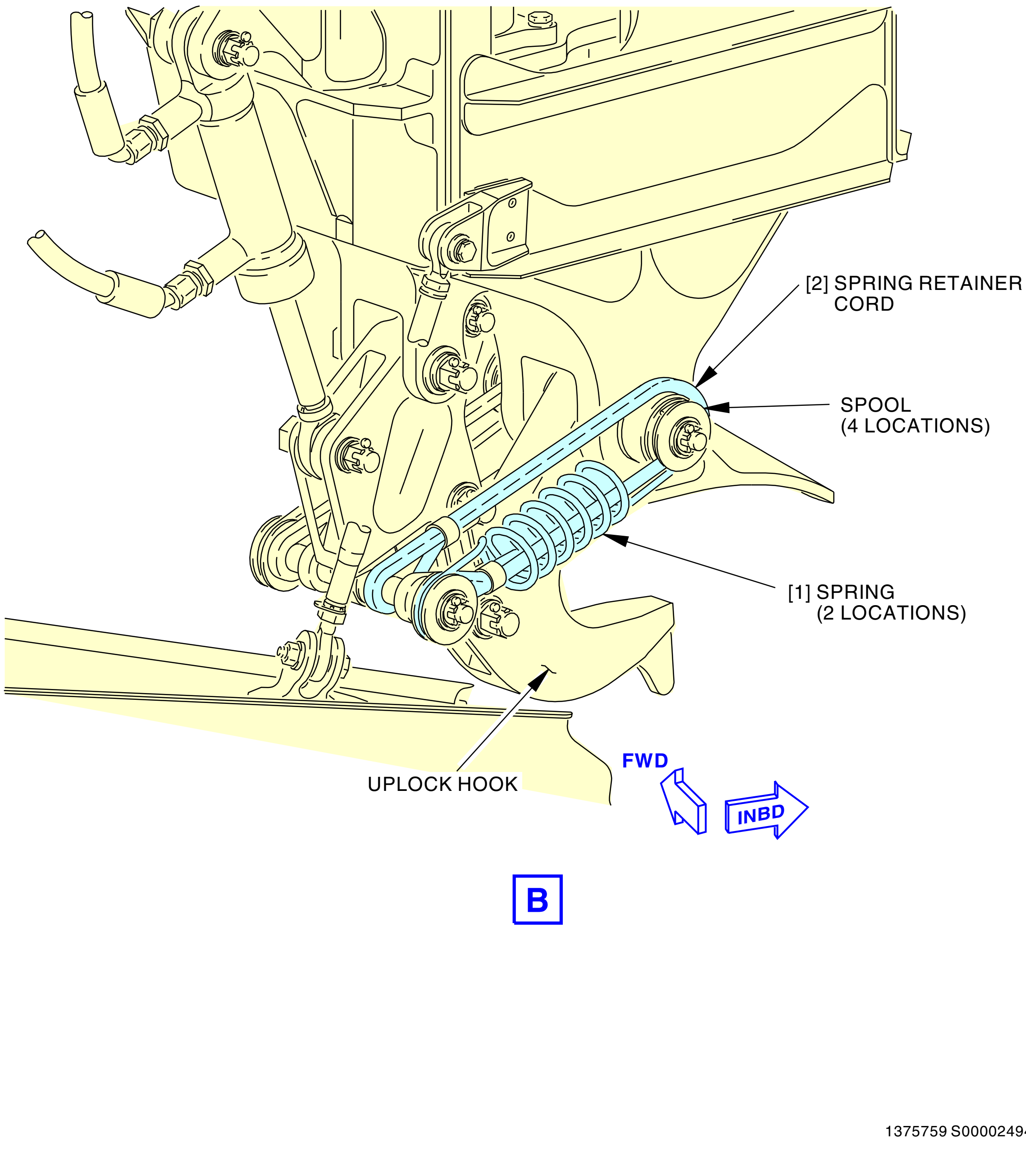
END OF TASK



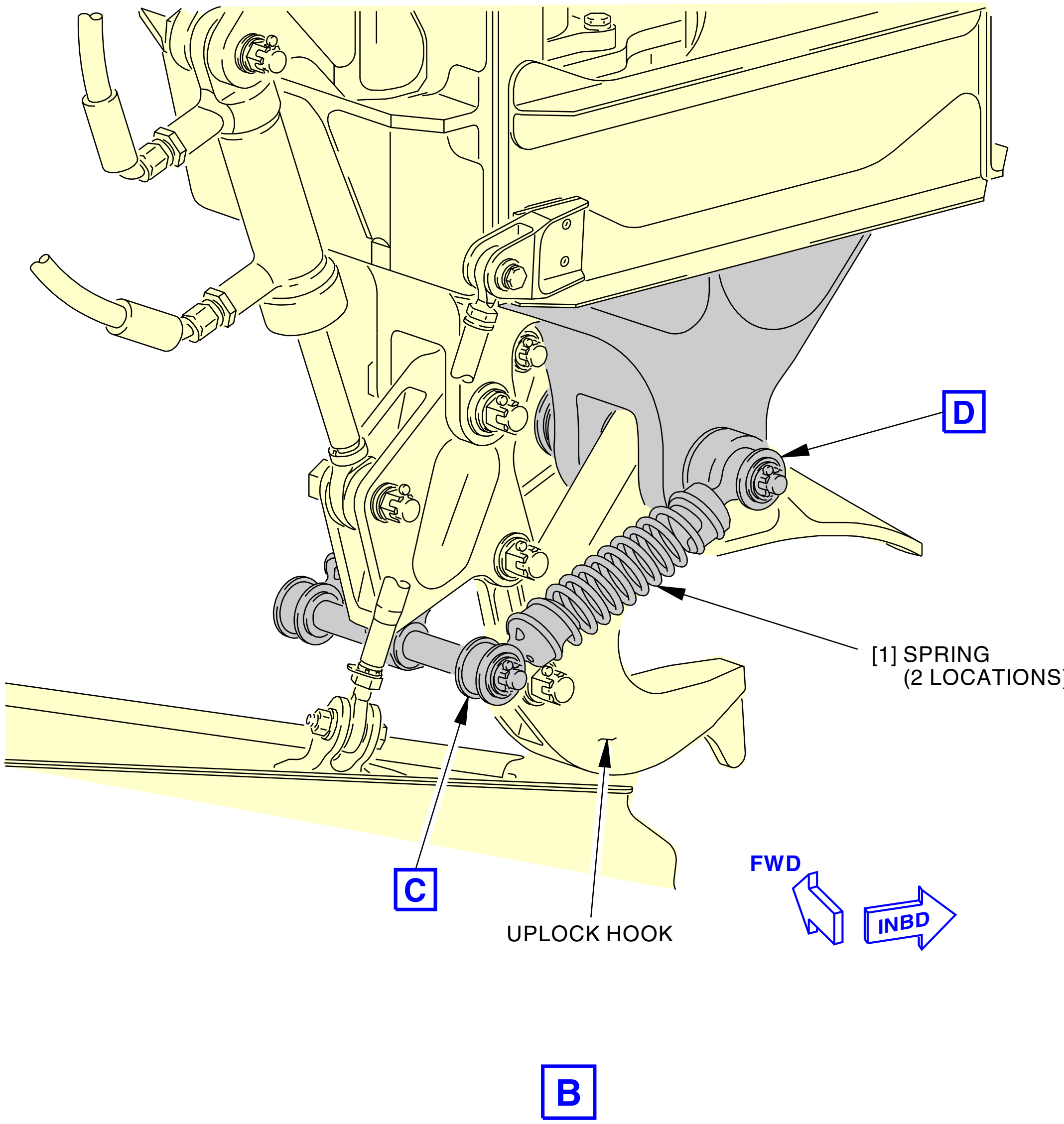
Main Landing Gear Door Uplock Springs Installation
Figure 401/32-32-21-990-801 (Sheet 1 of 5)



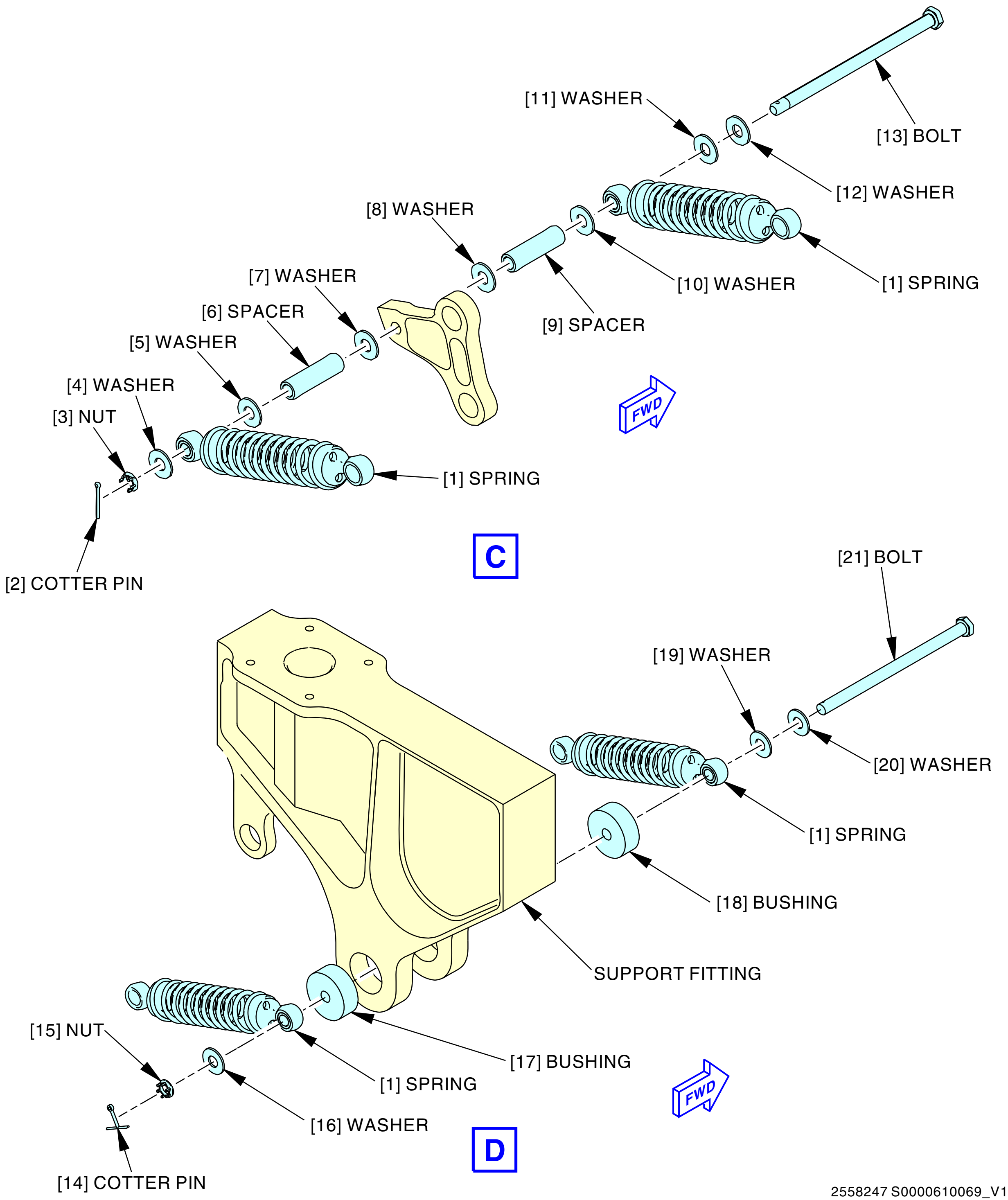
Main Landing Gear Door Uplock Springs Installation
Figure 401/32-32-21-990-801 (Sheet 2 of 5)



Main Landing Gear Door Uplock Springs Installation
Figure 401/32-32-21-990-801 (Sheet 3 of 5)



Main Landing Gear Door Uplock Springs Installation
Figure 401/32-32-21-990-801 (Sheet 4 of 5)



Main Landing Gear Door Uplock Springs Installation
Figure 401/32-32-21-990-801 (Sheet 5 of 5)

TASK 32-32-21-400-801

3. **Main Landing Gear Door UpLock Spring Installation**
(Figure 401)

A. **General**

(1) This procedure provides instructions to install the uplock spring for the main landing gear door.

(2) This procedure installs the springs together, as a pair.

B. **References**

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

C. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Spring	52-81-00-01-195	ARO 001-013
		52-81-00-01-198	ARO 014-017
2	Cotter pin	52-81-00-01-135	ARO 001-017
14	Cotter pin	52-81-00-01-220	ARO 001-013

D. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

E. **Procedure**

ARO 001-013 PRE SB 777-32-0105

SUBTASK 32-32-21-420-001

(1) Do the steps that follow to install the springs [1]:

NOTE: Refer to Figure 401 for the orientation of the spring during installation.

(a) Put one hook of the spring [1] on the inboard spool.

(b) Put one end of the spring retainer cord on the outboard spindle. pull the retainer cord over the inboard spindle, the through the spring and put the loose end of the retainer cord over the outboard spindle.

CAUTION

DO NOT EXTEND THE SPRING MORE THAN 10 INCHES. IF YOU EXTEND THE SPRING MORE THAN 10 INCHES, DAMAGE TO THE SPRING WILL OCCUR.

(c) Put a rope or rag on the other hook of the spring [1].

NOTE: Do not use tools that could nick or damage the springs [1] during installation.

(d) Pull on the rope or rag to extend the spring [1] and install the hook on the other spool.

NOTE: This operation uses approximately 30.0 lb (13.6 kg) of pull.

ARO 001-013 PRE SB 777-32-0105 (Continued)

1) Make sure you do not extend the spring more than 10.0 in. (254.0 mm) when you install the spring. If you extend the spring more than 10.0 in. (254.0 mm) you must replace it.

(e) Do the procedure for the other spring [1].

ARO 014-999; ARO 001-013 POST SB 777-32-0105

SUBTASK 32-32-21-420-002

(2) Use the steps that follow to install the springs [1]:

(a) Install the bolt [21], washer [20], washer [19], spring [1], bushing [18], bushing [17], spring [1], washer [16], and nut [15].

CAUTION DO NOT HOLD THE SPRING ASSEMBLY WHERE THE COIL AND END FITTING CONNECT WHEN EXTENDING THE SPRING. DAMAGE TO THE SPRING ASSEMBLY CAN OCCUR.

(b) Install the bolt [13], washer [12], washer [11], spring [1], washer [10], spacer [9], washer [8], washer [7], spacer [6], washer [5], spring [1], washer [4], and nut [3].

1) Pull on the springs [1] to align them with the bolt [13] during installation.

NOTE: Do not use tools that could nick or damage the springs [1] during installation.

NOTE: This operation uses approximately 30.0 lb (13.6 kg) of pull.

(c) Install the new cotter pin [2] and new cotter pin [14].

ARO ALL

F. Put the Airplane Back to its Usual Condition

SUBTASK 32-32-21-410-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-32-21-860-003

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-21-860-004

(3) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-21-860-005

(4) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-32-21-860-006

(5) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

MAIN LANDING GEAR TRUCK TILT PRESSURE TRANSDUCER - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) The removal of the transducer

(2) The installation of the transducer.

TASK 32-32-22-000-801

2. Main Landing Gear Truck Tilt Pressure Transducer - Removal

(Figure 401)

A. General

(1) This task provides instructions to remove the transducer

B. References

Reference	Title
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

D. Prepare for the Removal

SUBTASK 32-32-22-860-001

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-22-860-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-22-860-003

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-32-22-480-001

WARNING

MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-22-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(5) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

E. Main Landing Gear Truck Tilt Pressure Transducer - Removal

SUBTASK 32-32-22-010-002

(1) Disconnect the electrical connector from the transducer [4].

SUBTASK 32-32-22-010-003

(2) For the left side, remove the screws [1] and washers [2].

SUBTASK 32-32-22-010-004

(3) For the right side, remove the screws [5] and washers [2].

SUBTASK 32-32-22-010-005

(4) Remove the clamp [3].

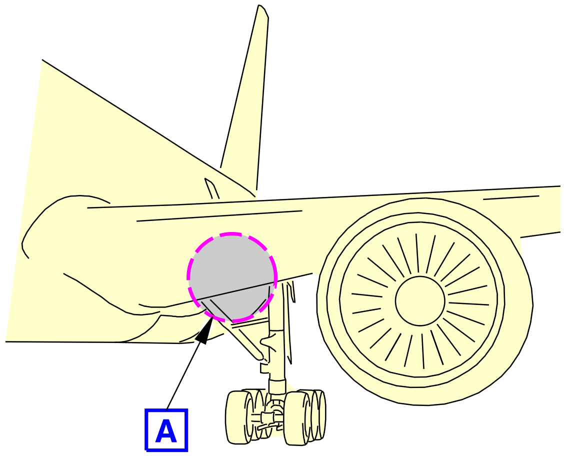
SUBTASK 32-32-22-020-001

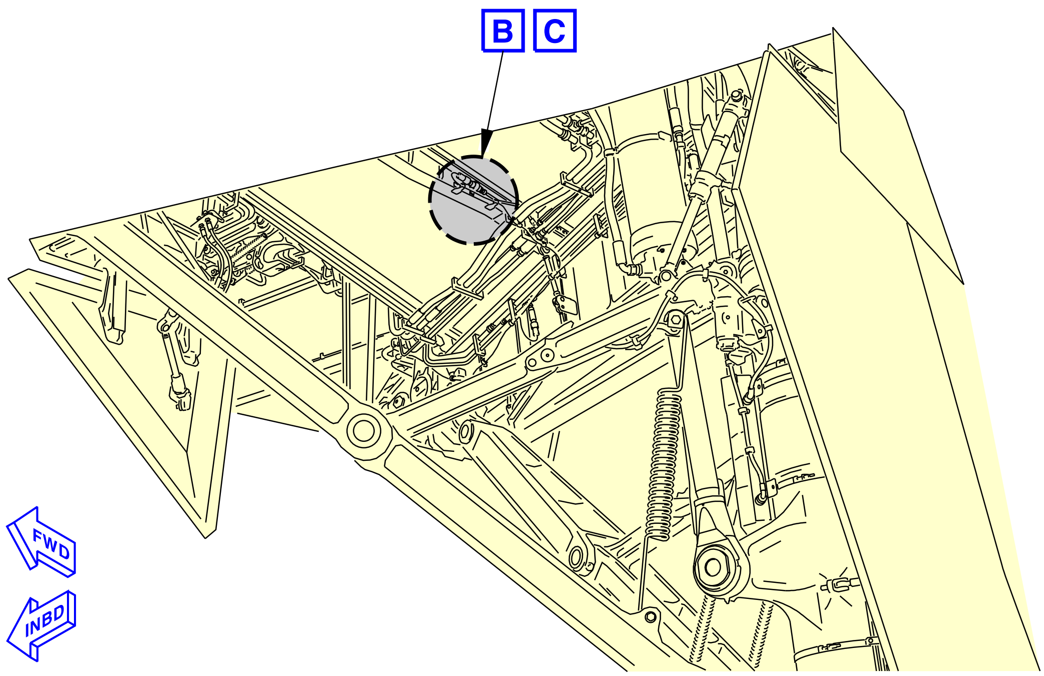
(5) Remove the transducer [4] from the hydraulic line.

SUBTASK 32-32-22-480-002

(6) Install a cap on the open hydraulic line.

END OF TASK

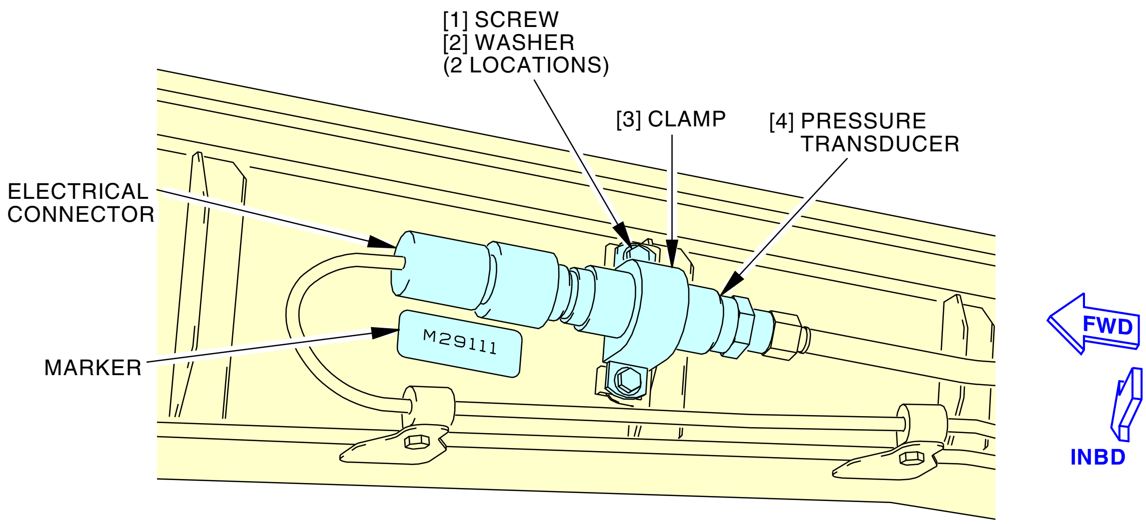




LOCATION OF PRESSURE TRANSDUCER
(LEFT SIDE IS SHOWN, RIGHT SIDE IS OPPOSITE)
A

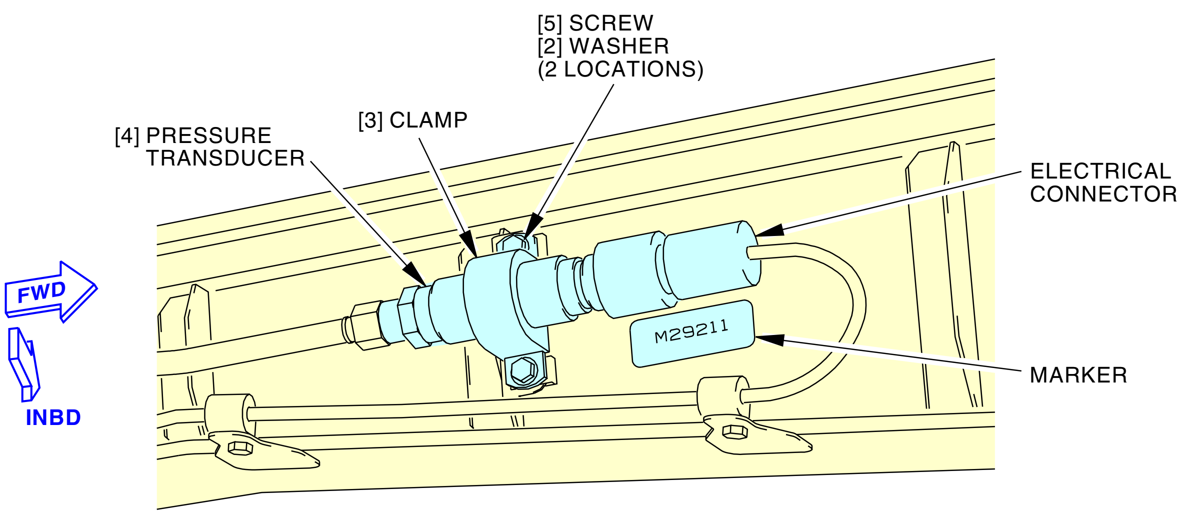
F21265 S0006418694_V2

Main Landing Gear Truck Tilt Pressure Transducer Installation
Figure 401/32-32-22-990-801 (Sheet 1 of 2)



PRESSURE TRANSDUCER ON THE LEFT SIDE

B



PRESSURE TRANSDUCER ON THE RIGHT SIDE

C

F21298 S0006418695_V2

Main Landing Gear Truck Tilt Pressure Transducer Installation
Figure 401/32-32-22-990-801 (Sheet 2 of 2)

TASK 32-32-22-400-801

3. Main Landing Gear Truck Tilt Pressure Transducer - Installation

(Figure 401)

A. General

(1) This task provides instructions to install the transducer

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
4	Transducer	29-31-01-01-065	ARO 001-017
		29-31-01-01-070	ARO ALL
		29-31-01-01-075	ARO ALL
		29-31-01-01B-010	ARO 016-999

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

E. Main Landing Gear Truck Tilt Pressure Transducer - Installation

SUBTASK 32-32-22-080-001

(1) Remove the cap from the hydraulic line.

SUBTASK 32-32-22-420-001

(2) Install the transducer [4] on the hydraulic line.

(a) Torque the transducer [4] to a maximum of 270 ±27 in-lb (31 ±4 N·m).

SUBTASK 32-32-22-410-001

(3) Install the clamp [3] on the transducer [4].

SUBTASK 32-32-22-410-002

(4) For the left side, install the washers [2] and the screws [1].

SUBTASK 32-32-22-410-003

(5) For the right side, install the washers [2] and the screws [5].

SUBTASK 32-32-22-410-005

(6) Connect the electrical connector to the transducer [4].

F. Main Landing Gear Truck Tilt Pressure Transducer Installation Test

SUBTASK 32-32-22-860-004

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-22-480-003

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-22-010-006

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-22-860-005

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-22-860-006

(5) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-22-860-007

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(6) Pressurize the center hydraulic system to 2800 psig (19,305 kPa)-3150 psig (21,718 kPa) (TASK 29-11-00-860-801).

SUBTASK 32-32-22-710-001

(7) Do these steps to do a test of the main landing gear truck tilt pressure transducer:

(a) Select the LANDING GEAR ACTN/INDN maintenance page (TASK 31-61-00-800-804).

(b) Make sure the L TRUCK TILT and the R TRUCK TILT pressures under the HYD PRESSURE field indicates 2800 psig (19,305 kPa)-3150 psig (21,718 kPa).

(c) Make sure there is no hydraulic fluid leakage at the transducer [4].

(d) Move the landing gear control lever to the UP position, using the ground lock override button.

(e) Make sure the L TRUCK TILT and the R TRUCK TILT pressures under the HYD PRESSURE field indicates below 200 psig (1379 kPa).

(f) Move the landing gear control lever to the DOWN position.

SUBTASK 32-32-22-860-008

(8) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

G. Put the Airplane Back to its Usual Condition

SUBTASK 32-32-22-410-004

WARNING

OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the landing gear doors are open, do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

MAIN LANDING GEAR UPLOCK HOOK - REMOVAL/INSTALLATION

1. **General**
   - A. This procedure has two tasks:
     - (1) A removal of the uplock hook for the main landing gear
     - (2) An installation of the uplock hook for the main landing gear.
   - B. The illustrations in this procedure show the uplock hook for the left main landing gear. This procedure is also applicable to the uplock hook for the right main landing gear.

TASK 32-32-23-020-801

2. **Main Landing Gear Uplock Hook Removal**
   (Figure 401)

   A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)
32-32-20-000-801	Main Landing Gear Uplock Spring Removal (P/B 401)
32-35-03-000-801	Alternate Uplock Release Actuator Removal (P/B 401)

   B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

   C. Prepare for the Removal

   SUBTASK 32-32-23-860-001

   (1) Make sure the control lever for the landing gear is in the DN position.

   SUBTASK 32-32-23-860-002

   (2) Open these circuit breakers and install safety tags:

   Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

   SUBTASK 32-32-23-860-003

   (3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-32-23-480-001

> **WARNING** MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-23-480-002

(5) Install chocks around the tires of the main landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-32-23-860-004

(6) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-32-23-010-001

> **WARNING** OBEY THE INSTALLATION PROCEDURE FOR THE DOOR LOCKS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(7) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-23-020-001

(8) Do this task: Main Landing Gear Uplock Spring Removal, TASK 32-32-20-000-801.

SUBTASK 32-32-23-020-002

(9) Do this task: Alternate Uplock Release Actuator Removal, TASK 32-35-03-000-801.

D. Main Landing Gear Uplock Hook Removal

SUBTASK 32-32-23-020-003

(1) Do these steps to disconnect the uplock hook assembly [5] from the frame assembly [3]:

(a) Remove the cotter pin [1], the hook attachment nut [6] and the washer [2] from the hook attachment pin [4].

(b) Remove the hook attachment pin [4] to disconnect the uplock hook assembly [5] from the frame assembly [3].

SUBTASK 32-32-23-020-004

(2) Do these steps to disconnect the uplock hook assembly [5] from the lower link assembly [8]:

(a) Remove the cotter pin [10], the nut [11] and the washer [9] from the lower link pin [7].

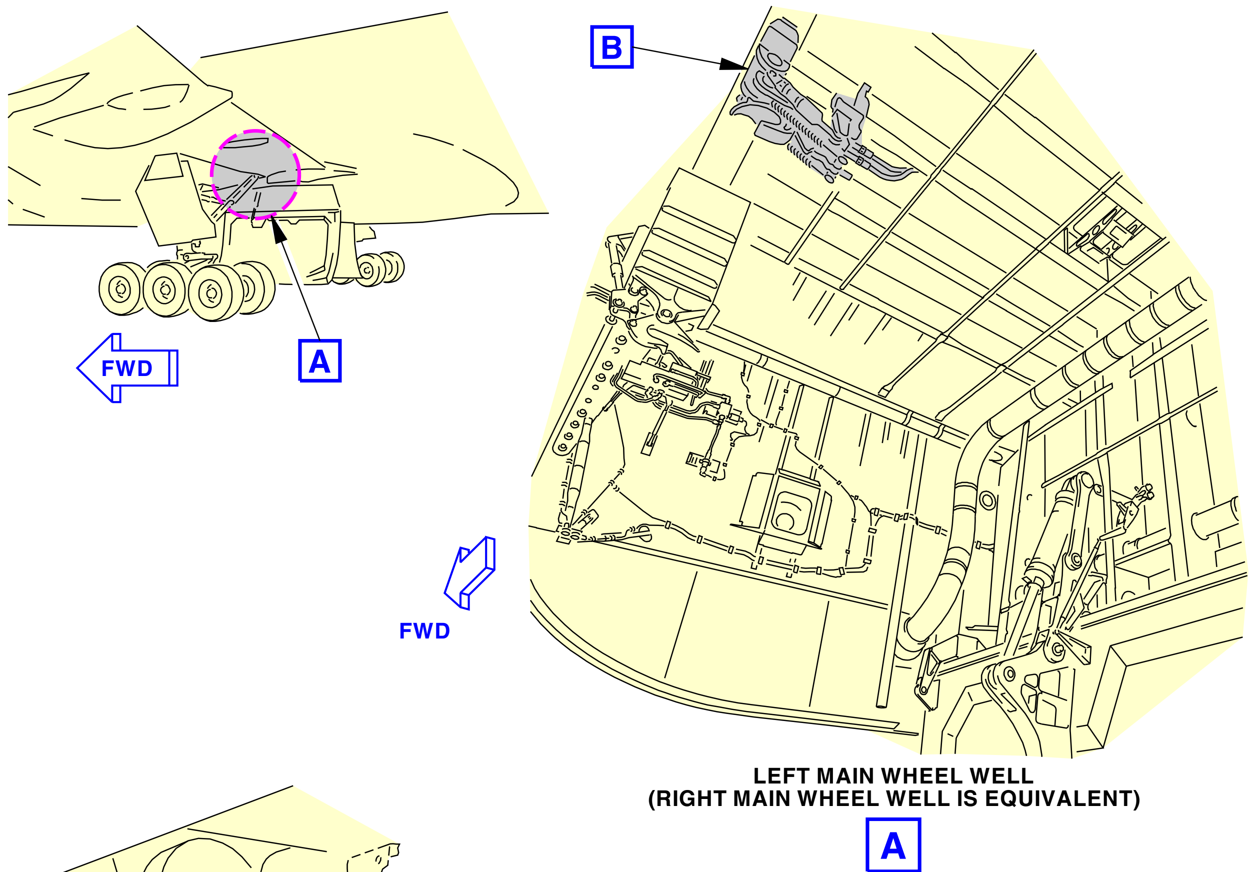
(b) Remove the lower link pin [7] to disconnect the uplock hook assembly [5] from the lower link assembly [8].

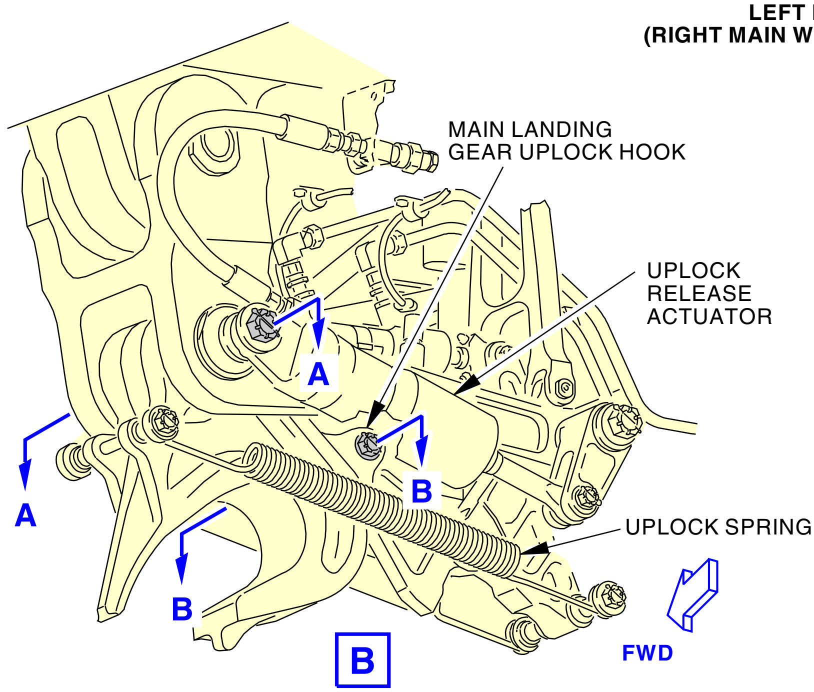
(c) Remove the washer [12] from the lower link pin [7].

SUBTASK 32-32-23-020-005

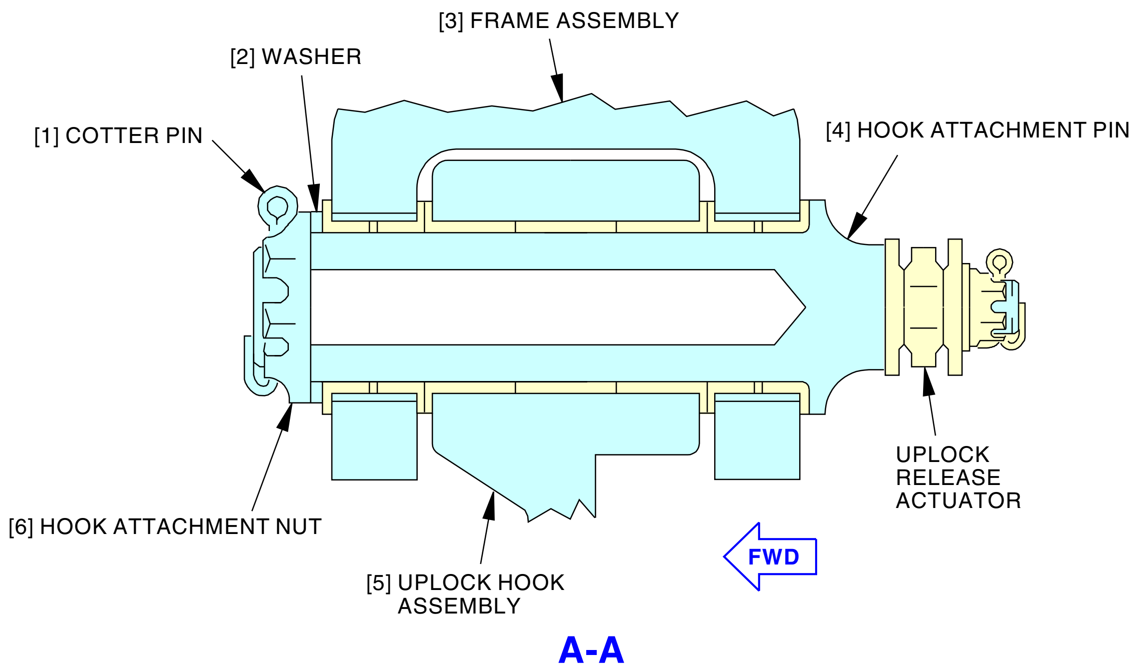
(3) Remove the uplock hook assembly [5] from the uplock assembly.

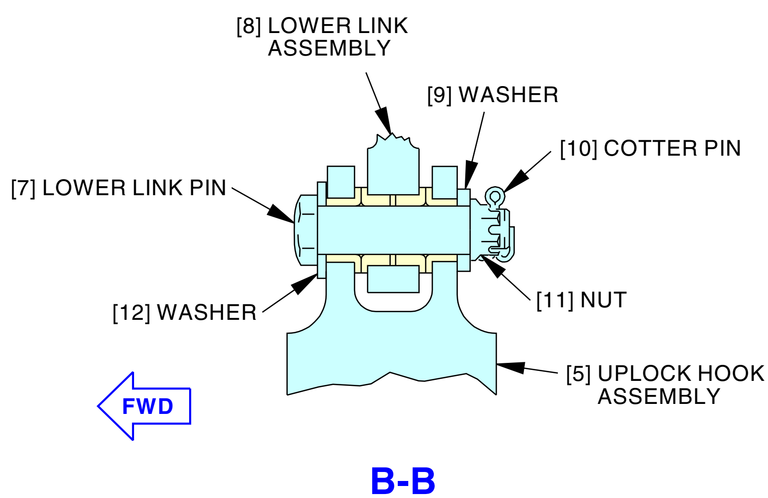
——— END OF TASK ———





Main Landing Gear Uplock Hook Installation
Figure 401/32-32-23-990-801 (Sheet 1 of 2)





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Main Landing Gear Uplock Hook Installation
Figure 401/32-32-23-990-801 (Sheet 2 of 2)

TASK 32-32-23-420-801

3. Main Landing Gear Uplock Hook Installation

(Figure 401)

A. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-32-20-400-801	Main Landing Gear UpLock Spring Installation (P/B 401)
32-35-03-400-801	Alternate Uplock Release Actuator Installation (P/B 401)

B. Consumable Materials

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Prepare for the Installation

SUBTASK 32-32-23-480-003

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

E. Main Landing Gear Uplock Hook Installation

SUBTASK 32-32-23-640-001

(1) Apply grease, D00013 or grease, D00633, to the chrome plated surfaces of the hook attachment pin [4] and the lower link pin [7].

SUBTASK 32-32-23-420-001

(2) Put the uplock hook assembly [5] in its position on the uplock assembly.

SUBTASK 32-32-23-420-002

(3) Do these steps to connect the uplock hook assembly [5] to the lower link assembly [8]:

(a) Install the washer [12] on the lower link pin [7].

(b) Put the lower link pin [7] through the uplock hook assembly [5] and the lower link assembly [8].

(c) Install the washer [9] and the nut [11] on the lower link pin [7].

(d) Tighten the nut [11] to 55.0 in-lb (6.2 N·m) to 100.0 in-lb (11.3 N·m).

(e) Install the cotter pin [10] in the nut [11] and the lower link pin [7].

NOTE: If it is necessary, loosen the nut [11] until you can install the cotter pin [10].

SUBTASK 32-32-23-420-003

(4) Do these steps to connect the uplock hook assembly [5] to the frame assembly [3]:

(a) Put the hook attachment pin [4] through the frame assembly [3] and the uplock hook assembly [5].

(b) Install the washer [2] and the hook attachment nut [6] on the hook attachment pin [4].

(c) Tighten the hook attachment nut [6] to 100.0 in-lb (11.3 N·m) to 300.0 in-lb (33.9 N·m).

(d) Install the cotter pin [1] in the hook attachment nut [6] and the hook attachment pin [4].

NOTE: If it is necessary, loosen the hook attachment nut [6] until you can install the cotter pin [1].

SUBTASK 32-32-23-420-004

(5) Do this task: Alternate Uplock Release Actuator Installation, TASK 32-35-03-400-801.

SUBTASK 32-32-23-420-005

(6) Do this task: Main Landing Gear UpLock Spring Installation, TASK 32-32-20-400-801.

SUBTASK 32-32-23-860-005

(7) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-23-410-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-32-23-860-006

(2) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-32-23-860-007

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

MAIN LANDING GEAR UPLOCK ASSEMBLY - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the uplock assembly for the main landing gear

(2) An installation of the uplock assembly for the main landing gear.

B. The illustrations in this procedure show the uplock assembly for the left main landing gear. This procedure is also applicable to the uplock assembly for the right main landing gear.

C. In this procedure the uplock assembly is called the main landing gear uplock assembly [9].

TASK 32-32-24-020-801

2. Main Landing Gear Uplock Assembly Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)
32-32-11-020-801	Sequence Valve Mechanism Removal (P/B 401)

B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

C. Prepare for the Removal

SUBTASK 32-32-24-860-001

(1) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-24-860-002

(2) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-32-24-480-001

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-24-480-002

(4) Install chocks around the tires of the main landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-32-24-860-003

(5) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-32-24-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

D. Main Landing Gear Uplock Assembly Removal

SUBTASK 32-32-24-020-001

(1) Disconnect the electrical connectors [6] from the up and locked sensors.

SUBTASK 32-32-24-020-002

(2) Install protective caps on electrical connectors [6] and the up and lock sensors.

SUBTASK 32-32-24-020-003

(3) Disconnect the hydraulic line [2], hydraulic line [4] and hydraulic line [5] from the main landindg gear uplock actuator [7] and the main landing gear alternate uplock release actuator [8].

SUBTASK 32-32-24-480-003

(4) Install caps on the hydraulic line [2], hydraulic line [4] and hydraulic line [5].

SUBTASK 32-32-24-020-004

(5) Disconnect the main landing gear uplock-operated sequence valve control rod from the uplock assembly [9], do this task: TASK 32-32-11-020-801.

SUBTASK 32-32-24-020-005

(6) Do the steps below to disconnect the main landing gear uplock assembly [9] from the outboard outboard uplock support fitting [1]:

(a) Remove the cotter pin [10], nut [11] and the washer [12] from the pin [13].

(b) Remove the pin [13] from uplock assembly [9] and the outboard uplock support fitting [1].

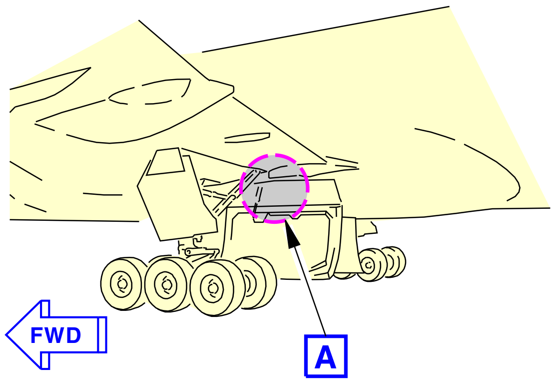
(c) Remove the cotter pin [14], nut [15], and the washer [16] from the hanger hanger pin [17].

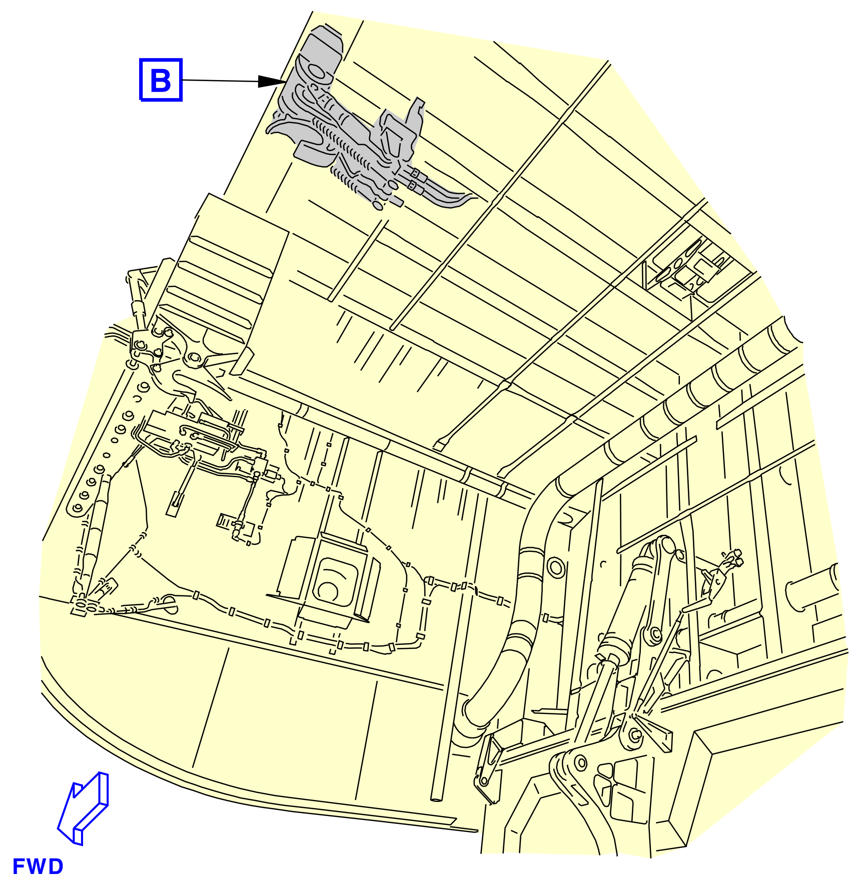
(d) Remove the hanger pin [17] from the inboard hanger assembly [18] and the outboard uplock support fitting [1].

SUBTASK 32-32-24-020-007

(7) Remove the main landing gear uplock assembly [9].

END OF TASK

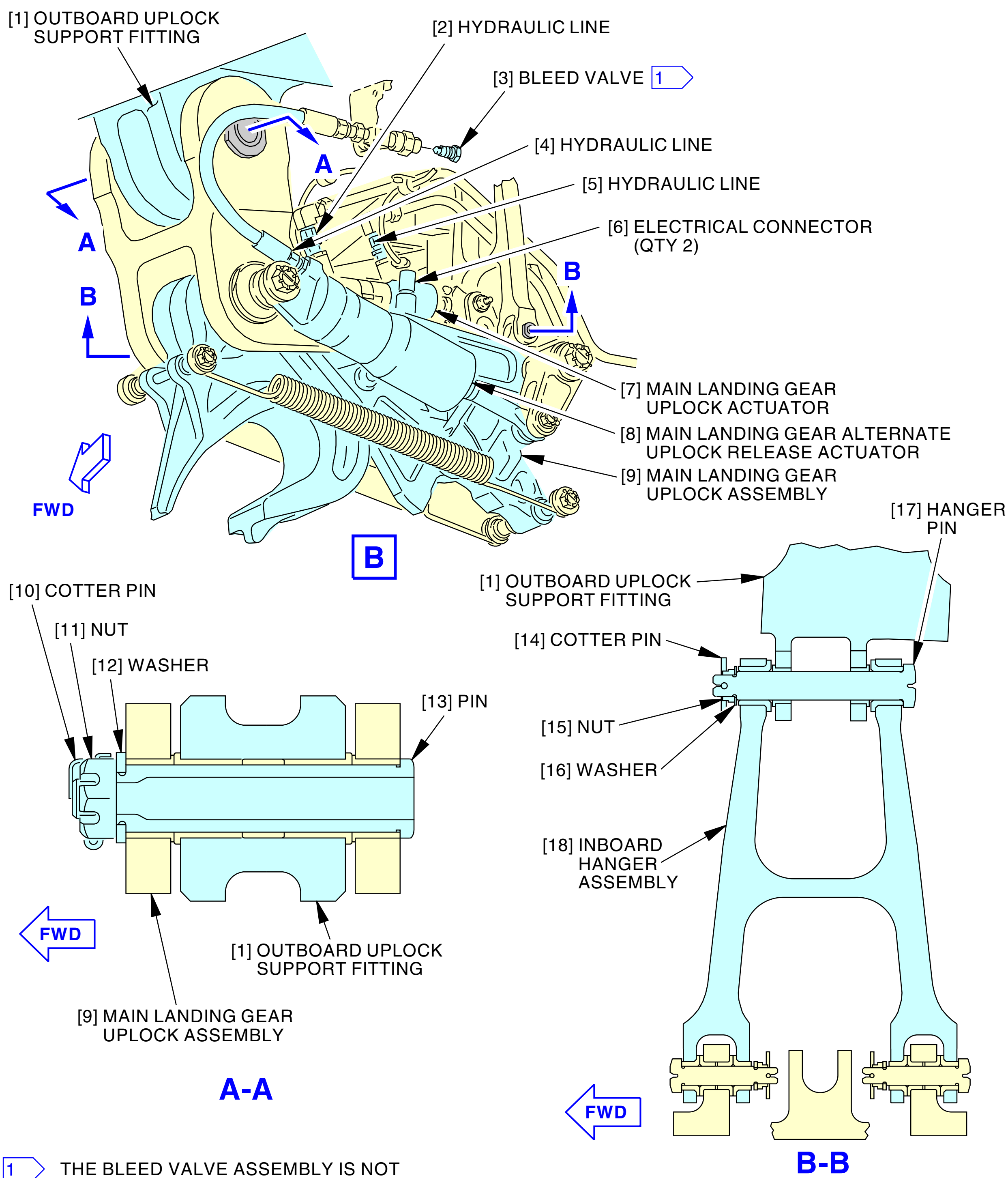




LEFT MAIN WHEEL WELL
(RIGHT MAIN WHEEL WELL IS EQUIVALENT)
A

L64662 S0006418706_V2

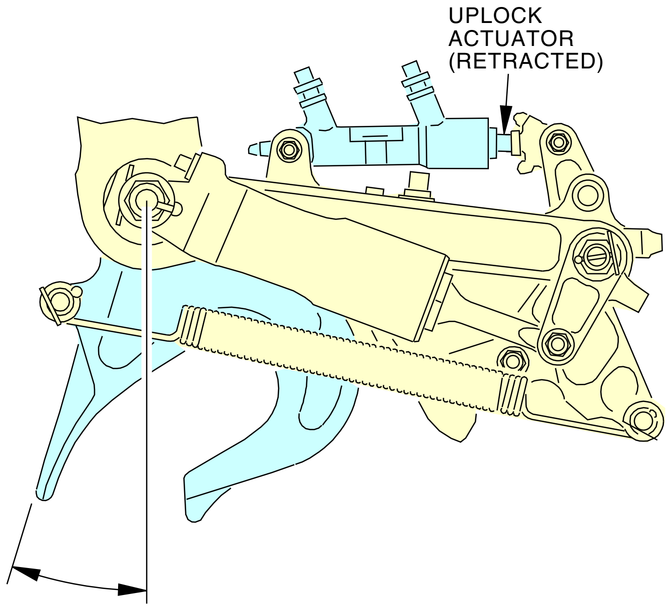
Main Landing Gear Uplock Assembly Installation
Figure 401/32-32-24-990-801 (Sheet 1 of 3)



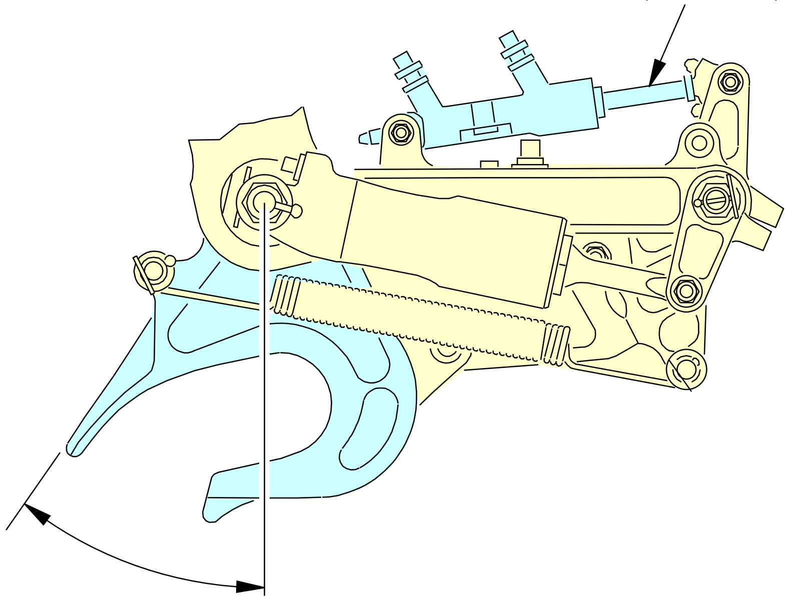
1 THE BLEED VALVE ASSEMBLY IS NOT INSTALLED ON ALL AIRPLANES.

L64892 S0006418707_V3

Main Landing Gear Uplock Assembly Installation
Figure 401/32-32-24-990-801 (Sheet 2 of 3)



UPLOCK HOOK POSITIONS
(UNLOCKED POSITION)



UPLOCK HOOK POSITIONS
(LOCKED POSITION)

L64740 S0006418708_V2

Main Landing Gear Uplock Assembly Installation
Figure 401/32-32-24-990-801 (Sheet 3 of 3)

TASK 32-32-24-420-801

3. Main Landing Gear Uplock Assembly Installation

(Figure 401)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-32-11-420-801	Sequence Valve Mechanism Installation (P/B 401)
32-35-03-400-801	Alternate Uplock Release Actuator Installation (P/B 401)
32-61-01-820-801	Measure and Adjust the Clearance for the Proximity Sensor on the Main Landing Gear (P/B 201)

B. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
9	Uplock assembly	32-32-00-01B-155	ARO ALL
10	Cotter pin	32-32-00-01B-115	ARO ALL
13	Pin	32-32-00-01B-120	ARO ALL
14	Cotter pin	32-32-00-01B-055	ARO ALL
17	Hanger pin	32-32-00-01B-065	ARO ALL

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

E. Main Landing Gear Uplock Assembly Installation

SUBTASK 32-32-24-420-002

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(1) Do the steps below to connect the main landing gear uplock assembly [9] to the outboard uplock support fitting [1]:

(a) Apply a thin layer of the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913, to washer [16] and the threads of hanger hanger pin [17] and nut [15].

(b) Put the hanger pin [17] through the inboard hanger assembly [18] and the outboard uplock support fitting [1].

(c) Install the washer [16] and the nut [15] on the hanger hanger pin [17].

(d) Tighten the nut [15] to 15 in-lb (2 N·m) - 25 in-lb (3 N·m) plus run-on torque.

(e) Loosen the nut [15] up to 1/6 turn if it is necessary to align the hole for the cotter pin [14].

(f) Install the cotter pin [14] in the nut [15] and the hanger hanger pin [17].

(g) Apply a thin layer of the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913, to the pin [13], threads and washer [12].

(h) Put the pin [13] through the main landing gear uplock assembly [9] and the outboard uplock support fitting [1].

(i) Install the washer [12] and the nut [11] on the pin [13].

(j) Tighten the nut [11] to 15 in-lb (2 N·m)-25 in-lb (3 N·m) plus run-on torque.

(k) Loosen nut [11] up to 1/6 turn if necessary to align the hole for cotter pin [10].

(l) Install cotter pin [10].

SUBTASK 32-32-24-420-003

(2) Connect the main landing gear uplock-operated sequence valve control rod to the uplock assembly [9], do this task: Sequence Valve Mechanism Installation, TASK 32-32-11-420-801.

SUBTASK 32-32-24-080-001

(3) Remove the caps from the hydraulic line [2], hydraulic line [4] and hydraulic line [5].

SUBTASK 32-32-24-420-004

(4) Connect the hydraulic line [2], hydraulic line [4] and hydraulic line [5] to the main landindg gear uplock actuator [7] and the main landing gear alternate uplock release actuator [8].

NOTE: Make sure that the elbows are connected to the hydraulic lines [2], [5].

(a) Tighten the B-nuts on the hydraulic line [2], hydraulic line [4] and hydraulic line [5] to 140 ±7 in-lb (16 ±1 N·m).

SUBTASK 32-32-24-420-005

(5) Connect electrical connectors [6] to the up and locked sensors.

SUBTASK 32-32-24-640-001

(6) Apply grease, D00013 or grease, D00633 to the lubrication fittings on the main landindg gear uplock actuator [7] and the uplock hook to lubricate the uplock actuator bearings and the uplock hook.

NOTE: The rod end bearing has two lubrication fittings. It is only necessary to apply the grease, D00013 or grease, D00633, to one of the lubrication fittings to lubricate the rod end bearing.

F. Main Landing Gear Uplock Assembly Installation Test

SUBTASK 32-32-24-860-004

(1) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-32-24-860-005

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-24-860-006

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-32-24-870-001

(4) Bleed the main landing gear alternate uplock release actuator [8] (TASK 32-35-03-400-801).

SUBTASK 32-32-24-790-001

(5) Examine the main landing gear uplock assembly [9] hydraulic connections for leaks.

SUBTASK 32-32-24-820-001

(6) Measure and adjust the up and locked sensors (TASK 32-61-01-820-801).

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-24-410-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-32-24-860-007

(2) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-32-24-860-008

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

MAIN LANDING GEAR (SLG) HYDRAULIC STRUT - REMOVAL/INSTALLATION

1. **General**
   A. The main landing gear with the hydraulic strut is also called the semi-levered main landing gear or semi-levered gear (SLG).
   B. This procedure has two tasks:
      (1) A removal of the hydraulic strut for the main landing gear
      (2) An installation of the hydraulic strut for the main landing gear.
   C. The illustrations in this procedure show the hydraulic strut for the left main landing gear. This procedure is also applicable to the hydraulic strut for the right main landing gear.
   D. The hydraulic strut weighs approximately 290 pounds (132 kg).

TASK 32-32-25-020-801

2. **Main Landing Gear (SLG) Hydraulic Strut Removal**
   (Figure 401 or Figure 402)

   A. **References**

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-11-01-990-811	Figure: Special Tools for Main Landing Gear Installation (P/B 401)

   B. **Tools/Equipment**

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1852	Sling - Actuator, MLG Part #: J32020-14 Supplier: 81205 Part #: J32020-15 Supplier: 81205 Opt Part #: J32020-1 Supplier: 81205 Opt Part #: J32020-10 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205
SPL-4266	Sling - MLG Removal / Installation Part #: A5270-10L Supplier: 4Y309
SPL-4685	Turnbuckle Eqpt, MLG Shock Strut Part #: J32087-1 Supplier: 81205
STD-1110	Container - Hydraulic Fluid Resistant, 5 Gallon (19 Liter)
STD-1173	Hoist - Chain, 12,000 lb Capacity

C. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Hydraulic strut	32-11-02-01-150	ARO ALL
32	Cotter pin	32-11-02-01-050	ARO ALL

D. **Location Zones**

Zone	Area
211	Flight Compartment, Left
731	Left Main Landing Gear
741	Right Main Landing Gear

E. **Prepare for the Removal**

SUBTASK 32-32-25-860-001

(1) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

Right Power Management Panel, P210

Row	Col	Number	Name
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

SUBTASK 32-32-25-860-002

(2) Depressurize the Center Hydraulic System. To do this, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-32-25-480-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(3) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-25-480-011

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-25-480-002

(5) Install chocks around the tires for the main landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-32-25-480-003

(6) If the applicable main landing gear is not installed on the airplane when you remove the hydraulic strut [1], do the steps that follow:

(a) Install a nylon webbing strap or MLG Sling, SPL-4266 around the trunnion of the main landing gear

NOTE: The nylon strap must be rated to hold a load of 12,000 lb (5443 kg) or more.

(b) Connect the 12,000 lb capacity chain hoist, STD-1173 (5443 kg) to the MLG Sling, SPL-4266.

F. Main Landing Gear (SLG) Hydraulic Strut Removal

SUBTASK 32-32-25-020-001

(1) Do these steps to disconnect the electrical connector [4] from the hydraulic strut [1]:

(a) Remove the bolts [6] and washers [7] to disconnect the junction box from the hydraulic strut.

(b) Remove the screws [2] to disconnect the clamps [3] from the hydraulic strut.

(c) Disconnect the electrical connectors [4] from the hydraulic strut.

SUBTASK 32-32-25-020-002

(2) Remove the bolts [9], clamps [10], washers [11], and nuts [12] and disconnect the hydraulic hoses [13] from the hydraulic strut.

NOTE: When you do this, put the ends of the hydraulic hoses into the 5 gallon (19 liter) hydraulic fluid resistant container, STD-1110 to catch the hydraulic fluid.

SUBTASK 32-32-25-020-003

(3) Remove the nuts [17], washers [15], washers [16], and bolts [14] from the anti-rotation plate [8].

SUBTASK 32-32-25-020-004

(4) Remove the anti-rotation plate [8] from the hydraulic strut.

SUBTASK 32-32-25-480-004

(5) Install the MLG actuator sling, SPL-1852, around the barrel of the hydraulic strut.

SUBTASK 32-32-25-480-005

(6) Connect the hoist, SPL-1556 400 lb (181 kg), to the MLG actuator sling, SPL-1852.

SUBTASK 32-32-25-820-001

(7) Use the hoist, SPL-1556, to lift the MLG actuator sling, SPL-1852, until it supports the hydraulic strut.

SUBTASK 32-32-25-020-005

WARNING

MAKE SURE YOU SUPPORT THE MLG SHOCK STRUT WITH A HOIST AND SLING IF THE MAIN LANDING GEAR IS NOT INSTALLED ON THE AIRPLANE. IF YOU DO NOT SUPPORT THE SHOCK STRUT WITH A HOIST AND A SLING, THE MAIN LANDING GEAR CAN FALL. THIS CAN CAUSE INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT.

(8) Do the steps below to disconnect the hydraulic strut from the outer cylinder:

(a) Remove the nuts [18], washers [19], and bolts [20] from the nut [21] on the upper pin [24].

(b) Use the wrench kit, SPL-4133 to remove the nut [21] from the upper pin [24] (Figure 32-11-01-990-811).

(c) Remove the washer [22] from the upper pin [24].

(d) Remove the upper pin [24] from the hydraulic strut and the outer cylinder.

(e) Remove the pan head bolt [5A], packing [5C] and bleed valve [5B].

(f) Open the bleed port plug [5] on the hydraulic strut.

(g) Shorten the length of the hydraulic strut to get clearance between the head end of the hydraulic strut and the attachment clevis on the outer cylinder.

SUBTASK 32-32-25-980-001

(9) Use the hoist, SPL-1556, to lift the MLG actuator sling, SPL-1852, and move the hydraulic strut about the lower pin [29].

SUBTASK 32-32-25-020-006

(10) Do the steps below to disconnect the hydraulic strut from the truck:

(a) Remove the cotter pin [32], nut [31], and washer [33] from the lower bolt [36].

(b) Remove the lower bolt [36], end cap [30], end cap [35] and lower pin [29] from the hydraulic strut and the truck.

SUBTASK 32-32-25-000-001

(11) Remove the hydraulic strut from the main landing gear.

SUBTASK 32-32-25-000-002

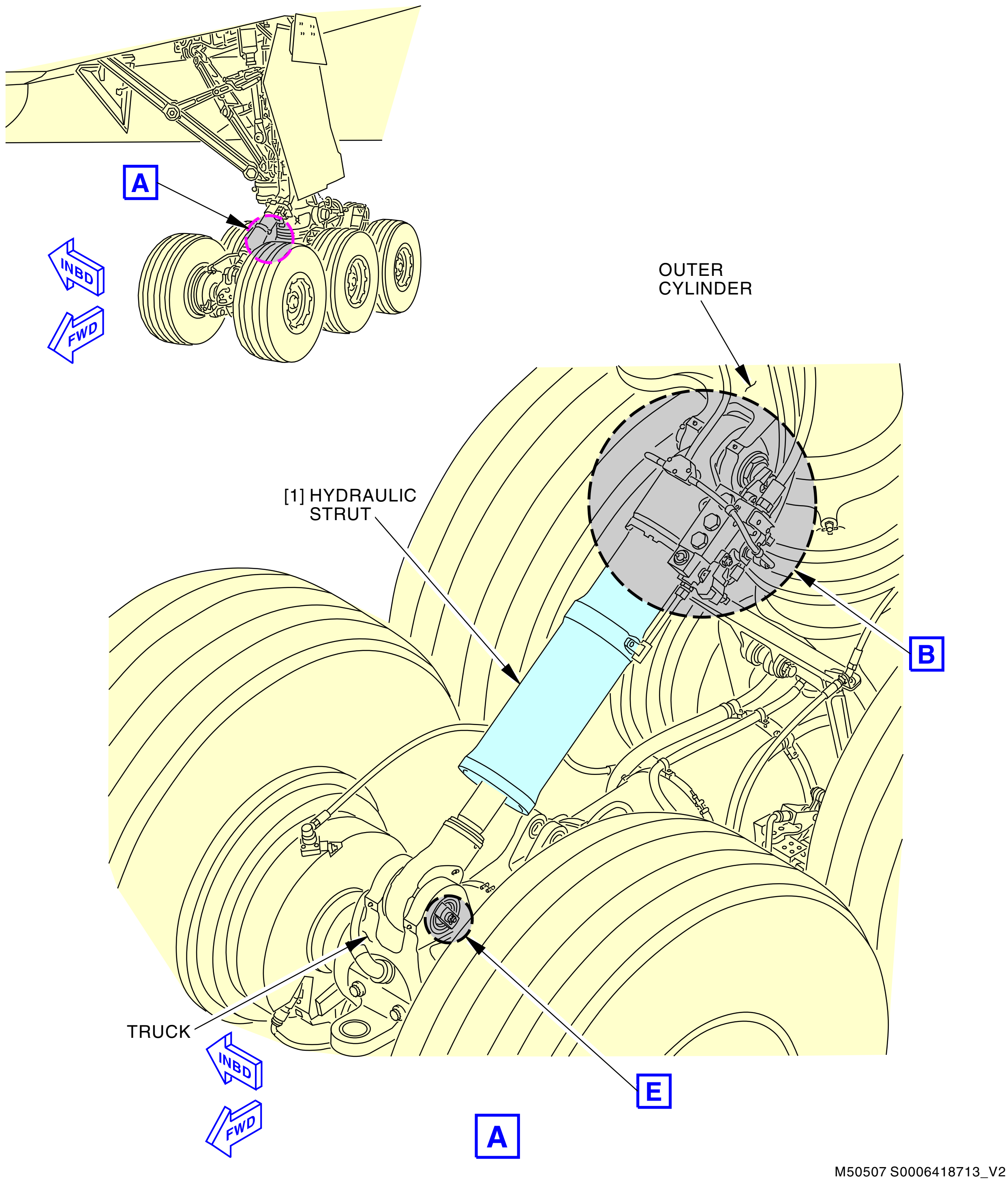
(12) Remove the washer [26] and washer [27].

SUBTASK 32-32-25-480-006

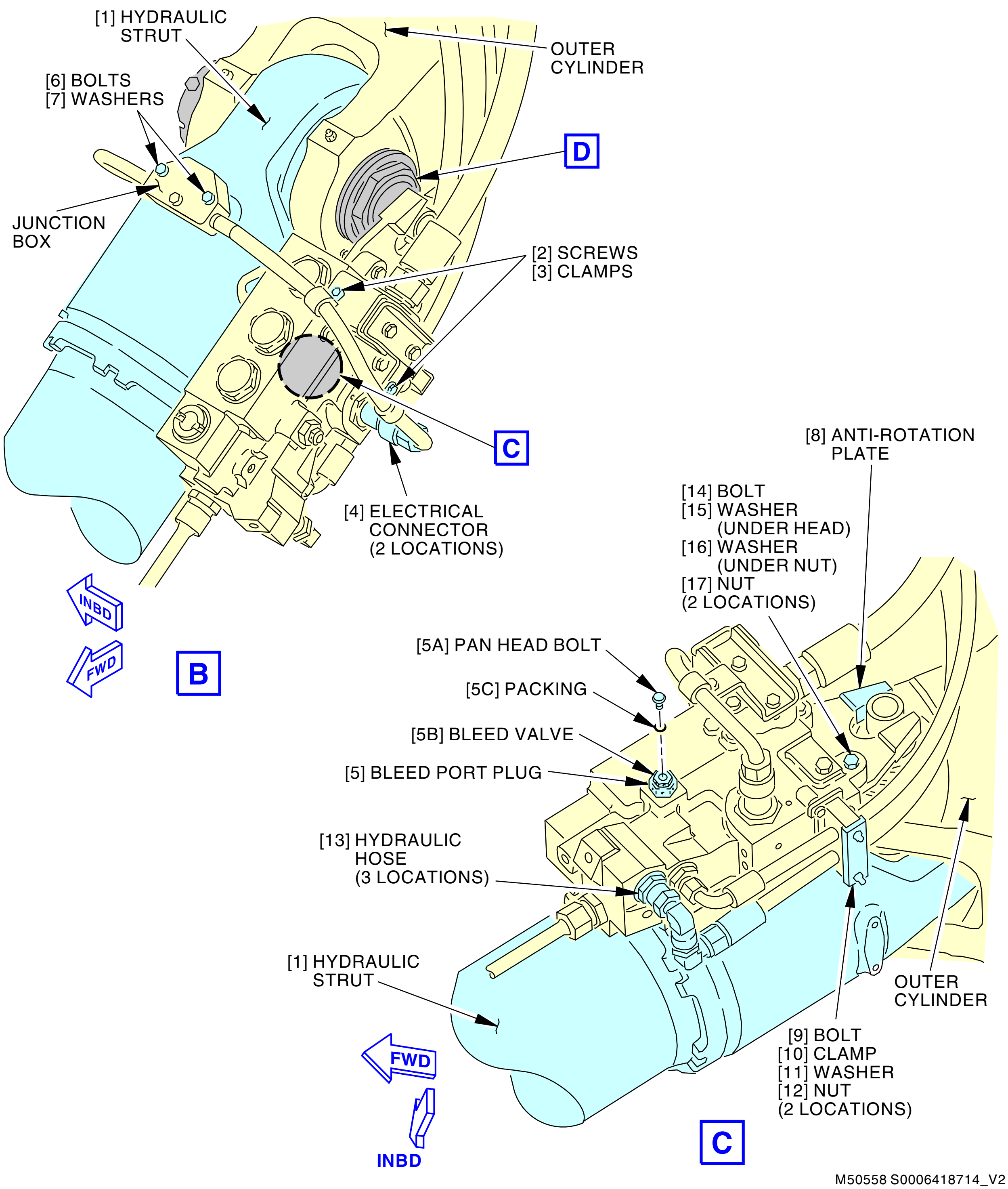
(13) If the applicable main landing gear is not installed on the airplane, do the steps below:

(a) Install the turnbuckle equipment, SPL-4685 in the location for the hydraulic strut.

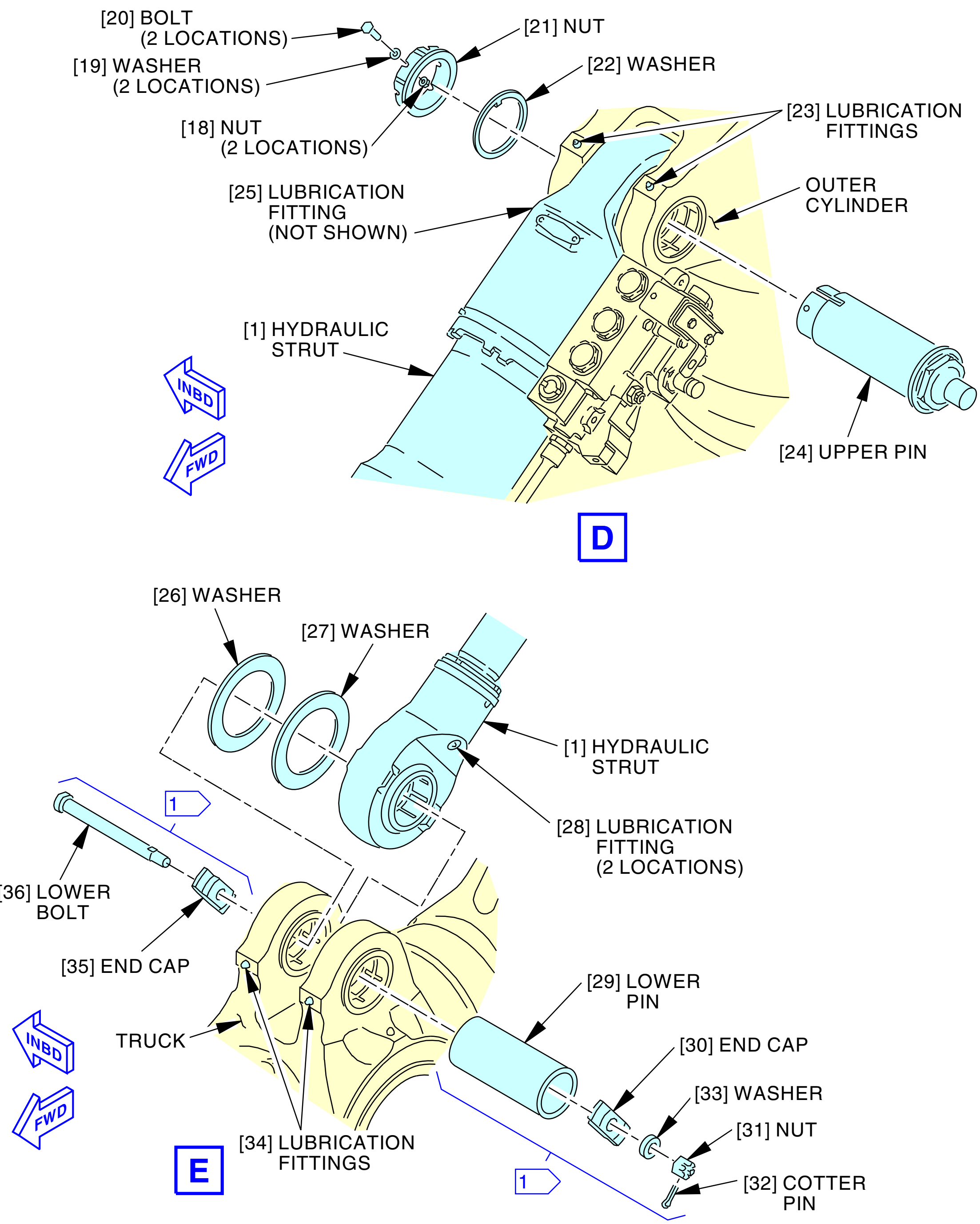
END OF TASK



Main Landing Gear Hydraulic Strut Installation
Figure 401/32-32-25-990-801 (Sheet 1 of 3)



Main Landing Gear Hydraulic Strut Installation
Figure 401/32-32-25-990-801 (Sheet 2 of 3)



1 INSTALL THESE PARTS WITH THE NUT ON THE INBOARD SIDE FOR THE RIGHT MAIN LANDING GEAR

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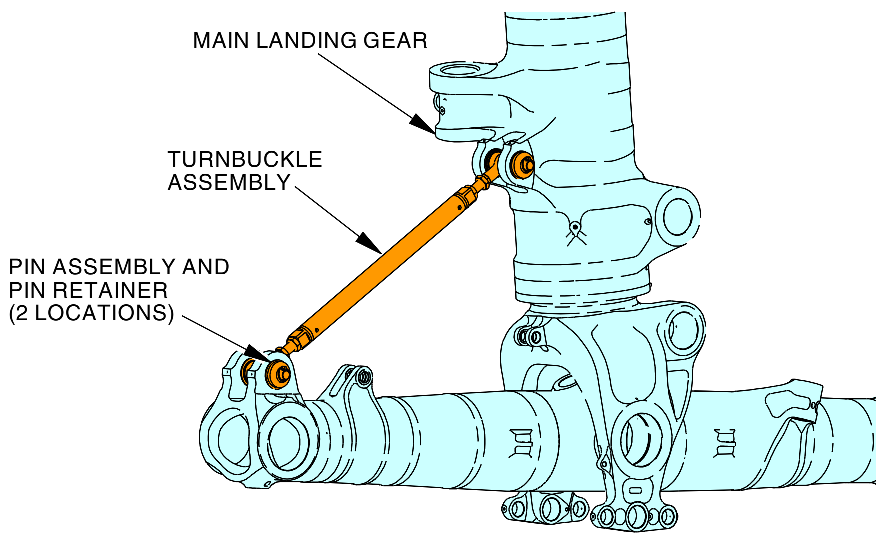
Main Landing Gear Hydraulic Strut Installation
Figure 401/32-32-25-990-801 (Sheet 3 of 3)



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Main Landing Gear Shock Strut Turnbuckle Equipment
Figure 402/32-32-25-990-802

TASK 32-32-25-420-801

3. Main Landing Gear (SLG) Hydraulic Strut Installation

(Figure 401 or Figure 402)

A. References

Reference	Title
12-12-01-610-801	Hydraulic Reservoir Fluid Level Check (P/B 301)
12-15-01-610-810	Main Landing Gear Shock Strut Servicing (P/B 301)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-802	Main Hydraulic System Pressurization with a Portable Hydraulic Cart (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-11-01-990-811	Figure: Special Tools for Main Landing Gear Installation (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1852	Sling - Actuator, MLG Part #: J32020-14 Supplier: 81205 Part #: J32020-15 Supplier: 81205 Opt Part #: J32020-1 Supplier: 81205 Opt Part #: J32020-10 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205
SPL-4266	Sling - MLG Removal / Installation Part #: A5270-10L Supplier: 4Y309
SPL-4685	Turnbuckle Eqpt, MLG Shock Strut Part #: J32087-1 Supplier: 81205
STD-1055	Container - Oil Resistant, 5 Gallon (19 Liter)
STD-1173	Hoist - Chain, 12,000 lb Capacity

C. Consumable Materials

Reference	Description	Specification
D00633	Grease - Aircraft General Purpose	BMS3-33

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Hydraulic strut	32-11-02-01-150	ARO ALL
5C	Packing	32-32-17-03-640	ARO ALL

(Continued)

AMM Item	Description	AIPC Reference	AIPC Effectivity
32	Cotter pin	32-11-02-01-050	ARO ALL

E. **Location Zones**

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

F. **Main Landing Gear Hydraulic Strut Installation**

SUBTASK 32-32-25-480-007

(1) If the applicable main landing gear is not installed on the airplane when you install the hydraulic strut, do the steps that follow :

(a) Install a nylon webbing strap or MLG Sling, SPL-4266 around the trunnion of the main landing gear

NOTE: The nylon strap must be rated to hold a load of 12,000 lb (5443 kg) or more.

(b) Connect the 12,000 lb capacity chain hoist, STD-1173 (5443 kg) to the MLG Sling, SPL-4266.

SUBTASK 32-32-25-480-008

(2) Install the MLG actuator sling, SPL-1852, around the hydraulic strut.

SUBTASK 32-32-25-480-009

(3) Connect the hoist, SPL-1556 (181 kg), to the MLG actuator sling, SPL-1852.

SUBTASK 32-32-25-090-001

(4) Remove the turnbuckle equipment, SPL-4685 from the hydraulic strut position.

SUBTASK 32-32-25-640-001

WARNING

MAKE SURE YOU SUPPORT THE MLG SHOCK STRUT WITH A HOIST AND SLING IF THE MAIN LANDING GEAR IS NOT INSTALLED ON THE AIRPLANE. IF YOU DO NOT SUPPORT THE SHOCK STRUT WITH A HOIST AND A SLING, THE MAIN LANDING GEAR CAN FALL. THIS CAN CAUSE INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT.

(5) Apply a thick layer of grease, D00633, to the parts below:

(a) The faces of the bushings that are in the lugs on the truck.

(b) The shank of the lower bolt [36].

(c) The faces of the washer [26], washer [27], washer [33] and the face of the nut [31].

(d) The chrome surfaces, shoulder, and end faces of the lower pin [29] that will touch the bushings, washers, end cap [30] and end cap [35].

SUBTASK 32-32-25-420-001

(6) Use the hoist, SPL-1556, to lift the hydraulic strut [1] into its position between the outer cylinder and the truck.

SUBTASK 32-32-25-820-002

(7) Lower the rod end of the hydraulic strut until the rod end is between the lugs on the truck.

SUBTASK 32-32-25-420-002

(8) Install the alignment washer [26] and washer [27] on the same side of the rod end of the hydraulic strut [1].

NOTE: Both alignment washer [26] and washer [27] shall be installed on the same side of the rod end with thicker washer [26] always being next to the clevis. The pair of washers may be installed on either side of rod end to prevent possible binding against spherical ball bearing.

SUBTASK 32-32-25-420-003

(9) Do the steps below to connect the hydraulic strut to the truck:

(a) Put the lower pin [29] through the clevis on the truck, and the hydraulic strut.

(b) Install the lower bolt [36], end cap [30], and end cap [35] on the lower pin [29].

(c) Install the washer [33] and nut [31] on the lower bolt [36].

(d) Tighten the nut [31] to 75 in-lb (8.5 N·m)-100 in-lb (11.3 N·m).

(e) Install the cotter pin [32] in the nut [31] and the lower bolt [36].

NOTE: If it is necessary, loosen the nut [31] to install the cotter pin.

SUBTASK 32-32-25-640-002

(10) Apply a thick layer of grease, D00633, to the parts below:

(a) The faces of the bushings that are in the lugs on the outer cylinder.

(b) The faces of the washer [22] and nut [21].

(c) The chrome surfaces, shoulder, and end faces of the upper pin [24] that will touch the bushings and washer [22].

NOTE: Do not lubricate the outside diameter of the upper pin [24] where the anti-rotation plate [8] attaches. Do not lubricate the slot in the anti-rotation plate [8].

SUBTASK 32-32-25-980-002

(11) Use the hoist, SPL-1556, to lift the MLG actuator sling, SPL-1852, and move the hydraulic strut about the lower pin [29].

SUBTASK 32-32-25-980-003

(12) Adjust the length of the hydraulic strut to align the head end of the hydraulic strut with the attachment clevis on the outer cylinder.

(a) If necessary, adjust the length of the hydraulic strut do the steps that follow.

1) Remove the pan head bolt [5A], packing [5C] and bleed valve [5B].

2) Open the bleed port plug [5] on the hydraulic strut.

3) Make the length of the hydraulic strut shorter or longer to align the head end of the hydraulic strut with the attachment clevis on the outer cylinder.

SUBTASK 32-32-25-420-004

(13) Put the head end of the hydraulic strut between the lugs on the outer cylinder.

SUBTASK 32-32-25-420-005

(14) Do the steps below to connect the hydraulic strut to the outer cylinder:

(a) Put the upper pin [24] through the outer cylinder and the hydraulic strut.

(b) Install the washer [22] and the nut [21] on the upper pin [24].

(c) Use the wrench kit, SPL-4133 to tighten the nut [21] to 125 ft-lb (169.5 N·m)-150 ft-lb (203.4 N·m) (Figure 32-11-01-990-811).

(d) Install the bolts [20], washers [19], and nuts [18] in the nut [21].

NOTE: If it is necessary, loosen the nut [21] a maximum of 30 degrees to install the bolt [20].

SUBTASK 32-32-25-420-011

(15) Install the pan head bolt [5A] and packing [5C] on the bleed valve [5B] at the bleed port plug [5].

SUBTASK 32-32-25-080-001

(16) Remove the MLG actuator sling, SPL-1852, from the hydraulic strut.

SUBTASK 32-32-25-420-006

(17) Do the steps below to install the anti-rotation plate [8]:

(a) Install the anti-rotation plate [8] on the hydraulic strut.

(b) Install the bolts [14], washers [15], washer [16], and nuts [17] to attach the anti-rotation plate [8] to the hydraulic strut.

NOTE: Install a washer [15] under the head of each bolt [14] and a washer [16] under each nut [17].

(c) Tighten the nuts [17] to 100 in-lb (11.3 N·m)-150 in-lb (16.9 N·m).

SUBTASK 32-32-25-420-007

(18) Connect the hydraulic hoses [13] to the hydraulic strut.

NOTE: Make sure that two hydraulic elbows are connected to the hydraulic hose on the STOW port.

(a) Tighten the B-nut on the hydraulic hose connected to the RETURN port to 450 ±23 in-lb (51 ±3 N·m).

(b) Tighten the B-nut on the hydraulic hose connected to the TILT port to 270 ±14 in-lb (31 ±2 N·m).

(c) Tighten the B-nut on the hydraulic hose connected to the STOW port to 500 ±25 in-lb (56 ±3 N·m).

SUBTASK 32-32-25-420-008

(19) Install the clamps [10], bolts [9], washers [11], and nuts [12] to attach the hydraulic hoses [13] to the hydraulic strut.

SUBTASK 32-32-25-420-009

(20) Do the steps that follow to connect the electrical connectors [4] to the hydraulic strut:

(a) Connect the electrical connectors [4] to the hydraulic strut.

(b) Install the bolts [6] and washers [7] to connect the junction box to the hydraulic strut.

(c) Install the screws [2] to attach the clamps [3] to the hydraulic strut.

SUBTASK 32-32-25-640-003

(21) Apply grease, D00633, to the lubrication fitting [23] and lubrication fitting [34] to lubricate the upper pin [24] and the lower pin [29].

SUBTASK 32-32-25-640-004

(22) Apply grease, D00633, to the lubrication fitting [25] and lubrication fitting [28] to lubricate the bearings of the hydraulic strut.

G. Main Landing Gear Hydraulic Strut Fill and Bleed Test

NOTE: During this test, it is possible that the GEAR DISAGREE and the GEAR DOOR messages will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the messages go away. The messages will go away automatically when you complete this test.

SUBTASK 32-32-25-860-011

(1) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

Right Power Management Panel, P210

Row	Col	Number	Name
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

SUBTASK 32-32-25-210-006

WARNING: MAKE SURE THAT THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. THE DOORS OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Make sure the area around the doors for the nose and main landing gear is clear of persons and equipment.

SUBTASK 32-32-25-860-012

(3) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-25-860-013

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-32-25-610-002

WARNING: MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE AWAY FROM THE AREA BELOW THE WING BEFORE YOU DEFLATE THE SHOCK STRUT. WHEN YOU DEFLATE ONE SHOCK STRUT, THE WINGTIP CAN MOVE DOWN. THIS CAN CAUSE INJURIES TO PERSONNEL OR DAMAGE TO EQUIPMENT.

(5) Deflate the shock struts for the main landing gear, do this task: (Main Landing Gear Shock Strut Servicing, TASK 12-15-01-610-810).

SUBTASK 32-32-25-210-007

WARNING	IF THE HYDRAULIC STRUT IS EXTENDED MORE THAN SIX INCHES AND IT RECEIVES A LOCKUP COMMAND FROM THE MAT IT CAN PULL DOWN THE MAIN GEAR OUTER CYLINDER AND CAUSE THE AIRPLANE TO MOVE. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(6) Make sure there is less than 6 in. (152 mm) of hydraulic strut extension (less than six inches of chrome on the actuator rod shows) or that the shock strut DIMENSION A is less than 9 in. (228.6 mm) (SERVICING CHART - MAIN LANDING GEAR SHOCK STRUT).

SUBTASK 32-32-25-870-002

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(7) For the center hydraulic system, do this task: Main Hydraulic System Pressurization with a Portable Hydraulic Cart, TASK 29-11-00-860-802

very slowly to 2800-3150 psig.

NOTE: Slow pressurization will make sure that the hydraulic rate fuse, for the hydraulic strut tilt line and the main gear downlock actuators, will not set during the test. If the fuses set during this test, then depressurize the hydraulic system completely for at least one minute to reset them.

SUBTASK 32-32-25-730-009

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE AIRPLANE. THE AIRPLANE MAY MOVE VERTICALLY. INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR.

(8) Select these items on the Maintenance Access Terminal:

(a) ONBOARD MAINTENANCE

(b) LINE MAINTENANCE

(c) GROUND TESTS

(d) 32 Semi Lever Gear

(e) SYSTEM TEST

SUBTASK 32-32-25-730-010

(9) Select the applicable test on the Maintenance Access Terminal:

(a) Left Semi Lever Gear Lock and Hold, or

(b) Right Semi Lever Gear Lock and Hold

SUBTASK 32-32-25-730-011

(10) CONTINUE on the Maintenance Access Terminal.

SUBTASK 32-32-25-730-012

(11) Do the instructions on the Maintenance Access Terminal and then select CONTINUE.

SUBTASK 32-32-25-730-013

(12) CONTINUE on the Maintenance Access Terminal.

SUBTASK 32-32-25-730-014

(13) Note the WARNING that is shown on the Maintenance Access Terminal.

SUBTASK 32-32-25-730-015

(14) CONTINUE on the Maintenance Access Terminal.

SUBTASK 32-32-25-730-016

(15) Select START TEST on the Maintenance Access Terminal.

NOTE: The Semi Levered Gear hydraulic strut will lock and hold for two minutes.

SUBTASK 32-32-25-870-003

(16) Wait at least two minutes for air to be flushed out internally from the hydraulic strut actuator and into the hydraulic line.

SUBTASK 32-32-25-730-017

(17) Make sure that PASSED is shown on the Maintenance Access Terminal.

SUBTASK 32-32-25-730-018

(18) If FAILED shows, select the maintenance message and select MAINTENANCE MESSAGE DATA or refer to the applicable Maintenance Message Index in the FIM.

SUBTASK 32-32-25-730-019

(19) To put the MAT back to its initial condition, make these selections:

(a) LINE MAINTENANCE

(b) EXIT MAINTENANCE

SUBTASK 32-32-25-480-012

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(20) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-25-860-014

(21) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this. This will open the landing gear doors.

SUBTASK 32-32-25-870-004

WARNING: DO NOT LET HYDRAULIC FLUID GET ON YOU. PUT ON GOGGLES AND OTHER EQUIPMENT FOR PROTECTION. THE FLUID CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(22) Do the steps below to bleed the air from the hydraulic strut [1]:

NOTE: The hydraulic pressure at the hydraulic strut bleed valve [5B] is 1150 psi when 3000 psi is applied to the tilt or stow lines. The hydraulic pressure is reduced from 3000 psi to 1150 psi by the pressure control valve in the valve module on the hydraulic strut.

(a) Place an oil resistant container (5 gal)(19 Liter), STD-1055 beneath the bleeding location to catch the hydraulic fluid that you will bleed out of the system.

(b) Remove the lockwire from the bleed valve [5B] on the bleed port plug [5].

(c) Install a bleed fitting and transparent hose from the bleed valve [5B] to the oil resistant container (5 gal)(19 Liter), STD-1055.

(d) Loosen the bleed valve [5B] at the bleed port plug [5] and let the air come out of the bleed port.

(e) Close the bleed valve [5B] when no more air comes out of the bleed port.

(f) If a hydraulic fuse sets, do the steps that follow to reset the fuse:

1) Depressurize the hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

2) Wait for at least one minute for the fuse to reset.

(g) Tighten the bleed valve [5B] to 40 in-lb (5 N·m) - 80 in-lb (9 N·m).

(h) Remove the bleed fitting and transparent hose from the bleed valve [5B].

(i) Remove the oil resistant container (5 gal)(19 Liter), STD-1055 from beneath the bleeding location.

(j) Install the pan head bolt [5A] and packing [5C] on the bleed valve [5B] at the bleed port plug [5].

(k) Tighten the pan head bolt [5A] to 22.5 in-lb (2.5 N·m) - 27.5 in-lb (3.1 N·m).

SUBTASK 32-32-25-870-005

(23) Wait at least five minutes for air to flush past the floating piston seal, inside the hydraulic strut actuator, out to return through the pressure control valve in the valve module on the hydraulic strut.

SUBTASK 32-32-25-870-006

(24) Move the control lever for the landing gear to the DN position.

SUBTASK 32-32-25-860-006

(25) Wait thirty seconds.

SUBTASK 32-32-25-870-008

(26) Move the control lever for the landing gear to the UP position.

SUBTASK 32-32-25-860-007

(27) Do the three steps before this (cycle the control lever) five more times.

NOTE: This will move the floating piston inside the hydraulic strut actuator and push the air to return.

SUBTASK 32-32-25-870-010

(28) Move the control lever for the landing gear to the DN position.

SUBTASK 32-32-25-410-001

(29) Install lockwire on the bleed valve.

SUBTASK 32-32-25-790-001

(30) Examine the hydraulic strut [1] for leaks.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-25-020-007

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-32-25-860-015

(2) Do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-32-25-610-001

(3) Do this task: Hydraulic Reservoir Fluid Level Check, TASK 12-12-01-610-801.

SUBTASK 32-32-25-840-002

(4) Service the shock struts for the main landing gear, do this task: Main Landing Gear Shock Strut Servicing, TASK 12-15-01-610-810.

——— END OF TASK ———

TASK 32-32-25-020-802

4. Main Landing Gear (SLG) Hydraulic Strut Solenoid Removal

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Tools/Equipment

Reference	Description
STD-1253	Pump - Hydraulic, Hand

C. Consumable Materials

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

D. Location Zones

Zone	Area
211	Flight Compartment, Left
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for Removal

SUBTASK 32-32-25-860-016

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-32-25-860-017

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

Make sure that this circuit breaker is open and has safety tag:

Left Power Management Panel, P110

Row	Col	Number	Name
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Make sure that this circuit breaker is open and has safety tag:

Right Power Management Panel, P210

Row	Col	Number	Name
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

SUBTASK 32-32-25-860-018

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-32-25-860-019

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

(5) Install chocks around the tires of the main Landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

F. Main Landing Gear (SLG) Hydraulic Strut Solenoid Removal

SUBTASK 32-32-25-020-008

(1) Remove the bolts [1] and the washers [2] to disconnect the junction box from the hydraulic strut.

(2) Remove the screws [3] to disconnect the clamps [4] from the hydraulic strut.

(3) Disconnect the electrical connector from the hydraulic strut valve module assembly

(4) Remove the solenoid valve [5] and the packing [6] from the port.

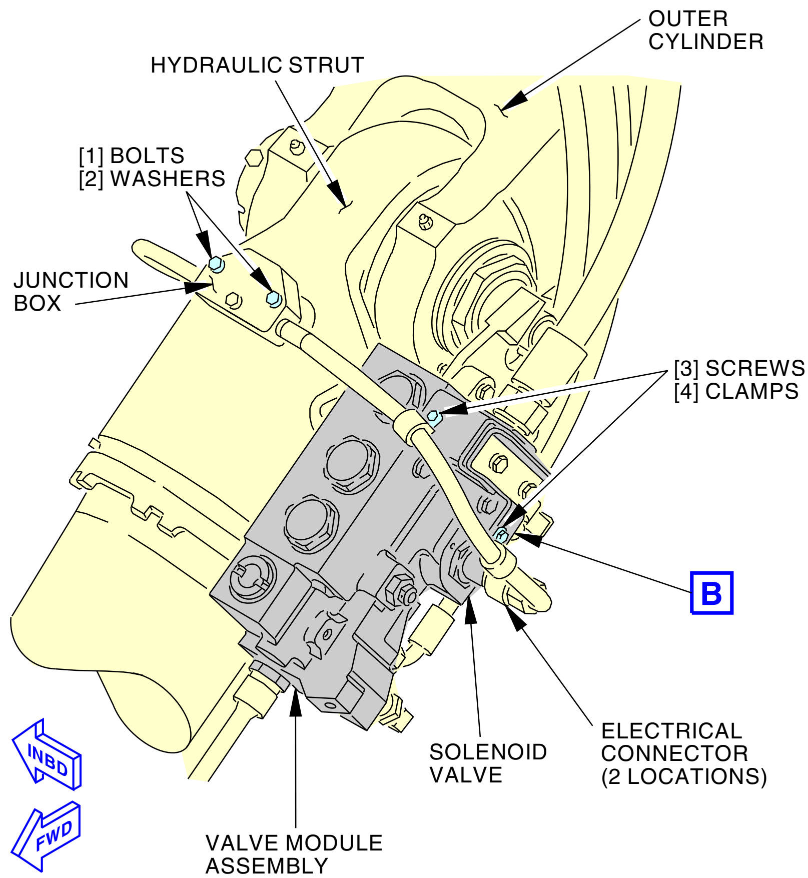
NOTE: You must use approximately 270 in-lb (31 N·m) - 330 in-lb (37 N·m) of torque to remove the solenoid valve from the port.

(a) Discard the multiseal [7].

(5) Examine the port to ensure all solenoid valve parts have been removed from the port.

(6) Use a hand hydraulic pump, STD-1253 or another suitable device to flush the port of the solenoid valve with hydraulic fluid, D00153.

END OF TASK



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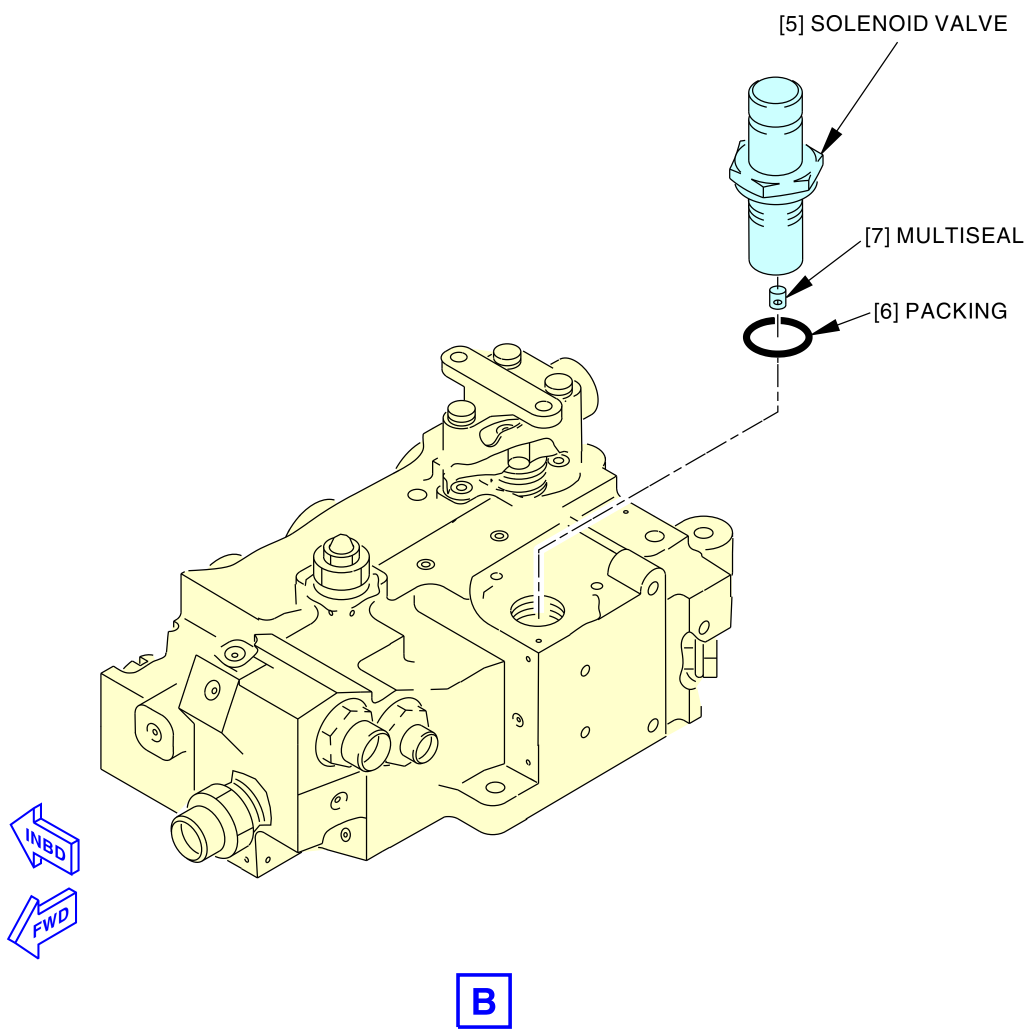
Main Landing Gear (SLG) Hydraulic Strut Solenoid Installation
Figure 403/32-32-25-990-803



Main Landing Gear (SLG) Hydraulic Strut Solenoid Installation
Figure 404/32-32-25-990-804

TASK 32-32-25-420-802

5. Main Landing Gear (SLG) Hydraulic Strut Solenoid Installation

A. Consumable Materials

Reference	Description	Specification
A00767	Sealant - Fuel Tank	BMS5-45

B. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Main Landing Gear (SLG) Hydraulic Strut Solenoid Installation

SUBTASK 32-32-25-420-010

(1) Apply a bead of sealant, A00767 between the solenoid valve assembly and the valve port.

(2) Install a new multiseal [7] on the solenoid valve [5].

NOTE: The multiseal [7] part number is SDBB2130108A from The Lee Company (V92555).

(a) Make sure the multiseal [7] dimples engage the valve body slots to provide correct orientation.

NOTE: The multiseal [7] will be retained by the slots but should not be tight on the valve body.

(3) Install the packing [6] onto the solenoid valve [5] and carefully install the valve into the valve port.

(a) Apply a torque of 270 in-lb (31 N·m) to 330 in-lb (37 N·m) to the solenoid valve [5].

(4) Connect the electrical connector to the solenoid valve [5].

(5) Install the screws [3] to attach the clamps [4] to the hydraulic strut.

(6) Install the bolts [1] and washers [2] to connect the junction box to the hydraulic strut.

D. Main Landing Gear Hydraulic Strut Fill and Bleed Test

SUBTASK 32-32-25-870-011

(1) Do the Hydraulic Bleed Strut and Bleed test in Task: Main Landing Gear (SLG) Hydraulic Strut Installation, TASK 32-32-25-420-801

——— END OF TASK ———

MAIN LANDING GEAR (SLG) HYDRAULIC STRUT - CLEANING

1. **General**

   A. The main landing gear with the hydraulic strut is also called the semi-levered main landing gear or semi-levered gear (SLG).

   B. This procedure cleans the SLG piston rod and vent (lubrication fitting). Cleaning of the piston rod and vent can prevent too much hydraulic fluid leakage. Cleaning removes contamination on the outer and inner diameter of the SLG piston rod that can cause seal damage.

   C. The illustrations in this procedure show the hydraulic strut for the left main landing gear. This procedure is also applicable to the hydraulic strut for the right main landing gear.

TASK 32-32-25-100-801

2. **Main Landing Gear (SLG) Hydraulic Strut - Cleaning**
   (Figure 701)

   A. **General**

      (1) This procedure cleans the SLG piston rod and vent (lubrication fitting). Cleaning of the piston rod and vent can prevent too much hydraulic fluid leakage. Cleaning removes contamination on the outer and inner diameter of the SLG piston rod that can cause seal damage.

   B. **References**

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   C. **Consumable Materials**

Reference	Description	Specification
D50122	Fluid - Hydraulic, Skydrol	BMS3-11 Type IV or Type V
G01043	Cloth - Lint-free	
G01659	Swab - Cotton Or Rayon, (Disposable)	

   D. **Location Zones**

Zone	Area
211	Flight Compartment, Left
731	Left Main Landing Gear
741	Right Main Landing Gear

   E. **Prepare for the Cleaning**

      SUBTASK 32-32-25-860-020

      (1) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

Right Power Management Panel, P210

Row	Col	Number	Name
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

SUBTASK 32-32-25-860-021

(2) Do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-32-25-480-013

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(3) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-32-25-480-014

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-32-25-480-015

(5) Install chocks around the tires for the main landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

F. Main Landing Gear (SLG) Hydraulic Strut Cleaning

SUBTASK 32-32-25-160-001

CAUTION OBEY THESE PRECAUTIONS. IF YOU IGNORE THESE PRECAUTIONS, DAMAGE TO EQUIPMENT WILL OCCUR.

(1) Do not use BMS 3-32 or MIL-H-5606 to clean the SLG. Seal damage can occur. Do not use BMS 3-11 to clean the MLG shock struts. Seal damage can occur.

   (a) Using a lint-free cloth, G01043 dampened with hydraulic fluid, D50122 (preferred) or a dry lint-free cloth, G01043, clean the visible surface of the SLG piston rod.

SUBTASK 32-32-25-160-002

CAUTION

OBEY THESE PRECAUTIONS. IF YOU IGNORE THESE PRECAUTIONS, DAMAGE TO EQUIPMENT WILL OCCUR.

(2) Do not use BMS 3-32 or MIL-H-5606 to clean the SLG. Seal damage can occur. Do not use BMS 3-11 to clean the MLG shock struts. Seal damage can occur.

(a) Using a swab, G01659 dampened with hydraulic fluid, D50122 (preferred) or a dry swab, G01659, clean the vent hole (lubrication fitting) at the piston rod end.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-32-25-860-022

(1) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

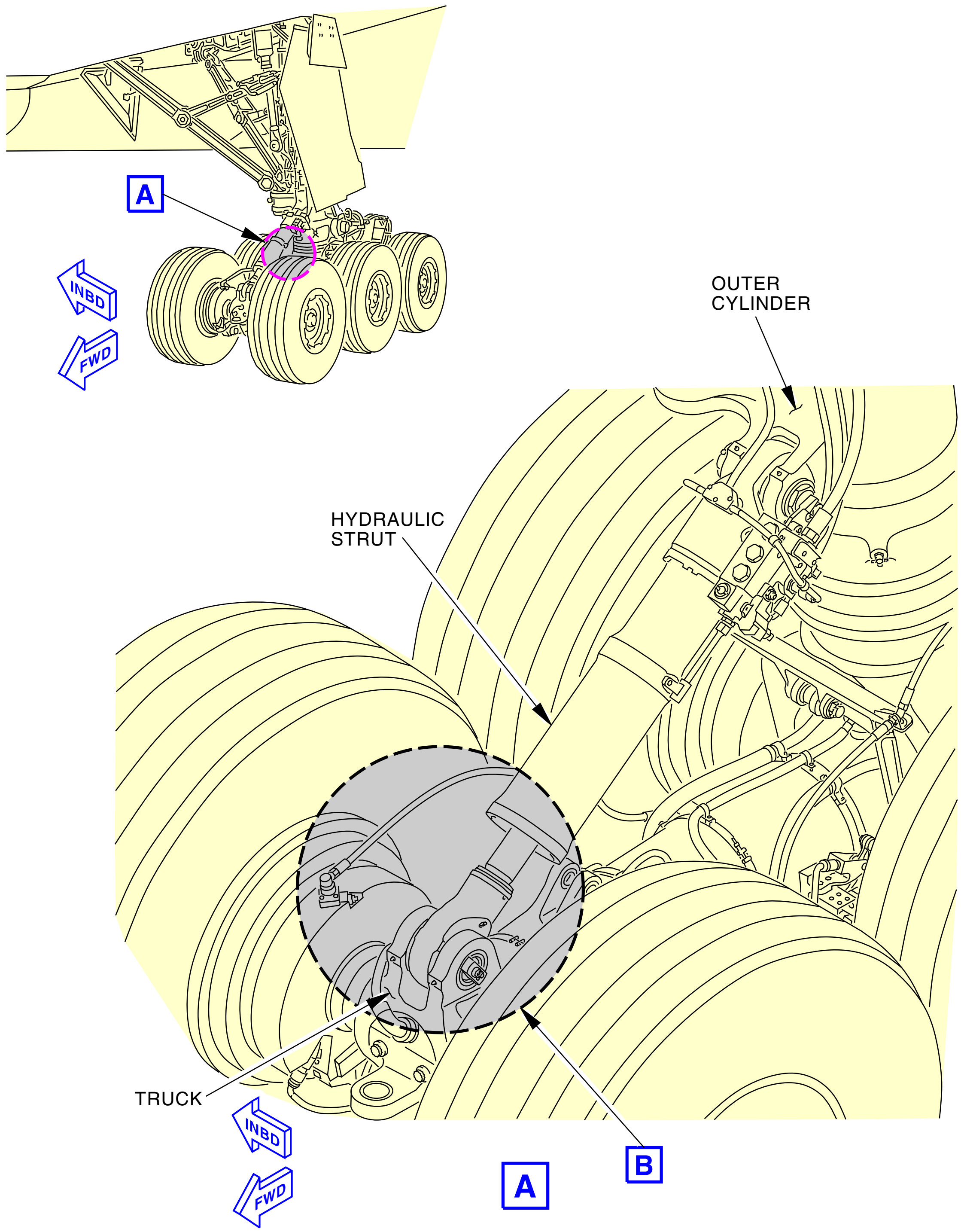
Right Power Management Panel, P210

Row	Col	Number	Name
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

SUBTASK 32-32-25-080-003

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK



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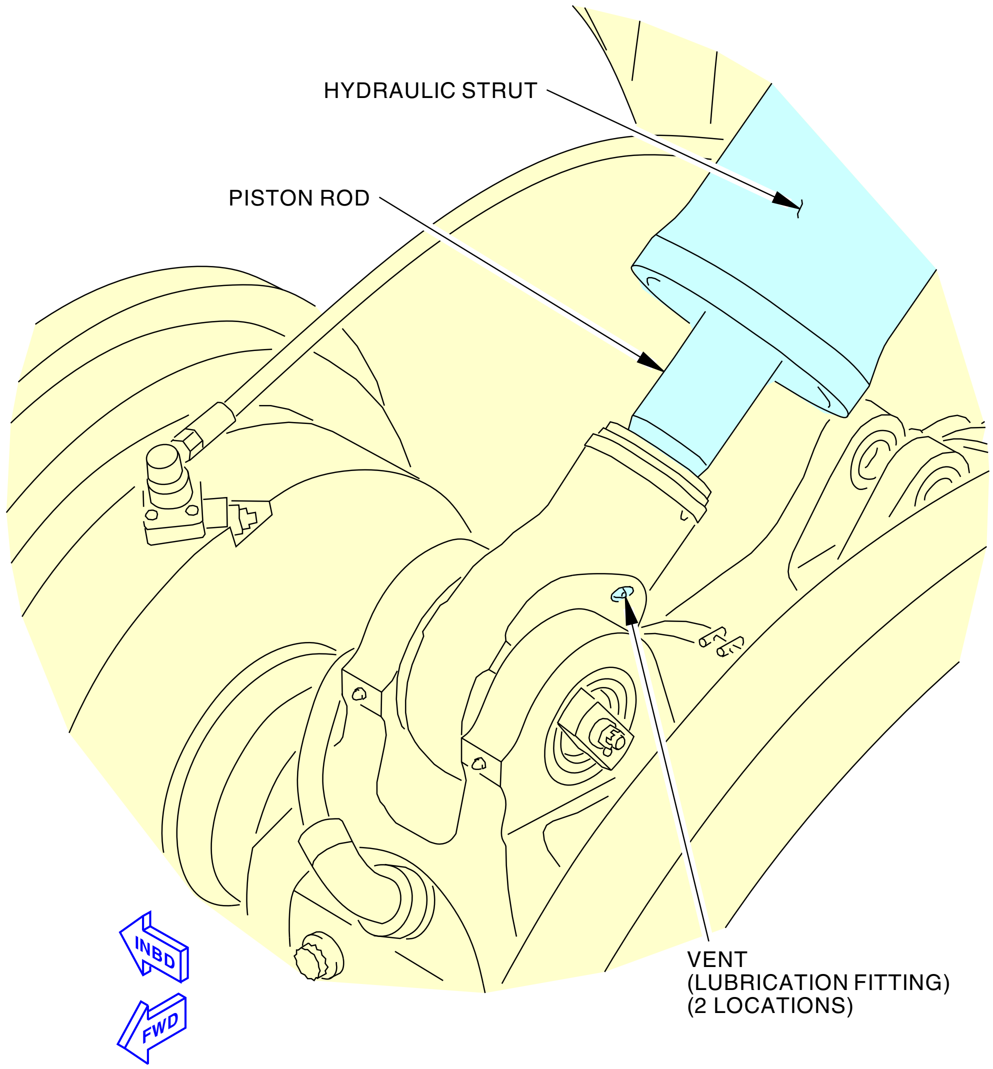
Main Landing Gear Hydraulic Strut Cleaning
Figure 701/32-32-25-990-805 (Sheet 1 of 2)



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**Main Landing Gear Hydraulic Strut Cleaning
Figure 701/32-32-25-990-805 (Sheet 2 of 2)**

NOSE LANDING GEAR RETRACT ACTUATOR - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the retract actuator for the nose landing gear.

(2) An installation of the retract actuator for the nose landing gear.

B. The retract actuator cannot be manually extended or retracted. You must use a pump to extend or retract the retract actuator.

C. The retract actuator weighs 109 pounds (49 kg).

TASK 32-34-01-000-801

2. Nose Landing Gear Retract Actuator Removal

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-21-01-990-804	Figure: Special Tools for Nose Landing Gear Installation (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1563	Hoist - Fishpole (cable), minimum 500 lb capacity Part #: 10/3641 Supplier: K1425 Part #: PF51-003-1 Supplier: 1YRX6 Part #: PF51-009-1 Supplier: 1YRX6 Opt Part #: MINILIFT Supplier: K1425
SPL-1856	Equipment - Removal/Installation, Nose Landing Gear Retract Actuator Part #: J32093-1 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right

D. Prepare for the Removal

SUBTASK 32-34-01-860-001

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-34-01-860-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-34-01-860-003

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-34-01-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-34-01-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR GROUND LOCKPINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(5) Open the doors for the nose landing gear and, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-34-01-480-002

(6) Install chocks around the tires of the nose landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

E. Nose Landing Gear Retract Actuator Removal

(Figure 401)

SUBTASK 32-34-01-020-001

(1) Do the steps below to disconnect the hydraulic hoses [6] from the retract actuator assembly [1]:

(a) Disconnect the hydraulic hoses [6] from the retract actuator assembly [1].

(b) Install caps on the hydraulic hoses [6].

SUBTASK 32-34-01-020-002

(2) Do the steps below to install cable fishpole hoist, COM-1563 (227 kg, 12.2 m) and nose landing gear retract actuator equipment, SPL-1856 to sling the retract actuator assembly [1] (Figure 402).

NOTE: When you do this, make sure the fishpole will supply a support for the retract actuator assembly [1] when the head end pin [3] is removed.

(a) Attach the Lifting Beam Assembly to the bolts installed on the attach fitting [4].

(b) Install the cable fishpole hoist, COM-1563 to the Lifting Beam Assembly.

(c) Attach the clamp assembly to the retract actuator assembly [1].

SUBTASK 32-34-01-020-003

(3) Do the steps below to disconnect the head end pin [3] from the actuator assembly [1]:

(a) Remove the cotter pin [13], the nut [12], the washer [11], and the lock bolt [9] from the head end pin [3].

(b) Remove the head end pin [3], the nut [10], the washer [7], the washer [8], and the washer [14] from the retract actuator assembly [1].

SUBTASK 32-34-01-020-004

(4) Do the steps below to disconnect the rod end pin [16] from the actuator assembly [1]:

(a) Remove the cotter pin [13], the nut [21], the washer [11]and the lock bolt [22] from the rod end pin [16].

(b) Use the wrench kit, SPL-4133 to remove the rod end pin [16] and the nut [10] (Figure 32-21-01-990-804).

NOTE: The thread protector from wrench kit, SPL-4133

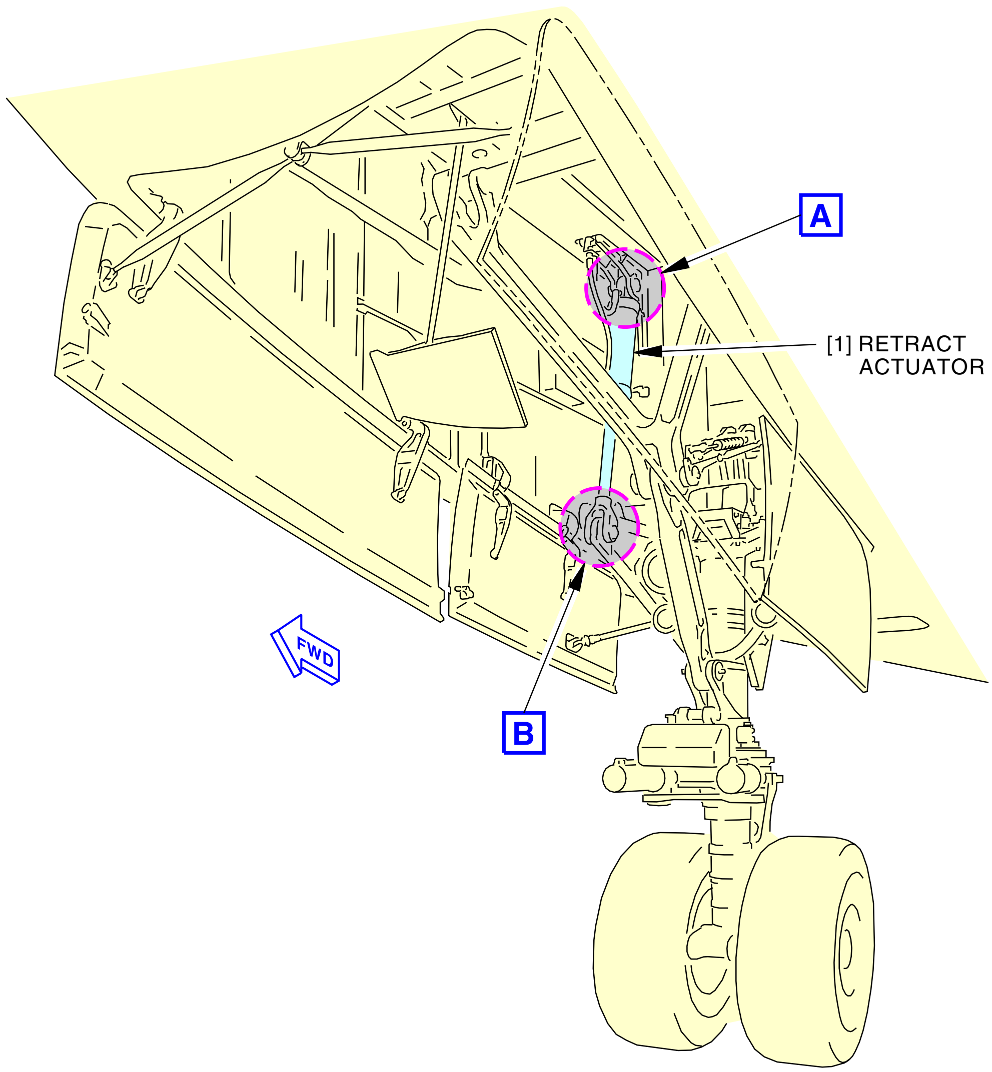
can be installed on pin [16] before it is removed.

(c) Remove the washer [14], the washer [19] and the washer [20] from the retract actuator assembly [1].

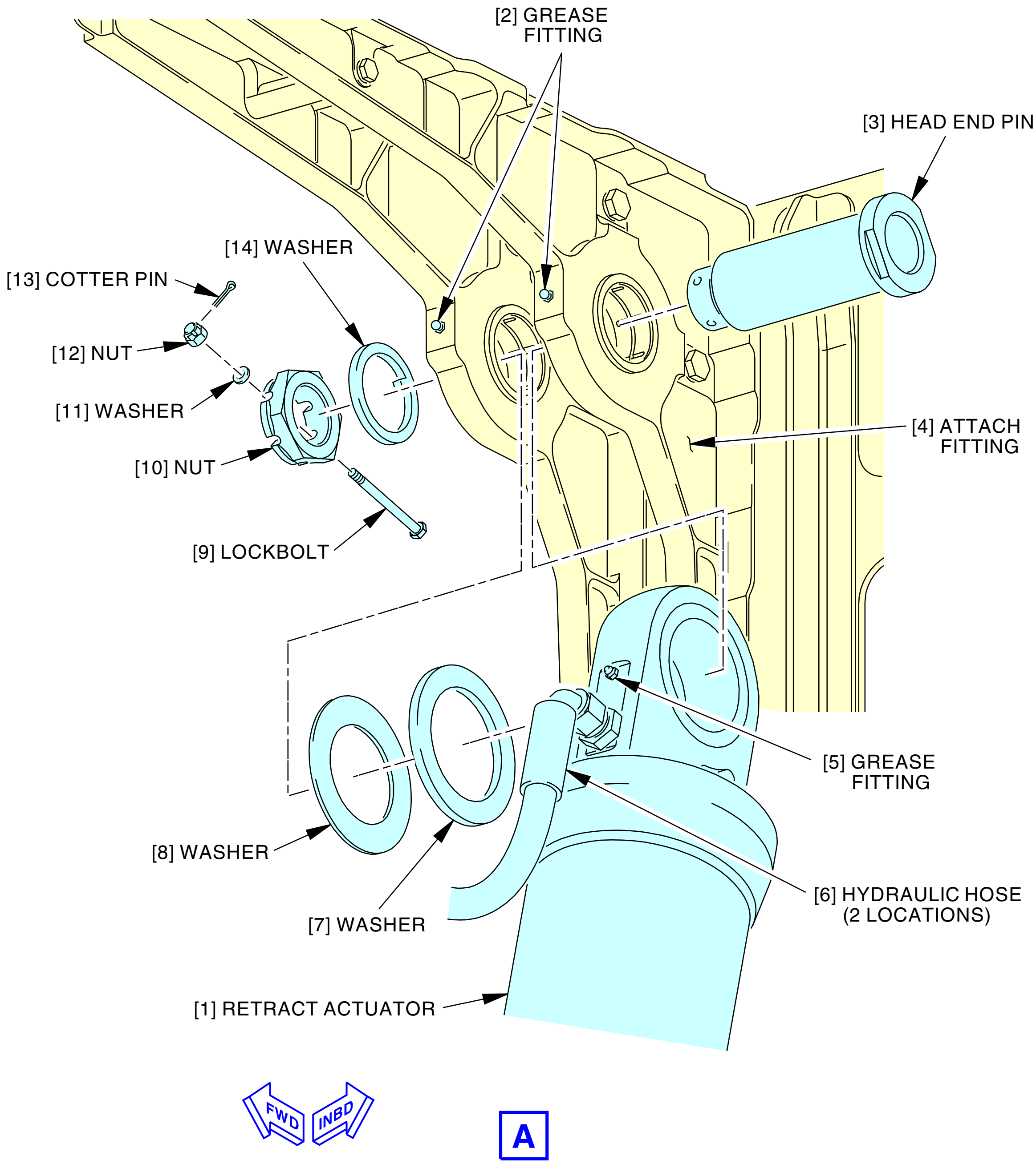
SUBTASK 32-34-01-020-005

(5) Remove the retract actuator assembly [1] from its position.

END OF TASK



Nose Landing Gear - Retract Actuator Installation
Figure 401/32-34-01-990-801 (Sheet 1 of 3)



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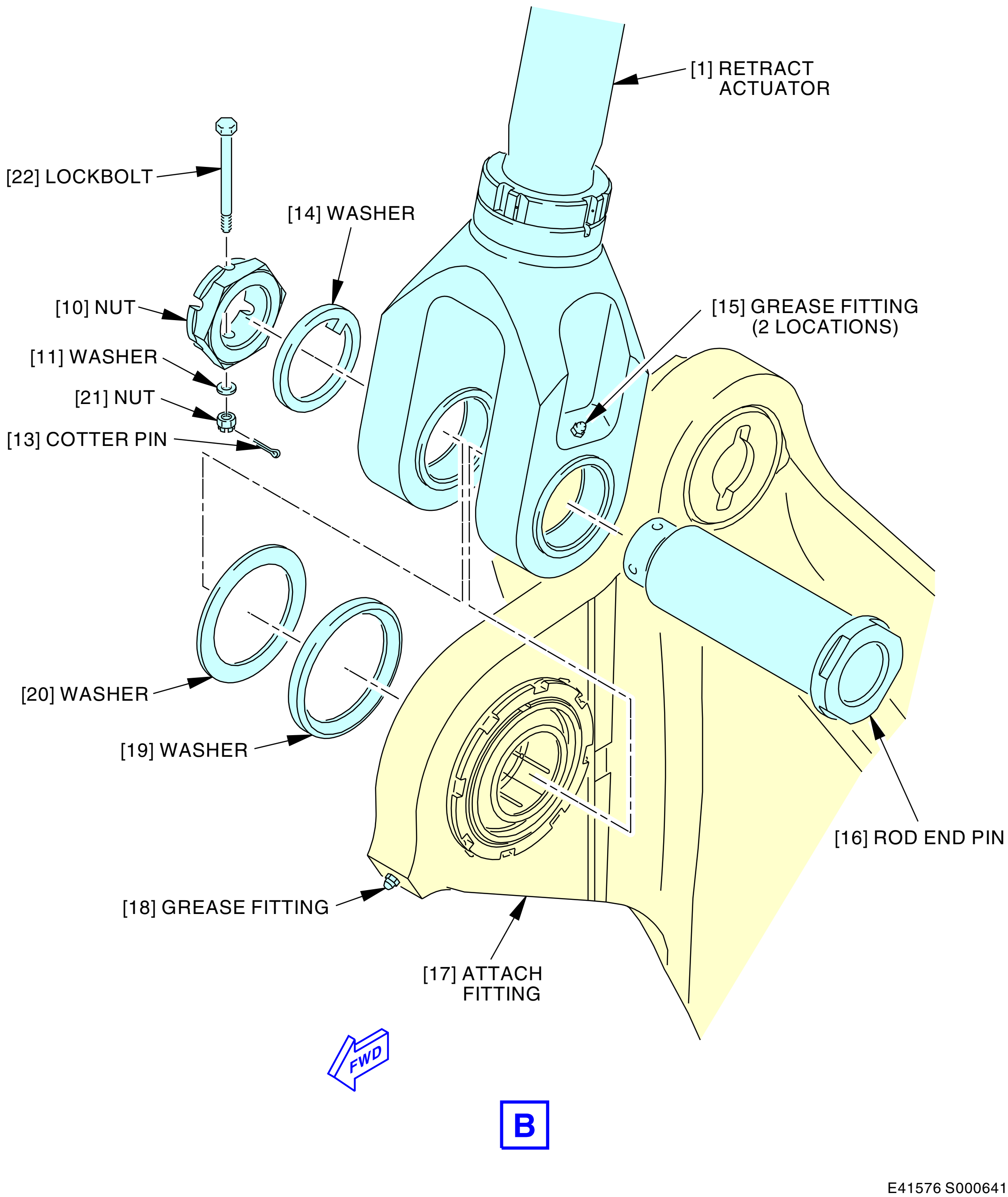
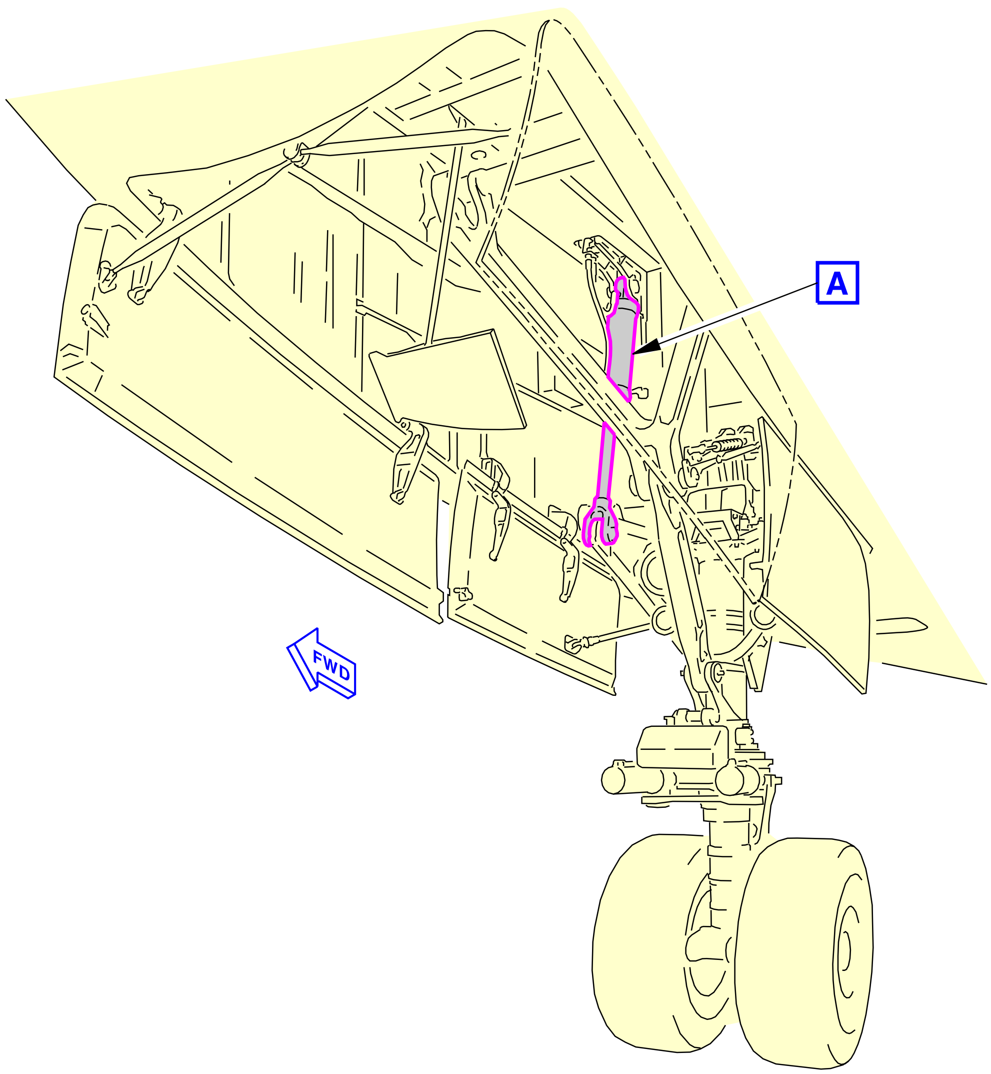
Nose Landing Gear - Retract Actuator Installation
Figure 401/32-34-01-990-801 (Sheet 2 of 3)



Nose Landing Gear - Retract Actuator Installation
Figure 401/32-34-01-990-801 (Sheet 3 of 3)



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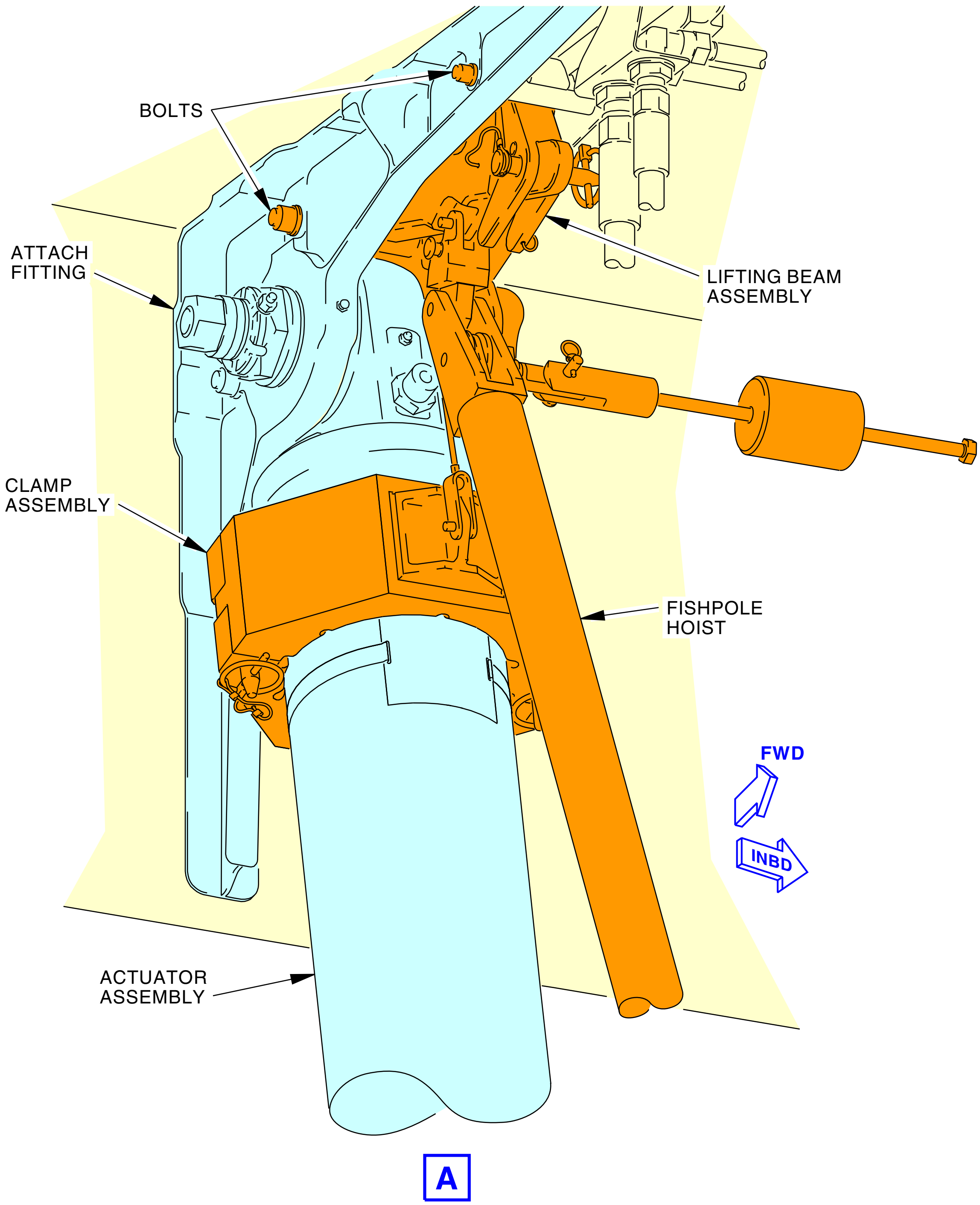
Retract Actuator Equipment Installation
Figure 402/32-34-01-990-802 (Sheet 1 of 2)



Retract Actuator Equipment Installation
Figure 402/32-34-01-990-802 (Sheet 2 of 2)

TASK 32-34-01-400-801

3. Nose Landing Gear Retract Actuator Installation

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-21-01-990-804	Figure: Special Tools for Nose Landing Gear Installation (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1563	Hoist - Fishpole (cable), minimum 500 lb capacity Part #: 10/3641 Supplier: K1425 Part #: PF51-003-1 Supplier: 1YRX6 Part #: PF51-009-1 Supplier: 1YRX6 Opt Part #: MINILIFT Supplier: K1425
SPL-1856	Equipment - Removal/Installation, Nose Landing Gear Retract Actuator Part #: J32093-1 Supplier: 81205
SPL-4133	Wrench Kit, MLG and NLG (777-300ER) Part #: J32085-76 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
D00633	Grease - Aircraft General Purpose	BMS3-33
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Actuator assembly	32-34-01-01-095	ARO ALL
13	Cotter pin	32-34-01-01-045	ARO ALL

E. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right

F. **Nose Landing Gear Retract Actuator Installation**

(Figure 401)

SUBTASK 32-34-01-640-001

(1) Lubricate these items with the grease, D00013 or grease, D00633:

(a) The head end of the retract actuator assembly [1], where it touches the head end pin [3].

(b) The attach fitting [4].

(c) The rod end of the retract actuator assembly [1], where it touches the rod end pin [16].

(d) The attach fitting [17].

SUBTASK 32-34-01-210-001

(2) Make sure the retract actuator assembly [1] is in the extended position.

SUBTASK 32-34-01-210-002

(3) Make sure the retract actuator assembly [1] is filled with hydraulic fluid, D00153.

SUBTASK 32-34-01-420-001

(4) Using cable fishpole hoist, COM-1563 (227 kg, 12.2 m) and nose landing gear retract actuator equipment, SPL-1856, put the retract actuator assembly [1] into its position on the nose landing gear (Figure 402).

SUBTASK 32-34-01-420-002

(5) Do the steps below to connect the head end pin [3] to the attach fitting [4]:

(a) Apply a thin layer of the grease, D00013 or grease, D00633, to the head end pin [3], the washer [7], the washer [8] and the washer [14].

(b) Put the head end pin [3], the washer [7], and the washer [8] through the attach fitting [4] and the retract actuator assembly [1].

(c) Install the washer [14] and the nut [10] on the head end pin [3].

(d) Tighten the nut [10], and loosen if necessary to align the holes for the lockbolt.

WARNING

USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(WARNING PRECEDES)

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(e) Apply a thin coat of the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913, to the lock bolt [9] and the washer [11].

(f) Install the lock bolt [9], the washer [11], and the nut [12] on the head end pin [3].

(g) Tighten the nut [12] to 10 in-lb (1.13 N·m)-20 in-lb (2.26 N·m), then loosen if necessary to align the holes for the cotter pin.

(h) Install the cotter pin [13] in the head end pin [3].

SUBTASK 32-34-01-420-003

(6) Do the steps below to connect the rod end pin [16] to the attach fitting [17].

(a) Apply a thin layer of the grease, D00013 or grease, D00633, to the threads of the rod end pin [16] and the faces of the washer [19] and the washer [20].

NOTE: The thread protector from the wrench kit, SPL-4133 can be reinstalled after the grease is applied.

(b) Put the rod end pin [16] and washer [19] and washer [20] through the attach fitting [17] and the retract actuator assembly [1]

(c) Install the washer [14] and the nut [10] on the rod end pin [16], with the grease, D00013 or grease, D00633, between the washer and the nut.

(d) Use the wrench kit, SPL-4133 to tighten the nut [10] to 30 ft-lb (40.7 N·m)-50 ft-lb (67.8 N·m) (Figure 32-21-01-990-804).

(e) Apply a thin layer of the grease, D00013 or grease, D00633, to the threads of the lock bolt [22] and the faces of the washer [11] and the nut [21].

(f) Install the lock bolt [22], the washer [11], and the nut [21] on the rod end pin [16].

(g) Install the cotter pin [13] in the rod end pin [16].

SUBTASK 32-34-01-020-006

(7) Do the steps below to remove cable fishpole hoist, COM-1563 and nose landing gear retract actuator equipment, SPL-1856 from the retract actuator assembly [1] (Figure 402).

(a) Remove the Clamp Assembly from the retract actuator assembly [1].

(b) Remove the cable fishpole hoist, COM-1563 from the Lifting Beam Assembly.

(c) Remove the Lifting Beam Assembly from the bolts installed on the attach fitting [4].

SUBTASK 32-34-01-080-001

(8) Remove the caps from the hydraulic hoses [6].

SUBTASK 32-34-01-420-004

(9) Connect the hydraulic hoses [6] to the retract actuator assembly [1].

(a) Tighten the B-nut on the retract port to 500 ±25 in-lb (56 ±3 N·m).

(b) Tighten the B-nut on the extend port to 700 ±35 in-lb (79 ±4 N·m).

SUBTASK 32-34-01-640-002

(10) Apply the grease, D00013 or grease, D00633, to the lubrication fitting [2], lubrication fitting [5], lubrication fitting [15], and lubrication fitting [18] to lubricate these items:

(a) The head end bearing of the retract actuator assembly [1]

(b) The rod end bushing of the retract actuator assembly [1]

(c) The bushing of the attach fitting [4] and attach fitting [17].

G. Nose Landing gear retract actuator installation test

NOTE: During this test, it is possible that the GEAR DISAGREE and the GEAR DOOR messages will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution will also operate. This is correct operation of the airplane.

You do not have to do maintenance actions to make the messages go away. The messages will go away automatically when you complete this test.

SUBTASK 32-34-01-860-004

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-34-01-860-005

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-34-01-860-006

(3) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-34-01-860-007

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-34-01-210-003

WARNING MAKE SURE THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. THE DOORS OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(5) Make sure the area around the doors for the nose and main landing gear is clear of persons and equipment.

SUBTASK 32-34-01-750-001

(6) Do a check to make sure you can remove the downlock pin from the nose landing gear.

NOTE: This shows that the extend port of the actuator assembly [1] is pressurized.

SUBTASK 32-34-01-480-003

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(7) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-34-01-860-008

(8) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

This will open the landing gear doors.

SUBTASK 32-34-01-750-002

(9) Do a check to make sure you cannot remove the downlock pin from the lock links.

NOTE: This shows that the retract port of the retract actuator assembly [1] is pressurized.

SUBTASK 32-34-01-860-009

(10) Move the control lever for the landing gear to the DN position.

NOTE: This will close the landing gear doors.

SUBTASK 32-34-01-790-001

(11) Examine the retract actuator assembly [1] for leaks.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-34-01-860-010

(1) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-34-01-840-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR GROUND LOCKPINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

NOSE LANDING GEAR LOCK ACTUATOR - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has these tasks:

   (1) A removal of the lock actuator for the nose landing gear

   (2) An installation of the lock actuator for the nose landing gear.

TASK 32-34-03-000-801

2. **Nose Landing Gear Lock Actuator Removal**

   (Figure 401)

   NOTE: This procedure is a scheduled maintenance task.

   A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

   B. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right

   C. Prepare for the Removal

   SUBTASK 32-34-03-860-001

   (1) Make sure the control lever for the landing gear is in the DN position.

   SUBTASK 32-34-03-860-002

   (2) Open these circuit breakers and install safety tags:

   Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

   SUBTASK 32-34-03-860-003

   (3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

   SUBTASK 32-34-03-480-001

   WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

   (4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-34-03-860-004

(5) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-34-03-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-34-03-480-002

(7) Install chocks around the tires of the nose landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

D. Nose Landing Gear Lock Actuator Removal

SUBTASK 32-34-03-020-001

(1) Disconnect the hydraulic lines [10].

SUBTASK 32-34-03-020-002

(2) Remove the bolt [9], washer [8], and nut [7] for the bottom pin [11].

SUBTASK 32-34-03-020-003

(3) Remove the bottom pin [11].

SUBTASK 32-34-03-020-004

(4) Remove the cotter pin [5], nut [4] and washer [6] for the top pin [2].

SUBTASK 32-34-03-020-005

(5) Remove the top pin [2].

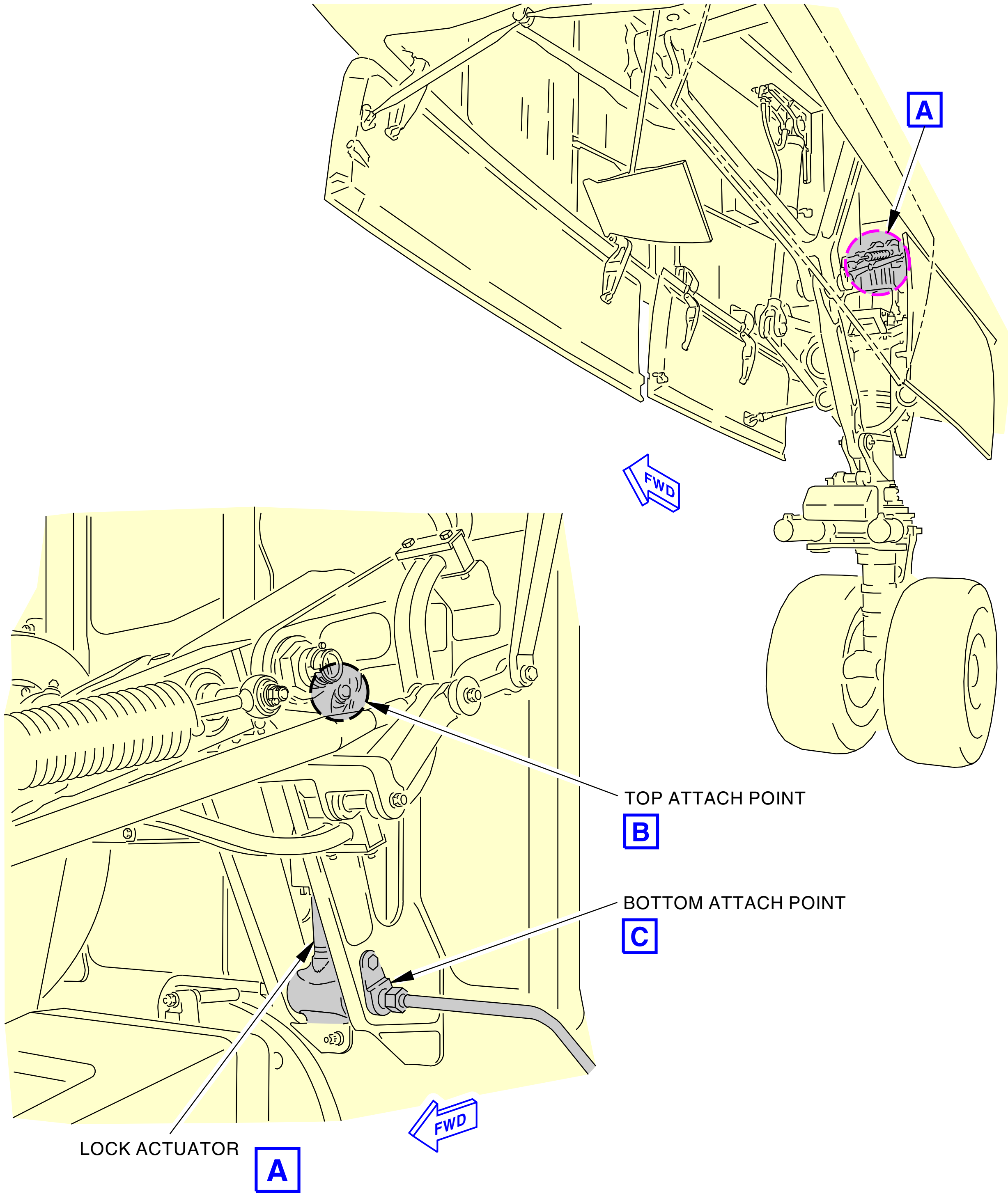
SUBTASK 32-34-03-020-006

(6) Remove the lock actuator assembly [3].

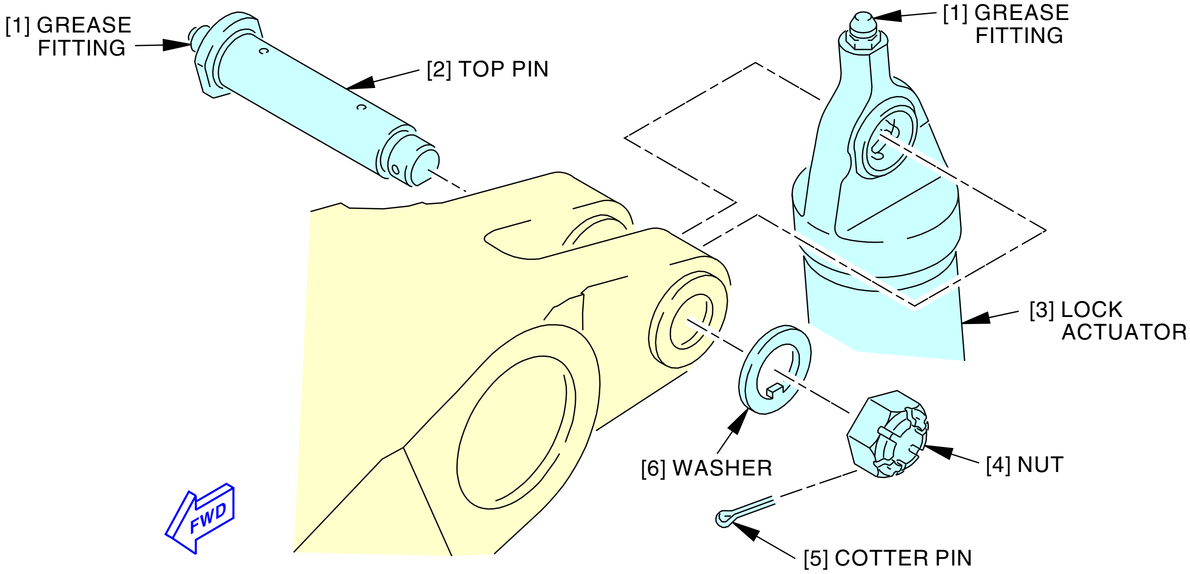
SUBTASK 32-34-03-480-003

(7) Install caps on the hydraulic lines [10].

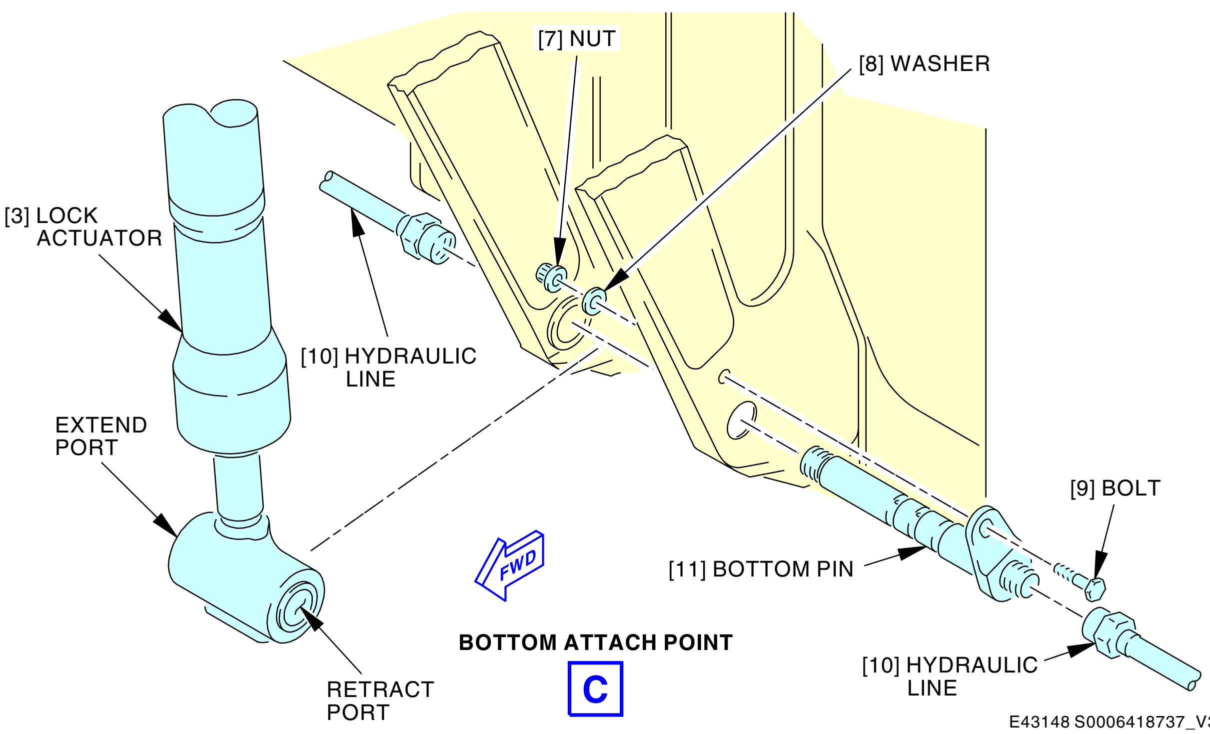
END OF TASK



Nose Landing Gear - Lock Actuator Installation
Figure 401/32-34-03-990-801 (Sheet 1 of 2)



TOP ATTACH POINT
B



BOTTOM ATTACH POINT
C

Nose Landing Gear - Lock Actuator Installation
Figure 401/32-34-03-990-801 (Sheet 2 of 2)

TASK 32-34-03-400-801

3. Nose Landing Gear Lock Actuator Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00054	Fluid - Hydraulic Assembly Lubricant - MCS 352B (Formerly Monsanto MCS 352B)	
D00633	Grease - Aircraft General Purpose	BMS3-33
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Actuator assembly	32-34-03-01-050	ARO ALL
5	Pin	32-21-02-01B-235	ARO ALL

D. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right

E. Nose Landing Gear Lock Actuator Installation

SUBTASK 32-34-03-080-001

(1) Remove the caps from the hydraulic lines [10].

SUBTASK 32-34-03-640-001

(2) Put a thin layer of corrosion inhibiting material, G50136, to these items:

(a) The thread relief and threads of the top pin [2].

(b) The face of the washer [6].

(c) The cotter pin [5].

SUBTASK 32-34-03-640-002

(3) Apply a layer of grease, D00013 or grease, D00633, to the top pin [2] and the mating surfaces. Do not apply it to the threads or thread relief.

SUBTASK 32-34-03-420-001

(4) Put the lock actuator assembly [3] in its position.

(a) Make sure the retract and extend ports are positioned correctly.

SUBTASK 32-34-03-420-002

(5) Install the top pin [2].

NOTE: Top pin assembly must be installed before the bottom pin assembly.

SUBTASK 32-34-03-420-003

(6) Install the nut [4] and washer [6].

SUBTASK 32-34-03-210-001

(7) Make sure the bottom pin [11] and the holes in the bottom pin [11] are clean.

SUBTASK 32-34-03-640-003

(8) Apply a thin layer of MCS 352B fluid, D00054, to the bottom pin [11].

SUBTASK 32-34-03-420-004

(9) Install the bottom pin [11].

SUBTASK 32-34-03-420-005

(10) Install the bolt [9], washer [8] and nut [7].

SUBTASK 32-34-03-420-006

(11) Connect the hydraulic line [10].

SUBTASK 32-34-03-420-009

(12) Tighten the B-nuts on hydraulic line [10] to 270 ±14 in-lb (31 ±2 N·m).

SUBTASK 32-34-03-420-007

(13) Tighten the nut [4] between 300 in-lb (33.9 N·m) to 500 in-lb (56.5 N·m).

SUBTASK 32-34-03-420-008

(14) Install the cotter pin [5].

NOTE: Loosen the nut if it is necessary to align the nut with the hole for the cotter pin.

SUBTASK 32-34-03-640-004

(15) Lubricate the grease fittings [1] with grease, D00013 or grease, D00633.

F. Nose Landing Gear Lock Actuator Installation Test

SUBTASK 32-34-03-860-005

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-34-03-860-006

(2) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-34-03-860-007

WARNING

KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-34-03-790-001

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Move the landing gear control lever to the UP position, using the ground lock override button.

SUBTASK 32-34-03-750-001

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) Do a check to make sure you cannot remove the downlock pin from the lock links.

NOTE: This shows that the retract port of the downlock actuator is pressurized.

SUBTASK 32-34-03-790-002

(6) Move the landing gear control lever to the DOWN position.

SUBTASK 32-34-03-790-003

(7) Operate the landing gear control lever for three complete cycles (one cycle is DOWN to UP to DOWN). Keep the control lever in each position for approximately one minute.

SUBTASK 32-34-03-790-004

(8) Make sure there is no hydraulic fluid leakage from the actuator or hydraulic lines when the landing gear control lever is in the DOWN and UP positions.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-34-03-840-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-34-03-860-008

(2) For the landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-34-03-860-009

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

NOSE LANDING GEAR LOCK ACTUATOR - INSPECTION/CHECK

1. **General**

   A. This procedure only has illustrations and wear limit tables which show the data for wear limits. There are no procedures for access, removal, or installation of the parts. Refer to NOSE LANDING GEAR LOCK ACTUATOR - REMOVAL/INSTALLATION, PAGEBLOCK 32-34-03/401 for procedures to do these tasks.

TASK 32-34-03-200-801

2. **Nose Landing Gear Lock Actuator - Inspection/Check**

   (Figure 601)

   A. **References**

Reference	Title
32-34-03 P/B 401	NOSE LANDING GEAR LOCK ACTUATOR - REMOVAL/INSTALLATION

   B. **Location Zones**

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right

   C. **General**

SUBTASK 32-34-03-210-002

(1) This procedure only has illustrations and wear limit tables which show the data for wear limits. There are no procedures for access, removal, or installation of the parts. Refer to NOSE LANDING GEAR LOCK ACTUATOR - REMOVAL/INSTALLATION, PAGEBLOCK 32-34-03/401 for procedures to do these tasks.

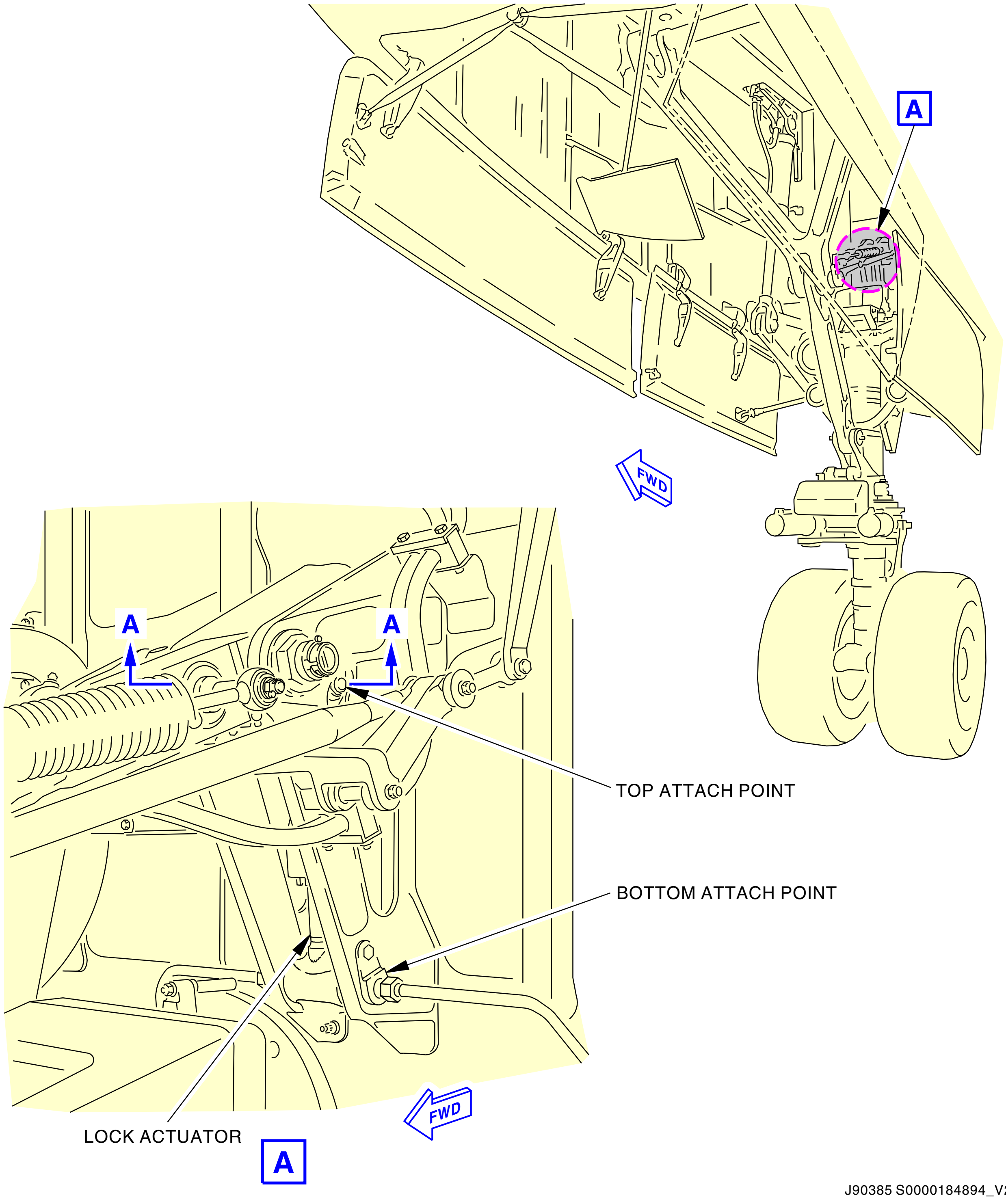
SUBTASK 32-34-03-220-001

(2) Use the following table to see the permitted quantity of wear:

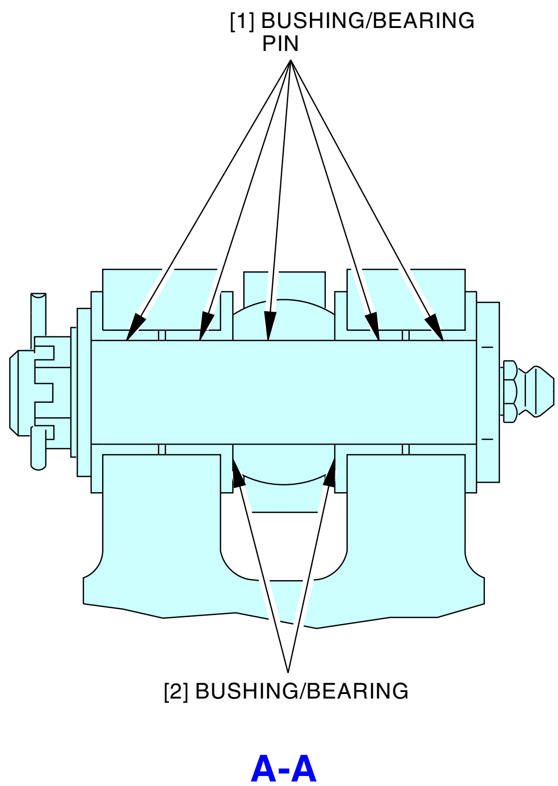
Nose Landing Gear Lock Actuator Wear Limits

INDEX NO.	PART NAME	DIM.	DESIGN LIMITS		WEAR LIMITS	
			DIAMETER inches (millimeters)		ALLOWED WEAR DIM. inches (millimeters)	MAX CLEARANCE inches (millimeters)
			MIN	MAX		
1	Bushing/ Bearing	ID	0.6250 in. (15.875 mm)	0.6260 in. (15.900 mm)	0.6270 in. (15.926 mm)	0.0046 in. (0.117 mm)
	Pin	OD	0.6230 in. (15.824 mm)	0.6240 in. (15.850 mm)	0.6214 in. (15.784 mm)	
2	Bushing		0.5920 in. (15.037 mm)	0.6125 in. (15.558 mm)	0.6334 in. (16.088 mm)	0.0444 in. (1.128 mm)
	Bearing		0.5880 in. (14.935 mm)	0.5900 in. (14.986 mm)	0.5658 in. (14.371 mm)	

END OF TASK



Nose Landing Gear Lock Actuator Wear Limits
Figure 601/32-34-03-990-802 (Sheet 1 of 2)



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Nose Landing Gear Lock Actuator Wear Limits
Figure 601/32-34-03-990-802 (Sheet 2 of 2)

NOSE LANDING GEAR DOOR-OPERATED SEQUENCE VALVE - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has these tasks:

      (1) A removal of the door-operated sequence valve for the nose landing gear

      (2) An installation of the door-operated sequence valve for the nose landing gear.

TASK 32-34-04-000-801

2. **Nose Landing Gear Door-Operated Sequence Valve Removal**

   (Figure 401)

   NOTE: This procedure is a scheduled maintenance task.

   A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

   B. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left

   C. Prepare for the Removal

   SUBTASK 32-34-04-860-001

   (1) Make sure the control lever for the landing gear is in the DN position.

   SUBTASK 32-34-04-860-002

   (2) Open these circuit breakers and install safety tags:

   Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

   SUBTASK 32-34-04-860-003

   (3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

   SUBTASK 32-34-04-480-001

   WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

   (4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-34-04-860-004

(5) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-34-04-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-34-04-480-002

(7) Install chocks around the tires of the nose landing gear (PAGEBLOCK 10-11-05/201).

D. Nose Landing Gear Door-Operated Sequence Valve Removal

SUBTASK 32-34-04-020-001

(1) Disconnect the hydraulic lines [11] and hydraulic lines [14].

SUBTASK 32-34-04-480-003

(2) Install caps on the hydraulic lines [11] and hydraulic lines [14].

SUBTASK 32-34-04-020-002

(3) Remove the bolt [6], washer [7], washer [9], and nut [10] from the top of the link [8].

SUBTASK 32-34-04-020-003

(4) Remove the bolts [2], washers [3], washers [4], and nuts [5] for the door-operated sequence valve assembly [1].

SUBTASK 32-34-04-020-004

(5) Remove the door-operated sequence valve assembly [1].

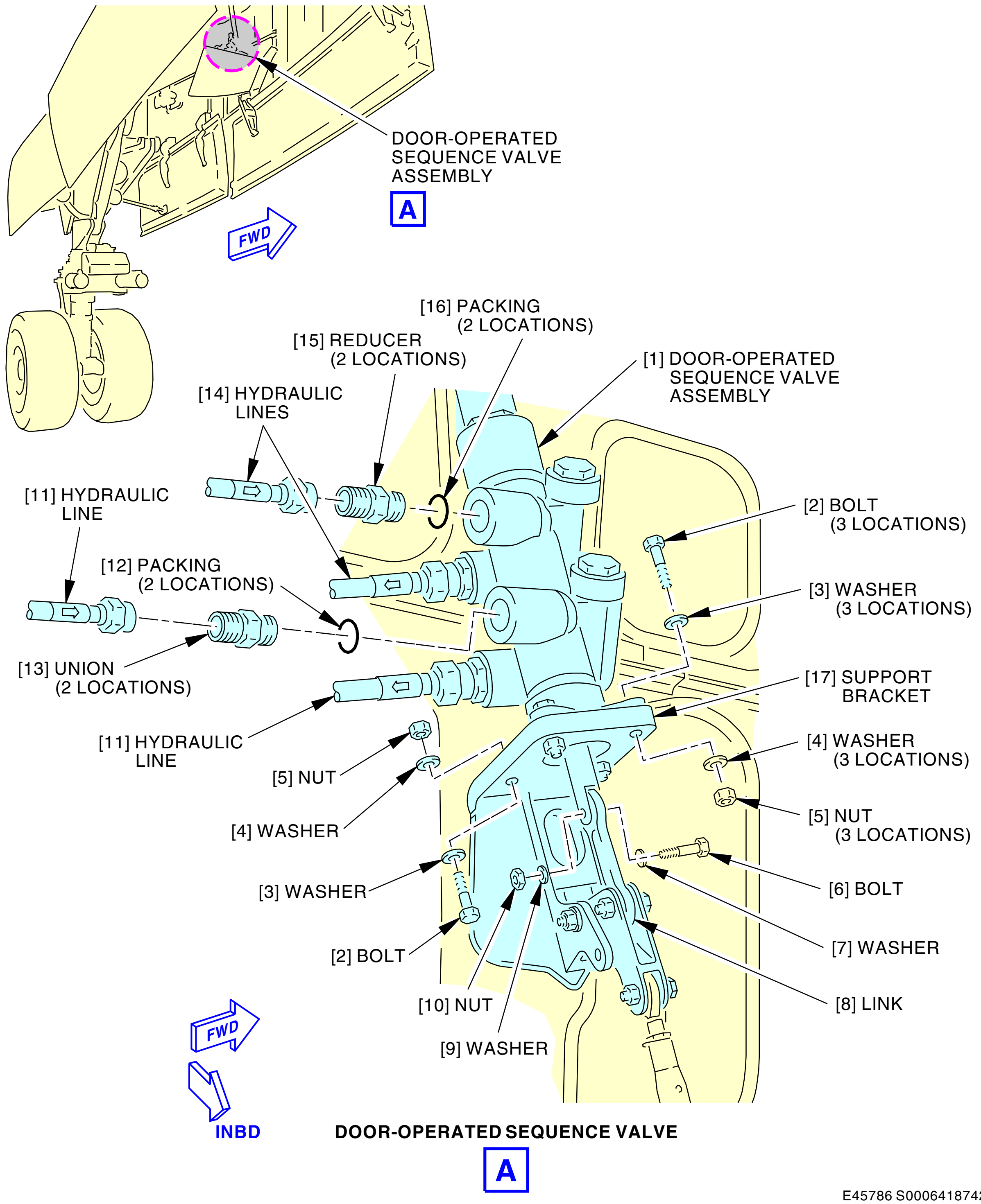
SUBTASK 32-34-04-020-005

(6) Remove the unions [13], reducers [15], packings [12], and packings [16].

SUBTASK 32-34-04-800-001

(7) Discard the packings [12] and packings [16].

END OF TASK



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Nose Landing Gear Door-Operated Sequence Valve Installation
Figure 401/32-34-04-990-801

TASK 32-34-04-400-801

3. Nose Landing Gear Door-Operated Sequence Valve Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
24-22-00-860-806	Remove Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

B. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00054	Fluid - Hydraulic Assembly Lubricant - MCS 352B (Formerly Monsanto MCS 352B)	
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Valve assembly	32-34-04-01-135	ARO ALL
12	Packing	32-34-04-01-175	ARO ALL
16	Packing	32-34-04-01-170	ARO ALL

D. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left

E. Nose Landing Gear Door-Operated Sequence Valve Installation

SUBTASK 32-34-04-640-001

(1) Apply MCS 352B fluid, D00054, or hydraulic fluid, D00153, to the unions [13], reducers [15], packings [12], and packings [16].

SUBTASK 32-34-04-420-001

(2) Install the unions [13], reducers [15], packings [12], and packings [16] in the door-operated sequence valve assembly [1].

SUBTASK 32-34-04-640-002

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(3) Apply Mastinox 6856 K, C00913, or Cor-Ban 27L Compound, G50237, to the bolts [2], washers [3], washers [4], nuts [5] and to the surfaces that touch between the door-operated sequence valve assembly [1] and the support bracket [17].

SUBTASK 32-34-04-420-002

(4) Put the door-operated sequence valve assembly [1] in its position.

SUBTASK 32-34-04-420-003

(5) Install the bolts [2], washers [3], washers [4] and nuts [5]. .

NOTE: Look at the illustration for the direction to install the bolts [2].

SUBTASK 32-34-04-420-004

(6) Install the bolt [6], washer [7], washer [9], and nut [10] at the link [8].

SUBTASK 32-34-04-080-001

(7) Remove the caps from the hydraulic line [11] and hydraulic line [14].

SUBTASK 32-34-04-420-005

(8) Connect the hydraulic lines [11] and hydraulic lines [14].

(a) Tighten the B-nuts on the hydraulic lines [11] to 500 ±25 in-lb (56 ±3 N·m).

(b) Tighten the B-nuts on the hydraulic lines [14] to 270 ±14 in-lb (31 ±2 N·m).

F. Nose Landing Gear Door-Operated Sequence Valve Installation Test

SUBTASK 32-34-04-860-005

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-34-04-860-006

(2) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-34-04-860-007

> **WARNING**
> KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-34-04-790-001

> **WARNING**
> MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Move the landing gear control lever to the UP position, using the ground lock override button.

SUBTASK 32-34-04-790-002

(5) Make sure there are no hydraulic fluid leaks from the sequence valve or hydraulic lines.

SUBTASK 32-34-04-790-003

(6) Move the landing gear control lever to the DN position.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-34-04-840-001

> **WARNING**
> OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-34-04-860-008

(2) For the nose landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-34-04-860-009

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-34-04-860-010

(4) Remove electrical power if it is not necessary (TASK 24-22-00-860-806).

END OF TASK

NOSE LANDING GEAR DOOR-OPERATED SEQUENCE VALVE MECHANISM - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has two tasks:

      (1) A removal of the door-operated sequence valve mechanism for the nose landing gear

      (2) An installation of the door-operated sequence valve mechanism for the nose landing gear.

   B. In this procedure, the door-operated sequence valve mechanism is referred to as the sequence valve mechanism.

   C. The sequence valve mechanism has three parts: the control rod [12], the crank [16], and the link assembly [2].

TASK 32-34-05-020-801

2. **Sequence Valve Mechanism Removal**
   (Figure 401)

   A. General

      (1) This task has three parts:

         (a) The first part supplies instructions to remove only the control rod [12].

         (b) The second part supplies instructions to remove only the crank [16].

         (c) The third part supplies instructions to remove only the link assembly [2].

   B. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

   C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
211	Flight Compartment, Left
212	Flight Compartment, Right

   D. Prepare for the Removal

      SUBTASK 32-34-05-860-001

      (1) Make sure the control lever for the landing gear is in the DN position.

      SUBTASK 32-34-05-860-002

      (2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-34-05-480-001

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-34-05-480-002

(4) Install chocks around the tires of the nose landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-34-05-860-003

(5) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-34-05-480-003

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

E. Sequence Valve Mechanism Removal

SUBTASK 32-34-05-020-001

(1) Do the steps below if it is necessary to remove only the control rod [12]:

- (a) Do the steps below to disconnect the control rod [12] from the door hinge [13]:
  - 1) Remove the nut [11] and the washer [10] from the bolt [7].
  - 2) Remove the bolt [7], the washer [4] and the bushing [9].
- (b) Do the steps below to disconnect the control rod [12] from the crank [16]:
  - 1) Remove the nut [11] and the washer [10] from the bolt [7].
  - 2) Remove the bolt [7], the washer [4] and the bushing [9].
- (c) Remove the control rod [12] from the airplane.

SUBTASK 32-34-05-020-002

(2) Do the steps below if it is necessary to remove only the crank [16]:

- (a) Do the steps below to disconnect the crank [16] from the control rod [12]:
  - 1) Remove the nut [11] and the washer [10] from the bolt [7].
  - 2) Remove the bolt [7], the washer [4] and the bushing [9].
- (b) Do the steps below to disconnect the crank [16] from the support bracket [17]:
  - 1) Remove the nut [11] and the washer [10] from the bolt [3].
  - 2) Remove the bolt [3], the washer [4] and the bushing [5].
- (c) Do the steps below to disconnect the crank [16] from the link assembly [2]:
  - 1) Remove the nut [11] and the washer [10] from the bolt [7].
  - 2) Remove the bolt [7], the washer [4] and the bushing [9].
- (d) Remove the crank [16] from the airplane.

SUBTASK 32-34-05-020-003

(3) Do the steps below if it is necessary to remove only the link assembly [2]:

(a) Do the steps below to disconnect the link assembly [2] from the crank [16]:

1) Remove the nut [11] and the washer [10] from the bolt [7].

2) Remove the bolt [7], the washer [4] and the bushing [9].

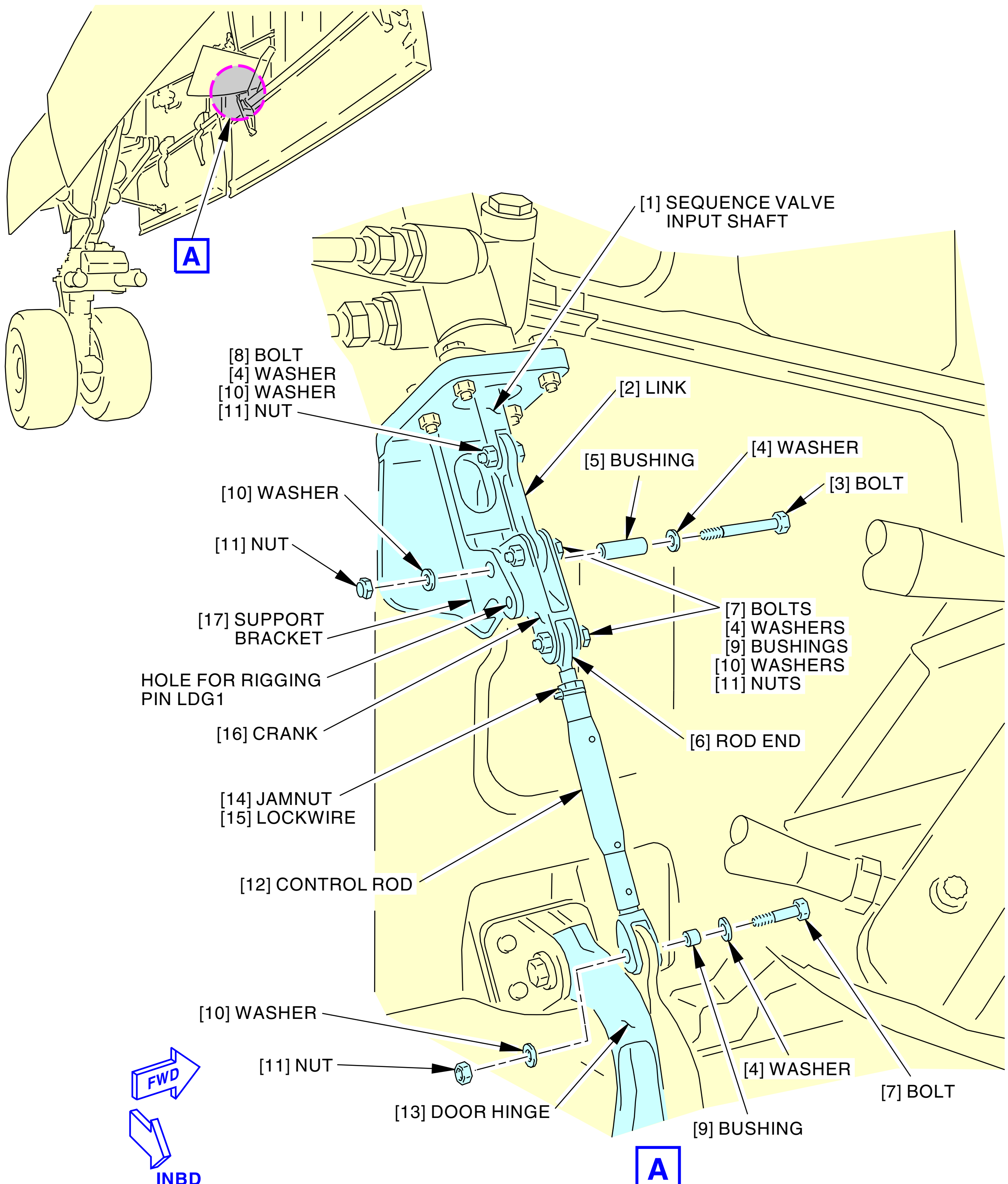
(b) Do the steps below to disconnect the link assembly [2] from the sequence valve input shaft [1]:

1) Remove the nut [11] and the washer [10] from the bolt [8].

2) Remove the bolt [8], and washer [4].

(c) Remove the link assembly [2] from the airplane.

END OF TASK



Nose Landing Gear Door-Operated Sequence Valve Mechanism Installation
Figure 401/32-34-05-990-801

TASK 32-34-05-420-801

3. Sequence Valve Mechanism Installation

(Figure 401)

A. General

(1) This task has three parts:

(a) The first part supplies instructions to install only the control rod [12].

(b) The second part supplies instructions to install only the crank [16].

(c) The third part supplies instructions to install only the link assembly [2].

B. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Link assembly	32-34-04-01-045	ARO ALL
12	Control rod	32-34-04-01-130	ARO ALL
16	Crank	32-34-04-01-080	ARO ALL

E. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
211	Flight Compartment, Left
212	Flight Compartment, Right

F. Sequence Valve Mechanism Installation

SUBTASK 32-34-05-420-001

(1) Do the steps below if it is necessary to install only the control rod [12]:

(a) Install rigging pin LDG1, which is part of rigging pin set, SPL-2532, through the support bracket [17] and the crank [16].

NOTE: The placard on the inside of the box for the rigging pin set, SPL-2532, identifies the different rigging pins.

(b) Push the nose landing gear door out until the door actuator is fully extended.

(c) Do the steps below to connect the control rod [12] to the door hinge [13]:

1) Put the control rod [12] into its position between the door hinge [13] and the crank [16].

2) Install the washer [4] and the bushing [9] on the bolt [7].

3) Put the bolt [7] through the control rod [12] and the door hinge [13].

4) Install the washer [10] and the nut [11] on the bolt [7].

(d) Loosen the jamnut [14] and turn the rod end [6] until it aligns with the crank [16].

(e) Do the steps below to connect the control rod [12] to the crank [16]:

1) Install the washer [4] and the bushing [9] on the bolt [7].

2) Put the bolt [7] through the crank [16] and the control rod [12].

3) Install the washer [10] and the nut [11] on the bolt [7].

(f) Tighten the jamnut [14] and install the lockwire [15].

(g) Remove rigging pin LDG1.

SUBTASK 32-34-05-420-002

(2) Do the steps below if it is necessary to install only the crank [16]:

(a) Do the steps below to connect the crank [16] to the link assembly [2]:

1) Put the crank [16] into its position between the control rod [12] and the link assembly [2].

2) Install the washer [4] and the bushing [9] on the bolt [7].

3) Put the bolt [7] through the crank [16] and the link assembly [2].

4) Install the washer [10] and the nut [11] on the bolt [7].

(b) Do the steps below to connect the crank [16] to the support bracket [17]:

1) Install the washer [4] and the bushing [5] on the bolt [3].

2) Put the bolt [3] through the support bracket [17] and the crank [16].

3) Install the washer [10] and the nut [11] on the bolt [3].

(c) Install rigging pin LDG1, which is part of rigging pin set, SPL-2532, through the support bracket [17] and the crank [16].

NOTE: The placard on the inside of the box for the rigging pin set, SPL-2532, identifies the different rigging pins.

(d) Do the steps below to connect the crank [16] to the control rod [12]:

1) Install the washer [4] and the bushing [9] on the bolt [7].

2) Put the bolt [7] through the crank [16] and the control rod [12].

NOTE: If you cannot put the bolt through the crank and the control rod, do the steps below.

a) Remove the lockwire [15] from the jamnut [14].

b) Loosen the jamnut [14] and turn the rod end [6] until it aligns with the crank [16].

c) Put the bolt [7] through the crank [16] and the control rod [12].

3) Install the washer [10] and the nut [11] on the bolt [7].

(e) If you removed the lockwire [15] and loosened the jamnut [14], tighten the jamnut and install the lockwire.

(f) Remove rigging pin LDG1.

SUBTASK 32-34-05-420-003

(3) Do the steps below if it is necessary to install only the link assembly [2]:

(a) Install rigging pin LDG1, which is part of rigging pin set, SPL-2532, through the support bracket [17] and the crank [16].

NOTE: The placard on the inside of the box for the rigging pin set, SPL-2532, identifies the different rigging pins.

(b) Do the steps below to connect the link assembly [2] to the sequence valve input shaft [1]:

1) Put the link assembly [2] into its position between the crank [16] and the sequence valve input shaft [1].

2) Install the washer [4] on the bolt [8].

3) Put the bolt [8] through the sequence valve input shaft [1] and the link assembly [2].

4) Install the washer [10] and the nut [11] on the bolt [8].

(c) Do the steps below to connect the link assembly [2] to the crank [16]:

1) Install the washer [4] and the bushing [9] on the bolt [7].

2) Put the bolt [7] through the crank [16] and the link assembly [2].

3) Install the washer [10] and the nut [11] on the bolt [7].

(d) Remove rigging pin LDG1.

G. Sequence Valve Mechanism Installation Test

NOTE: A test of the sequence valve mechanism is not necessary.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-34-05-080-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-34-05-860-004

(2) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-34-05-860-005

(3) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

END OF TASK

NOSE LANDING GEAR-OPERATED SEQUENCE VALVE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the nose landing gear-operated sequence valve

(2) An installation of the nose landing gear-operated sequence valve

B. The nose landing gear-operated sequence valve is referred to as the sequence valve in this procedure.

TASK 32-34-06-000-801

2. Nose Landing Gear-Operated Sequence Valve Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left

C. Prepare for the Removal

SUBTASK 32-34-06-860-001

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-34-06-860-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-34-06-860-003

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-34-06-480-001

WARNING

MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed on all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-34-06-860-004

(5) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-34-06-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-34-06-480-002

(7) Install chocks around the tires of the nose landing gear (PAGEBLOCK 10-11-05/201).

D. Nose Landing Gear-Operated Sequence Valve Removal

SUBTASK 32-34-06-020-001

(1) Disconnect the hydraulic lines [6], hydraulic lines [7], and hydraulic lines [8].

SUBTASK 32-34-06-480-003

(2) Install caps on the hydraulic lines [6], hydraulic lines [7], and hydraulic lines [8].

SUBTASK 32-34-06-020-002

(3) Remove the bolt [17], washer [14], washer [16], and nut [13] at the top of the link [15].

SUBTASK 32-34-06-020-003

(4) Remove the bolts [2], washers [1], washers [19], and nuts [18] for the sequence valve [3].

SUBTASK 32-34-06-020-004

(5) Remove the sequence valve [3].

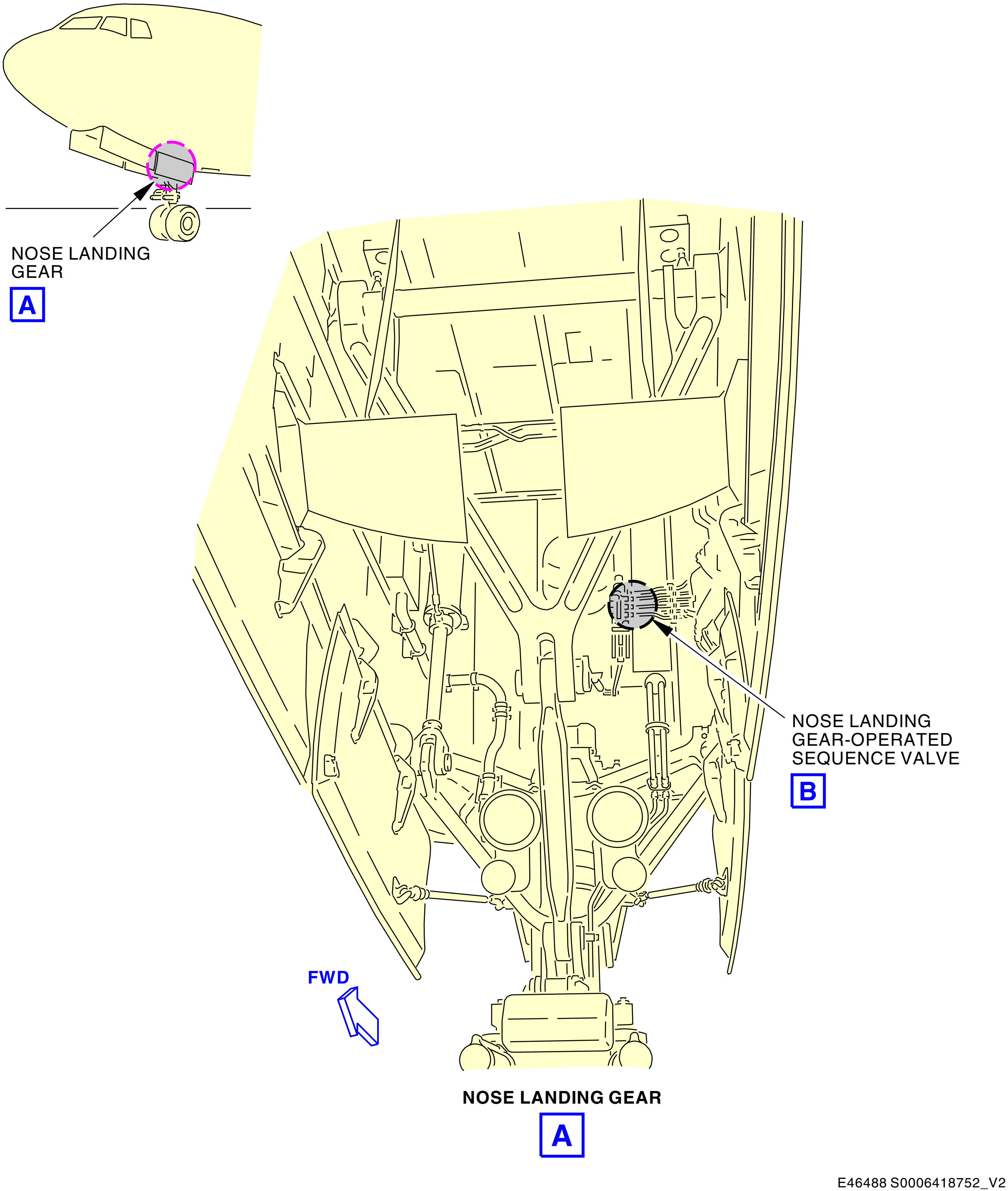
SUBTASK 32-34-06-020-005

(6) Remove the unions [5], reducers [9], reducers [10], packings [4], packings [11], and packings [12].

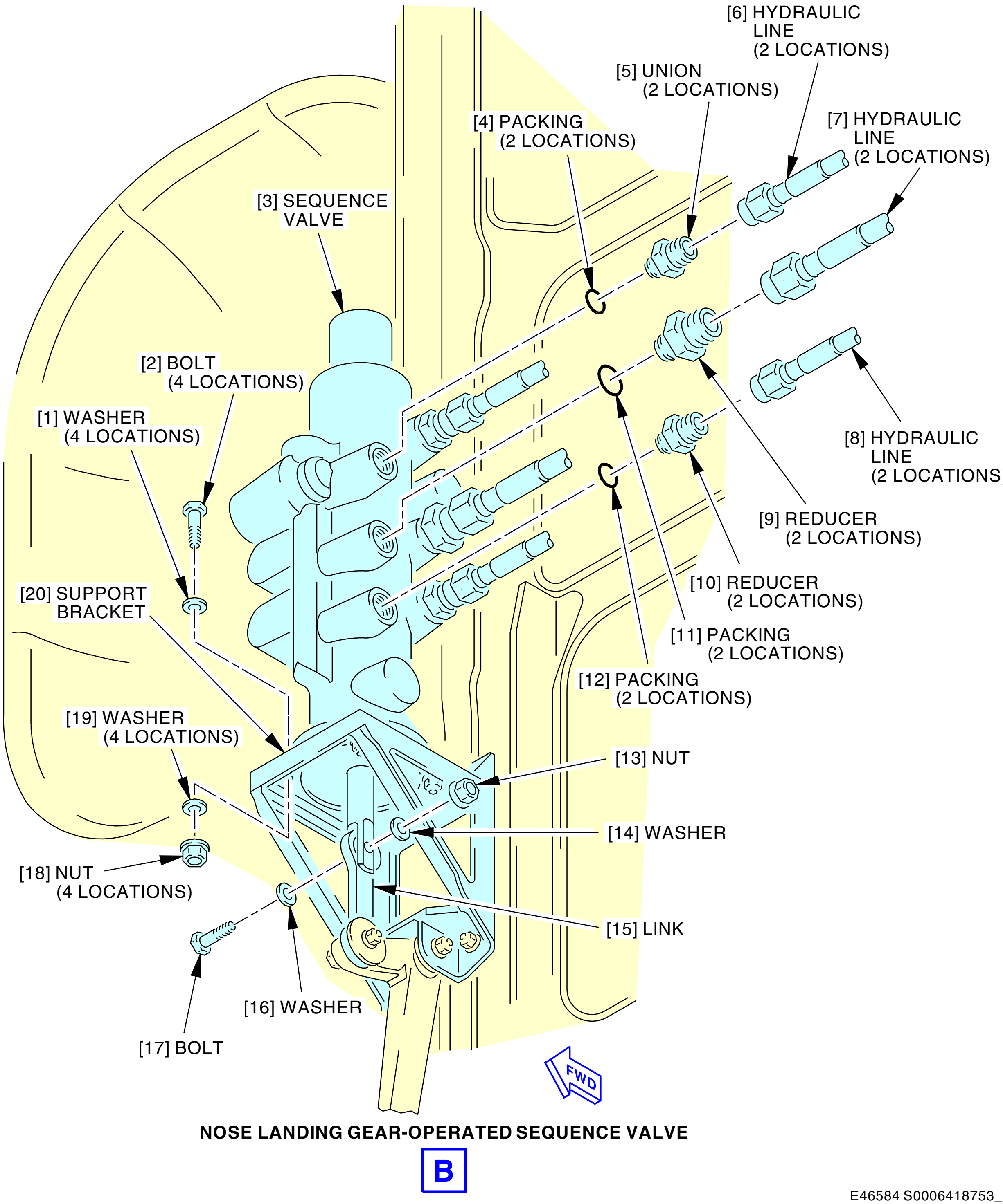
SUBTASK 32-34-06-800-001

(7) Discard the packings [11] and packings [12].

END OF TASK



Nose Landing Gear-Operated Sequence Valve Installation
Figure 401/32-34-06-990-801 (Sheet 1 of 2)



Nose Landing Gear-Operated Sequence Valve Installation
Figure 401/32-34-06-990-801 (Sheet 2 of 2)

TASK 32-34-06-400-801

3. Nose Landing Gear-Operated Sequence Valve Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
24-22-00-860-806	Remove Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00054	Fluid - Hydraulic Assembly Lubricant - MCS 352B (Formerly Monsanto MCS 352B)	
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Valve	32-34-06-02-133	ARO ALL
4	Packing	32-34-06-02-155	ARO ALL
11	Packing	32-34-06-02-155	ARO ALL
12	Packing	32-34-06-02-150	ARO ALL

D. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left

E. Nose Landing Gear-Operated Sequence Valve Installation

SUBTASK 32-34-06-640-001

(1) Apply MCS 352B fluid, D00054, or hydraulic fluid, D00153, to the unions [5], reducers [9], reducers [10], packings [4], packings [11], and packings [12].

SUBTASK 32-34-06-420-001

(2) Install the unions [5], reducers [9], reducers [10], packings [4], packings [11], and packings [12] in the sequence valve [3].

SUBTASK 32-34-06-420-002

(3) Put the sequence valve [3] in its position.

SUBTASK 32-34-06-420-003

(4) Install bolts [2], countersunk washers [1], thin washers [19], and nuts [18].

SUBTASK 32-34-06-420-004

(5) Install the bolt [17], countersunk washer [14], thin washer [16], and nut [13] at the link [15].

SUBTASK 32-34-06-080-001

(6) Remove the caps from the hydraulic lines [6], hydraulic lines [7], and hydraulic lines [8].

SUBTASK 32-34-06-420-005

(7) Connect the hydraulic lines [6], hydraulic lines [7], and hydraulic lines [8].

(a) Tighten the B-nuts on hydraulic lines [6], and hydraulic lines [8] to 270 ±14 in-lb (31 ±2 N·m).

(b) Tighten the B-nuts on hydraulic lines [7] to 500 ±25 in-lb (56 ±3 N·m).

F. Nose Landing Gear-Operated Sequence Valve Installation Test

SUBTASK 32-34-06-860-005

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-34-06-860-006

(2) Close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-34-06-860-007

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-34-06-790-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(4) Move the landing gear control lever to the UP position, using the ground lock override button.

SUBTASK 32-34-06-790-002

(5) Make sure there are no hydraulic fluid leaks from the sequence valve or hydraulic lines.

SUBTASK 32-34-06-790-003

(6) Move the landing gear control lever to the DOWN position.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-34-06-840-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) For the nose landing gear, do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-34-06-860-008

(2) For the nose landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-34-06-860-009

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-34-06-860-010

(4) Remove electrical power if it is not necessary (TASK 24-22-00-860-806).

——— END OF TASK ———

NOSE LANDING GEAR-OPERATED SEQUENCE VALVE MECHANISM - REMOVAL/INSTALLATION

1. **General**
   A. This procedure has these tasks:
      (1) A removal of the nose landing gear-operated sequence valve mechanism
      (2) An installation of the nose landing gear-operated sequence valve mechanism.
   B. In this procedure, the nose landing gear-operated sequence valve mechanism is referred to as the sequence valve mechanism.

TASK 32-34-07-020-801

2. **Sequence Valve Mechanism Removal**
   (Figure 401)

   A. General
      (1) This task has instructions to remove these parts:
         (a) Forward input arm
         (b) Sequence valve rod
         (c) Sequence valve idler
         (d) Idler link
         (e) Sequence valve crank
         (f) Sequence valve link.

   B. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

   C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left

   D. Prepare for the Removal

   SUBTASK 32-34-07-860-001
      (1) Make sure the control lever for the landing gear is in the DN position.

   SUBTASK 32-34-07-860-002
      (2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-34-07-480-001

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-34-07-860-003

(4) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-34-07-480-002

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(5) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-34-07-480-003

(6) Install chocks around the tires of the nose landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

E. Sequence Valve Mechanism Removal

SUBTASK 32-34-07-020-001

(1) Do the steps below if it is necessary to remove only the forward input arm [37]:

(a) Remove the cotter pin [44], nut [43], washer [42], and bolt [40].

(b) Remove the end caps [41].

(c) Remove the bolt [32], washer [39], and nut [38].

(d) Remove the nut [36], washer [34], washer [35], and bolt [33].

(e) Remove the forward input arm [37].

SUBTASK 32-34-07-020-002

(2) Do the steps below if it is necessary to remove only the sequence valve rod assembly [20]:

(a) Remove the nut [26], washers [24], washer [25], and bolt [23].

(b) Remove the nut [36], washer [34], washer [35], and bolt [33].

(c) Remove the sequence valve rod assembly [20].

SUBTASK 32-34-07-020-003

(3) Do the steps below if it is necessary to remove only the sequence valve idler assembly [16]:

(a) Remove the nut [26], washers [24], washer [25], and bolt [23].

(b) Remove the nut [17], washer [18], washer [21], bushing [19], and bolt [22].

(c) Remove the sequence valve idler assembly [16].

SUBTASK 32-34-07-020-004

(4) Do the steps below if it is necessary to remove only the idler link assembly [15]:

(a) Remove the nut [26], washers [24], washer [25], and bolt [23].

(b) Remove the nut [14], washer [12], washer [13], and bolt [11].

(c) Remove the idler link assembly [15].

SUBTASK 32-34-07-020-005

(5) Do the steps below if it is necessary to remove only the sequence valve crank assembly [10]:

(a) Remove the nut [14], washer [12], washer [13], and bolt [11].

(b) Remove the nut [9], washer [8], washer [1], bushing [2], and bolt [31].

(c) Remove the nut [30], washer [28], washer [29], and bolt [27].

(d) Remove the sequence valve crank assembly [10].

SUBTASK 32-34-07-020-006

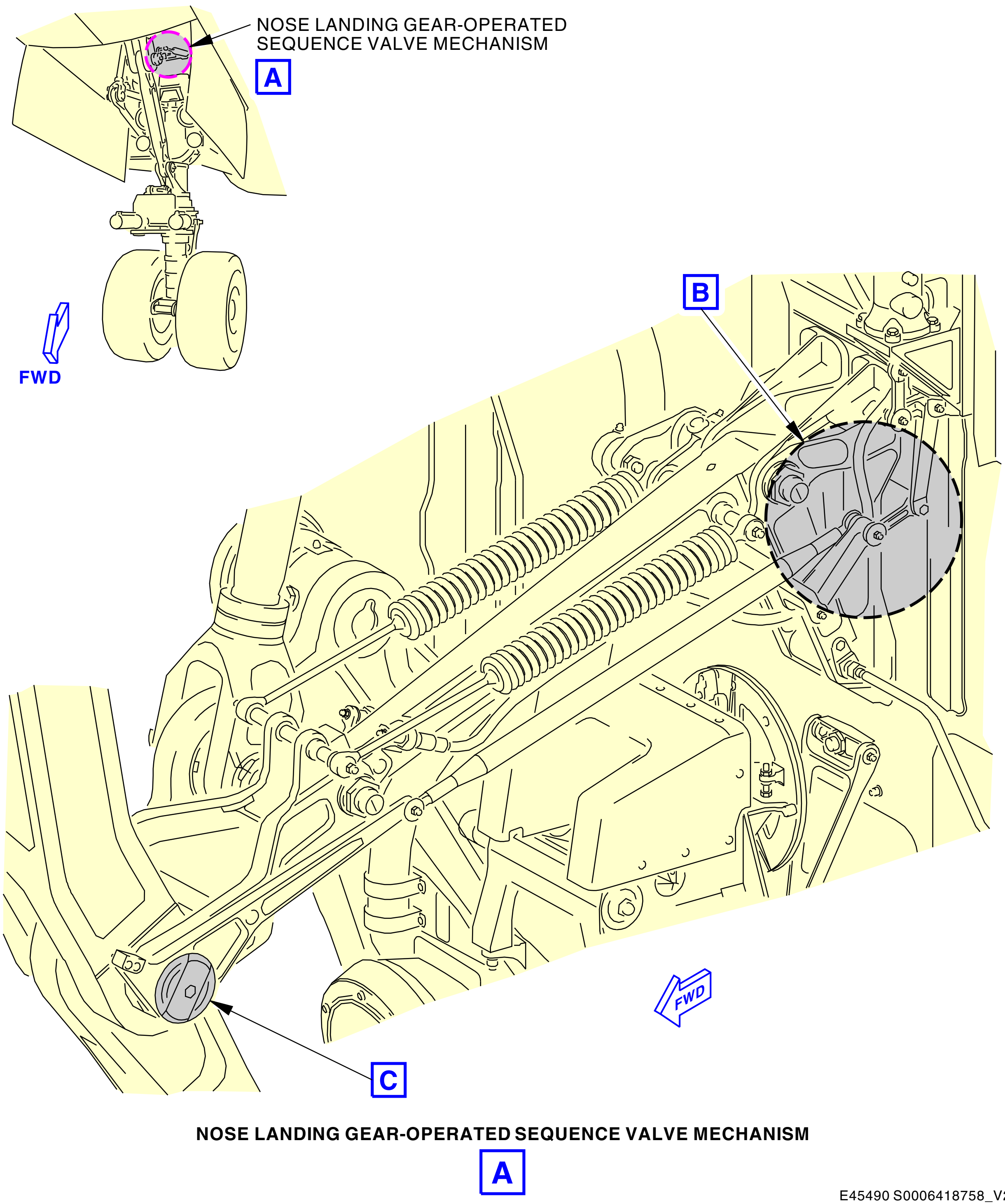
(6) Do the steps below if it is necessary to remove only the sequence valve link assembly [7]:

(a) Remove the nut [30], washer [28], washer [29], and bolt [27].

(b) Remove the nut [6], washer [4], washer [5], and bolt [3].

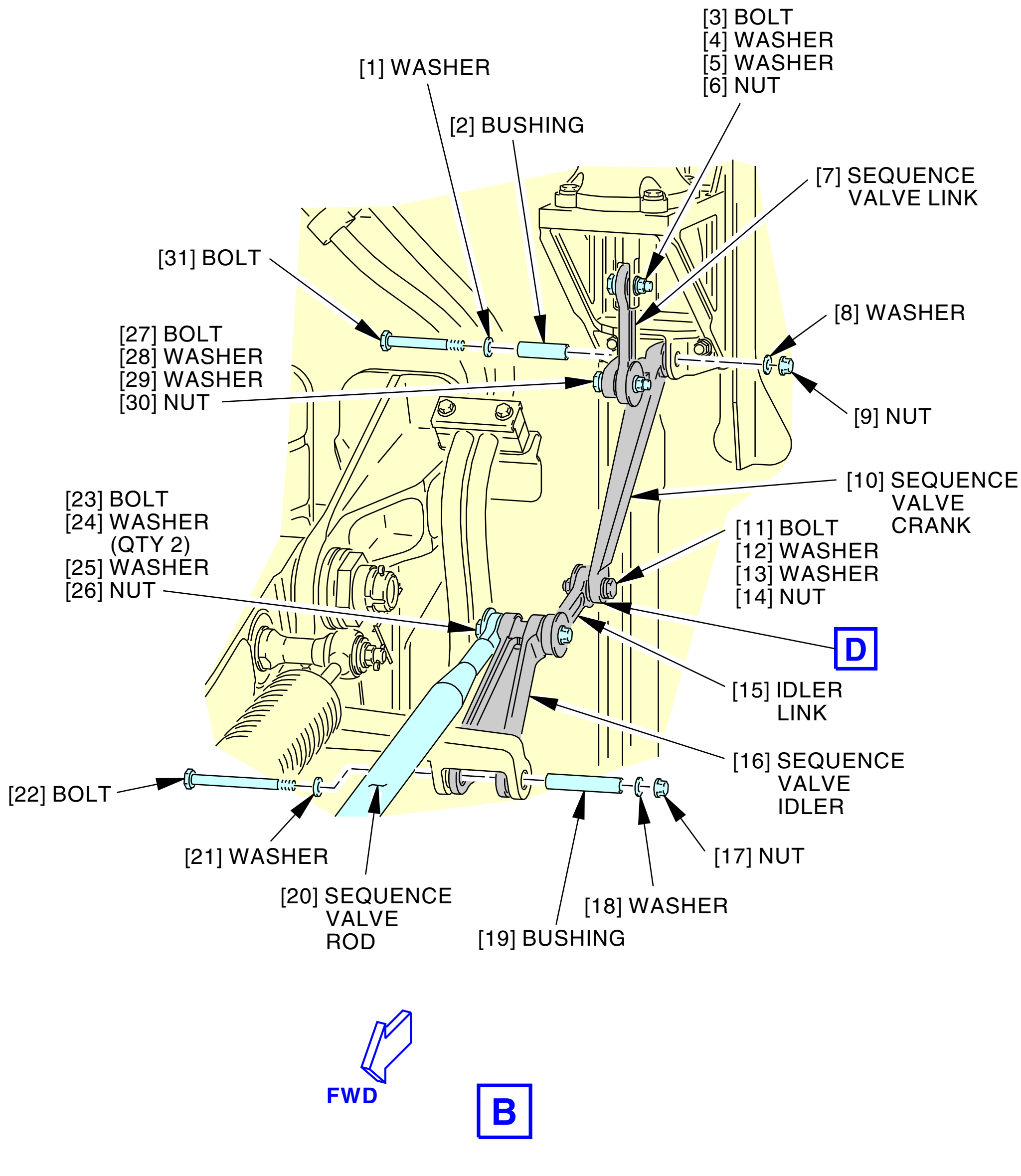
(c) Remove the sequence valve link assembly [7].

END OF TASK



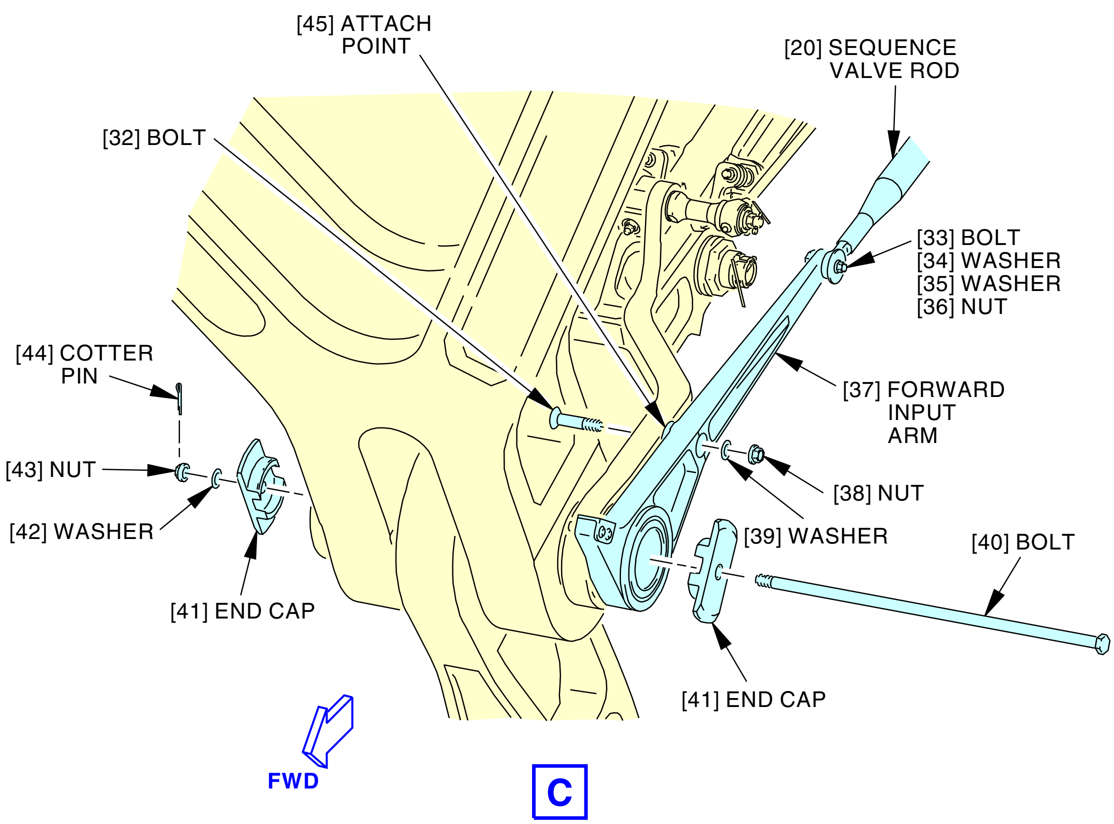
E45490 S0006418758_V2

Nose Landing Gear-Operated Sequence Valve Mechanism Installation
Figure 401/32-34-07-990-801 (Sheet 1 of 4)



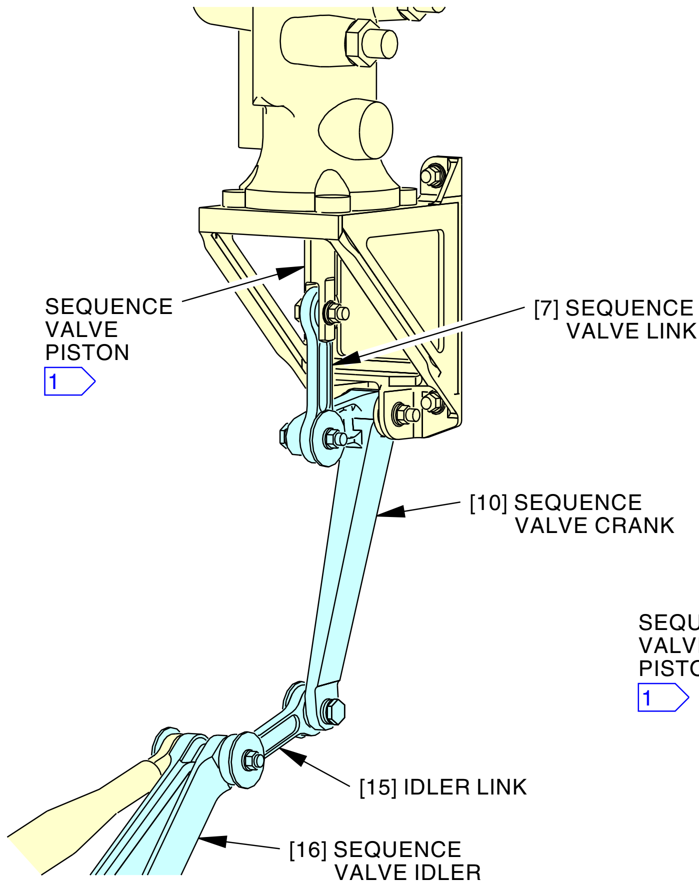
E45515 S0006418759_V3

Nose Landing Gear-Operated Sequence Valve Mechanism Installation
Figure 401/32-34-07-990-801 (Sheet 2 of 4)



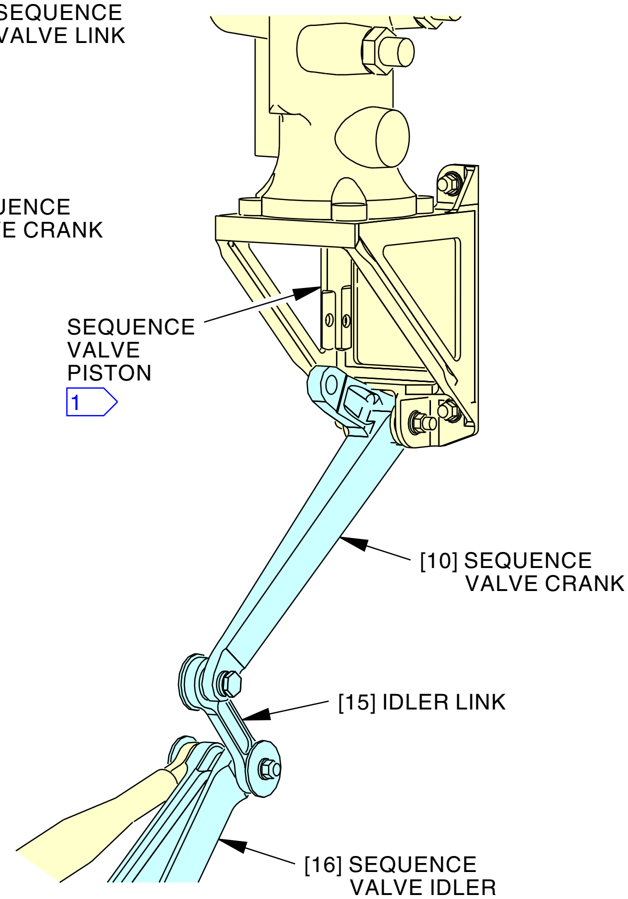
E49056 S0006418760_V2

Nose Landing Gear-Operated Sequence Valve Mechanism Installation
Figure 401/32-34-07-990-801 (Sheet 3 of 4)



(CORRECT ORIENTATION)

D



(INCORRECT ORIENTATION)
(SEQUENCE VALVE LINK NOT SHOWN FOR CLARITY)

D

1 SEQUENCE VALVE PISTON IS IN THE FULLY EXTENDED POSITION WHEN THE SEQUENCE VALVE CRANK AND IDLER LINK ARE ASSEMBLED IN THE CORRECT ORIENTATION.

2405642 S0000556211_V2

Nose Landing Gear-Operated Sequence Valve Mechanism Installation
Figure 401/32-34-07-990-801 (Sheet 4 of 4)

TASK 32-34-07-420-801

3. Sequence Valve Mechanism Installation

(Figure 401)

A. General

(1) This task has the instructions to install these parts:

(a) Forward input arm

(b) Sequence valve rod

(c) Sequence valve idler

(d) Idler link

(e) Sequence valve crank

(f) Sequence valve link.

B. References

Reference	Title
20-11-00-910-801	Standard Torque Values (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

C. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
7	Link assembly	Not Specified	
10	Crank assembly	Not Specified	
15	Link assembly	Not Specified	
16	Idler assembly	Not Specified	
20	Rod assembly	Not Specified	
37	Arm	Not Specified	
44	Pin	Not Specified	

E. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left

F. Sequence Valve Mechanism Installation

SUBTASK 32-34-07-420-001

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(1) Do the steps below if it is necessary to install only the forward input arm [37]:

(a) Put the forward input arm [37] into its position.

(b) Install the end caps [41].

(c) Install the bolt [40], washer [42], nut [43], and cotter pin [44].

(d) Apply Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237 to all of the surfaces that touch for the attach point [45], bolt [32], washer [39], and nut [38].

(e) Align the forward input arm [37] with the sequence valve rod assembly [20].

(f) Install the bolt [32], washer [39], and nut [38]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

(g) Install the bolt [33], washer [34], washer [35], and nut [36].

SUBTASK 32-34-07-420-002

(2) Do the steps below if it is necessary to install only the sequence valve rod assembly [20]:

(a) Put the sequence valve rod assembly [20] into its position.

(b) Install the bolt [23], washers [24], washer [25], and nut [26].

(c) Install the bolt [33], washer [34], washer [35], and nut [36].

SUBTASK 32-34-07-420-003

(3) Do the steps below if it is necessary to install only the sequence valve idler assembly [16]:

(a) Put the sequence valve idler assembly [16] into its position.

(b) Install the bolt [23], washers [24], washer [25], and nut [26].

NOTE: Install the countersunk washer against the bolt head.

(c) Install the bolt [22], washer [21], washer [18], bushing [19], and nut [17].

SUBTASK 32-34-07-200-001

CAUTION
FULLY EXTEND THE SEQUENCE VALVE PISTON BEFORE YOU CONNECT THE IDLER LINK. IF YOU CONNECT THE IDLER LINK WHILE THE PISTON IS RETRACTED, DAMAGE TO THE AIRPLANE CAN OCCUR.

(4) Make sure that the sequence valve piston is in the fully extended position before connecting the idler link.

NOTE: See Figure 401 view D for correct orientation of the idler link and sequence valve crank.

SUBTASK 32-34-07-420-004

(5) Do the steps below if it is necessary to install only the idler link assembly [15]:

(a) Put the idler link assembly [15] into its position.

(b) Install the bolt [23], washers [24], washer [25], and nut [26].

NOTE: Install the countersunk washer against the bolt head.

(c) Install the bolt [11], washer [12], washer [13], and nut [14].

SUBTASK 32-34-07-420-005

(6) Do the steps below if it is necessary to install only the sequence valve crank assembly [10]:

(a) Put the sequence valve crank assembly [10] into its position.

(b) Install the bolt [11], washer [12], washer [13], and nut [14].

(c) Install the bolt [31], washer [1], washer [8], bushing [2], and nut [9].

(d) Install the bolt [27], washer [28], washer [29], and nut [30].

SUBTASK 32-34-07-420-006

(7) Do the steps below if it is necessary to install only the sequence valve link assembly [7]:

(a) Put the sequence valve link assembly [7] into its position.

(b) Install the bolt [27], washer [28], washer [29], and nut [30].

(c) Install the bolt [3], washer [4], washer [5], and nut [6].

G. Sequence Valve Mechanism Installation Test

NOTE: A test of the sequence valve mechanism is not necessary.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-34-07-080-001

WARNING
OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-34-07-860-004

(2) For the nose landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-34-07-860-005

(3) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

END OF TASK

NOSE LANDING GEAR DOOR ACTUATOR - REMOVAL/INSTALLATION

1. **General**
   A. This procedure has these tasks:
      (1) Nose landing gear door actuator removal.
      (2) Nose landing gear door actuator installation.

TASK 32-34-09-000-801

2. **Nose Landing Gear Door Actuator Removal**
(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. **References**

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. **Location Zones**

Zone	Area
113	Nose Landing Gear Wheel Well, Left

C. **Prepare for the Removal**

SUBTASK 32-34-09-860-001

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-34-09-860-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-34-09-860-003

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-34-09-480-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-34-09-010-001

> **WARNING** OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-34-09-480-002

(6) Install chocks around the tires of the nose landing gear (PAGEBLOCK 10-11-05/201).

D. Nose Landing Gear Door Actuator Removal

SUBTASK 32-34-09-020-001

(1) Disconnect the hydraulic line [5] and hydraulic line [10] from the door door actuator assembly [6].

SUBTASK 32-34-09-800-001

(2) Install caps on the hydraulic line [5] and hydraulic line [10].

SUBTASK 32-34-09-020-002

(3) Remove the cotter pin [12], nut [13], washer [14], and bottom pin [15].

SUBTASK 32-34-09-020-003

(4) Remove the cotter pin [3], nut [4], washer [2], and top pin [8].

SUBTASK 32-34-09-020-004

(5) Remove the door door actuator assembly [6].

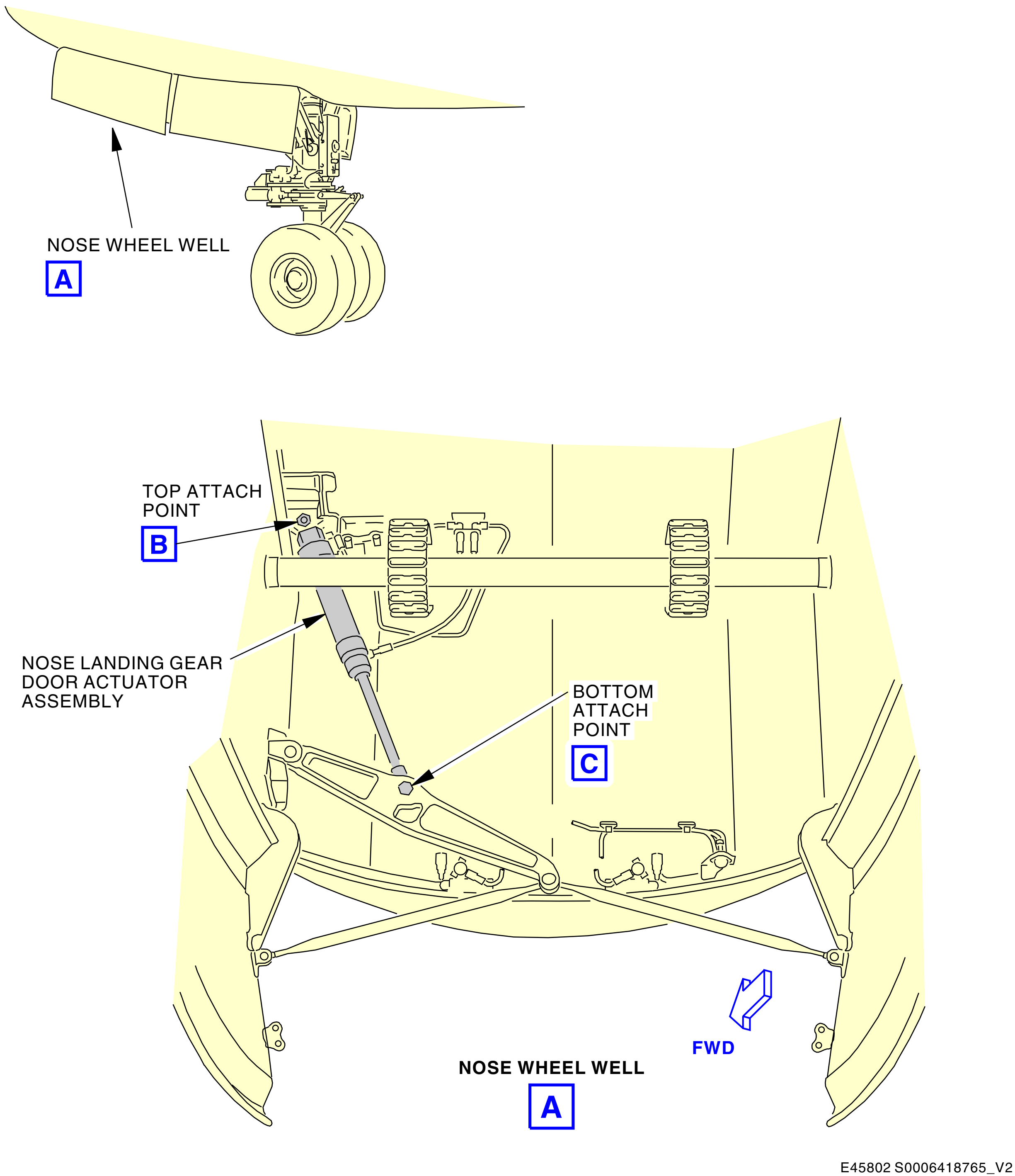
SUBTASK 32-34-09-020-005

(6) Remove the bolt [18], washer [19], and nut [20] from the door actuator crank [21].

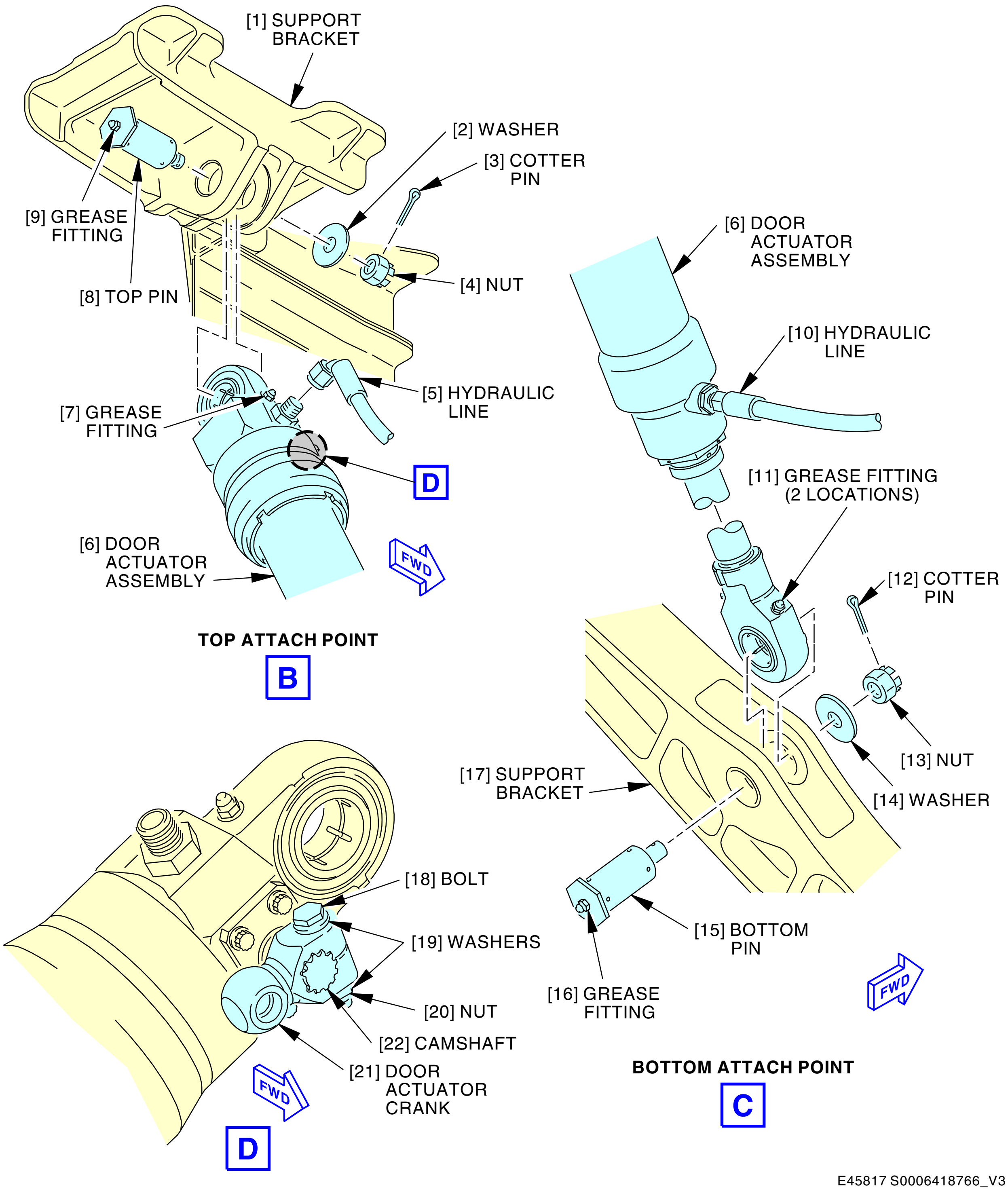
SUBTASK 32-34-09-020-006

(7) Remove the door actuator crank [21].

END OF TASK



Nose Landing Gear Door Actuator Installation
Figure 401/32-34-09-990-801 (Sheet 1 of 2)



Nose Landing Gear Door Actuator Installation
Figure 401/32-34-09-990-801 (Sheet 2 of 2)

TASK 32-34-09-400-801

3. Nose Landing Gear Door Actuator Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
24-22-00-860-806	Remove Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-14239	ADAPTER - TORQUE, MANUAL LOCK RELEASE

C. Consumable Materials

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Cotter pin	32-34-09-01-045	ARO ALL
6	Door actuator assembly	32-34-09-01-080	ARO ALL
12	Cotter pin	32-34-09-01-045	ARO ALL

E. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left

F. Nose Landing Gear Door Actuator Installation

SUBTASK 32-34-09-210-001

(1) Make sure the door actuator assembly [6] is in the extended position.

(a) If the door actuator is not in the extended position, use the torque adaptor, SPL-14239, and a wrench to rotate the camshaft [22] in the counterclockwise direction to unlock the mechanism and manually extend the piston shaft.

SUBTASK 32-34-09-420-001

(2) Install the door actuator crank [21].

SUBTASK 32-34-09-420-002

(3) Install the bolt [18], washer [19], and nut [20].

SUBTASK 32-34-09-640-001

(4) Apply grease, D00633 (preferred), or grease, D00013 (alternative), to the mating surfaces and the threads of top pin [8] and bottom pin [15].

SUBTASK 32-34-09-420-003

(5) Put the door door actuator assembly [6] into its position.

SUBTASK 32-34-09-420-004

(6) Install the top pin [8], washer [2], and nut [4].

SUBTASK 32-34-09-420-005

(7) Install the bottom pin [15], washer [14], and nut [13].

SUBTASK 32-34-09-420-006

(8) Tighten the nut [4] to 440 in-lb (49.7 N·m) - 650 in-lb (73.4 N·m).

SUBTASK 32-34-09-420-007

(9) Install the cotter pin [3].

NOTE: You can loosen the nut [4] a maximum of a quarter (1/4) turn to align the holes for the cotter pin [3].

SUBTASK 32-34-09-420-008

(10) Tighten the nut [13] to 440 in-lb (49.7 N·m) - 650 in-lb (73.4 N·m).

SUBTASK 32-34-09-420-009

(11) Install the cotter pin [12].

NOTE: You can loosen the nut [13] a maximum of a quarter (1/4) turn to align the holes for the cotter pin [12].

SUBTASK 32-34-09-080-001

(12) Remove the caps from the hydraulic line [5] and hydraulic line [10].

SUBTASK 32-34-09-420-010

(13) Connect the hydraulic line [5] and hydraulic line [10].

SUBTASK 32-34-09-420-011

(14) Tighten the B-nuts on hydraulic line [5] and hydraulic line [10] to 140 ±7 in-lb (16 ±1 N·m).

SUBTASK 32-34-09-640-002

(15) Apply the grease, D00633 (preferred), or grease, D00013 (alternative), to the grease fitting [7], grease fitting [9], grease fitting [11] and grease fitting [16].

G. Nose Landing Gear Door Actuator Installation Test

SUBTASK 32-34-09-840-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) For the nose landing gear, do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-34-09-860-004

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-34-09-860-005

(3) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-34-09-860-006

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(4) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-34-09-860-007

(5) For the nose landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-34-09-790-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(6) Move the landing gear control lever to the UP position, using the ground lock override button.

NOTE: The nose gear doors will open.

SUBTASK 32-34-09-790-002

(7) Move the landing gear control lever to the DN position, using the ground lock override button.

NOTE: The nose gear doors will close.

SUBTASK 32-34-09-860-008

(8) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-34-09-790-003

(9) Make sure there are no hydraulic fluid leaks from the hydraulic lines.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-34-09-860-009

(1) For the nose landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-34-09-860-010

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-34-09-860-012

(3) Remove electrical power if it is not necessary (TASK 24-22-00-860-806).

END OF TASK

LANDING GEAR ALTERNATE EXTENSION SYSTEM - ADJUSTMENT/TEST

1. **General**

   A. This procedure contains scheduled maintenance task data.

   B. This procedure has three tasks:

      (1) An operational test of the alternate extension system for the landing gear

      (2) A functional test of the alternate extension system for the landing gear.

      (3) An alternate extension system power pack dielectric test.

   C. This procedure does not contain an adjustment of the alternate extension system for the landing gear. An adjustment of the alternate extension system for the landing gear is not necessary.

TASK 32-35-00-710-801

2. **Landing Gear Alternate Extension System - Operational Test (Airplane on the Ground)**

NOTE: This procedure is a scheduled maintenance task.

   A. General

      (1) This task does an operational test of the alternate extension system for the landing gear. The operational test has four parts:

         (a) The first part of the operational test does a check of the alternate extension system's indication and landing gear door release functions.

         (b) The second part of the operational test does a check of the alternate extension system's landing gear release function.

         (c) The third part of the operational test does a check of the selector valve in the two selector/bypass valves.

         (d) The fourth part of the operational test does a check of the bypass valve in the two selector/bypass valves.

      (2) The operational test does a check to make sure that all of the switches, electrical circuits, relays, power packs, and actuators in the alternate extension system for the landing gear operate correctly.

   B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
24-22-00-860-806	Remove Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
31-61-00-800-813	Showing Status Messages (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

C. **Location Zones**

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
154	Area Below Aft Cargo Compartment, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. **Access Panels**

Number	Name/Location
198LR	Aft Wing To Body Fairing Panel

E. **Prepare for the Test**

SUBTASK 32-35-00-480-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-35-00-210-001

(2) Make sure the doors for the nose and main landing gear are closed.

SUBTASK 32-35-00-860-001

(3) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-35-00-860-002

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-35-00-860-003

(5) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-35-00-860-004

(6) Show the Engine Indicating and Crew Alerting System (EICAS) status page on the lower center display unit (TASK 31-61-00-800-813).

NOTE: Use the display select panel in the flight compartment to show the EICAS status page.

F. Landing Gear Alternate Extension System - Operational Test

SUBTASK 32-35-00-210-002

(1) During this test, make sure this message does not show on the EICAS status page: ALTN GEAR EXTEND.

SUBTASK 32-35-00-710-001

(2) Do the steps below to do a check of the alternate extension system's indication and landing gear door release functions:

NOTE: In the steps below, you use the switches of the ground door release system to do the check. The switches of the ground door release system start operation of the alternate extension system to open the landing gear doors.

(a) Make sure the EICAS shows that the landing gear is down and locked (Figure 503).

(b) Open this access panel:

Number	Name/Location
198LR	Aft Wing To Body Fairing Panel

NOTE: Do this to get access to the main wheel well electrical service panel, P56.

(c) On the main wheel well electrical service panel, P56, move the ARM DOORS switch to the ARM DOORS position and hold it there (Figure 501).

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR. THE DOORS OPEN, AND CLOSE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

(d) Make sure the area around the doors for the nose and main landing gear is clear of persons and equipment.

(e) On the main wheel well electrical service panel, P56, momentarily move the ALL DOORS OPEN/MLG DOORS CLOSE switch to the ALL DOORS OPEN position (Figure 501).

(f) Release the ARM DOORS switch.

(g) Make sure the doors for the nose and main landing gear open.

NOTE: The landing gear doors will stay in the open position until the Center Hydraulic System is pressurized. The doors should close normally upon pressurization of the Center Hydraulic System.

(h) Make sure the power pack stops after the all of the gear doors are opened.

(i) Close this access panel:

Number	Name/Location
198LR	Aft Wing To Body Fairing Panel

(j) Make sure the landing gear display on the EICAS changes from the normal display to the expanded display (Figure 503).

NOTE: The normal display shows one rectangle for all of the landing gear. The expanded display shows three rectangles, with one rectangle for each of the three landing gear.

(k) Make sure the expanded landing gear display shows that all three landing gear are down and locked (Figure 503).

(l) Make sure the GEAR DOOR message shows on the EICAS.

SUBTASK 32-35-00-480-002

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-35-00-710-002

(4) Do the steps below to do a check of the alternate extension system's landing gear release function (Figure 502):

(a) Momentarily move the ALTN GEAR switch on the landing gear module to the DOWN position.

NOTE: To move the ALTN GEAR switch, you must first lower the switch guard.

(b) Make sure these results occur:

1) The alternate uplock release actuator for the nose landing gear extends and then retracts.

2) The alternate uplock release actuator for the left main landing gear extends and then retracts.

3) The alternate uplock release actuator for the right main landing gear extends and then retracts.

SUBTASK 32-35-00-080-004

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-35-00-710-005

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(6) Make sure the downlock pins are installed in the nose and main landing gear (Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801).

(7) Do the steps below to do a check of the selector valve:

(a) Make sure the control lever for the landing gear is in the DN position.

(b) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(c) For the center hydraulic system, do this task to close the doors: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(d) For the nose and main landing gear, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

NOTE: During this test, it is possible that the GEAR DISAGREE and the GEAR DOOR messages will show on the Engine Indicating and Crew Alerting System (EICAS). If the GEAR DISAGREE message shows, an aural caution may also operate. The aural caution will operate only if 115V AC Power, which is usually supplied by engine power, is used to power the airplane. This is correct operation of the airplane.

You do not have to do maintenance actions to make the messages go away. The messages will go away automatically when you complete this test.

(e) Do the steps below to make sure the selector valve in each selector/bypass valve operates correctly:

1) Open this circuit breaker and install safety tag:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR. THE DOORS OPEN, AND CLOSE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

2) Make sure the area around the doors for the nose and main landing gear is clear of persons and equipment.

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

3) Make sure the downlock pins are installed in the nose and main landing gear (Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801).

4) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

5) Make sure the doors for the nose and main landing gear open.

6) Move the control lever for the landing gear to the DN position.

7) Make sure the doors for the nose and main landing gear close.

8) Open this circuit breaker and install safety tag:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

9) Remove the safety tag and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

10) Move the control lever for the landing gear to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

11) Make sure the doors for the nose and main landing gear open.

12) Move the control lever for the landing gear to the DN position.

13) Make sure the doors for the nose and main landing gear close.

14) Remove the safety tag and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

(f) For the nose and main landing gear, do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

(g) Make sure that there are no leaks in the connections to the bypass and selector valves.

SUBTASK 32-35-00-710-006

(8) Do the steps below to check the bypass valve:

NOTE: As an alternative do this task: Landing Gear Alternate Extension System - Operational Test (Airplane on the Jacks), TASK 32-35-00-720-801

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) Ensure the down lock pins are installed in the main and nose landing gear (Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801).

WARNING MAKE SURE THERE ARE NO PERSONS AND EQUIPMENT NEAR THE LANDING GEAR DOORS BEFORE YOU OPEN THEM. THE DOORS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(b) Put the landing gear lever in the UP position.

NOTE: This will cause the main and nose landing gear doors to move to the open position.

(c) Manually push the main landing gear doors in the direction of the closed position.

1) Make sure that the main landing gear doors are held in the open position by the hydraulic system.

(d) Manually push the nose landing gear door in the direction of the closed position.

1) Make sure that the nose landing gear door is held in the open position by the hydraulic system.

(e) Momentarily move the ALTN GEAR switch on the landing gear module to the DOWN position.

NOTE: To move the ALTN GEAR switch, you must first lower the switch guard.

(f) Make sure that the power pack stops.

(g) Manually push the main landing gear doors in the direction of the closed position.

1) Make sure that the main landing gear doors move in the direction of the closed position with little effort.

(h) Manually push the nose landing gear door in the direction of the closed position.

1) Make sure that the nose landing gear door moves in the direction of the closed position with little effort.

WARNING MAKE SURE ALL PERSONS ARE CLEAR OF LANDING GEAR DOORS, LANDING GEAR, AND THE ADJACENT AREA. THIS WILL PREVENT INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(i) Move the control lever for the landing gear to the DN position.

G. Put the Airplane Back to its Usual Condition

SUBTASK 32-35-00-860-006

(1) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

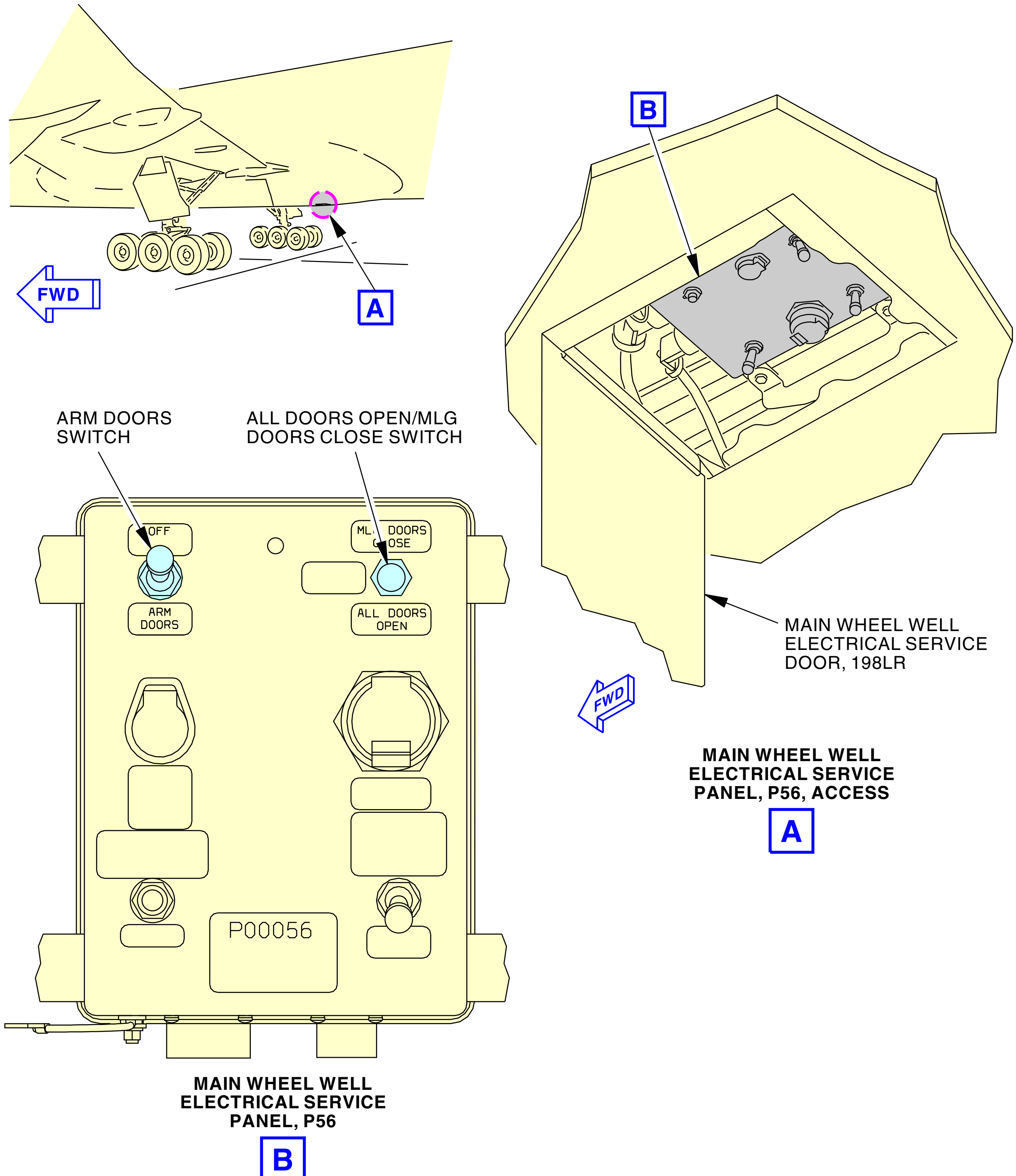
SUBTASK 32-35-00-860-007

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

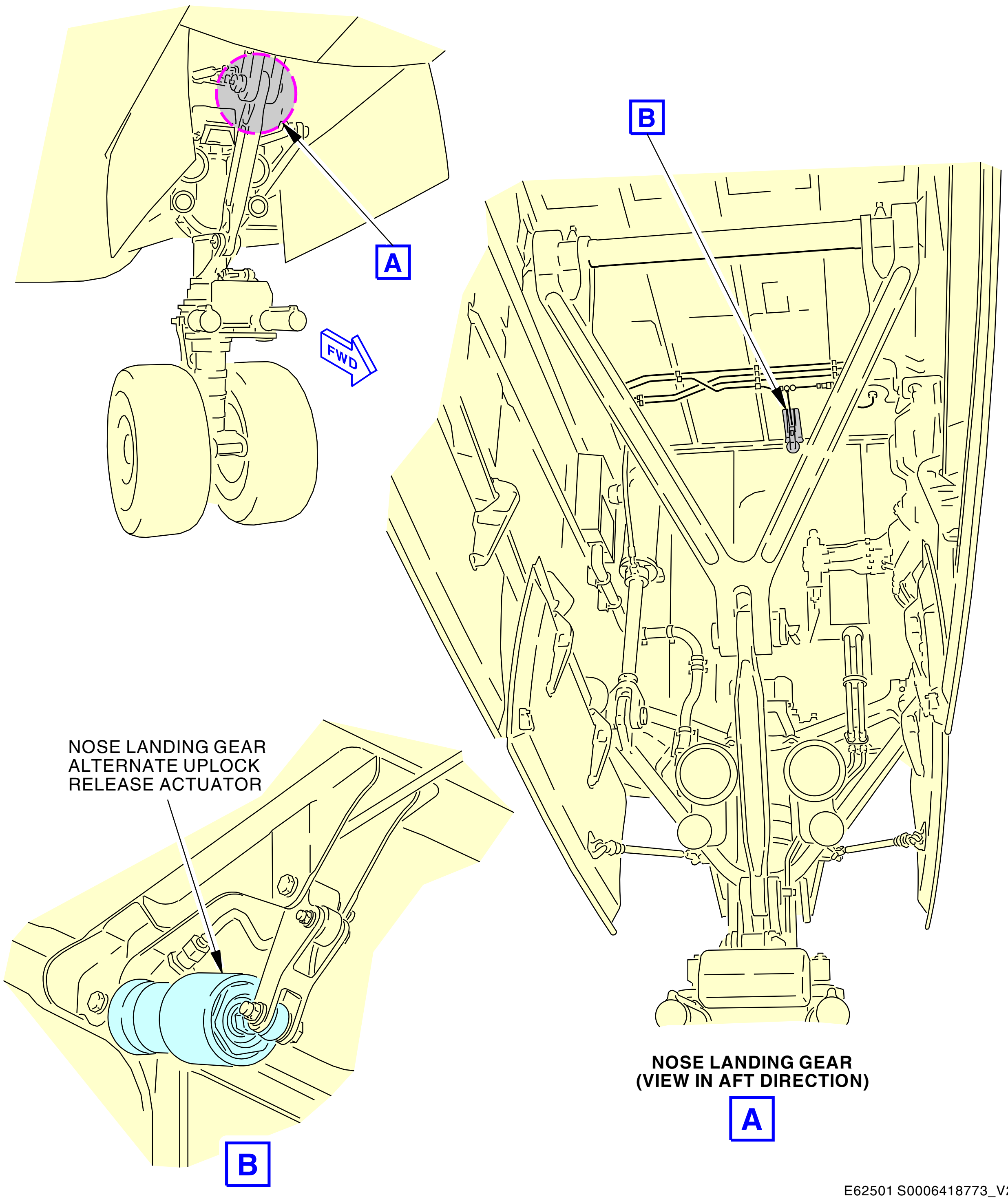
SUBTASK 32-35-00-860-008

(3) Do this task: Remove Electrical Power, TASK 24-22-00-860-806.

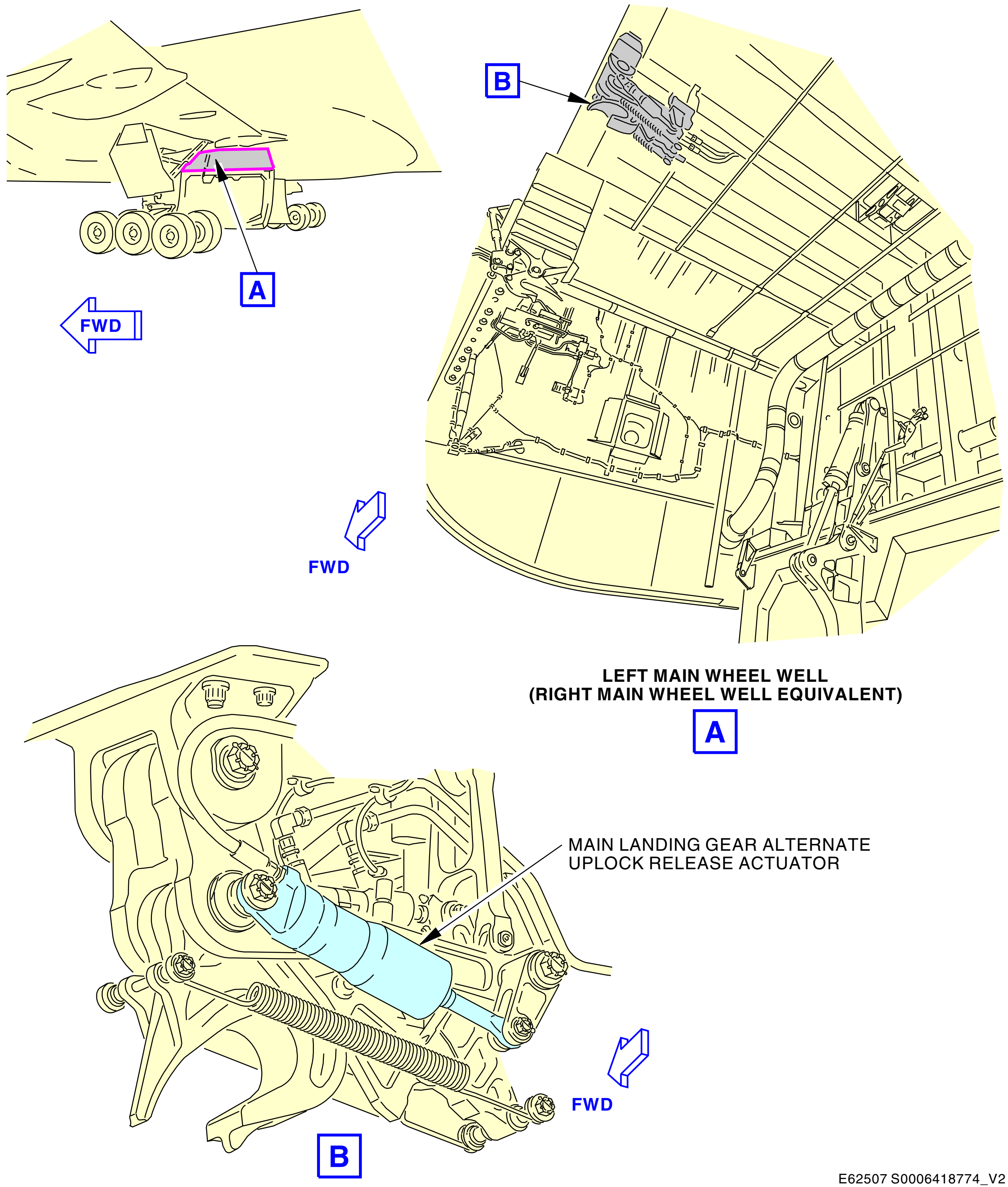
END OF TASK



Main Wheel Well Electrical Service Panel
Figure 501/32-35-00-990-801



Landing Gear Alternate Uplock Release Actuators
Figure 502/32-35-00-990-802 (Sheet 1 of 2)



Landing Gear Alternate Uplock Release Actuators
Figure 502/32-35-00-990-802 (Sheet 2 of 2)

TASK 32-35-00-720-801

3. Landing Gear Alternate Extension System - Operational Test (Airplane on the Jacks)

(Figure 503)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This task does a functional test of the alternate extension system for the landing gear. The functional test has two parts:

(a) The first part of the functional test does a check of the alternate extension system's indication and landing gear door/landing gear release functions.

(b) The second part of the functional test does a check of the alternate extension system's reset function.

(2) The functional test does a check to make sure that all of the switches, electrical circuits, relays, power pack, bypass valves, and actuators in the alternate extension system for the landing gear operate correctly.

B. References

Reference	Title
07-11-01-580-804	Lift the Airplane with Jacks (P/B 201)
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-15-01-901-801	Main Landing Gear Shock Strut Servicing - Nitrogen Only (P/B 301)
12-15-02-610-806-002	Nose Landing Gear Shock Strut Servicing - Nitrogen Only (P/B 301)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
31-61-00-800-813	Showing Status Messages (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-09-00-860-801	Air/Ground Mode Simulation (P/B 201)
32-30-01-720-804	Main Landing Gear Drag Brace Down Lock - Conditional Test (P/B 501)

C. Tools/Equipment

Reference	Description
STD-1139	Timer - Stop Watch, Accurate to 1 Second

D. Consumable Materials

Reference	Description	Specification
G00018	Nitrogen - Gaseous, Pressurizing, 99.5 Percent Pure	A-A-59503 Type I Grade B, MIL-PRF-27401 Type I Grade A

E. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
711	Nose Landing Gear

(Continued)

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

F. **Prepare for the Test**

SUBTASK 32-35-00-480-003

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-35-00-610-003

CAUTION: FILL THE SHOCK STRUTS OF THE NOSE AND MAIN LANDING GEAR WITH NITROGEN BEFORE YOU DO THIS TEST. IF YOU DO NOT FILL THE SHOCK STRUTS WITH NITROGEN, DAMAGE TO THE AIRPLANE WILL OCCUR WHEN YOU DO THE TEST.

(2) Make sure the shock strut of the nose landing gear is filled with nitrogen, G00018, do this task: Nose Landing Gear Shock Strut Servicing - Nitrogen Only, TASK 12-15-02-610-806-002.

SUBTASK 32-35-00-610-004

(3) Make sure the shock struts for both main landing gear are filled with nitrogen, G00018, do this task: Main Landing Gear Shock Strut Servicing - Nitrogen Only, TASK 12-15-01-901-801.

SUBTASK 32-35-00-860-009

(4) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-35-00-860-030

(5) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-35-00-580-001

(6) Do this task: Lift the Airplane with Jacks, TASK 07-11-01-580-804.

SUBTASK 32-35-00-210-004

(7) Make sure the doors for the nose and main landing gear are closed.

SUBTASK 32-35-00-860-022

(8) Do the left or right ground simulation Air/Ground Mode Simulation, TASK 32-09-00-860-801.

(a) Gain access to the LANDING GEAR ACTN/INDN maintenance page.

(b) Stop the ground simulation.

NOTE: The LANDING GEAR ACTN/INDN maintenance page stays displayed.

SUBTASK 32-35-00-080-002

(9) Do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

SUBTASK 32-35-00-860-011

(10) Open this circuit breaker and install safety tag:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	9	C32616	LDG GEAR RETR AUTO OFF

NOTE: This is necessary so that the auto off relays do not energize. This lets you test the operation of the bypass valves when you do the test.

SUBTASK 32-35-00-860-012

(11) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-35-00-860-013

(12) Push the GEAR OVRD button which is on the landing gear module in the flight compartment.

NOTE: This will prevent operation of the aural warning which operates when the CONFIG GEAR message shows on the Engine Indicating and Crew Alerting System (EICAS).

SUBTASK 32-35-00-860-014

(13) Show the EICAS status page on the lower center display unit (TASK 31-61-00-800-813).

NOTE: Use the display select panel in the flight compartment to show the EICAS status page.

SUBTASK 32-35-00-860-016

WARNING: KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(14) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

G. Landing Gear Alternate Extension System - Functional Test

NOTE: During this test, it is possible that the CONFIG GEAR message will show on the EICAS. This is correct operation of the airplane.

You do not have to do maintenance actions to make the message go away. The message will go away automatically when you complete this test.

SUBTASK 32-35-00-720-001

(1) Do the steps below to do a check of the alternate extension system indication and landing gear door/landing gear release functions:

(a) During this test, make sure that 60 seconds after the ALTN GEAR switch is moved to the DOWN position this message does not show on the EICAS status page: ALTN GEAR EXTEND

(b) Make sure the EICAS shows that the landing gear is down and locked.

WARNING: MAKE SURE THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. THE DOORS OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(c) Make sure the area around the doors for the nose and main landing gear is clear of persons and equipment.

> **WARNING**: MAKE SURE THAT PERSONS AND EQUIPMENT ARE CLEAR OF THE LANDING GEAR RETRACTION PATH. INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR IF THE AREA IS NOT CLEAR.

(d) Move the control lever for the landing gear to the UP position.

(e) Make sure these results occur:

1) The doors for the nose and main landing gear open

2) The nose and main landing gear retract

3) The doors for the nose and main landing gear close.

(f) Make sure the EICAS shows that the landing gear is up and locked.

NOTE: The indication which shows that the landing gear is up and locked will go out of view after 10 seconds.

> **WARNING**: MAKE SURE THAT PERSONS AND EQUIPMENT ARE CLEAR OF THE LANDING GEAR EXTENSION PATH. INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR IF THE AREA IS NOT CLEAR.

(g) Momentarily move the ALTN GEAR switch on the landing gear module to the DOWN position and start the stopwatch, STD-1139.

NOTE: To move the ALTN GEAR switch, you must first lift the switch guard.

(h) Make sure the EICAS shows the expanded landing gear display.

NOTE: The normal display shows one rectangle for all of the landing gear. The expanded display shows three rectangles, with one rectangle for each of the three landing gear.

(i) Make sure the expanded landing gear display momentarily shows that all three landing gear are in the up position.

(j) Make sure these results occur:

1) The doors for the nose and main landing gear open

2) The nose and main landing gear extend.

NOTE: During the test, it is possible for the main landing gear to contact the main landing gear door upon release from uplock.

(k) Make sure that during the extension of the landing gear, the expanded landing gear display shows that the landing gear is in-transit.

(l) Make sure the GEAR DOOR message shows on the EICAS in 10 seconds or less.

NOTE: Look at the stopwatch, STD-1139 to measure the time.

(m) Make sure the MAIN GEAR: SIDE BRACE indications on the LANDING GEAR ACTN/INDN maintenance page all show NEAR in 30 seconds or less.

NOTE: Look at the stopwatch, STD-1139 to measure the time.

(n) Make sure the GEAR DISAGREE message shows on the EICAS.

(o) Make sure the expanded landing gear display shows that the nose landing gear is down and locked in 45 seconds or less and the main landing gear are in-transit.

NOTE: The main landing gear will show in-transit because the drag struts of the main landing gear will not lock without aerodynamic forces.

(p) Make sure that the ALTN GEAR EXTEND message does not show on the EICAS status page after 60 seconds.

(q) Move the control lever for the landing gear to the DN position.

(r) Make sure the doors for the nose and main landing gear stay open.

(s) Make sure the expanded landing gear display shows that all three landing gear are down and locked.

(t) Make sure the GEAR DISAGREE message goes out of view.

SUBTASK 32-35-00-720-003

(2) If the hydraulic pressure is correct, the gear is lubricated and the drag brace lock links will not lock down, do this task: Main Landing Gear Drag Brace Down Lock - Conditional Test, TASK 32-30-01-720-804.

SUBTASK 32-35-00-710-003

(3) Do the steps below to do a check of the alternate extension system reset function:

WARNING	MAKE SURE THAT PERSONS AND EQUIPMENT ARE CLEAR OF THE LANDING GEAR RETRACTION PATH. INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR IF THE AREA IS NOT CLEAR.

(a) Move the control lever for the landing gear to the UP position.

NOTE: When you move the control lever you can receive the EICAS caution "Main Gear Brace L (or R)", along with an aural warning. This is due to hydraulic sequencing and is correct operation when it occurs.

(b) Make sure these results occur:

1) The nose and main landing gear retract

2) The doors for the nose and main landing gear close.

(c) Make sure the landing gear display on the EICAS changes from the expanded display to the normal display.

NOTE: The normal display shows one rectangle for all of the landing gear. The expanded display shows three rectangles, with one rectangle for each of the three landing gear.

(d) Make sure the EICAS shows that the landing gear is up and locked.

NOTE: The indication which shows that the landing gear is up and locked will go out of view after 10 seconds.

(e) Make sure the GEAR DOOR message goes out of view.

(f) Move the control lever for the landing gear to the DN position.

(g) Make sure these results occur:

1) The doors for the nose and main landing gear open

2) The nose and main landing gear extend

3) The doors for the nose and main landing gear close.

(h) Make sure the EICAS shows that the landing gear is down and locked.

H. Put the Airplane Back to its Usual Condition

SUBTASK 32-35-00-860-017

(1) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-35-00-860-018

(2) Push the GEAR OVRD button which is on the landing gear module in the flight compartment.

SUBTASK 32-35-00-860-019

(3) Remove the safety tag and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	9	C32616	LDG GEAR RETR AUTO OFF

SUBTASK 32-35-00-480-004

WARNING

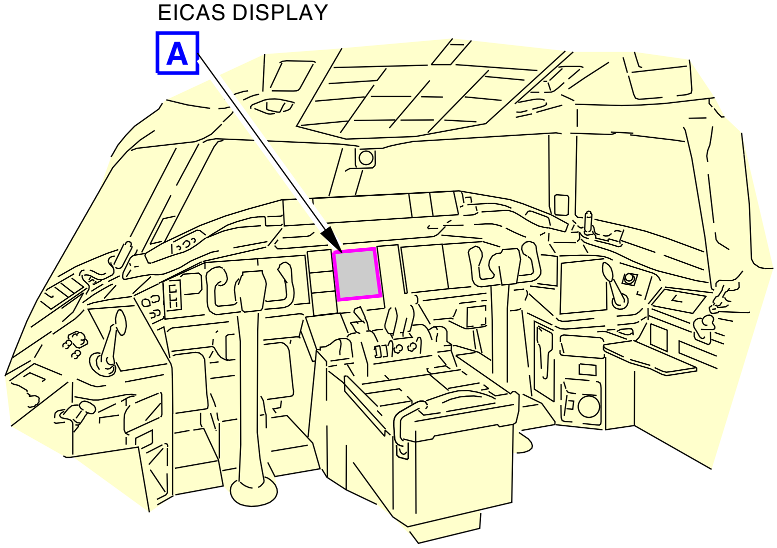
MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

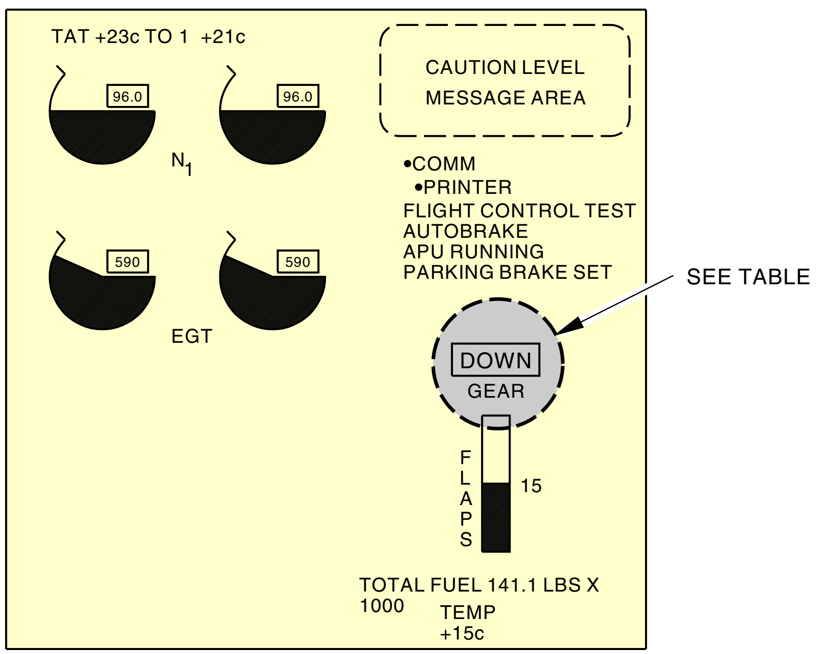
SUBTASK 32-35-00-580-002

(5) Do this task: Lower the Airplane Off of the Jacks, TASK 07-11-01-580-805.

——— END OF TASK ———



FLIGHT COMPARTMENT



EICAS DISPLAY

A

U72476 S0000208254_V2

Landing Gear Display Sequences
Figure 503/32-35-00-990-803 (Sheet 1 of 2)

THE ALTERNATE EXTENSION OF THE LANDING GEAR	
THE MEANING OF THE LANDING GEAR DISPLAY	LANDING GEAR DISPLAY
All landing gear down and locked	DOWN GR GEAR
All landing gear in-transit	W GEAR
All landing gear up and locked	UP W GEAR 1
All landing gear up and locked	UP W W UP GEAR UP W

THE ALTERNATE EXTENSION OF THE LANDING GEAR	
THE MEANING OF THE LANDING GEAR DISPLAY	LANDING GEAR DISPLAY
All landing gear in-transit	W W GEAR W
Nose landing gear down and locked Main landing gear in-transit	DN GR W GEAR W
All landing gear down and locked	DN GR GR DN GEAR DN GR

LANDING GEAR DISPLAYS
TABLE 1

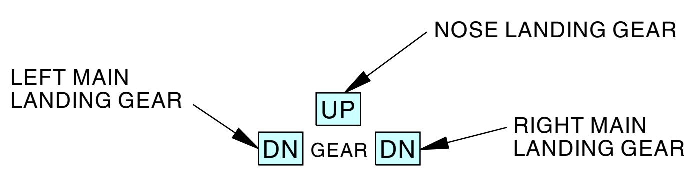
NOTE:

THE FOLLOWING LETTERS ARE PLACED NEAR EACH DISPLAY RECTANGLE. THE LETTERS TELL YOU THE COLOR OF THE INDICATION. THESE LETTERS DO NOT SHOW ON THE LANDING GEAR DISPLAY.

GR - GREEN
W - WHITE

NOTE:

THE EXPANDED DISPLAY SHOWS THE FOLLOWING:



1 THIS INDICATION WILL SHOW FOR ONLY 10 SECONDS.

E63198 S0006418777_V2

Landing Gear Display Sequences
Figure 503/32-35-00-990-803 (Sheet 2 of 2)

TASK 32-35-00-765-801

4. Alternate Extension System Power Pack Dielectric Test

A. General

(1) This test is applicable to the P/N S293W520–1 (Frisby P/N 1FA13050–1) power pack only.

B. References

Reference	Title
12-12-01-610-802	Hydraulic Reservoir Filling (P/B 301)
24-22-00-860-805	Supply Electrical Power (P/B 201)
24-22-00-860-806	Remove Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-35-02 P/B 401	ALTERNATE EXTEND POWER PACK - REMOVAL/INSTALLATION

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-6457	Meter - Insulation (Range: 1-1,000 VDC or equivalent, select meter per test requirements) Part #: 1863-9700 Supplier: 62015 Part #: 1864-9700 Supplier: 62015 Part #: 1865PLUS Supplier: 62015 Part #: 1865PLUSCE Supplier: 62015 Opt Part #: 1865-00-CE Supplier: 62015

D. Location Zones

Zone	Area
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

E. Prepare for the Test

SUBTASK 32-35-00-480-005

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlocks are installed in the nose and main landing gear (TASK 32-00-30-480-801).

SUBTASK 32-35-00-480-006

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Open the doors for the landing gear and install the door locks (TASK 32-00-15-480-801).

SUBTASK 32-35-00-860-029

(3) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-35-00-865-002

(4) Open this circuit breaker and install safety tag:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	13	C32013	LDG GEAR ALTN EXT MOTOR

SUBTASK 32-35-00-860-023

(5) Remove the pressure from the center hydraulic reservoir (TASK 29-11-00-860-807).

F. Dielectric Test for the Alternate Extension System Power Pack

SUBTASK 32-35-00-030-001

(1) Disconnect the electrical connector from the power pack.

SUBTASK 32-35-00-760-001

(2) With the insulation meter, COM-6457 set at 500 VDC, measure the resistance between pin A of the connector and the connector housing.

(a) If the resistance is less than 10 megohms, replace the alternate extension system power pack (PAGEBLOCK 32-35-02/401).

(b) If the resistance is greater than 10 megohms, then continue and put the airplane back to its usual condition.

SUBTASK 32-35-00-430-001

(3) Connect the electrical connector.

SUBTASK 32-35-00-865-003

(4) Remove the safety tag and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	13	C32013	LDG GEAR ALTN EXT MOTOR

G. Check of the Power Pack for the Correct Installation

SUBTASK 32-35-00-860-024

(1) Supply electrical power (TASK 24-22-00-860-805).

SUBTASK 32-35-00-860-025

(2) Pressurize the center hydraulic system (TASK 29-11-00-860-801).

SUBTASK 32-35-00-080-003

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Remove the door locks (TASK 32-00-15-080-801).

SUBTASK 32-35-00-710-004

CAUTION	DO NOT OPERATE THE ALTERNATE EXTENSION SYSTEM WITH THE DOOR LOCK INSTALLED ON THE NOSE LANDING GEAR. THIS CAN CAUSE DAMAGE TO THE POWER PACK FOR THE ALTERNATE EXTENSION SYSTEM.

(4) Do the operational test of the alternate extension system for the landing gear (TASK 32-35-00-710-801).

H. Put the Airplane Back to its Usual Condition

SUBTASK 32-35-00-860-026

(1) Make sure the level of the center hydraulic system reservoir is at the correct level. Fill if it is necessary (TASK 12-12-01-610-802).

SUBTASK 32-35-00-860-027

(2) Remove the power from the center hydraulic system if it is not necessary (TASK 29-11-00-860-808).

SUBTASK 32-35-00-860-028

(3) Remove electrical power if it is not necessary (TASK 24-22-00-860-806).

END OF TASK

ALTERNATE EXTEND POWER PACK - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the alternate extend power pack

(2) An installation of the alternate extend power pack.

TASK 32-35-02-000-801

2. Alternate Extend Power Pack Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left

C. Prepare for the Removal

SUBTASK 32-35-02-860-001

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-35-02-860-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

SUBTASK 32-35-02-860-003

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

NOTE: It is preferable to drain approximately 2.7 gal (10.2 l) of hydraulic fluid from the Center Hydraulic Reservoir to lessen or eliminate possible hydraulic fluid spillage when the Power Pack supply line is disconnected from the Power Pack.

(a) Hold an oil resistant container (capacity, approximately 5 gal (19 l)) below the Power Pack assembly to catch hydraulic fluid if it drains from the hydraulic connections.

SUBTASK 32-35-02-480-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-35-02-860-004

(5) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-35-02-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-35-02-480-002

(7) Install chocks around the tires of the landing gear (PAGEBLOCK 10-11-05/201).

D. Alternate Extend Power Pack Removal

SUBTASK 32-35-02-020-001

(1) Disconnect the hydraulic lines from the elbow [8] and elbow [9].

SUBTASK 32-35-02-020-002

(2) Disconnect the electrical connector [7].

SUBTASK 32-35-02-020-003

(3) Remove the bolt [2], bolts [11], washers [3], and nuts [4].

SUBTASK 32-35-02-020-004

(4) Remove the alternate extend power pack assembly [1].

SUBTASK 32-35-02-020-005

(5) Remove the elbow [8], elbow [9], reducer [6], reducer [10], and packings [5].

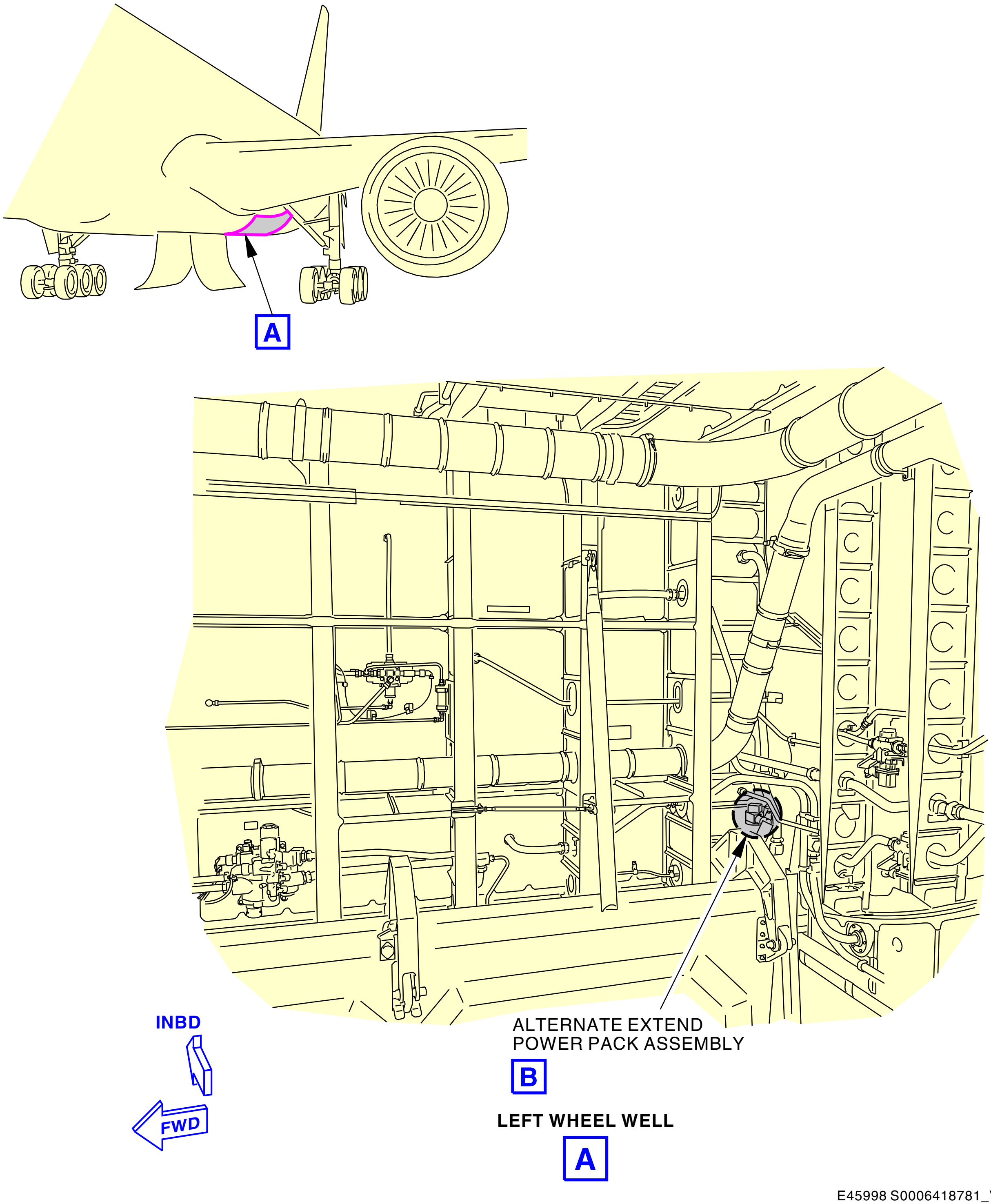
SUBTASK 32-35-02-800-001

(6) Discard the packings [5].

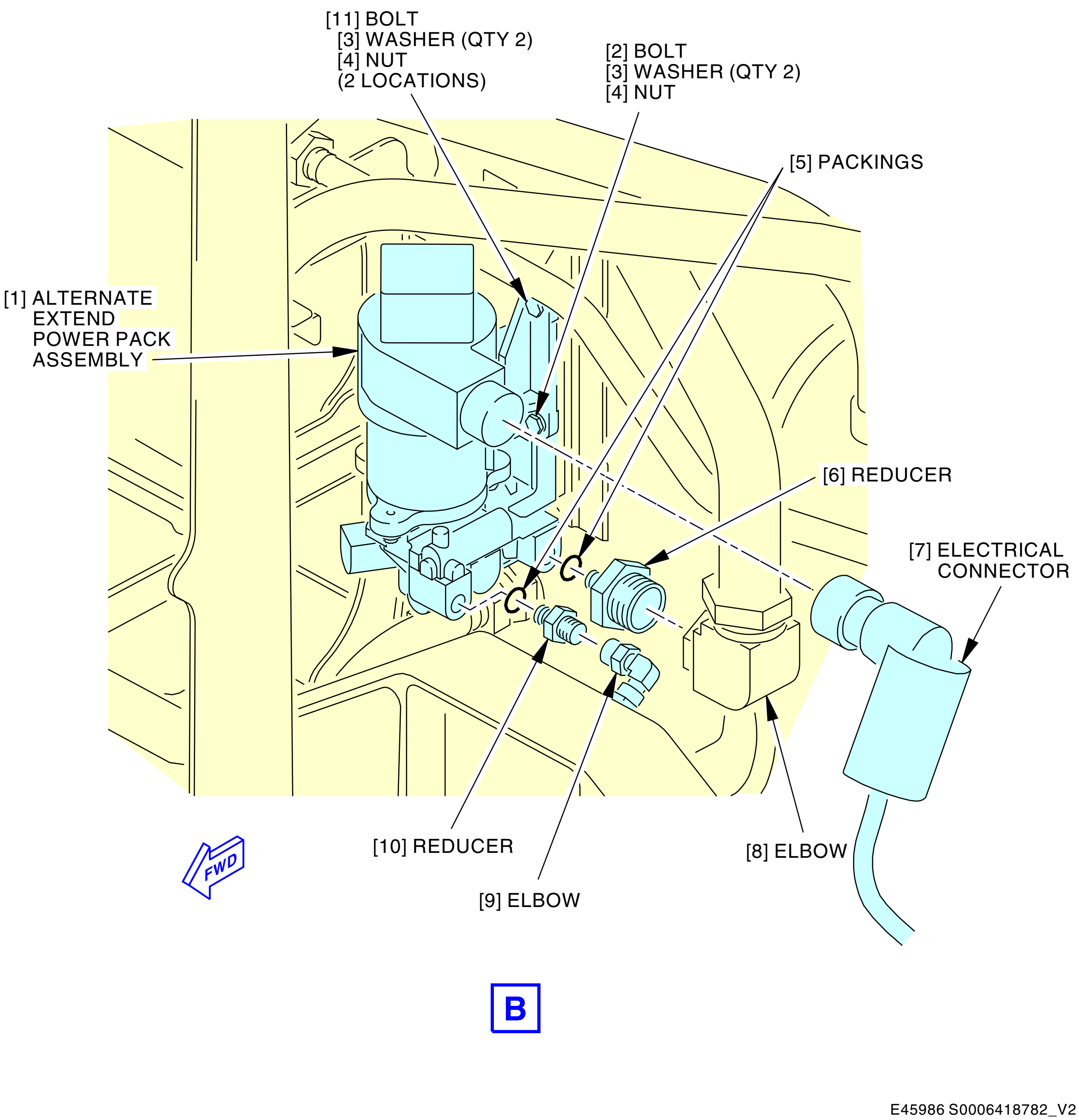
SUBTASK 32-35-02-480-003

(7) Put caps on the hydraulic lines.

END OF TASK



Alternate Extend Power Pack Installation
Figure 401/32-35-02-990-801 (Sheet 1 of 2)



Alternate Extend Power Pack Installation
Figure 401/32-35-02-990-801 (Sheet 2 of 2)

TASK 32-35-02-400-801

3. **Alternate Extend Power Pack Installation**

(Figure 401, Figure 402)

NOTE: This procedure is a scheduled maintenance task.

A. **References**

Reference	Title
12-12-01-610-801	Hydraulic Reservoir Fluid Level Check (P/B 301)
20-10-22-110-802	Clean Bare, Clad, or Plated Metal with Solvent (P/B 701)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

B. **Tools/Equipment**

Reference	Description
STD-1055	Container - Oil Resistant, 5 Gallon (19 Liter)

C. **Consumable Materials**

Reference	Description	Specification
A00436	Sealant - Fuel Tank	BMS5-45 (Supersedes BMS5-26)
C00064	Coating - Aluminum Chemical Conversion	BAC5719 Type II Class A (MIL-DTL-5541 Class 1A)
D00054	Fluid - Hydraulic Assembly Lubricant - MCS 352B (Formerly Monsanto MCS 352B)	
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

D. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Alternate extend power pack assembly	32-35-02-01-010	ARO 011-999
		32-35-02-01-012	ARO ALL
5	Packing	32-35-02-01-045	ARO 011-999
		32-35-02-01-047	ARO ALL

E. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left

F. **Alternate Extend Power Pack Installation**

SUBTASK 32-35-02-100-001

(1) Do the steps below to help supply a good electrical bond between the alternate extend power pack assembly [1] and the support bracket:

(a) Clean the mating surface of the support bracket (TASK 20-10-22-110-802).

(b) Chemically prepare the mating surface of the support bracket with the coating, C00064.

SUBTASK 32-35-02-110-001

(2) Clean the mating surface of the alternate extend power pack assembly [1] with solvent (TASK 20-10-22-110-802).

NOTE: This is necessary to help supply a good electrical bond between the alternate extend power pack and the support bracket.

SUBTASK 32-35-02-640-001

(3) Apply MCS 352B fluid, D00054, or hydraulic fluid, D00153, to the reducer [6], reducer [10], and to the new packings [5].

SUBTASK 32-35-02-420-001

(4) Install the reducer [6], reducer [10], and new packings [5].

SUBTASK 32-35-02-420-002

(5) Put the alternate extend power pack assembly [1] in its position.

SUBTASK 32-35-02-420-003

(6) Install bolt [2], bolts [11], washers [3], and nuts [4].

SUBTASK 32-35-02-390-001

(7) Use the sealant, A00436, to apply a fillet seal around the area where the alternate extend power pack assembly [1] touches the support bracket.

SUBTASK 32-35-02-420-004

(8) Install the elbow [8] and elbow [9].

(a) Tighten the B-nut on elbow [8] to 1200 ±60 in-lb (136 ±7 N·m).

(b) Tighten the B-nut on elbow [9] to 270 ±14 in-lb (31 ±2 N·m).

SUBTASK 32-35-02-080-001

(9) Remove the caps from the hydraulic lines.

SUBTASK 32-35-02-420-005

(10) Connect the hydraulic lines to elbow [8] and elbow [9].

(a) Tighten the B-nut on hydraulic line connected to elbow [8] to 2000 ±100 in-lb (226 ±11 N·m).

(b) Tighten the B-nut on hydraulic line connected to elbow [9] to 270 ±14 in-lb (31 ±2 N·m).

SUBTASK 32-35-02-420-006

(11) Connect the electrical connector [7].

G. Alternate Extend Power Pack System Bleeding

NOTE: The EICAS displays will indicate non-normal sequencing during this test, this is expected and you can ignore it.

NOTE: The alternate extend power pack is operated by commanding the landing gear doors open with the ground door release system.

NOTE: The power pack will remain ON until the "LDG GR ALTN EXT CONTROL" circuit breaker is opened (the pressure switch that usually stops the power pack will not work since you are bleeding the system).

SUBTASK 32-35-02-860-010

(1) Make sure the center hydraulic system is depressurized (TASK 29-11-00-860-807).

SUBTASK 32-35-02-860-011

(2) Make sure that the center hydraulic system reservoir level is between 80% and full.

NOTE: The landing gear alternate extension system can not be bleed unless center system reservoir is more than 75% full.

SUBTASK 32-35-02-860-012

(3) Make sure the landing gear control lever is in the DOWN position.

SUBTASK 32-35-02-860-013

(4) Make sure the landing gear door safety pins have been installed.

SUBTASK 32-35-02-860-014

(5) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-35-02-860-015

(6) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
M	22	C32605	LG DOOR CLOSE GROUND ACCESS

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR
A	23	C32608	LDG GEAR EXTD/RETR 2
G	9	C32616	LDG GEAR RETR AUTO OFF
G	10	C32607	LDG GEAR EXTD/RETR 1

Right Power Management Panel, P210

Row	Col	Number	Name
M	2	C32623	LG LEVER LOCK

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

SUBTASK 32-35-02-790-008

(7) Do the steps that follow to bleed the air out of the alternate extension system at the nose landing gear alternate extend uplock release actuator:

NOTE: Very small air bubbles within the fluid are permissible.

(a) Place a oil resistant container (5 gal)(19 Liter), STD-1055, beneath the bleed location to catch the hydraulic fluid that you will bleed out of the system.

(b) For airplanes with a bleed valve, do these steps to bleed the air:

1) Remove the bolt [33] from the center of the bleed valve [31].

2) Install the bleed hose on the end of the bleed valve [31].

3) Put the free end of the bleed hose into a oil resistant container (5 gal)(19 Liter), STD-1055.

4) Slowly loosen the bleed valve [31] about one half turn.

NOTE: This will let hydraulic fluid flow out of the bleed hose.

5) Let hydraulic fluid flow out of the bleed hose until there are no air bubbles in the flow of hydraulic fluid.

NOTE: The fluid can flow out of the hose very quickly and intermittently.

(c) For airplanes without a bleed valve, disconnect the hydraulic line that runs between the nose landing gear alternate extend uplock release actuator and the tee fitting at the B-nut on the aft side of the tee fitting.

CAUTION MAKE SURE THAT YOU DO NOT OPERATE THE ALTERNATE EXTEND POWER-PACK FOR MORE THAT FIVE MINUTES. IF YOU OPERATE THE POWER PACK FOR MORE THAN FIVE MINUTES, THE POWER PACK CAN BECOME TOO HOT. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

(d) Momentarily and at the same time put the arm doors switch to ARM and the all doors open/MLG doors close switch to OPEN.

NOTE: Do not run the alternate extend power pack more than five minutes continuously.

1) If the air is not completely bleed out of line within the five minute time limit then do the step that follows to stop the alternate extend power pack:

a) Open and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

NOTE: The alternate extend power pack will shut off.

2) Wait for the power pack to cool below 120°F (49°C) before you operate it for another 5 minute interval.

a) If you are not able to determine the temperature of the motor, let the motor cool for 45 minutes or until you can hold your hand on it.

NOTE: Cooling time can be decreased by directing a fan onto the power pack. Check the temperature often using a thermocouple or other suitable temperature measuring equipment.

3) Do the preceding bleeding steps until all of the air has been bleed out of the system.

(e) To stop the power pack, do this step:

1) Open and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

(f) For airplanes without a bleed valve, connect the hydraulic line that runs between the nose landing gear alternate extend uplock release actuator and the tee fitting.

(g) For airplanes with a bleed valve, do these steps to tighten the bleed valve:

1) Remove the bleed hose from the bleed valve [31].

2) Tighten the bleed valve [31] to 60 ±20 in-lb (6.8 ±2.3 N·m).

3) Install the bolt [33] in the center of the bleed valve [31].

SUBTASK 32-35-02-790-009

(8) Do the steps that follow to bleed the air out of the alternate extension system at the nose landing gear selector valve:

NOTE: Very small air bubbles within the fluid are permissible.

(a) Wait 10 seconds after the alternate extend power pack has shut off to allow the pressure to bleed out of the alternate extend system, before you bleed the system in the steps that follow.

(b) Place a oil resistant container (5 gal)(19 Liter), STD-1055, beneath the bleed location at the nose landing gear selector valve to catch the hydraulic fluid that you will bleed out of the system.

(c) For airplanes with a bleed valve, do these steps to bleed the air:

1) Remove the bolt [33] from the center of the bleed valve [31].

2) Install the bleed hose on the end of the bleed valve [31].

3) Put the free end of the bleed hose into a oil resistant container (5 gal)(19 Liter), STD-1055.

4) Slowly loosen the bleed valve [31] about one half turn.

NOTE: This will let hydraulic fluid flow out of the bleed hose.

5) Let hydraulic fluid flow out of the bleed hose until there are no air bubbles in the flow of hydraulic fluid.

NOTE: The fluid can flow out of the hose very quickly and intermittently.

(d) For airplanes without the bleed valves, loosen the B-nut at the port marked ALTN on the nose landing gear selector valve.

CAUTION: MAKE SURE THAT YOU DO NOT OPERATE THE ALTERNATE EXTEND POWER-PACK FOR MORE THAT FIVE MINUTES. IF YOU OPERATE THE POWER PACK FOR MORE THAN FIVE MINUTES, THE POWER PACK CAN BECOME TOO HOT. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

(e) Momentarily and at the same time put the arm doors switch to ARM and the all doors open/MLG doors close switch to OPEN.

NOTE: Do not run the alternate extend power pack more than five minutes continuously.

1) If the air is not completely bleed out of line within the five minute time limit then do the step that follows to stop the alternate extend power pack:

a) Open and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

WARNING: DO NOT TOUCH THE POWER PACK MOTOR WHEN IT IS HOT. IT CAN BECOME HOT WHEN IT OPERATES. A HOT MOTOR CAN BURN YOU.

2) Wait for the power pack to cool below 120°F (49°C) before you operate it for another 5 minute interval.

a) If you are not able to determine the temperature of the motor, let the motor cool for 45 minutes or until you can hold your hand on it (this is well below 120°F (49°C)).

NOTE: Cooling time can be decreased by directing a fan onto the power pack. Check the temperature often using a thermocouple or other suitable temperature measuring equipment.

3) Do the preceding bleeding steps until all of the air has been bleed out of the system.

(f) To stop the power pack, do this step:

1) Open and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

(g) For airplanes without the bleed valves, tighten the B-nuts at the port marked ALTN on the nose landing gear selector valve.

(h) For airplanes with a bleed valve, do these steps to tighten the bleed valve:

1) Remove the bleed hose from the bleed valve [31].

2) Tighten the bleed valve [31] to 60 ±20 in-lb (6.8 ±2.3 N·m).

3) Install the bolt [33] in the center of the bleed valve [31].

SUBTASK 32-35-02-790-010

(9) Do the steps that follow to bleed the air out of the alternate extension system at the nose landing gear and main landing gear alternate uplock release actuators:

NOTE: Very small air bubbles within the fluid are permissible.

NOTE: These steps bleed the alternate extension system at three locations, you can bleed the system at one location at a time if you want.

(a) Wait 10 seconds after the alternate extend power pack has shut off to allow the pressure to bleed out of the alternate extend system, before you loosen the B-nuts in the steps that follow.

(b) Place a oil resistant container (5 gal)(19 Liter), STD-1055, beneath the bleed location to catch the hydraulic fluid that you will bleed out of the system.

(c) For airplanes with a bleed valve, do these steps to bleed the air:

1) Remove the bolt [33] from the center of the bleed valve [31].

2) Install the bleed hose on the end of the bleed valve [31].

3) Put the free end of the bleed hose into a oil resistant container (5 gal)(19 Liter), STD-1055.

4) Slowly loosen the bleed valve [31] about one half turn.

NOTE: This will let hydraulic fluid flow out of the bleed hose.

5) Let hydraulic fluid flow out of the bleed hose until there are no air bubbles in the flow of hydraulic fluid.

NOTE: The fluid can flow out of the hose very quickly and intermittently.

(d) For airplanes without bleed valves, loosen the B-nuts at the locations that follow:

1) Loosen the B-nut located on the aft side of the tee fitting which is connected to the 1/4 inch tube that comes from the nose landing gear alternate extend uplock release actuator.

2) Loosen the B-nut on the left MLG alternate uplock release actuator.

a) If more fluid needs to be bleed through the alternate system, it is permissible to remove one end of left MLG alternate uplock release actuator hose and bleed directly out. After you connect the hose, you must repeat these steps and bleed through the bleed valve or the B-nut to complete this task.

3) Loosen the B-nut on the right MLG alternate uplock release actuator.

a) If more fluid needs to be bleed through the alternate system, it is permissible to remove one end of right MLG alternate uplock release actuator hose and bleed directly out. After you connect the hose, you must repeat these steps and bleed through the bleed valve or the B-nut to complete this task.

CAUTION MAKE SURE THAT YOU DO NOT OPERATE THE ALTERNATE EXTEND POWER-PACK FOR MORE THAT FIVE MINUTES. IF YOU OPERATE THE POWER PACK FOR MORE THAN FIVE MINUTES, THE POWER PACK CAN BECOME TOO HOT. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

(e) Momentarily and at the same time put the arm doors switch to ARM and the all doors open/MLG doors close switch to OPEN.

NOTE: Do not run the alternate extend power pack more than five minutes continuously.

1) If the air is not completely bleed out of line within the five minute time limit then do the step that follows to stop the alternate extend power pack:

a) Open and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

2) Wait for the power pack to cool below 120°F (49°C) before you operate it for another 5 minute interval.

a) If you are not able to determine the temperature of the motor, let the motor cool for 45 minutes or until you can hold your hand on it (this is well below 120°F (49°C)).

NOTE: Cooling time can be decreased by directing a fan onto the power pack. Check the temperature often using a thermocouple or other suitable temperature measuring equipment.

3) Do the preceding bleeding steps until all of the air has been bleed out of the system.

(f) To stop the power pack, do this step:

1) Open and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

(g) Do the preceding bleeding steps at least once, to make sure all of the air has been bled out of the system.

(h) For airplanes without the bleed valves, tighten the B-nuts at the port marked ALTN on the nose landing gear selector valve.

(i) For airplanes with a bleed valve, do these steps to tighten the bleed valve:

1) Remove the bleed hose from the bleed valve [31].

2) Tighten the bleed valve [31] to 60 ±20 in-lb (6.8 ±2.3 N·m).

3) Install the bolt [33] in the center of the bleed valve [31].

SUBTASK 32-35-02-860-016

(10) Do this task: Hydraulic Reservoir Fluid Level Check, TASK 12-12-01-610-801.

H. Alternate Extend Power Pack Installation Test

SUBTASK 32-35-02-860-005

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-35-02-860-006

(2) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

SUBTASK 32-35-02-840-001

WARNING: OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Remove the door open safety pin from the nose landing gear door release/safety valve module (TASK 32-00-15-080-801).

SUBTASK 32-35-02-860-007

WARNING: KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-35-02-790-001

(5) Momentarily and at the same time put the NLG doors arm switch to ARM and the NLG doors close switch to CLOSE.

SUBTASK 32-35-02-790-002

(6) Momentarily and at the same time put the arm doors switch to ARM and the all doors open/MLG doors close switch to OPEN.

SUBTASK 32-35-02-790-003

(7) Make sure all the nose gear doors open.

SUBTASK 32-35-02-790-004

(8) Listen and make sure the alternate extend power pack shuts off.

SUBTASK 32-35-02-790-005

(9) Make sure there are no hydraulic fluid leaks.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 32-35-02-840-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Remove the door open safety pins from the MLG door release/safety valve module (TASK 32-00-15-080-801).

SUBTASK 32-35-02-790-006

(2) Momentarily and at the same time put the arm doors switch to ARM and the all doors open/MLG doors close switch to CLOSE.

NOTE: This will close the MLG doors.

SUBTASK 32-35-02-790-007

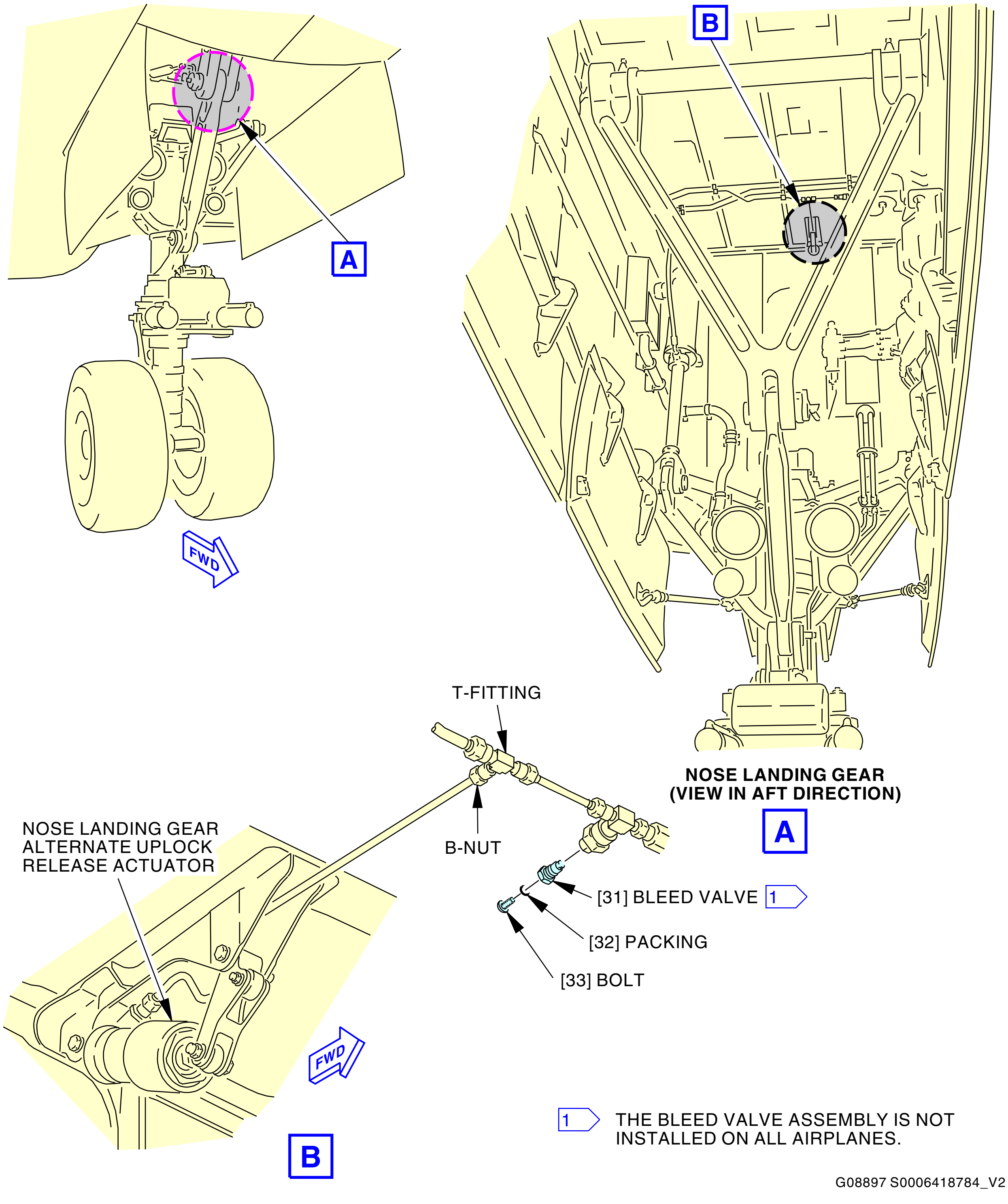
(3) Momentarily and at the same time put the NLG doors arm switch to ARM and the NLG doors close switch to CLOSE.

NOTE: This will close the NLG doors.

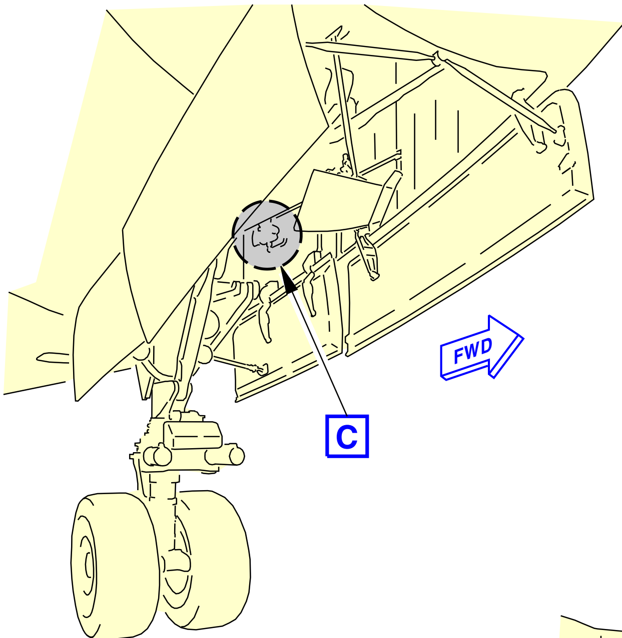
SUBTASK 32-35-02-860-008

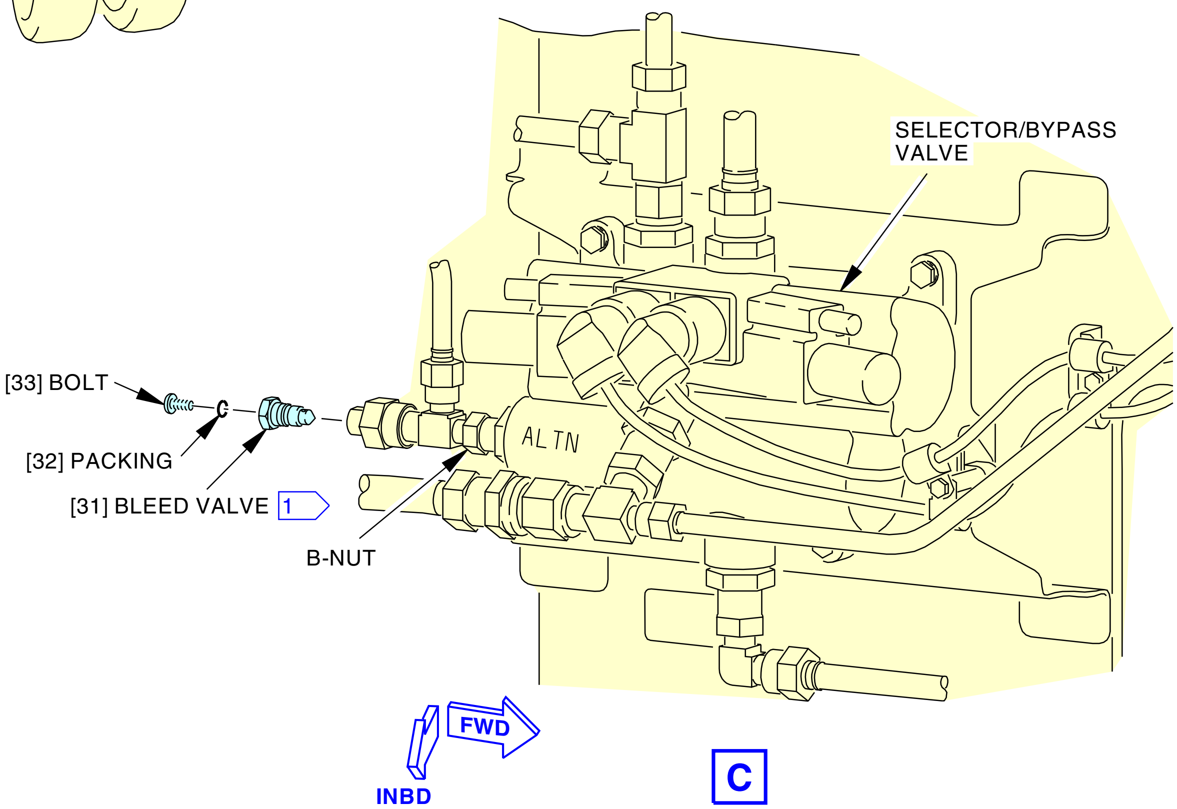
(4) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———



Landing Gear Alternate Extension System Bleeding
Figure 402/32-35-02-990-802 (Sheet 1 of 3)





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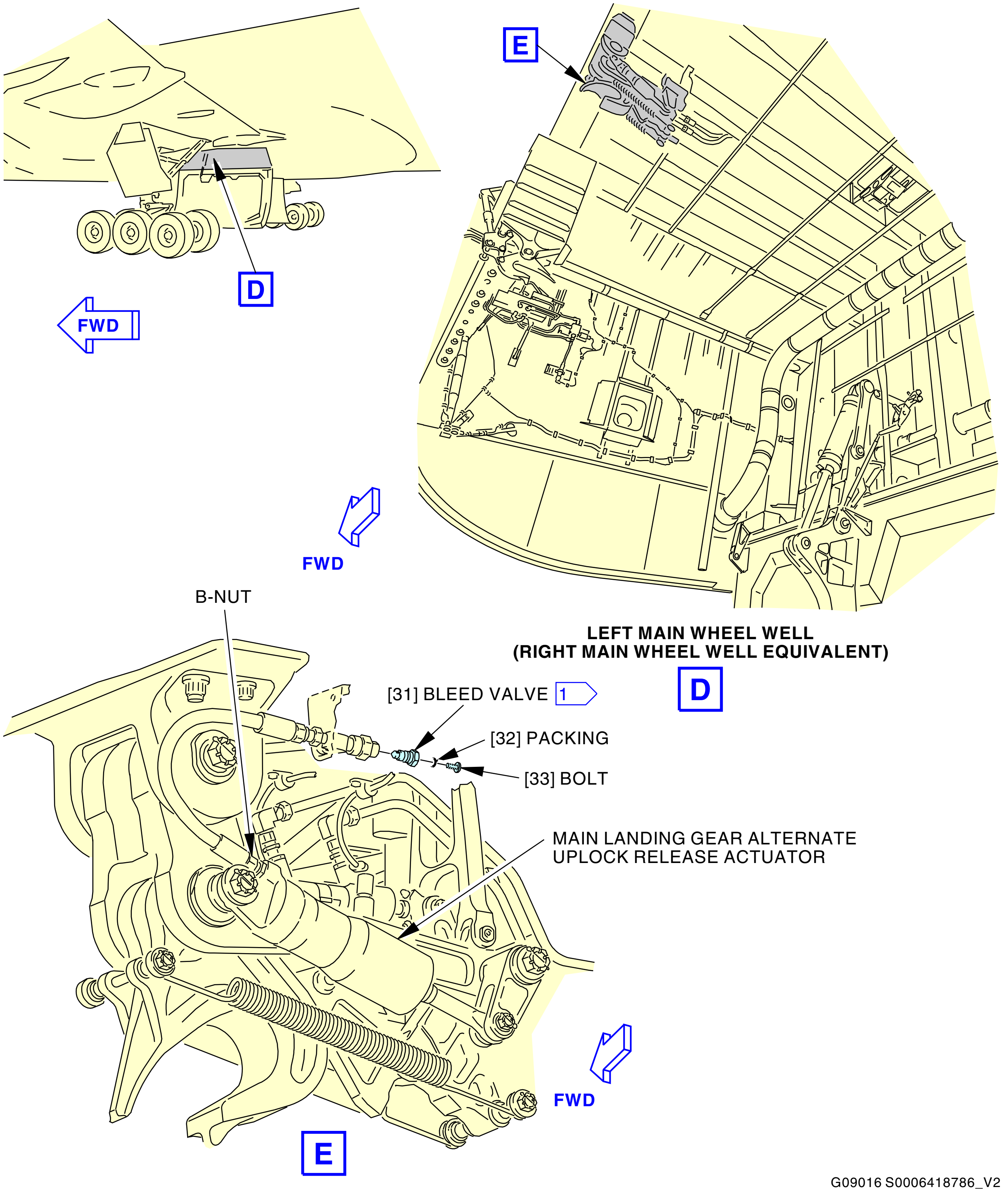
Landing Gear Alternate Extension System Bleeding
Figure 402/32-35-02-990-802 (Sheet 2 of 3)



Landing Gear Alternate Extension System Bleeding
Figure 402/32-35-02-990-802 (Sheet 3 of 3)

MAIN LANDING GEAR ALTERNATE UPLOCK RELEASE ACTUATOR - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the main landing gear alternate uplock release actuator

(2) An installation of the main landing gear alternate uplock release actuator.

TASK 32-35-03-000-801

2. Alternate Uplock Release Actuator Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

C. Prepare for the Removal

SUBTASK 32-35-03-860-001

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-35-03-860-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

SUBTASK 32-35-03-860-003

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-35-03-480-001

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-35-03-860-004

(5) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-35-03-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-35-03-480-002

(7) Install chocks around the tires of the main landing gear (PAGEBLOCK 10-11-05/201).

D. Alternate Uplock Release Actuator Removal

SUBTASK 32-35-03-020-001

(1) Disconnect the hydraulic line [1].

SUBTASK 32-35-03-800-001

(2) Install a cap on the hydraulic line [1].

SUBTASK 32-35-03-020-002

(3) Remove the cotter pin [3], nut [5], washer [6], washers [8], washer [9], bushing [7], and bolt [10].

SUBTASK 32-35-03-020-003

(4) Remove the cotter pin [3], nut [4], washer [12], and washers [13].

SUBTASK 32-35-03-020-004

(5) Remove the alternate uplock release actuator assembly [11].

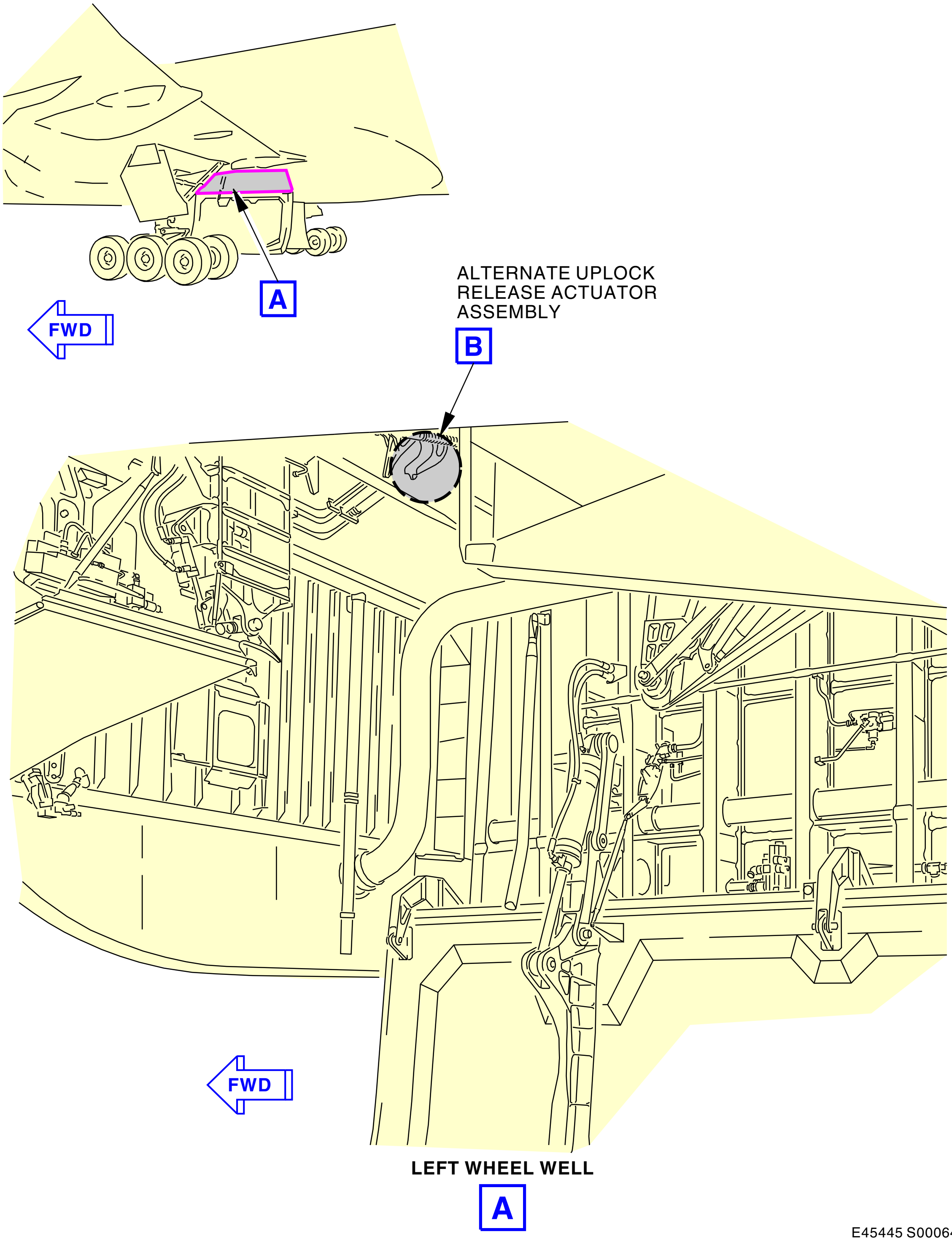
SUBTASK 32-35-03-020-005

(6) Remove the union [14] and packing [15].

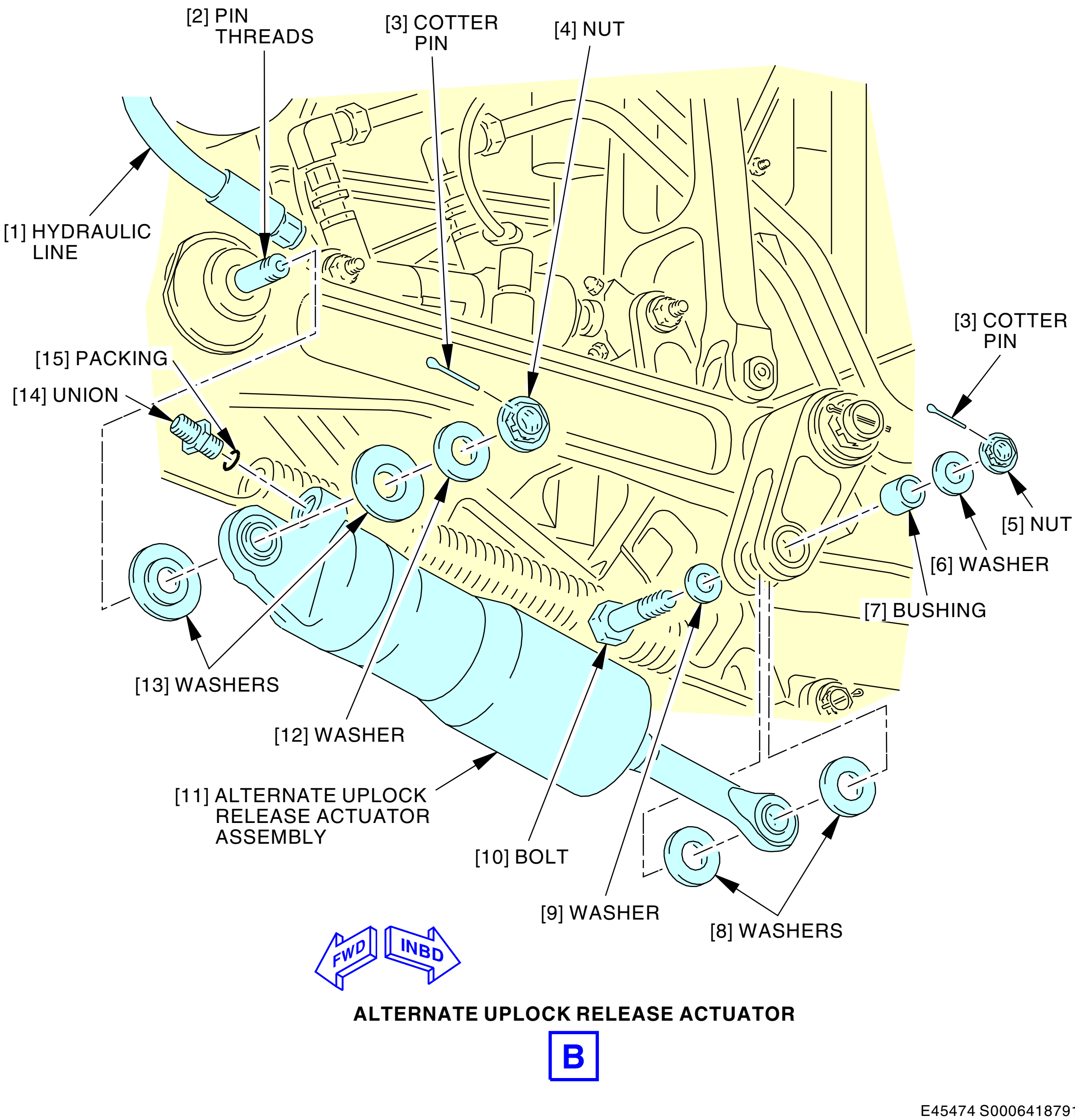
SUBTASK 32-35-03-800-002

(7) Discard the packing [15].

END OF TASK



Main Landing Gear Alternate Uplock Release Actuator Installation
Figure 401/32-35-03-990-801 (Sheet 1 of 2)



Main Landing Gear Alternate Uplock Release Actuator Installation
Figure 401/32-35-03-990-801 (Sheet 2 of 2)

TASK 32-35-03-400-801

3. **Alternate Uplock Release Actuator Installation**

(Figure 401, Figure 402)

NOTE: This procedure is a scheduled maintenance task.

A. **References**

Reference	Title
12-12-01-610-801	Hydraulic Reservoir Fluid Level Check (P/B 301)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

B. **Tools/Equipment**

Reference	Description
STD-1055	Container - Oil Resistant, 5 Gallon (19 Liter)

C. **Consumable Materials**

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00054	Fluid - Hydraulic Assembly Lubricant - MCS 352B (Formerly Monsanto MCS 352B)	
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
D00633	Grease - Aircraft General Purpose	BMS3-33

D. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Pin	32-35-03-01-011	ARO ALL
		32-35-03-01-012	ARO ALL
11	Actuator assembly	32-35-03-01-060	ARO ALL
15	Packing	32-35-03-04-065	ARO ALL
		32-35-04-01-020	ARO ALL

E. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

F. Alternate Uplock Release Actuator Installation

SUBTASK 32-35-03-640-001

(1) Apply hydraulic fluid, D00153, or MCS 352B fluid, D00054, to the union [14] and new packing [15].

SUBTASK 32-35-03-420-001

(2) Install the union [14] and new packing [15].

SUBTASK 32-35-03-640-002

(3) Do the steps that follow to connect the forward end of the actuator assembly [11]:

(a) Apply sealant, A00247, to the shoulder of the pin thread [2].

NOTE: You can apply grease, D00013, or grease, D00633, to the pin thread [2] to make installation of the actuator assembly [11] easier.

(b) Put one of the washer [13] into its position.

(c) Remove excess sealant, A00247, from the pin thread [2].

(d) Put the alternate uplock release actuator assembly [11] and the other washer [13] into its position.

(e) Apply sealant, A00247, to the chamfer surface of the washer [13] and the surfaces that touch the washer [12], nut [4], and pin threads [2].

(f) Install the other washer [12] and the nut [4].

(g) Tighten the nut [4] to 290 in-lb (32.8 N·m) - 510 in-lb (57.6 N·m).

SUBTASK 32-35-03-420-003

(4) Install the bolt [10], bushing [7], washer [6], washers [8], washer [9], and nut [5] to connect the aft end of the actuator assembly [11].

SUBTASK 32-35-03-420-009

(5) Tighten the bolt [10] and nut [5] to 220 in-lb (24.9 N·m) - 280 in-lb (31.6 N·m).

SUBTASK 32-35-03-420-010

(6) Install the cotter pins [3].

(a) Loosen the nut [4] and nut [5] if it is necessary to align the cotter pins with the holes.

SUBTASK 32-35-03-080-001

(7) Remove the cap from the hydraulic line [1].

SUBTASK 32-35-03-420-005

(8) Install the hydraulic line [1].

G. Alternate Extend System Component Bleeding

NOTE: The EICAS displays will indicate non-normal sequencing during this test, this is expected and you can ignore it.

NOTE: The alternate extend power pack is operated by commanding the landing gear doors open with the ground door release system.

NOTE: The power pack will remain ON until the "LDG GR ALTN EXT CONTROL" circuit breaker is opened (the pressure switch that usually stops the power pack will not work since you are bleeding the system).

SUBTASK 32-35-03-860-010

(1) Make sure the center hydraulic system is depressurized (TASK 29-11-00-860-807).

SUBTASK 32-35-03-860-011

(2) Make sure that the center hydraulic system reservoir level is between 80% and full.

NOTE: The landing gear alternate extension system can not be bleed unless center system reservoir is more than 75% full.

SUBTASK 32-35-03-860-012

(3) Make sure the landing gear control lever is in the DOWN position.

SUBTASK 32-35-03-490-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Make sure the landing gear door safety pins have been installed (TASK 32-00-15-480-801).

SUBTASK 32-35-03-860-014

(5) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-35-03-860-015

(6) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
M	22	C32605	LG DOOR CLOSE GROUND ACCESS

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR
A	23	C32608	LDG GEAR EXTD/RETR 2
G	9	C32616	LDG GEAR RETR AUTO OFF
G	10	C32607	LDG GEAR EXTD/RETR 1

Right Power Management Panel, P210

Row	Col	Number	Name
M	2	C32623	LG LEVER LOCK

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

SUBTASK 32-35-03-790-005

(7) Do the steps that follow to bleed the air out of the alternate extension system at the main landing gear alternate uplock release actuators:

NOTE: Very small air bubbles within the fluid are permissible.

(a) Place a oil resistant container (5 gal)(19 Liter), STD-1055, beneath the bleed location to catch the hydraulic fluid that you will bleed out of the system.

(b) For airplanes with a bleed valve, remove the bolt [33] from the center of the bleed valve [31].

(c) Loosen the bleed valve or the B-nut for the MLG alternate uplock release actuator in the same wheel well as the safety valve module that you removed.

1) If more fluid needs to be bleed through the alternate system, it is permissible to remove one end of MLG alternate uplock release actuator hose and bleed directly out.

2) After you connect the hose, you must repeat these steps and bleed through the B-nut or the bleed valve to complete this task.

CAUTION MAKE SURE THAT YOU DO NOT OPERATE THE ALTERNATE EXTEND POWER-PACK FOR MORE THAT FIVE MINUTES. IF YOU OPERATE THE POWER PACK FOR MORE THAN FIVE MINUTES, THE POWER PACK CAN BECOME TOO HOT. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

(d) Momentarily and at the same time put the arm doors switch to ARM and the all doors open/MLG doors close switch to OPEN.

NOTE: Do not run the alternate extend power pack more than five minutes continuously.

1) If the air is not completely bleed out of line within the five minute time limit then do the step that follows to stop the alternate extend power pack:

a) Open and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

WARNING DO NOT TOUCH THE POWER PACK MOTOR WHEN IT IS HOT. IT CAN BECOME HOT WHEN IT OPERATES. A HOT MOTOR CAN BURN YOU.

2) Wait for the power pack motor to cool below 120°F (49°C) before you operate it for another 5 minute interval.

a) If you are not able to determine the temperature of the motor, let the motor cool for 45 minutes or until you can hold it with your hand (this is well below 120°F (49°C)).

NOTE: Cooling time can be decreased by directing a fan onto the power pack. Check the temperature often using a thermocouple or other suitable temperature measuring equipment.

3) Do the preceding bleeding steps until all of the air has been bleed out of the system.

(e) To stop the power pack, do this step:

1) Open and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

(f) Tighten the bleed valve or the B-nut when you have finished bleeding the system.

1) For airplanes with a bleed valve, tighten the bleed valve [31] to 60 ±20 in-lb (6.8 ±2.3 N·m).

(g) For airplanes with a bleed valve, install the bolt [33] in the center of the bleed valve [31].

SUBTASK 32-35-03-860-016

(8) Do this task: Hydraulic Reservoir Fluid Level Check, TASK 12-12-01-610-801.

H. Alternate Uplock Release Actuator installation test

SUBTASK 32-35-03-860-005

(1) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

SUBTASK 32-35-03-790-001

(2) Momentarily and at the same time put the arm doors switch to ARM and the all doors open/MLG doors close switch to OPEN.

SUBTASK 32-35-03-790-002

(3) Make sure the alternate uplock release actuator moves.

SUBTASK 32-35-03-790-003

(4) Make sure there are no hydraulic fluid leaks.

SUBTASK 32-35-03-790-004

(5) Make sure when the alternate extend system shuts off, the alternate uplock release actuator automatically retracts.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 32-35-03-840-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-35-03-860-006

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-35-03-860-007

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

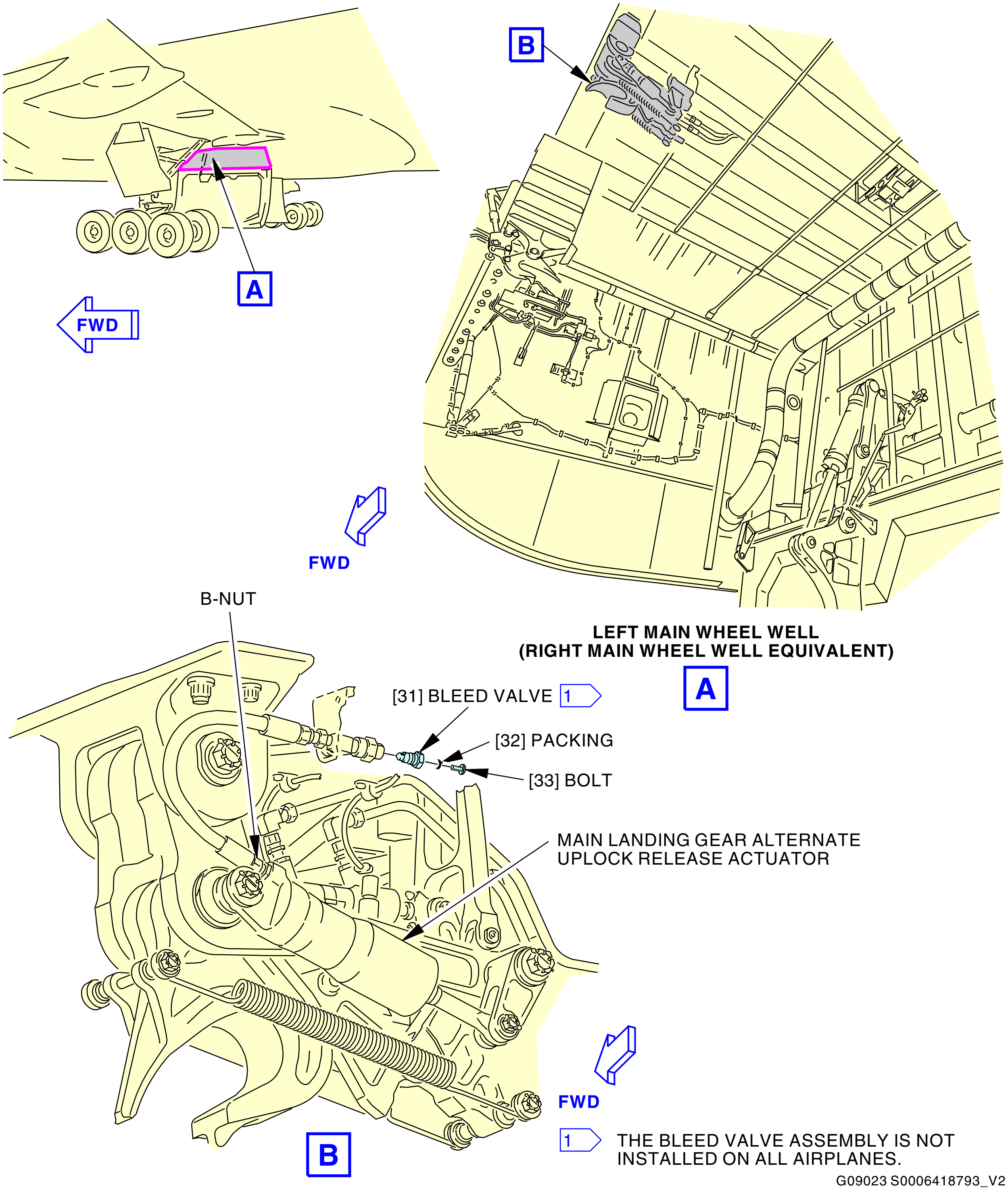
SUBTASK 32-35-03-860-008

(4) For the main landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-35-03-860-009

(5) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK



Landing Gear Alternate Extension System Bleeding
Figure 402/32-35-03-990-802

NOSE LANDING GEAR ALTERNATE UPLOCK RELEASE ACTUATOR - REMOVAL/INSTALLATION

1. **General**
   A. This procedure has these tasks:
      (1) A removal of the nose landing gear alternate uplock release actuator
      (2) An installation of the nose landing gear alternate uplock release actuator.
   B. The nose landing gear alternate uplock release actuator is referred to as the alternate uplock release actuator in this procedure.

TASK 32-35-04-000-801

2. **Alternate Uplock Release Actuator Removal**
   (Figure 401)

   A. **References**

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

   B. **Location Zones**

Zone	Area
113	Nose Landing Gear Wheel Well, Left

   C. **Prepare for the Removal**

SUBTASK 32-35-04-860-001

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-35-04-860-002

(2) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

SUBTASK 32-35-04-860-003

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-35-04-480-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-35-04-860-004

(5) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-35-04-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-35-04-480-002

(7) Install chocks around the tires of the nose landing gear (PAGEBLOCK 10-11-05/201).

D. Alternate Uplock Release Actuator Removal

SUBTASK 32-35-04-020-001

(1) Disconnect the hydraulic line [2].

NOTE: The hydraulic line [2] is installed with a pre-load.

(a) Install a cap on the hydraulic line [2].

SUBTASK 32-35-04-020-002

(2) Remove the nut [5], washer [4], bushing [6], bushing [7], and bolt [3].

SUBTASK 32-35-04-020-003

(3) Remove the nut [13], washer [12], washer [14], bushing [11], and bolt [1].

SUBTASK 32-35-04-020-004

(4) Remove the alternate uplock release actuator [9].

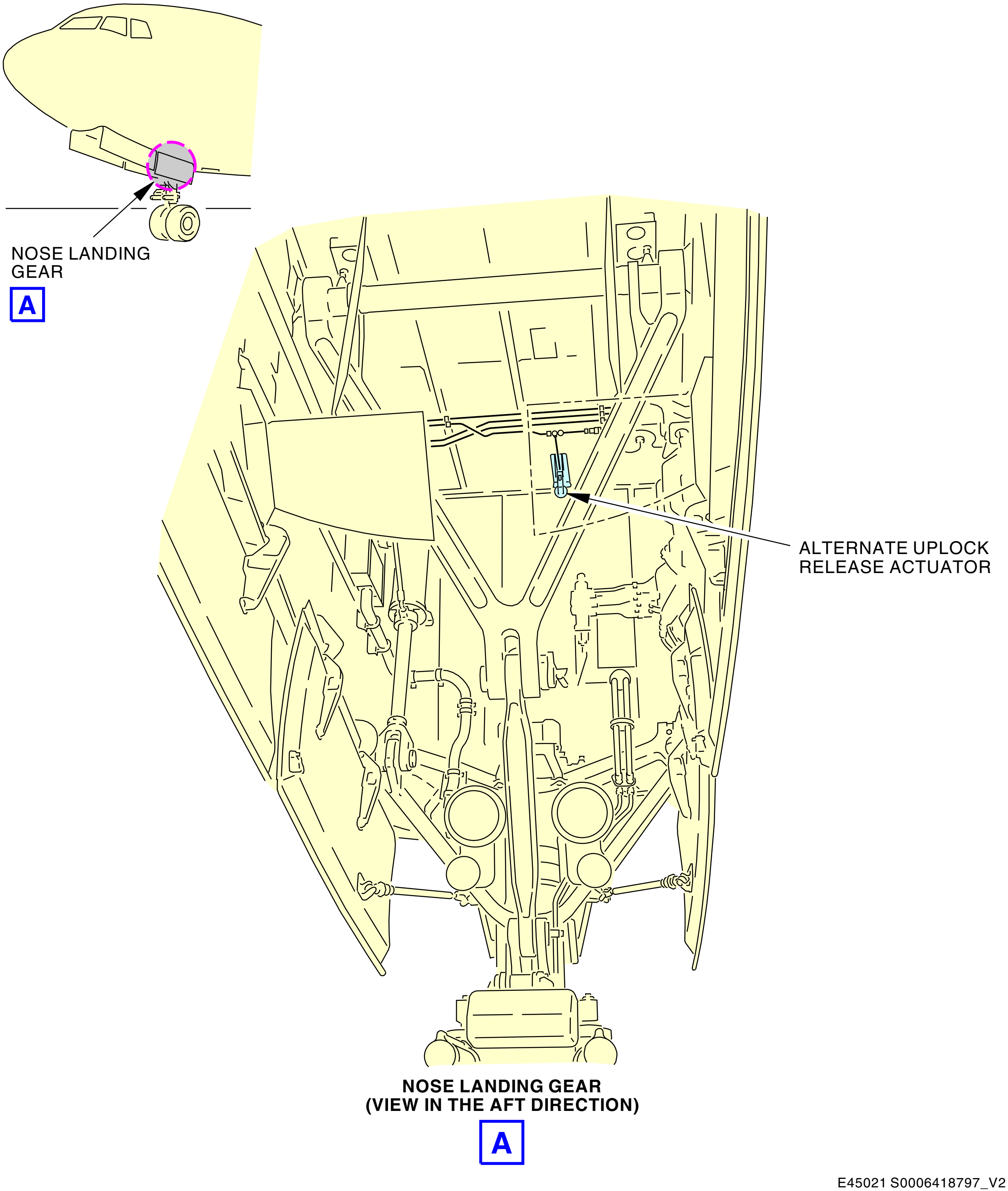
SUBTASK 32-35-04-020-005

(5) Remove the union [10] and packing [8].

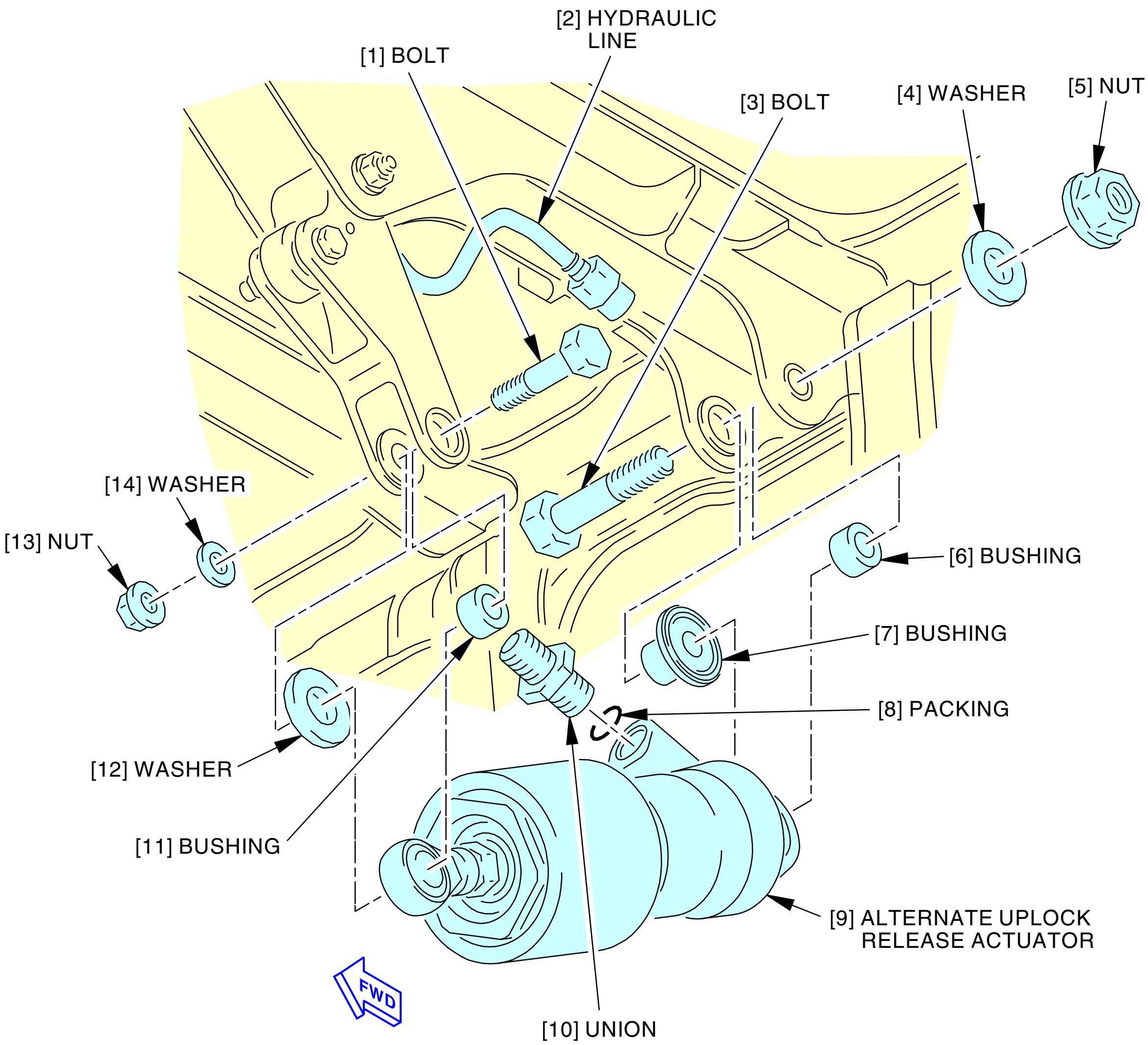
SUBTASK 32-35-04-800-001

(6) Discard the packing [8].

END OF TASK



Nose Landing Gear Alternate Uplock Release Actuator Installation
Figure 401/32-35-04-990-801 (Sheet 1 of 2)



ALTERNATE UPLOCK RELEASE ACTUATOR

B

E45022 S0006418798_V2

**Nose Landing Gear Alternate Uplock Release Actuator Installation
Figure 401/32-35-04-990-801 (Sheet 2 of 2)**

TASK 32-35-04-400-801

3. Alternate Uplock Release Actuator Installation

(Figure 401, Figure 402)

A. References

Reference	Title
12-12-01-610-801	Hydraulic Reservoir Fluid Level Check (P/B 301)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

B. Tools/Equipment

Reference	Description
STD-1055	Container - Oil Resistant, 5 Gallon (19 Liter)

C. Consumable Materials

Reference	Description	Specification
D00054	Fluid - Hydraulic Assembly Lubricant - MCS 352B (Formerly Monsanto MCS 352B)	
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
8	Packing	32-35-04-01-020	ARO ALL
9	Alternate uplock release actuator	32-35-03-02-060	ARO ALL

E. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left

F. Alternate Uplock Release Actuator Installation

SUBTASK 32-35-04-640-001

(1) Apply hydraulic fluid, D00153, or MCS 352B fluid, D00054, to the union [10] and new packing [8].

SUBTASK 32-35-04-420-001

(2) Install the union [10] and new packing [8].

SUBTASK 32-35-04-420-002

(3) Put the alternate uplock release actuator [9], bushing [6], bushing [7], bushing [11] and washer [12] into their positions.

SUBTASK 32-35-04-420-003

(4) Install the bolt [3], washer [4], and nut [5].

SUBTASK 32-35-04-420-004

(5) Install the bolt [1], washer [14], and nut [13].

SUBTASK 32-35-04-080-001

(6) Remove the cap from the hydraulic line [2].

SUBTASK 32-35-04-420-005

(7) Connect the hydraulic line [2].

SUBTASK 32-35-04-420-006

(8) Tighten the B-nut on the hydraulic line [2] to 140 ±7 in-lb (16 ±1 N·m).

G. Alternate Extend System Bleeding

NOTE: The EICAS displays will indicate non-normal sequencing during this test, this is expected and you can ignore it.

NOTE: The alternate extend power pack is operated by commanding the landing gear doors open with the ground door release system.

NOTE: The power pack will remain ON until the "LDG GR ALTN EXT CONTROL" circuit breaker is opened (the pressure switch that usually stops the power pack will not work since you are bleeding the system).

SUBTASK 32-35-04-860-010

(1) Make sure the center hydraulic system is depressurized (TASK 29-11-00-860-807).

SUBTASK 32-35-04-860-011

(2) Make sure that the center hydraulic system reservoir level is between 80% and full.

NOTE: The landing gear alternate extension system can not be bleed unless center system reservoir is more than 75% full.

SUBTASK 32-35-04-860-012

(3) Make sure the landing gear control lever is in the DOWN position.

SUBTASK 32-35-04-490-001

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Make sure the landing gear door safety pins have been installed (TASK 32-00-15-480-801).

SUBTASK 32-35-04-860-014

(5) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-35-04-860-015

(6) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
M	22	C32605	LG DOOR CLOSE GROUND ACCESS

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR
A	23	C32608	LDG GEAR EXTD/RETR 2

(Continued)

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	9	C32616	LDG GEAR RETR AUTO OFF
G	10	C32607	LDG GEAR EXTD/RETR 1

Right Power Management Panel, P210

Row	Col	Number	Name
M	2	C32623	LG LEVER LOCK

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

SUBTASK 32-35-04-790-005

(7) Do the steps that follow to bleed the air out of the alternate extension system at the nose landing gear alternate extend uplock release actuator:

NOTE: Very small air bubbles within the fluid are permissible.

(a) Place a oil resistant container (5 gal)(19 Liter), STD-1055, beneath the bleed location to catch the hydraulic fluid that you will bleed out of the system.

(b) For airplanes with a bleed valve, remove the bolt [33] from the center of the bleed valve [31].

1) Loosen the bleed valve [31].

(c) For airplanes without a bleed valve, loosen the B-nut located on the aft side of the tee fitting which is connected to the 1/4 inch tube that comes from the nose landing gear alternate extend uplock release actuator.

1) If more fluid needs to be bleed through the alternate system, it is permissible to disconnect the hydraulic line at the aft end of the tee fitting and bleed directly out.

2) After you connect the line, you must repeat these steps and bleed through the bleed valve or the B-nut to complete this task.

CAUTION MAKE SURE THAT YOU DO NOT OPERATE THE ALTERNATE EXTEND POWER-PACK FOR MORE THAT FIVE MINUTES. IF YOU OPERATE THE POWER PACK FOR MORE THAN FIVE MINUTES, THE POWER PACK CAN BECOME TOO HOT. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

(d) Momentarily and at the same time put the arm doors switch to ARM and the all doors open/MLG doors close switch to the OPEN position.

1) Do not run the alternate extend power pack more than five minutes continuously.

2) If the air is not completely bleed out of line within the five minute time limit then do the step that follows to stop the alternate extend power pack:

a) Open and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

NOTE: The alternate extend power pack will shut off.

WARNING: DO NOT TOUCH THE POWER PACK MOTOR WHEN IT IS HOT. IT CAN BECOME HOT WHEN IT OPERATES. A HOT MOTOR CAN BURN YOU.

3) Wait for the power pack motor to cool below 120°F (49°C) before you operate it for another 5 minute interval.

a) If you are not able to determine the temperature of the motor, let the motor cool for 45 minutes or until you can hold your hand on it (this is well below 120°F (49°C)).

NOTE: Cooling time can be decreased by directing a fan onto the power pack. Check the temperature often using a thermocouple or other suitable temperature measuring equipment.

4) Do the preceding bleeding steps until all of the air has been bleed out of the system.

(e) To stop the power pack, do this step:

1) Open and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

(f) For airplanes without a bleed valve, tighten the B-nut that connects the hydraulic line for the alternate extend uplock release actuator to the tee fitting.

(g) For airplanes with a bleed valve, do these steps:

1) Tighten the bleed valve [31] to 60 ±20 in-lb (6.8 ±2.3 N·m).

2) Install the bolt [33] in the center of the bleed valve [31].

SUBTASK 32-35-04-860-016

(8) Do this task: Hydraulic Reservoir Fluid Level Check, TASK 12-12-01-610-801.

H. Alternate Uplock Release Actuator Installation Test

SUBTASK 32-35-04-860-005

(1) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

SUBTASK 32-35-04-790-001

(2) Momentarily and at the same time put the arm doors switch to ARM and the all doors open/MLG doors close switch to the OPEN position.

SUBTASK 32-35-04-790-002

(3) Make sure the alternate uplock release actuator moves.

SUBTASK 32-35-04-790-003

(4) Make sure there are no hydraulic fluid leaks.

SUBTASK 32-35-04-790-004

(5) Make sure when the alternate extend system shuts off, the alternate uplock release actuator automatically retracts.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 32-35-04-840-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-35-04-860-006

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-35-04-860-007

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

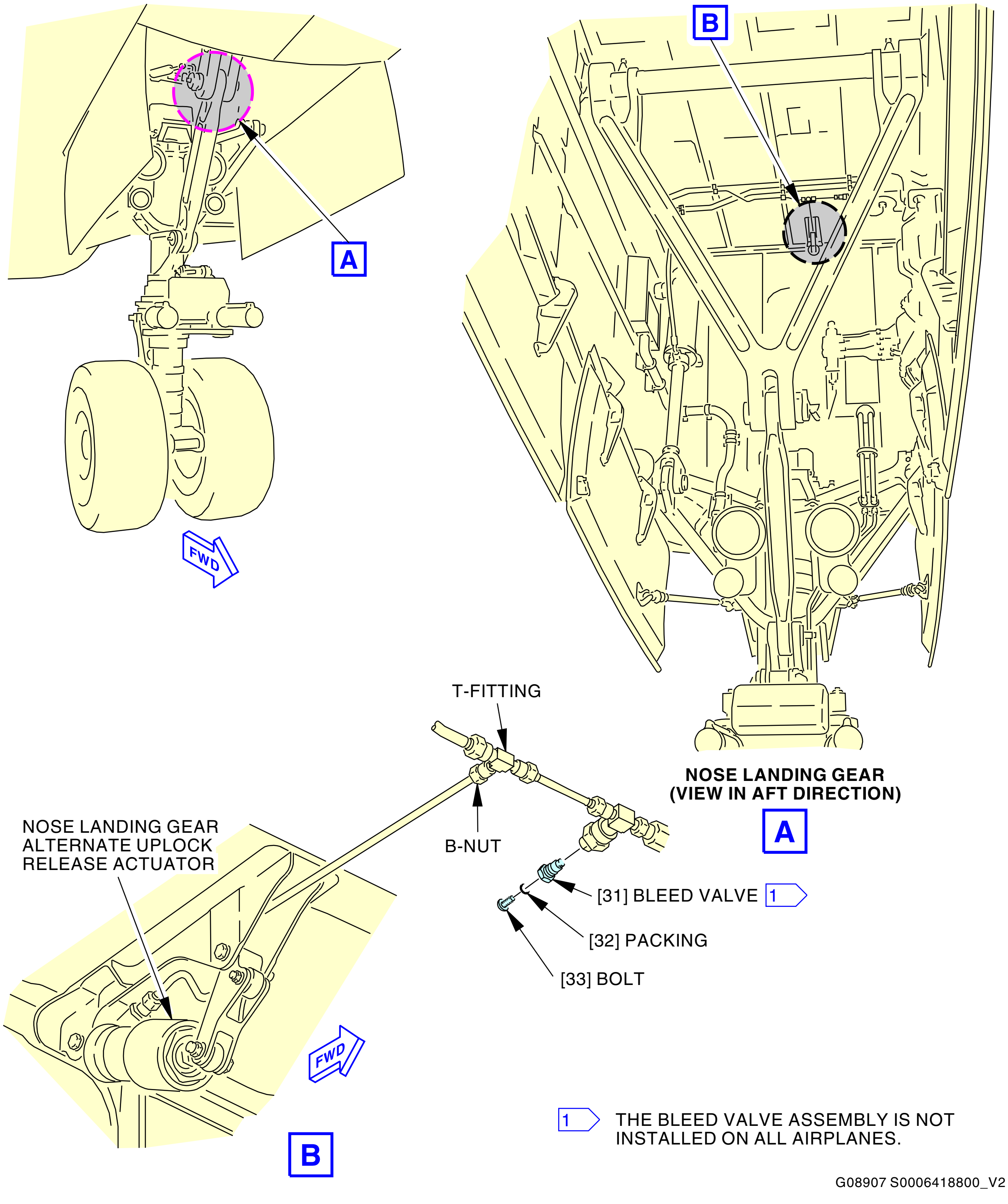
SUBTASK 32-35-04-860-008

(4) For the landing gear doors, do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-35-04-860-009

(5) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK



Landing Gear Alternate Extension System Bleeding
Figure 402/32-35-04-990-802

MAIN LANDING GEAR DOOR RELEASE/SAFETY VALVE MODULE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the main landing gear door release/safety valve module.

(2) An installation of the main landing gear door release/safety valve module.

(3) A removal of the main landing gear door release/safety valve module solenoid valve.

(4) An installation of the main landing gear door release/safety valve module solenoid valve.

B. In this procedure the door release/safety valve module assembly is referred to as the module assembly [5].

TASK 32-35-05-000-801

2. Main Landing Gear Door Release/Safety Valve Module Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

C. Prepare for the Removal

SUBTASK 32-35-05-860-001

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-35-05-860-002

(2) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
M	22	C32605	LG DOOR CLOSE GROUND ACCESS

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

SUBTASK 32-35-05-860-003

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-35-05-480-001

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-35-05-860-004

(5) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-35-05-010-001

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

NOTE: Install the door safety pins on all landing gear doors, including the nose landing gear doors.

SUBTASK 32-35-05-860-005

(7) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

SUBTASK 32-35-05-480-002

(8) Install chocks around the tires of the landing gear (PAGEBLOCK 10-11-05/201).

SUBTASK 32-35-05-010-002

(9) Remove the access panel [3].

D. Main Landing Gear Door Release/Safety Valve Module Removal

SUBTASK 32-35-05-020-001

(1) Disconnect the electrical connector [13].

SUBTASK 32-35-05-020-002

(2) Disconnect the hydraulic line [1].

SUBTASK 32-35-05-020-003

(3) Remove the bolts [9] and washers [10].

SUBTASK 32-35-05-020-004

(4) Do the applicable steps to remove the module assembly [5]:

(a) Disconnect the applicable clamps [2] or clamps [4].

(b) Disconnect and remove the hydraulic lines that are necessary to permit you to remove the module assembly [5].

SUBTASK 32-35-05-020-005

(5) Remove the module assembly [5].

SUBTASK 32-35-05-020-006

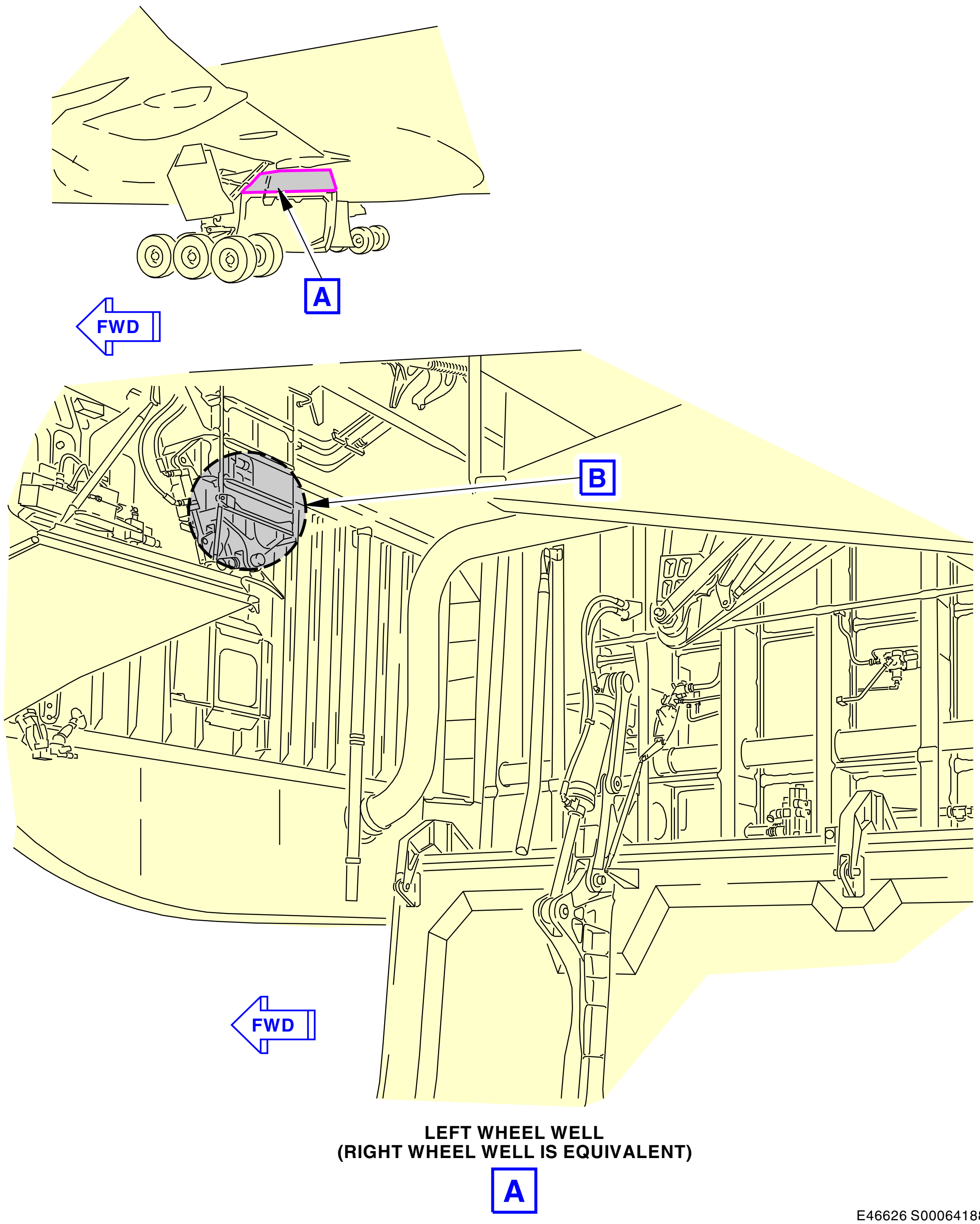
(6) Remove the reducers [6] and packings [7], unions [11] and packings [8], and reducer [14] and packing [15].

(a) Discard the packings [7], packings [8], and packing [15].

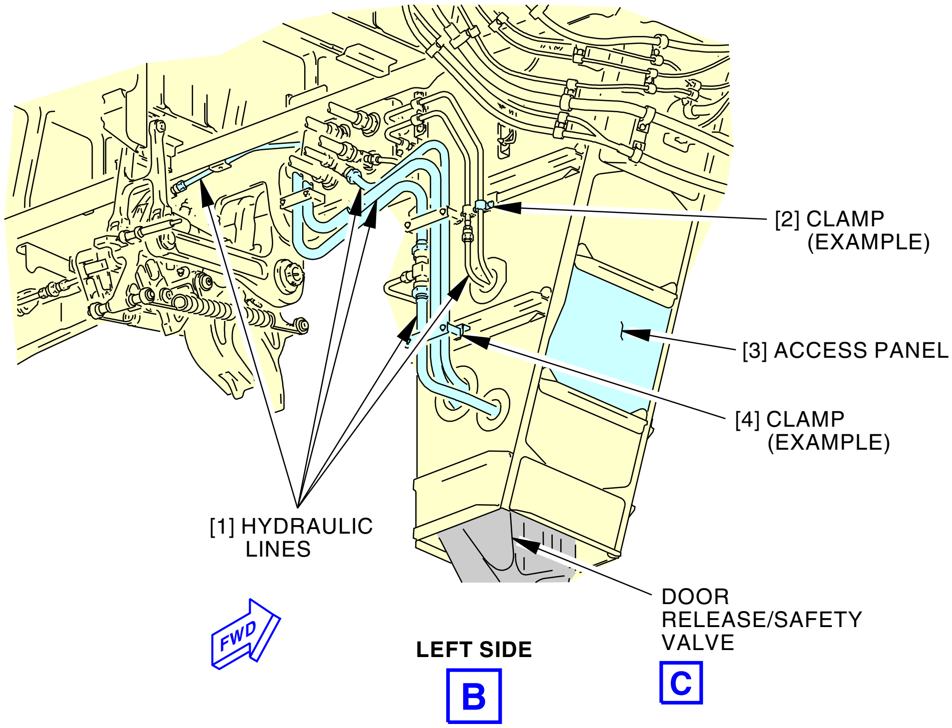
SUBTASK 32-35-05-480-003

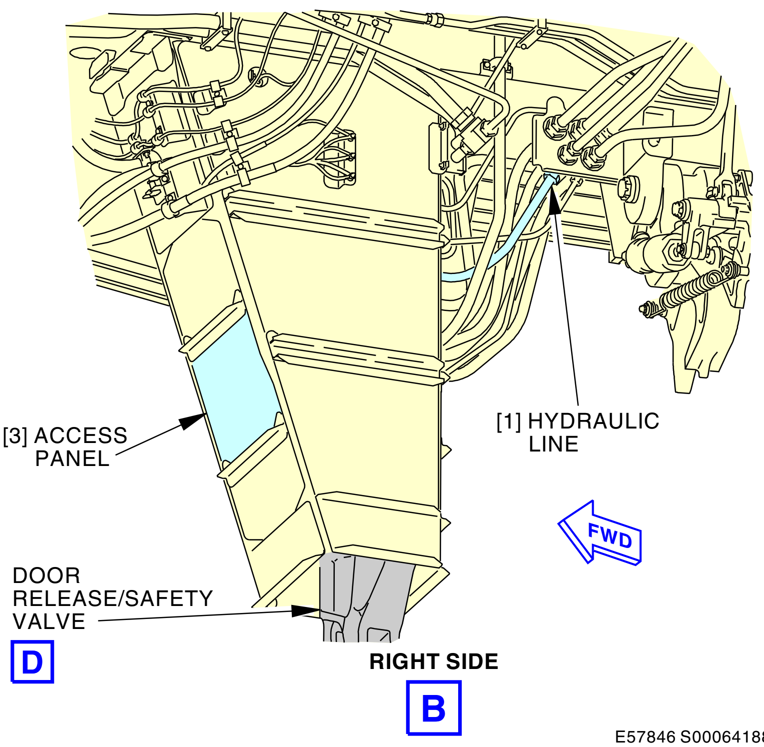
(7) Put caps or plugs on the hydraulic lines to keep out unwanted material.

END OF TASK



Main Landing Gear Door Release/Safety Valve Module Installation
Figure 401/32-35-05-990-801 (Sheet 1 of 5)





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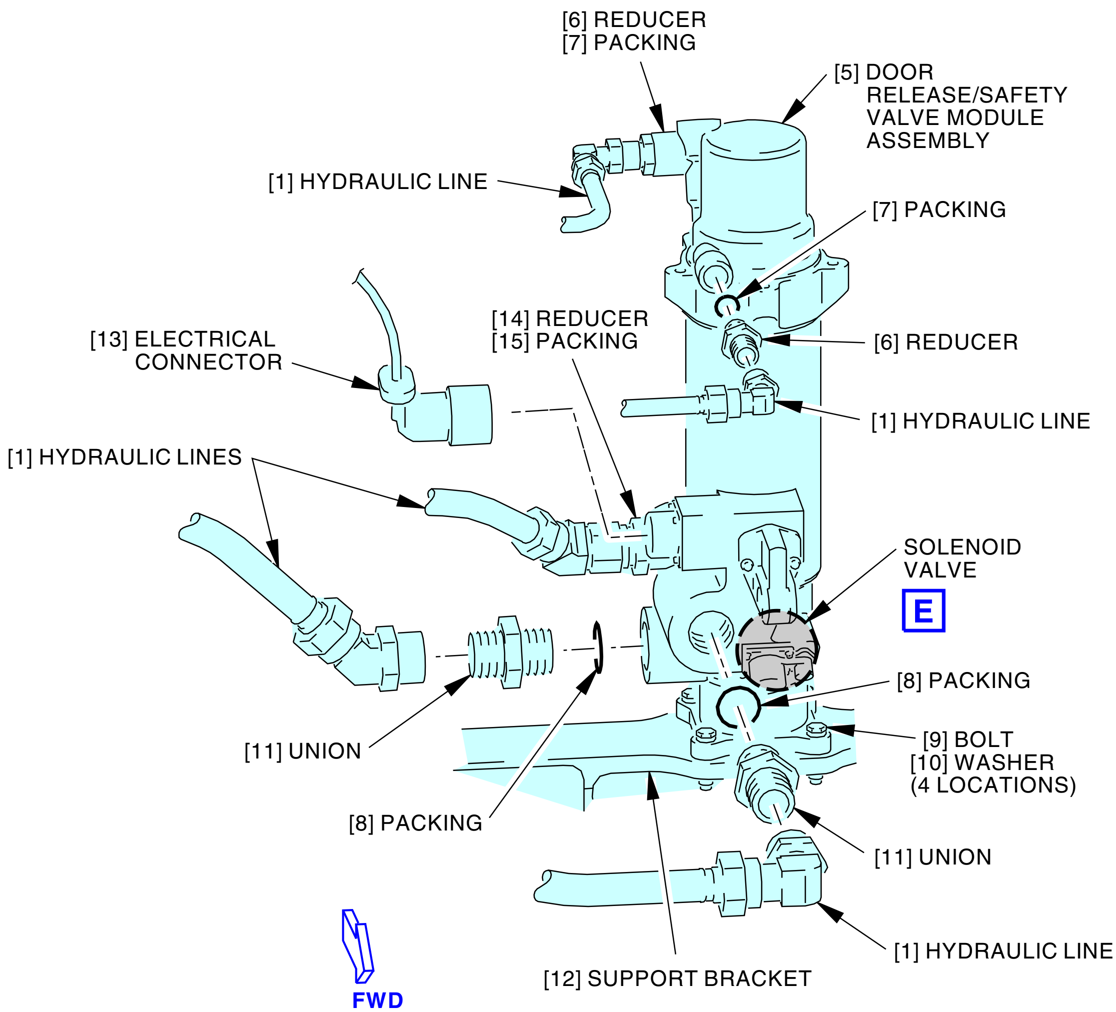
Main Landing Gear Door Release/Safety Valve Module Installation
Figure 401/32-35-05-990-801 (Sheet 2 of 5)



LEFT DOOR RELEASE/SAFETY VALVE

C

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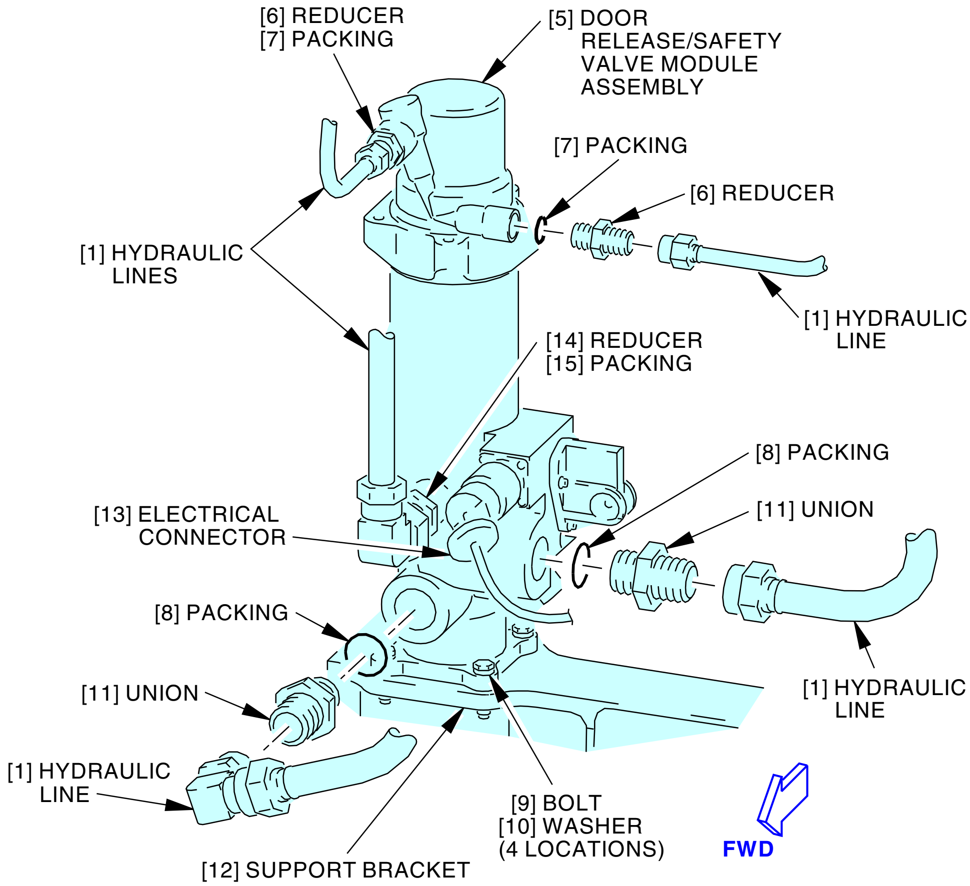
Main Landing Gear Door Release/Safety Valve Module Installation
Figure 401/32-35-05-990-801 (Sheet 3 of 5)

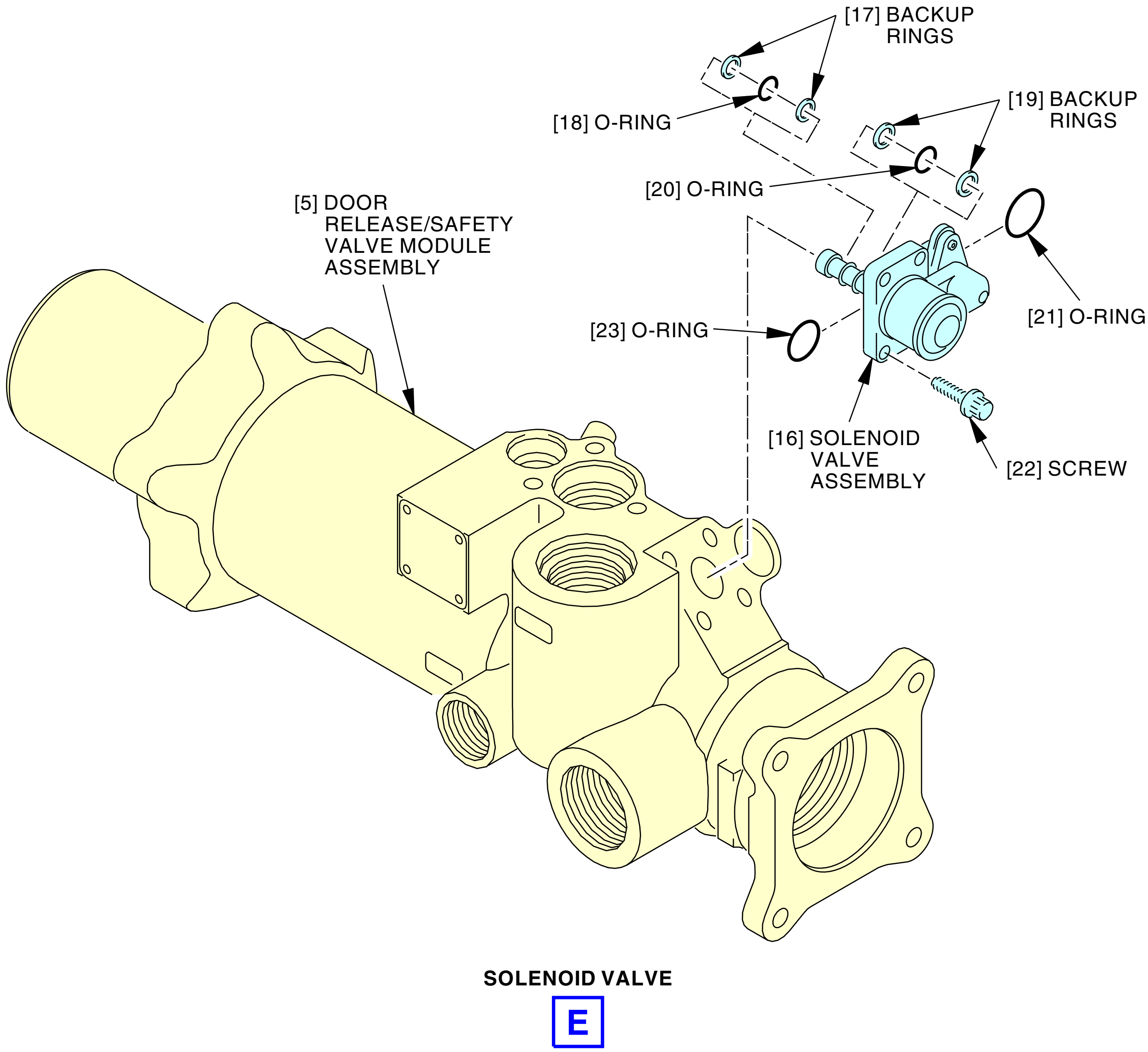


RIGHT DOOR RELEASE/SAFETY VALVE

D

E61248 S0006418807_V2

Main Landing Gear Door Release/Safety Valve Module Installation
Figure 401/32-35-05-990-801 (Sheet 4 of 5)



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Main Landing Gear Door Release/Safety Valve Module Installation
Figure 401/32-35-05-990-801 (Sheet 5 of 5)

TASK 32-35-05-400-801

3. Main Landing Gear Door Release/Safety Valve Module Installation

(Figure 401, Figure 402)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
12-12-01-610-801	Hydraulic Reservoir Fluid Level Check (P/B 301)
20-10-22-110-802	Clean Bare, Clad, or Plated Metal with Solvent (P/B 701)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)
WDM D6-54446	Wiring Diagram Manual

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meters - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: T477W Supplier: 01014 Opt Part #: M1B Supplier: 3AD17
STD-1055	Container - Oil Resistant, 5 Gallon (19 Liter)

C. Consumable Materials

Reference	Description	Specification
A00436	Sealant - Fuel Tank	BMS5-45 (Supersedes BMS5-26)
C00064	Coating - Aluminum Chemical Conversion	BAC5719 Type II Class A (MIL-DTL-5541 Class 1A)
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00054	Fluid - Hydraulic Assembly Lubricant - MCS 352B (Formerly Monsanto MCS 352B)	

(Continued)

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
5	Module assembly	32-35-05-01-010	ARO ALL
7	Packing	32-35-05-01-040	ARO ALL
8	Packing	32-35-05-01-050	ARO ALL
15	Packing	32-35-05-01-045	ARO ALL

E. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

F. **Main Landing Gear Door Release/Safety Valve Module Installation**

SUBTASK 32-35-05-210-001

(1) Make sure the mating surfaces are clean.

SUBTASK 32-35-05-100-001

(2) Do the steps below to help supply a good electrical bond between the module assembly [5] and the support bracket [12]:

(a) Clean the mating surface of the support bracket [12] (TASK 20-10-22-110-802).

(b) Chemically prepare the mating surface of the support bracket [12] with the coating, C00064.

SUBTASK 32-35-05-110-001

(3) Clean the mating surface of the module assembly [5] with solvent (TASK 20-10-22-110-802).

NOTE: This is necessary to help supply a good electrical bond between the module assembly [5] and the support bracket.

SUBTASK 32-35-05-640-001

(4) Apply MCS 352B fluid, D00054, or hydraulic fluid, D00153, to the reducer [6] and packings [7], to union [11] and packings [8], and to reducer [14] and packing [15].

SUBTASK 32-35-05-420-001

(5) Install the reducers [6] and packings [7], unions [11] and packings [8] and reducer [14] and packing [15].

(a) Tighten the reducer [6], union [11] and reducer [14] to the torque values that follow:

1) Tighten the reducer [6] to 110.0 ±5.5 in-lb (12.4 ±0.6 N·m).

2) Tighten the union [11] to 450.0 ±22.5 in-lb (50.8 ±2.6 N·m).

3) Tighten the reducer [14] to 280 ±14 in-lb (32 ±2 N·m).

SUBTASK 32-35-05-420-002

(6) Put the module assembly [5] in its position.

SUBTASK 32-35-05-390-003

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(7) Apply Cor-Ban 27L Compound, G50237, or Mastinox 6856 K, C00913, to the shank of the bolts [9].

SUBTASK 32-35-05-420-003

(8) Install the bolts [9] and washers [10].

NOTE: Install the washers [10] with the chamfer against the head of the bolts [9].

SUBTASK 32-35-05-390-002

(9) Apply a bead of sealant, A00436, to make an edge seal between the module assembly [5] and the support bracket [12].

SUBTASK 32-35-05-420-006

(10) Measure the resistance between the module assembly [5] and the support bracket [12] with a intrinsically safe approved bonding meter, COM-1550 (WDM D6-54446).

(a) Make sure the resistance is less than or equal to 0.0025 ohms.

SUBTASK 32-35-05-420-004

(11) Install the hydraulic lines [1].

(a) Tighten the hydraulic lines [1] to the torque values that follow:

1) Tighten the hydraulic lines [1] for reducer [6] to 270.0 ±13.5 in-lb (30.5 ±1.5 N·m).

2) Tighten the hydraulic lines [1] for union [11] to 900 ±45 in-lb (102 ±5 N·m).

3) Tighten the hydraulic lines [1] for reducer [14] to 700 ±35 in-lb (79 ±4 N·m).

SUBTASK 32-35-05-020-007

(12) Install the applicable clamps [2] or clamps [4] if they were removed before.

SUBTASK 32-35-05-420-005

(13) Connect the electrical connector [13].

G. Alternate Extend System Component Bleeding

NOTE: The EICAS displays will indicate non-normal sequencing during this test, this is expected and you can ignore it.

NOTE: The alternate extend power pack is operated by commanding the landing gear doors open with the ground door release system.

NOTE: The power pack will remain ON until the "LDG GR ALTN EXT CONTROL" circuit breaker is opened (the pressure switch that usually stops the power pack will not work since you are bleeding the system).

SUBTASK 32-35-05-860-016

(1) Make sure the center hydraulic system is depressurized (TASK 29-11-00-860-807).

SUBTASK 32-35-05-860-017

(2) Make sure that the center hydraulic system reservoir level is between 80% and full.

NOTE: The landing gear alternate extension system can not be bleed unless center system reservoir is more than 75% full.

SUBTASK 32-35-05-860-018

(3) Make sure the landing gear control lever is in the DOWN position.

SUBTASK 32-35-05-490-004

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Make sure the landing gear door safety pins have been installed (TASK 32-00-15-480-801).

SUBTASK 32-35-05-860-020

(5) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-35-05-860-021

(6) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
M	22	C32605	LG DOOR CLOSE GROUND ACCESS

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR
A	23	C32608	LDG GEAR EXTD/RETR 2
G	9	C32616	LDG GEAR RETR AUTO OFF
G	10	C32607	LDG GEAR EXTD/RETR 1

Right Power Management Panel, P210

Row	Col	Number	Name
M	2	C32623	LG LEVER LOCK

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

SUBTASK 32-35-05-790-007

(7) Do the steps that follow to bleed the air out of the alternate extension system at the main landing gear alternate uplock release actuators:

NOTE: Very small air bubbles within the fluid are permissible.

(a) Place a oil resistant container (5 gal)(19 Liter), STD-1055, beneath the bleed location to catch the hydraulic fluid that you will bleed out of the system.

(b) Remove the bolt [33] from the center of the bleed valve [31].

(c) Loosen the bleed valve or the B-nut for the MLG alternate uplock release actuator in the same wheel well as the safety valve module that you removed.

1) If more fluid needs to be bleed through the alternate system, it is permissible to remove one end of MLG alternate uplock release actuator hose and bleed directly out.

2) After you connect the hose, you must repeat these steps and bleed through the B-nut or the bleed valve to complete this task.

CAUTION MAKE SURE THAT YOU DO NOT OPERATE THE ALTERNATE EXTEND POWER-PACK FOR MORE THAT FIVE MINUTES. IF YOU OPERATE THE POWER PACK FOR MORE THAN FIVE MINUTES, THE POWER PACK CAN BECOME TOO HOT. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

(d) Momentarily and at the same time put the arm doors switch to ARM and the all doors open/MLG doors close switch to the OPEN position.

1) Do not run the alternate extend power pack more than five minutes continuously.

2) If the air is not completely bleed out of line within the five minute time limit then do the step that follows to stop the alternate extend power pack:

a) Open and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

WARNING DO NOT TOUCH THE POWER PACK MOTOR WHEN IT IS HOT. IT CAN BECOME HOT WHEN IT OPERATES. A HOT MOTOR CAN BURN YOU.

3) Wait for the power pack motor to cool below 120°F (49°C) before you operate it for another 5 minute interval.

a) If you are not able to determine the temperature of the motor, let the motor cool for 45 minutes or until you can hold your hand on it (this is well below 120°F (49°C)).

NOTE: Cooling time can be decreased by directing a fan onto the power pack. Check the temperature often using a thermocouple or other suitable temperature measuring equipment.

4) Do the preceding bleeding steps until all of the air has been bleed out of the system.

(e) To stop the power pack, do this task:

1) Open and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

(f) Tighten the bleed valve or the B-nut when you have finished bleeding the system.

1) Tighten the bleed valve [31] to 60 ±20 in-lb (6.8 ±2.3 N·m).

(g) Install the bolt [33] in the center of the bleed valve [31].

SUBTASK 32-35-05-860-022

(8) Do this task: Hydraulic Reservoir Fluid Level Check, TASK 12-12-01-610-801.

H. Main Landing Gear Door Release/Safety Valve Module Installation Test

SUBTASK 32-35-05-860-006

(1) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

SUBTASK 32-35-05-790-001

(2) Momentarily and at the same time put the arm doors switch to ARM and the all doors open/MLG doors close switch to the OPEN position.

SUBTASK 32-35-05-860-007

(3) Make sure that this circuit breaker is closed:

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

SUBTASK 32-35-05-790-002

(4) Make sure the red warning light is off.

SUBTASK 32-35-05-790-003

(5) Push the Press to Test switch on the P56 main wheel well electrical service panel and make sure the red warning light is on.

SUBTASK 32-35-05-860-008

(6) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-35-05-860-009

(7) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
M	22	C32605	LG DOOR CLOSE GROUND ACCESS

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-35-05-840-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(8) Remove the door open safety pin from the MLG door release/safety valve module that you replaced (TASK 32-00-15-080-801).

(a) Remove the pin only on the door being tested and leave the pins in the nose landing gear doors and in the other main landing gear doors.

SUBTASK 32-35-05-860-010

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(9) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-35-05-790-004

(10) Momentarily and at the same time put the arm doors switch to ARM and the all doors open/MLG doors close switch to the CLOSE position.

NOTE: The main gear door with the pin removed will close.

SUBTASK 32-35-05-790-005

(11) Put the control lever for the landing gear in the UP position, with the override mechanism.

NOTE: The main landing gear door with the pin removed will open.

SUBTASK 32-35-05-210-002

(12) Make sure the red warning light is on.

SUBTASK 32-35-05-860-011

(13) Put the control lever for the landing gear in the DN position.

NOTE: The main landing gear door with the pin removed will close.

SUBTASK 32-35-05-860-012

(14) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-35-05-790-006

(15) Make sure there are no hydraulic fluid leaks.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 32-35-05-410-001

(1) Install the access panel [3].

SUBTASK 32-35-05-840-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Remove all of the other door open safety pins (TASK 32-00-15-080-801).

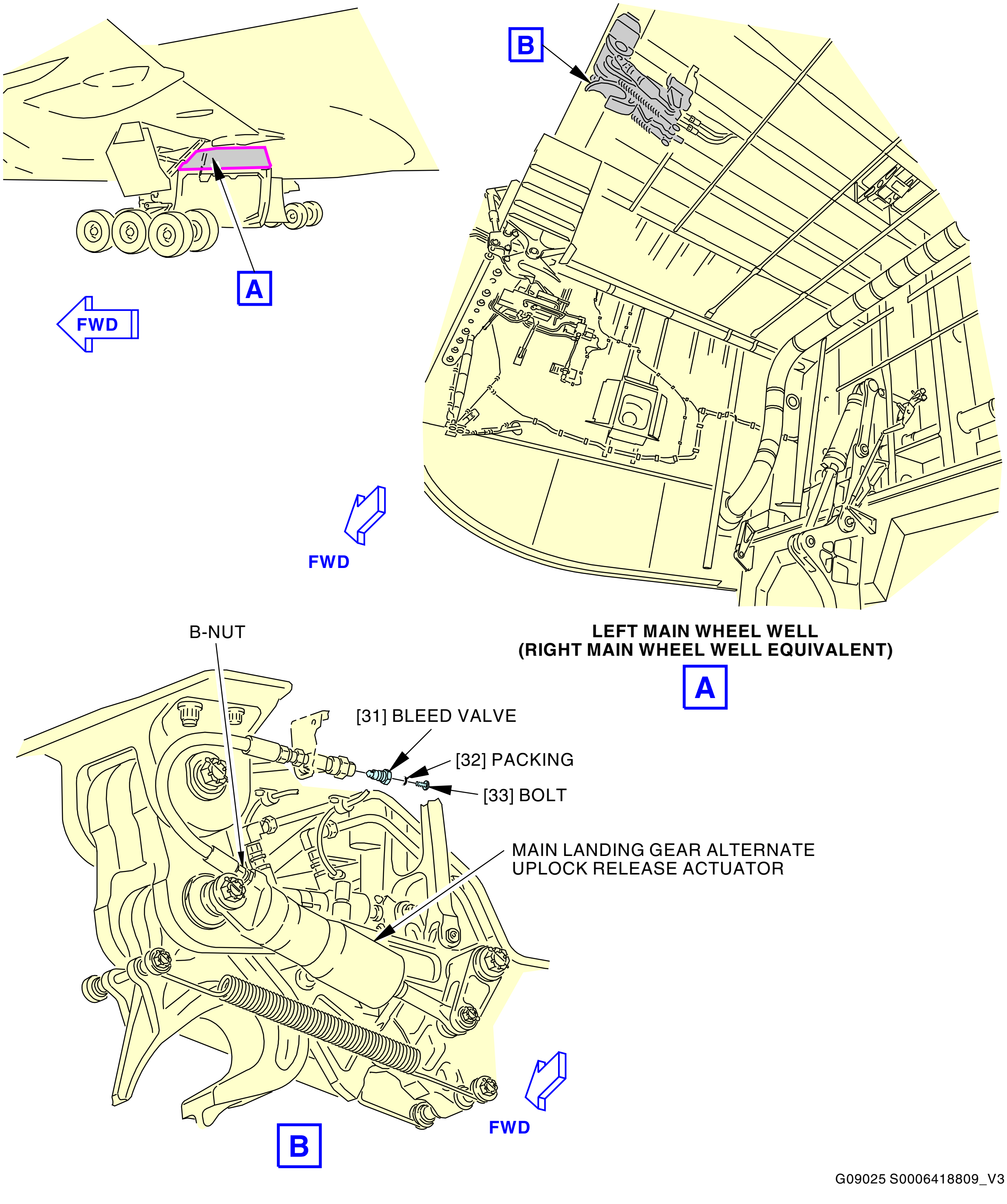
SUBTASK 32-35-05-860-013

(3) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-35-05-860-014

(4) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK



Landing Gear Alternate Extension System Bleeding
Figure 402/32-35-05-990-802

TASK 32-35-05-000-802

4. Main Landing Gear Door Release/Safety Valve Module Solenoid Valve Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

C. Prepare for the Removal

SUBTASK 32-35-05-867-002

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-35-05-865-001

(2) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
M	22	C32605	LG DOOR CLOSE GROUND ACCESS

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

SUBTASK 32-35-05-864-001

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-35-05-490-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-35-05-867-001

(5) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-35-05-490-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

NOTE: Install the door safety pins on all landing gear doors, including the nose landing gear doors.

SUBTASK 32-35-05-865-002

(7) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

SUBTASK 32-35-05-490-003

(8) Install chocks around the tires of the landing gear (PAGEBLOCK 10-11-05/201).

SUBTASK 32-35-05-010-004

(9) If necessary, remove the access panel [3].

NOTE: It is not necessary to remove the access panel [3] to get access to the solenoid valve assembly [16]. You can get access to the solenoid valve assembly [16] through the bottom of the support structure for the door uplock hook.

D. Solenoid Valve Assembly Removal

SUBTASK 32-35-05-030-003

(1) Cut and remove the lockwire from the screws [22].

SUBTASK 32-35-05-020-009

(2) Remove the screws [22] from the solenoid valve assembly [16].

SUBTASK 32-35-05-020-010

(3) Pull the solenoid valve assembly [16] straight out from the module assembly [5].

SUBTASK 32-35-05-030-004

(4) Remove the backup rings [17], backup rings [19], o-ring [18], o-ring [20], o-ring [21], and o-ring [23] from the solenoid valve assembly [16].

——— END OF TASK ———

TASK 32-35-05-400-802

5. Main Landing Gear Door Release/Safety Valve Module Solenoid Valve Installation

(Figure 401)

A. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

(Continued)

Reference	Title
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

B. **Consumable Materials**

Reference	Description	Specification
A00767	Sealant - Fuel Tank	BMS5-45

C. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

D. **Solenoid Valve Installation**

SUBTASK 32-35-05-430-001

(1) Install o-ring [21] and o-ring [23] onto solenoid valve assembly [16].

SUBTASK 32-35-05-430-002

(2) Install o-ring [20] and backup rings [19] onto solenoid valve assembly [16].

SUBTASK 32-35-05-430-003

(3) Install o-ring [18] and backup rings [17] onto the solenoid valve assembly [16].

SUBTASK 32-35-05-390-004

(4) Apply a bead of sealant, A00767, between the solenoid valve assembly [16] interface and module assembly [5].

SUBTASK 32-35-05-420-007

(5) Carefully install the solenoid valve assembly [16] into module assembly [5].

SUBTASK 32-35-05-430-004

(6) Attach the solenoid valve assembly [16] to the module assembly [5] with screws [22].

SUBTASK 32-35-05-430-005

(7) Tighten the screws [22] to a torque of 12 in-lb (1.4 N·m) - 15 in-lb (1.7 N·m) and install lockwire.

E. **Alternate Extend System Component Bleeding**

SUBTASK 32-35-05-870-001

(1) Beed the air out of the alternate extension system (TASK 32-35-05-400-801).

F. **Main Landing Gear Door Release/Safety Valve Module Installation Test**

SUBTASK 32-35-05-700-001

(1) Do the main landing gear door release/safety valve module installation test (TASK 32-35-05-400-801).

G. **Put the Airplane Back to Its Usual Condition**

SUBTASK 32-35-05-410-002

(1) Install the access panel [3] if you removed it.

SUBTASK 32-35-05-090-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Remove all of the other door open safety pins (TASK 32-00-15-080-801).

SUBTASK 32-35-05-867-003

(3) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-35-05-862-001

(4) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

NOSE LANDING GEAR DOOR RELEASE/SAFETY VALVE MODULE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the nose landing gear door release/safety valve module

(2) An installation of the nose landing gear door release/safety valve module.

(3) A removal of the nose landing gear door release/safety valve module solenoid valve.

(4) An installation of the nose landing gear door release/safety valve module solenoid valve.

TASK 32-35-06-000-801

2. Nose Landing Gear Door Release/Safety Valve Module Removal

(Figure 401, Figure 402)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left

C. Prepare for the Removal

SUBTASK 32-35-06-860-001

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-35-06-860-002

(2) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
M	22	C32605	LG DOOR CLOSE GROUND ACCESS

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

SUBTASK 32-35-06-860-003

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-35-06-480-001

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-35-06-860-004

(5) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-35-06-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-35-06-480-002

(7) Install chocks around the tires of the nose landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

D. Nose Landing Gear Door Release/Safety Valve Module Removal

SUBTASK 32-35-06-020-001

(1) Disconnect the electrical connector [5].

SUBTASK 32-35-06-020-002

(2) Disconnect the hydraulic line [3] and hydraulic line [6].

SUBTASK 32-35-06-480-003

(3) Put caps on the hydraulic lines.

SUBTASK 32-35-06-020-003

(4) Remove the bolt [8] and washer [9].

SUBTASK 32-35-06-020-004

(5) Remove the door release/safety valve assembly [10].

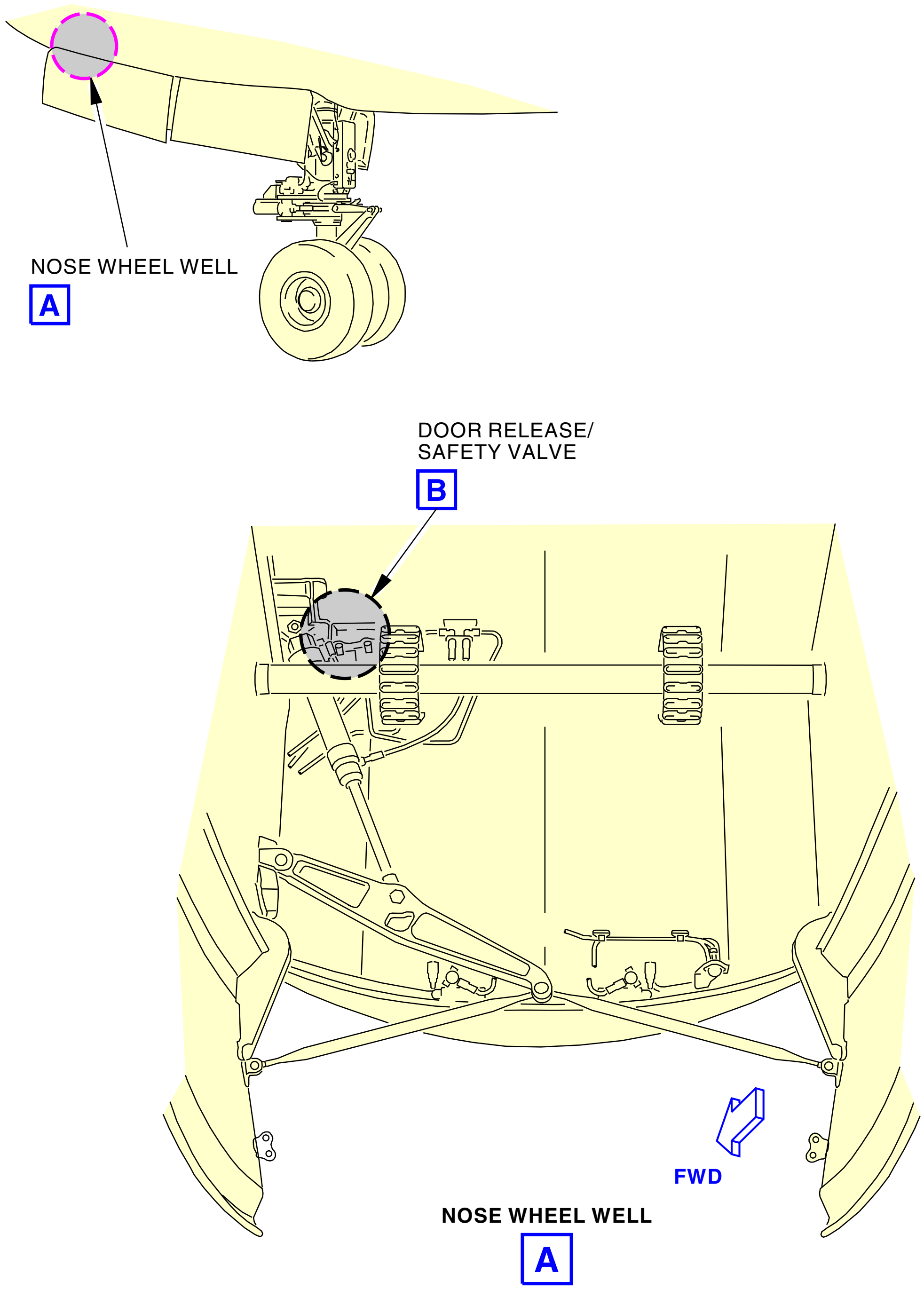
SUBTASK 32-35-06-020-005

(6) Remove the reducer [2] and packings [1], and the union [4] and packings [7].

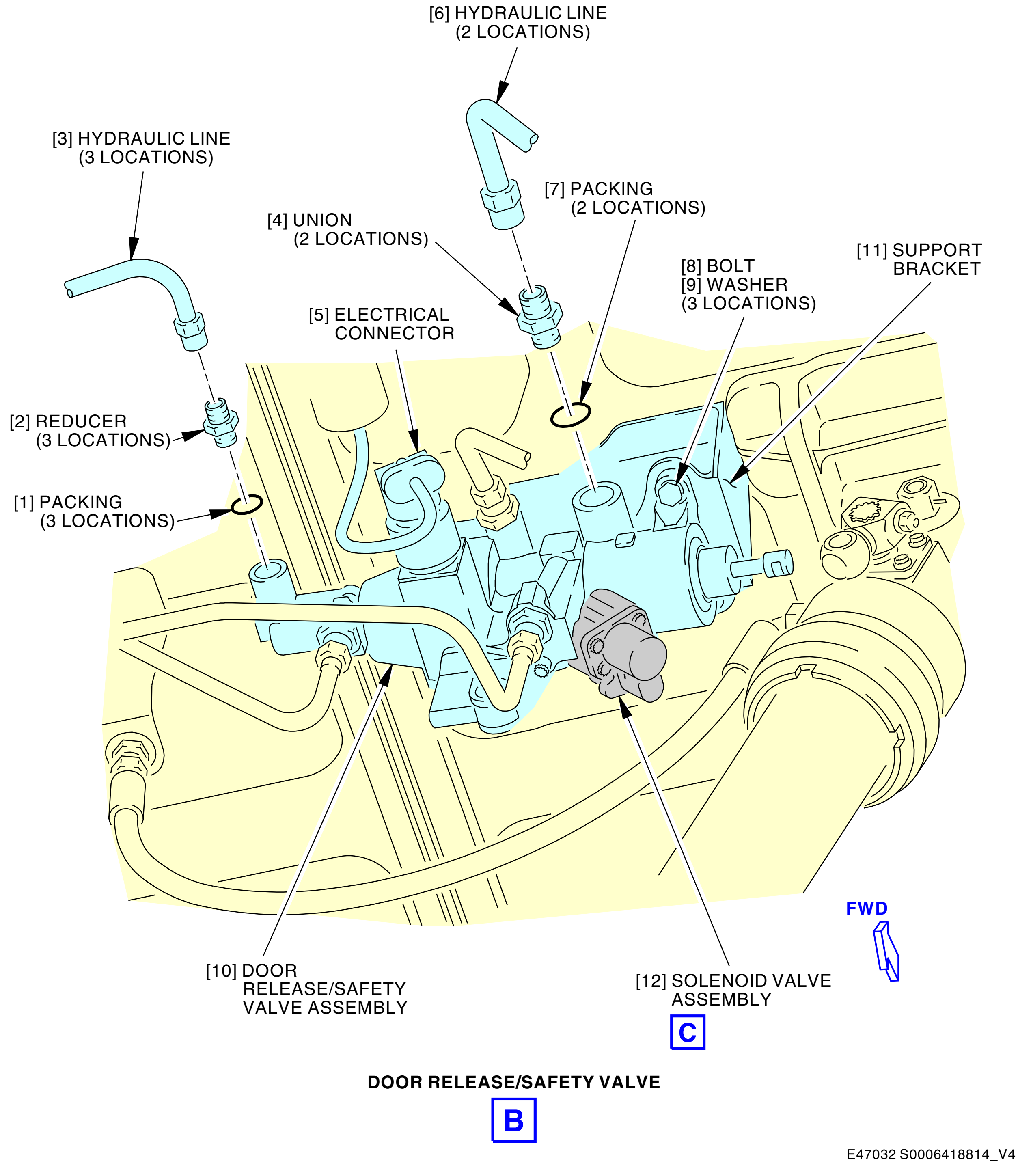
SUBTASK 32-35-06-800-001

(7) Discard the packings [1] and packings [7].

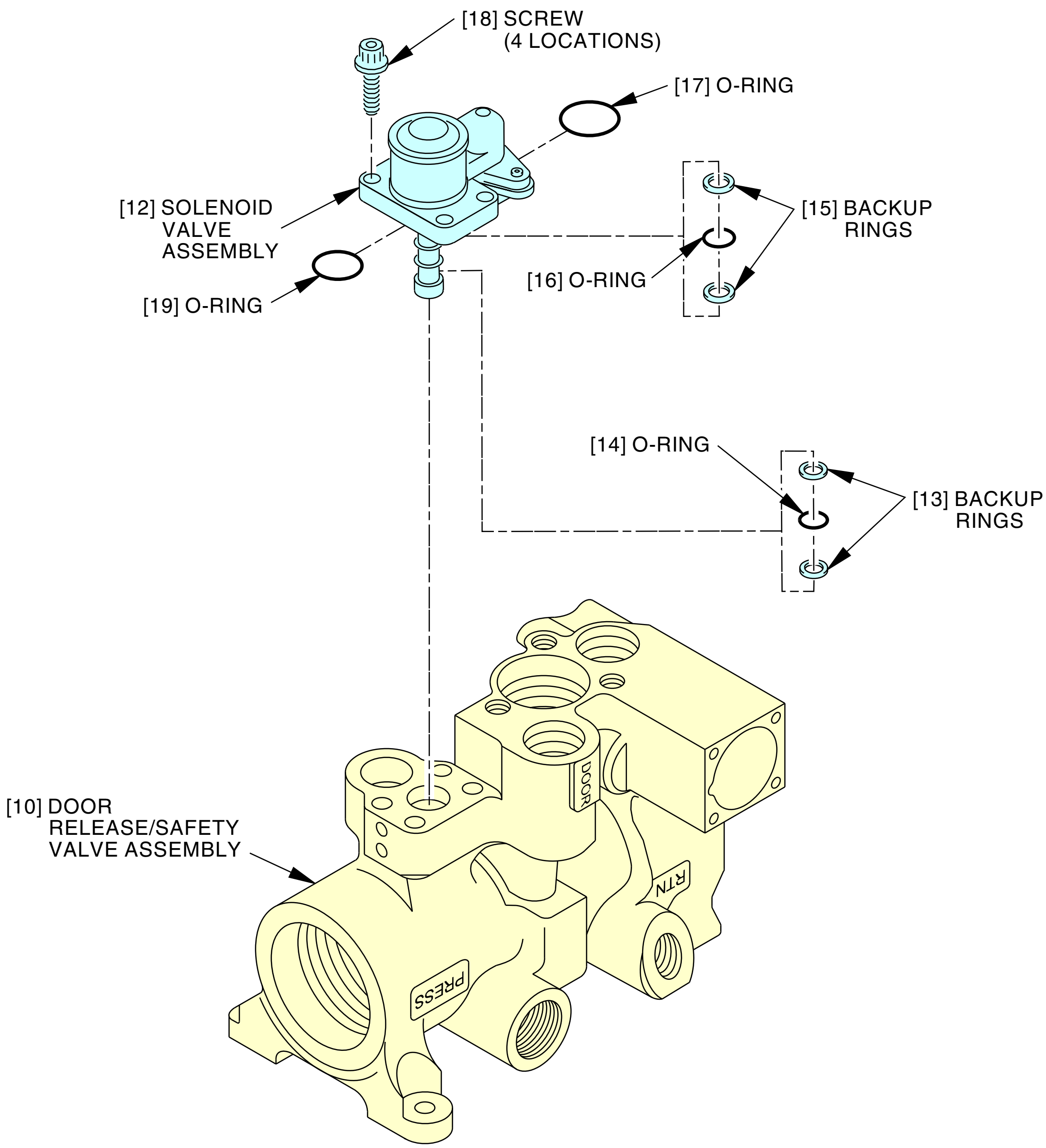
END OF TASK



Nose Landing Gear Door Release/Safety Valve Module Installation
Figure 401/32-35-06-990-801 (Sheet 1 of 3)



Nose Landing Gear Door Release/Safety Valve Module Installation
Figure 401/32-35-06-990-801 (Sheet 2 of 3)

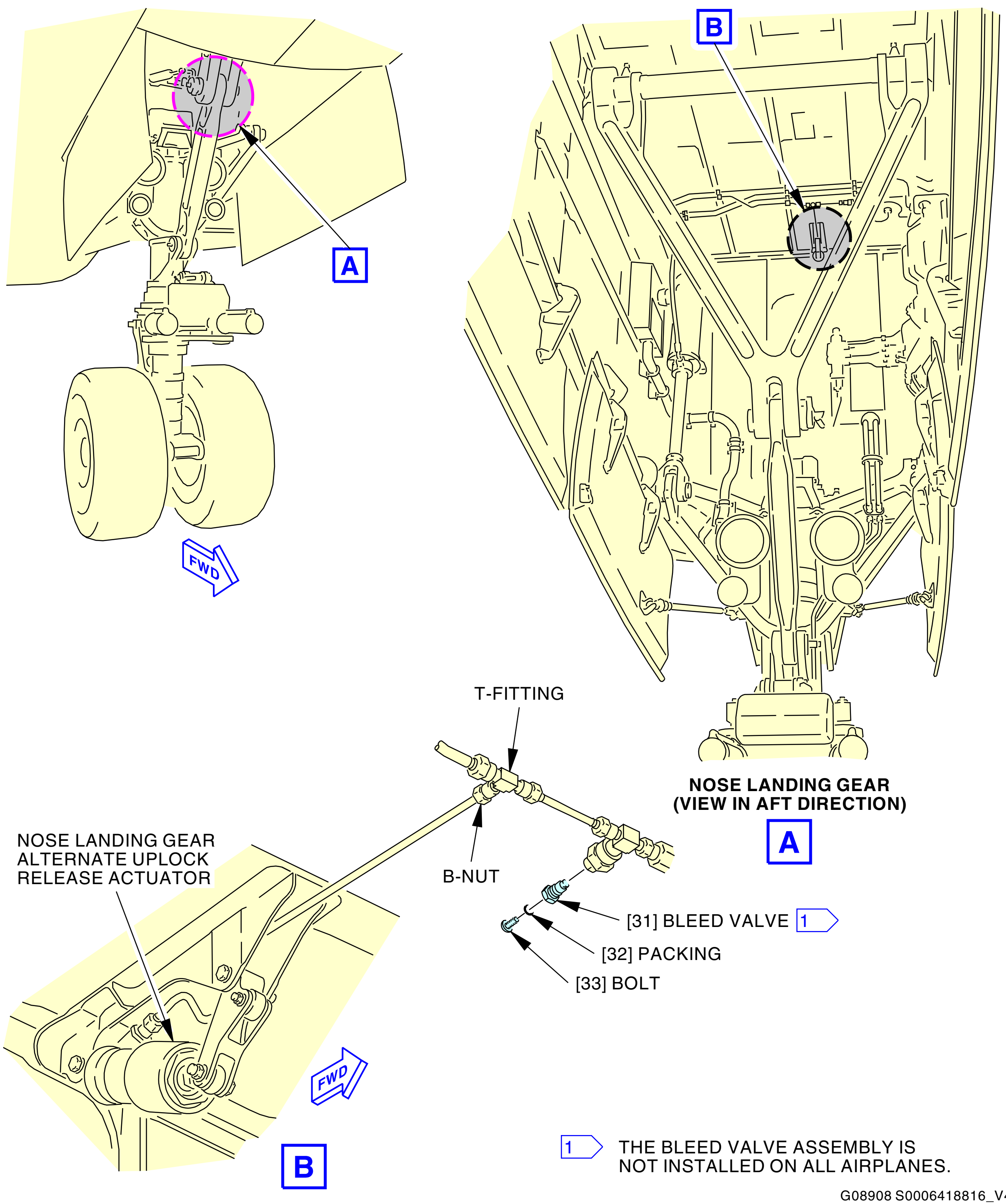


SOLENOID VALVE ASSEMBLY

C

U50532 S0000200919_V3

Nose Landing Gear Door Release/Safety Valve Module Installation
Figure 401/32-35-06-990-801 (Sheet 3 of 3)



Landing Gear Alternate Extension System Bleeding
Figure 402/32-35-06-990-803

TASK 32-35-06-400-801

3. Nose Landing Gear Door Safety/Release Valve Module Installation

(Figure 401, Figure 402)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
12-12-01-610-801	Hydraulic Reservoir Fluid Level Check (P/B 301)
20-10-22-110-802	Clean Bare, Clad, or Plated Metal with Solvent (P/B 701)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)
51-21-04-620-801	Alodine 600, 1000, 1200, and 1200S Coating Application (P/B 701)
WDM D6-54446	Wiring Diagram Manual

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meters - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: T477W Supplier: 01014 Opt Part #: M1B Supplier: 3AD17
STD-1055	Container - Oil Resistant, 5 Gallon (19 Liter)

C. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
C00259	Coating - Chemical And Solvent Resistant Finish, Corrosion Inhibiting Primer	BMS10-11 Type I
D00054	Fluid - Hydraulic Assembly Lubricant - MCS 352B (Formerly Monsanto MCS 352B)	

(Continued)

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Packing	32-35-06-01-040	ARO ALL
7	Packing	32-35-06-01-045	ARO ALL
10	Door release/safety valve assembly	32-35-06-01-015	ARO ALL

E. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left

F. Nose Landing Gear Door Release/Safety Valve Module Installation

SUBTASK 32-35-06-100-001

(1) Do the steps below to help supply a good electrical bond between the door release/safety valve assembly [10] and the support bracket [11]:

(a) To fully clean the mating surface of the support bracket [11], do this task: Clean Bare, Clad, or Plated Metal with Solvent, TASK 20-10-22-110-802.

(b) To chemically prepare the mating surface of the support bracket [11], do this task: Alodine 600, 1000, 1200, and 1200S Coating Application, TASK 51-21-04-620-801.

(c) Apply two coats of primer, C00259 to the exposed surfaces of the support bracket [11].

SUBTASK 32-35-06-110-001

(2) To clean the mating surface of the door release/safety valve assembly [10] with solvent, do this task: Clean Bare, Clad, or Plated Metal with Solvent, TASK 20-10-22-110-802.

NOTE: This is necessary to help supply a good electrical bond between the door release/safety valve and the support bracket.

SUBTASK 32-35-06-640-001

(3) Apply MCS 352B fluid, D00054, or hydraulic fluid, D00153, to the reducer [2], and packings [1], and to the union [4] and packings [7].

SUBTASK 32-35-06-420-001

(4) Install the reducer [2] and packings [1], and the union [4] and packings [7].

SUBTASK 32-35-06-420-002

(5) Put the door release/safety valve assembly [10] in its position.

SUBTASK 32-35-06-420-003

(6) Install the bolt [8] and washer [9].

(a) Install the countersunk side of the washer [9] against the head of the bolt [8].

SUBTASK 32-35-06-390-001

(7) Apply a bead of sealant, A00247, to make a fillet seal between the door release/safety valve assembly [10] and the structure.

SUBTASK 32-35-06-760-001

(8) Measure the resistance between the door release/safety valve assembly [10] and the support bracket [11] with a intrinsically safe approved bonding meter, COM-1550 (WDM D6-54446).

(a) Make sure the resistance is less than or equal to 0.0025 ohms.

SUBTASK 32-35-06-080-001

(9) Remove caps from the hydraulic line [3] and hydraulic line [6].

SUBTASK 32-35-06-420-004

(10) Connect the hydraulic line [3], and hydraulic line [6] to the door release/safety valve assembly [10].

(a) Tighten the B-nut on the hydraulic line connected to the RTN port to 170 ±9 in-lb (19 ±1 N·m).

(b) Tighten the B-nuts on the hydraulic lines connected to the DOOR, ALTN, PRESS, GEAR ports to 270 ±14 in-lb (31 ±2 N·m).

SUBTASK 32-35-06-420-005

(11) Connect the electrical connector [5].

G. Alternate Extend System Bleeding

NOTE: The EICAS displays will indicate non-normal sequencing during this test, this is expected and you can ignore it.

NOTE: The alternate extend power pack is operated by commanding the landing gear doors open with the ground door release system.

NOTE: The power pack will remain ON until the "LDG GR ALTN EXT CONTROL" circuit breaker is opened. (the pressure switch that usually stops the power pack will not work since you are bleeding the system).

SUBTASK 32-35-06-860-016

(1) Make sure the center hydraulic system is depressurized (TASK 29-11-00-860-807).

SUBTASK 32-35-06-860-017

(2) Make sure that the center hydraulic system reservoir level is between 80% and full.

NOTE: The landing gear alternate extension system can not be bleed unless center system reservoir is more than 75% full.

SUBTASK 32-35-06-860-018

(3) Make sure the landing gear control lever is in the DOWN position.

SUBTASK 32-35-06-490-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Make sure the landing gear door safety pins have been installed (TASK 32-00-15-480-801).

SUBTASK 32-35-06-860-020

(5) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-35-06-860-021

(6) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
M	22	C32605	LG DOOR CLOSE GROUND ACCESS

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR
A	23	C32608	LDG GEAR EXTD/RETR 2
G	9	C32616	LDG GEAR RETR AUTO OFF
G	10	C32607	LDG GEAR EXTD/RETR 1

Right Power Management Panel, P210

Row	Col	Number	Name
M	2	C32623	LG LEVER LOCK

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

SUBTASK 32-35-06-790-006

(7) Do the steps that follow to bleed the air out of the alternate extension system at the nose landing gear alternate extend uplock release actuator:

NOTE: Very small air bubbles within the fluid are permissible.

(a) Place a oil resistant container (5 gal)(19 Liter), STD-1055 beneath the bleed location to catch the hydraulic fluid that you will bleed out of the system.

(b) For airplanes with a bleed valve, remove the bolt [33] from the center of the bleed valve [31], then loosen the bleed valve.

(c) For airplanes without a bleed valve, loosen the B-nut located on the aft side of the tee fitting which is connected to the 1/4 inch tube that comes from the nose landing gear alternate extend uplock release actuator.

1) If more fluid needs to be bleed through the alternate system, it is permissible to disconnect the hydraulic line at the aft end of the tee fitting and bleed directly out. After you connect the line, you must repeat these steps and bleed through the bleed valve or the B-nut to complete this task.

CAUTION MAKE SURE YOU DO NOT RUN THE ALTERNATE EXTEND POWER PACK FOR MORE THAT FIVE MINUTES. IF YOU RUN THE POWER PACK FOR MORE THAN FIVE MINUTES, THE POWER PACK CAN GET TOO HOT. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

(d) Momentarily and at the same time put the arm doors switch to ARM and the all doors open/MLG doors close switch to OPEN.

NOTE: Do not run the alternate extend power pack more than five minutes continuously.

1) If the air is not completely bleed out of line within the five minute time limit then do the step that follows to stop the alternate extend power pack:

a) Open and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

NOTE: The alternate extend power pack will shut off.

WARNING: DO NOT TOUCH THE POWER PACK MOTOR WHEN IT IS HOT. IT CAN BECOME HOT WHEN IT OPERATES. A HOT MOTOR CAN BURN YOU.

2) Wait for the power pack to cool below 120 degrees F before you operate it for another 5 minute interval. If you are not able to determine the temperature of the motor, let the motor cool for 45 minutes or until you can hold your hand on it.(this is well below 120 degrees F).

NOTE: Cooling time can be decreased by directing a fan onto the power pack. Check the temperature often using a thermocouple or other suitable temperature measuring equipment.

3) Do the preceding bleeding steps until all of the air has been bleed out of the system.

(e) To stop the power pack;

Open and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

(f) For airplanes without a bleed valve, tighten the B-nut that connects the hydraulic line for the alternate extend uplock release actuator to the tee fitting.

(g) For airplanes with a bleed valve, tighten the bleed valve [31] to 60 +/-20 pound-inches (6.8 +/- 2.3 Nm).

(h) For airplanes with a bleed valve, install the bolt [33] in the center of the bleed valve [31].

SUBTASK 32-35-06-860-022

(8) Do this task: Hydraulic Reservoir Fluid Level Check, TASK 12-12-01-610-801.

H. Nose Landing Gear Door Release/Safety Valve Module Installation Test

SUBTASK 32-35-06-860-005

(1) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

SUBTASK 32-35-06-790-001

(2) Momentarily and at the same time put the arm doors switch to ARM and the all doors open/MLG doors close switch to OPEN.

SUBTASK 32-35-06-860-006

(3) Make sure that this circuit breaker is closed:

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

SUBTASK 32-35-06-790-002

(4) Make sure the red warning light is off.

SUBTASK 32-35-06-790-003

(5) Push the Press to Test switch on the P40 panel and make sure the red warning light is on.

SUBTASK 32-35-06-860-007

(6) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-35-06-860-008

(7) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
M	22	C32605	LG DOOR CLOSE GROUND ACCESS

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-35-06-840-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(8) To remove the door open safety pins from the NLG door release/safety valve module, do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-35-06-860-009

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(9) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-35-06-860-010

(10) Momentarily and at the same time put the NLG doors arm switch to ARM and the NLG doors close switch to CLOSE.

NOTE: The nose landing gear doors will close.

SUBTASK 32-35-06-790-004

(11) Put the control lever for the landing gear in the UP position, with the override mechanism.

NOTE: The nose landing gear doors will open.

SUBTASK 32-35-06-210-001

(12) Make sure the red warning light is on.

SUBTASK 32-35-06-860-011

(13) Put the control lever for the landing gear in the DN position.

NOTE: The nose gear doors will close.

SUBTASK 32-35-06-860-012

(14) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-35-06-790-005

(15) Make sure there are no hydraulic fluid leaks.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 32-35-06-840-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Remove all of the other door open safety pins, do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-35-06-860-013

(2) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-35-06-860-014

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

TASK 32-35-06-000-802

4. Nose Landing Gear Door Release/Safety Valve Module Solenoid Valve Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left

C. Prepare for the Removal

SUBTASK 32-35-06-867-001

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-35-06-865-001

(2) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
M	22	C32605	LG DOOR CLOSE GROUND ACCESS

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

SUBTASK 32-35-06-864-001

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-35-06-490-002

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-35-06-867-002

(5) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-35-06-490-003

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

NOTE: Install the door safety pins on all landing gear doors, including the nose landing gear doors.

SUBTASK 32-35-06-865-002

(7) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	13	C32013	LDG GEAR ALTN EXT MOTOR

SUBTASK 32-35-06-490-004

(8) Install chocks around the tires of the landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

D. Solenoid Valve Assembly Removal

SUBTASK 32-35-06-030-001

(1) Cut and remove the lockwire from the screws [18].

SUBTASK 32-35-06-020-007

(2) Remove the screws [18] from the solenoid valve assembly [12].

SUBTASK 32-35-06-020-006

(3) Pull the solenoid valve assembly [12] straight out from the door release/safety valve assembly [10].

SUBTASK 32-35-06-030-002

(4) Remove backup rings [13], backup rings [15], o-ring [14], o-ring [16], o-ring [17], and o-ring [19] from the solenoid valve assembly [12].

——— END OF TASK ———

TASK 32-35-06-400-802

5. Nose Landing Gear Door Release/Safety Valve Module Solenoid Valve Installation

A. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

B. Consumable Materials

Reference	Description	Specification
A00767	Sealant - Fuel Tank	BMS5-45

C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left

D. Solenoid Valve Installation

SUBTASK 32-35-06-430-001

(1) Install o-ring [17] and o-ring [19] onto solenoid valve assembly [12].

SUBTASK 32-35-06-430-002

(2) Install o-ring [16] and backup rings [15] onto the solenoid valve assembly [12].

SUBTASK 32-35-06-430-003

(3) Install o-ring [14] and backup rings [13] onto the solenoid valve assembly [12].

SUBTASK 32-35-06-390-002

(4) Apply a bead of sealant, A00767 between the solenoid valve assembly [12] interface and door release/safety valve assembly [10].

SUBTASK 32-35-06-420-006

(5) Carefully install the solenoid valve assembly [12] into the door release/safety valve assembly [10].

SUBTASK 32-35-06-430-004

(6) Attach the solenoid valve assembly [12] to the door release/safety valve assembly [10] with screws [18].

SUBTASK 32-35-06-430-005

(7) Tighten the screws [18] to a torque of 12-15 pound force inch (1,4-1,6 Nm) and install lockwire.

E. Alternate Extend System Component Bleeding

SUBTASK 32-35-06-870-001

(1) Do this task: Nose Landing Gear Door Safety/Release Valve Module Installation, TASK 32-35-06-400-801.

F. Nose Landing Gear Door Release/Safety Valve Module Installation Test

SUBTASK 32-35-06-700-001

(1) Do this task: Nose Landing Gear Door Safety/Release Valve Module Installation, TASK 32-35-06-400-801.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-35-06-090-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Remove all of the other door open safety pins, do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-35-06-867-003

(2) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-35-06-862-001

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

NOSE LANDING GEAR ALTERNATE EXTEND HYDRAULIC PRESSURE SWITCH - REMOVAL/ INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the alternate extend hydraulic pressure switch for the nose landing gear

(2) An installation of the alternate extend hydraulic pressure switch for the nose landing gear.

B. The nose landing gear alternate extend hydraulic pressure switch is referred to as the hydraulic pressure switch in this procedure.

TASK 32-35-09-000-801

2. Hydraulic Pressure Switch Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left

C. Prepare for the Removal

SUBTASK 32-35-09-860-001

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-35-09-860-002

(2) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
M	20	C32613	LG AUTOBRAKE/BITE/R-COMM CB 1

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

SUBTASK 32-35-09-860-003

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-35-09-480-001

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(4) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-35-09-860-004

(5) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-35-09-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-35-09-480-002

(7) Install chocks around the tires of the nose landing gear (PAGEBLOCK 10-11-05/201).

D. Hydraulic Pressure Switch Removal

SUBTASK 32-35-09-020-001

(1) Disconnect the hydraulic line [2].

SUBTASK 32-35-09-800-001

(2) Install a cap on the hydraulic line [2].

SUBTASK 32-35-09-020-002

(3) Disconnect the electrical connector [6].

SUBTASK 32-35-09-020-003

(4) Remove the screws [4], washers [5], and clamp [1].

SUBTASK 32-35-09-020-004

(5) Remove the hydraulic pressure switch [3].

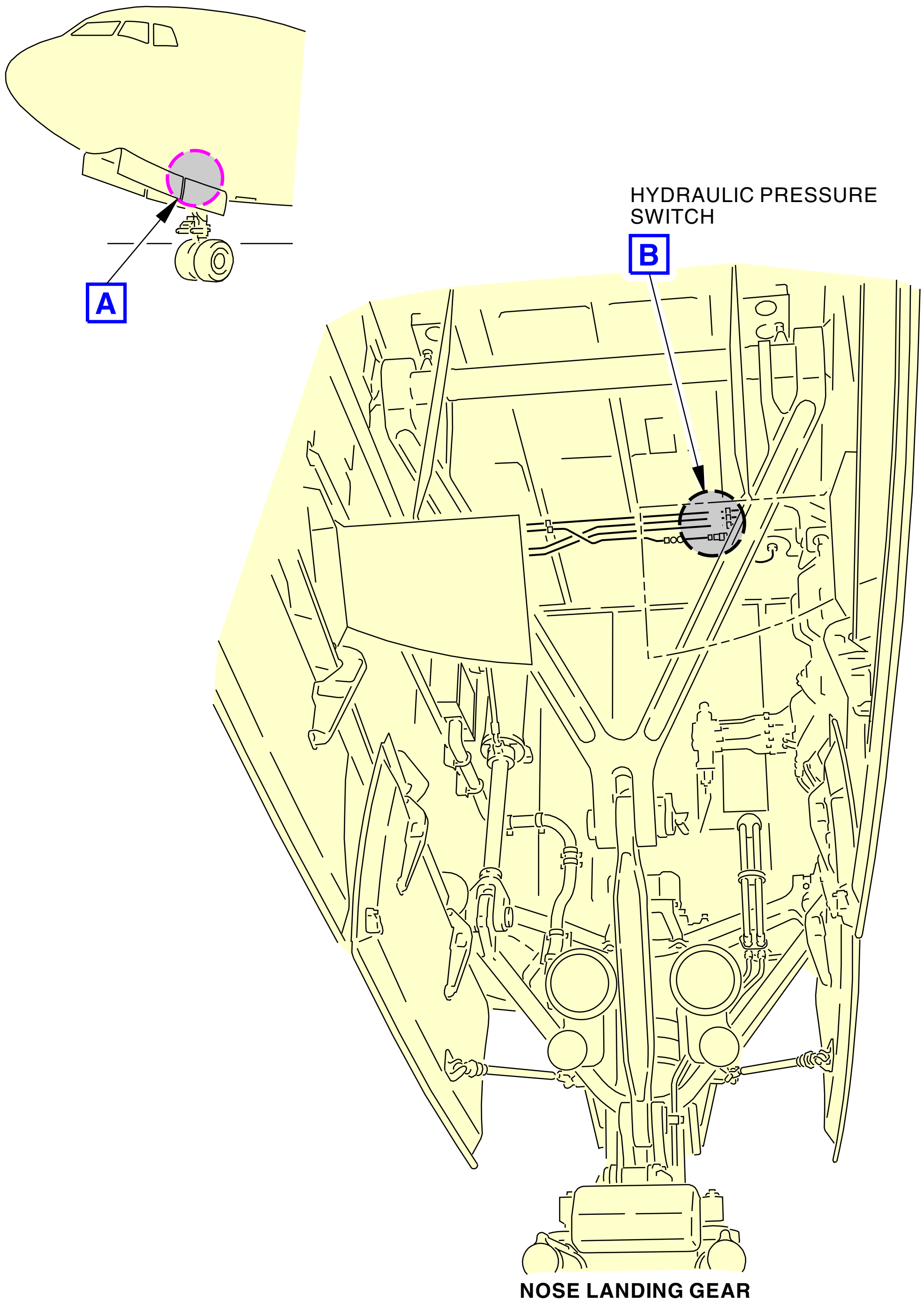
SUBTASK 32-35-09-020-005

(6) Remove the adapter [7] and packing [8].

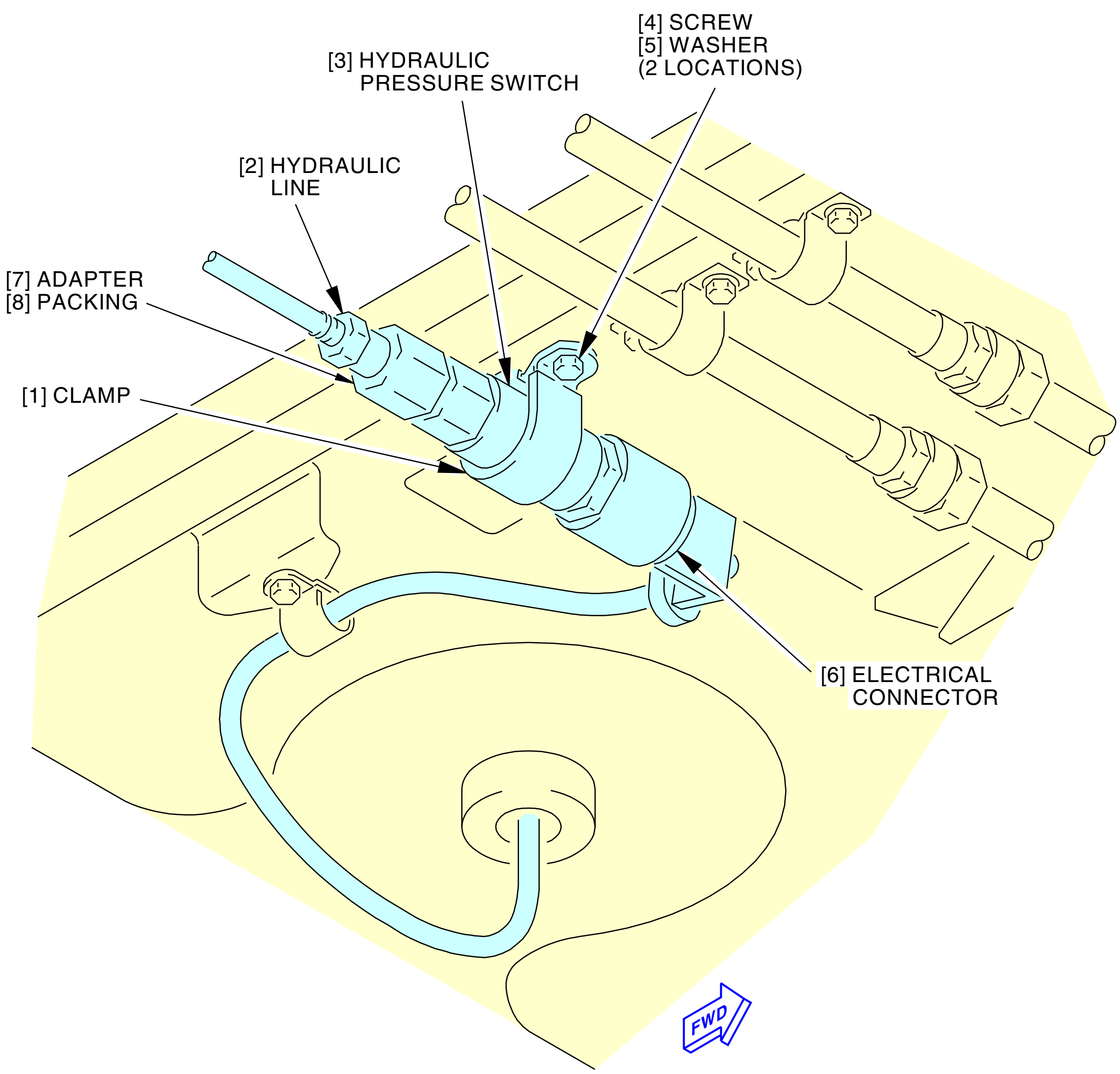
SUBTASK 32-35-09-800-002

(7) Discard the packing [8].

END OF TASK



Nose Landing Gear Alternate Extend Hydraulic Pressure Switch Installation
Figure 401/32-35-09-990-801 (Sheet 1 of 2)



HYDRAULIC PRESSURE SWITCH

B

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Nose Landing Gear Alternate Extend Hydraulic Pressure Switch Installation
Figure 401/32-35-09-990-801 (Sheet 2 of 2)

TASK 32-35-09-400-801

3. Hydraulic Pressure Switch Installation

(Figure 401)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00054	Fluid - Hydraulic Assembly Lubricant - MCS 352B (Formerly Monsanto MCS 352B)	

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Hydraulic pressure switch	32-35-80-01-220	ARO ALL
8	Packing	32-35-80-01-200	ARO ALL

D. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
143	Main Landing Gear Wheel Well, Left

E. Access Panels

Number	Name/Location
198LR	Aft Wing To Body Fairing Panel

F. Hydraulic Pressure Switch Installation

SUBTASK 32-35-09-800-003

(1) Lubricate the packing [8] with MCS 352B fluid, D00054.

SUBTASK 32-35-09-410-001

(2) Install the adapter [7] and packing [8] on the hydraulic pressure switch [3].

SUBTASK 32-35-09-420-001

(3) Put the hydraulic pressure switch [3] into its position.

SUBTASK 32-35-09-420-002

(4) Loosely install the clamp [1], screws [4], and washers [5].

SUBTASK 32-35-09-080-001

(5) Remove the cap from the hydraulic line [2].

SUBTASK 32-35-09-420-003

(6) Connect the hydraulic line [2].

SUBTASK 32-35-09-420-006

(7) Tighten the B-nut on the hydraulic line [2] to 140 ±7 in-lb (16 ±1 N·m).

SUBTASK 32-35-09-420-004

(8) Connect the electrical connector [6].

SUBTASK 32-35-09-420-005

(9) Tighten the screws [4].

G. Hydraulic Pressure Switch Installation Test

SUBTASK 32-35-09-860-005

(1) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
M	20	C32613	LG AUTOBRAKE/BITE/R-COMM CB 1

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

SUBTASK 32-35-09-860-010

(2) Open this access panel:

Number	Name/Location
198LR	Aft Wing To Body Fairing Panel

NOTE: Do this to get access to the P56 main wheel well electrical service panel.

SUBTASK 32-35-09-860-012

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR. THE DOORS OPEN, AND CLOSE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

(3) Make sure the area around the doors for the nose and main landing gear is clear of persons and equipment.

SUBTASK 32-35-09-790-001

(4) Momentarily and at the same time put the arm doors switch to ARM and the all doors open/MLG doors close switch to OPEN.

CAUTION DO NOT OPERATE THE ALTERNATE EXTEND POWER PACK FOR MORE THAN 60 SECONDS. IF YOU OPERATE THE POWER PACK FOR MORE THAN 60 SECONDS, THE POWER PACK CAN GET TOO HOT. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

(a) Listen for the alternate extend power pack to operate for several seconds and then turn off.

NOTE: The hydraulic pressure switch [3] is operating correctly if the alternate extend power pack stops operation after the extend cycle is complete.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-35-09-840-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-35-09-860-006

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-35-09-860-007

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-35-09-860-008

(4) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-35-09-860-009

(5) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

BRAKE HYDRO-MECHANICAL CONTROL SYSTEM - MAINTENANCE PRACTICES

1. **General**
   A. This procedure contains scheduled maintenance task data.
   B. This procedure has these task:
      (1) Bleed the normal (right) hydraulic brake system.
      (2) Bleed the alternate (center) hydraulic brake system.
      (3) When you bleed the system, the hydraulic fuses on the antiskid valves can set, you can reset the fuses one of these two ways:
         (a) You can use the fuse bypass lever on each fuse of the antiskid valve to reset the fuse.
            NOTE: This will require the use of a ladder and will require a hinged wing panel to be opened.
         (b) Or, you can release and reset the parking brake to reset the fuse.

TASK 32-41-00-870-802

2. **Normal Hydraulic Brake System - Bleeding**

   A. **References**

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
12-12-01-610-801	Hydraulic Reservoir Fluid Level Check (P/B 301)
12-12-01-610-802	Hydraulic Reservoir Filling (P/B 301)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   B. **Tools/Equipment**

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-15035	Bleeder Hose, Brake Part #: J32096-1 Supplier: 81205
STD-1055	Container - Oil Resistant, 5 Gallon (19 Liter)

   C. **Consumable Materials**

Reference	Description	Specification
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

   D. **Location Zones**

Zone	Area
211	Flight Compartment, Left
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Access Panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

F. Prepare for the Procedure

SUBTASK 32-41-00-860-034

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-41-00-480-017

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed on the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-00-010-006

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-41-00-480-018

(4) If you use the fuse bypass levers [1] to reset the hydraulic fuses when you bleed the normal system, do this step:

(a) Open the applicable access panel:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

SUBTASK 32-41-00-480-019

(5) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-41-00-860-035

(6) Release the parking brake.

G. Normal (right) Hydraulic System Bleeding

SUBTASK 32-41-00-710-016

(1) To prepare to bleed the normal (right) hydraulic system, do these steps:

(a) Make sure the center hydraulic system power is removed (TASK 29-11-00-860-808).

(b) Push and release the brake pedals repeatedly until the BRAKE ACCUM pressure gauge, on the P1 left forward panel, stabilizes at or near the brake accumulator precharge pressure.

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(c) Use the hydraulic service cart to pressurize the right hydraulic system to 800 psig (5516 kPa) (TASK 29-11-00-860-801).

NOTE: We recommend that you use the hydraulic service cart because of the large volume of hydraulic fluid this procedure removes from the right hydraulic system. This procedure removes a maximum of 5 gal (19 l) of hydraulic fluid from the right hydraulic system 2/5 gal (1.5 l) for each brake, 5 gal (19 l) for all twelve brakes.

1) If you use the airplane's hydraulic supply, monitor the quantity of hydraulic fluid in the reservoir when you bleed the system.

(d) Push the brake pedals slowly through approximately one-half of their total travel and slowly release them.

1) Repeat this step several times to remove the air from the brake lines.

(e) Push both of the brake pedals fully to the stops and hold them there for 2 to 4 seconds and then release them.

1) Repeat this step 5 more times.

(f) Push the brake pedals fully and set the parking brake.

SUBTASK 32-41-00-710-017

(2) To bleed the air from each brake, do these steps for all twelve brakes (Figure 201, Figure 202):

NOTE: We recommend you do all of the steps below for one brake before you start the steps again for the next brake.

(a) Remove the screw [3] and washer [4] from the center of the bleed valve [2].

(b) Remove the lockwire from the bleed valve [2], if installed.

(c) Install the bleeder hose, SPL-15035 on the end of the bleed valve [2].

(d) Put the free end of the bleeder hose, SPL-15035 into a oil resistant container (5 gal)(19 Liter), STD-1055.

(e) Slowly loosen the bleed valve [2] about one half turn.

NOTE: This will let hydraulic fluid flow out of the bleed hose.

(f) Let hydraulic fluid flow out of the bleeder hose, SPL-15035 until there are no air bubbles in the flow of hydraulic fluid.

NOTE: The fluid can flow out of the bleeder hose, SPL-15035 very quickly and intermittently.

(g) If the fluid flow stops, the brake fuse has set, to reset the fuse, do the steps that follow:

1) Close the bleed valve [2].

2) Do one of the steps that follow to reset the fuse:

a) On the normal antiskid valve, at the hydraulic fuse for the brake being bled, pull the fuse bypass lever [1] down and hold it in this bypass position for 5 seconds minimum (Figure 201).

NOTE: The placard by the antiskid valve will show which lever to pull for each brake.

b) Or, release the parking brake then reset the parking brake.

(h) Open the bleed valve [2] and continue to bleed the brake until there are no air bubbles in the flow of hydraulic fluid.

(i) If you do not bleed the alternate hydraulic system, do the steps that follow:

1) Remove the bleeder hose, SPL-15035 from the bleed valve [2].

2) Tighten the bleed valve [2] to 35 in-lb (4.0 N·m) - 55 in-lb (6.2 N·m).

3) Install the washer [4] and screw [3] in the center of the bleed valve [2].

4) Install MS20995C32 lockwire, G01048, on the bleed valve [2], if lockwire holes are available.

SUBTASK 32-41-00-870-004

(3) Release the brake pedals or the parking brake if it is set.

SUBTASK 32-41-00-870-005

(4) Make sure all of the normal antiskid valve fuses are not set:

(a) Operate the brake pedals several times.

(b) Look for movement of the brake wear indicator pins to make sure all of the brakes operate.

SUBTASK 32-41-00-870-006

(5) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-41-00-870-007

(6) Make sure the fluid in the right hydraulic reservoir is at the correct level, do this task: Hydraulic Reservoir Fluid Level Check, TASK 12-12-01-610-801.

(a) If the right hydraulic reservoir need to be filled, do this task: Hydraulic Reservoir Filling, TASK 12-12-01-610-802.

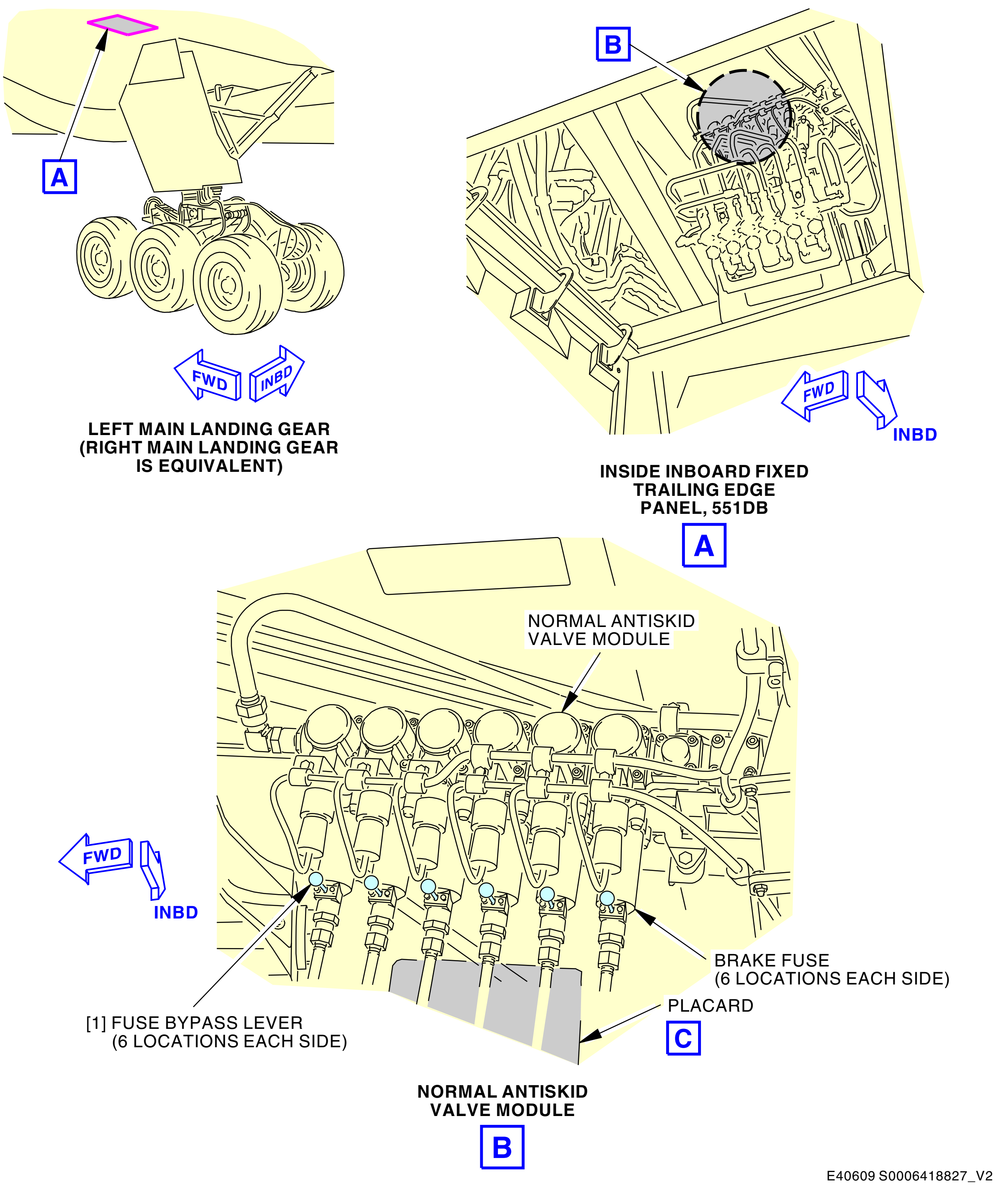
H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-00-480-020

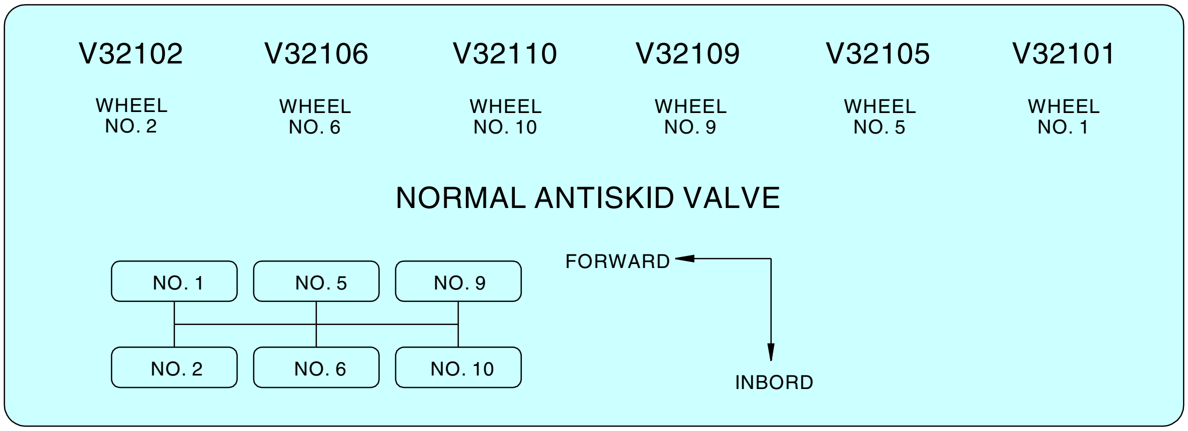
(1) If this panel is open and you do not bleed the alternate hydraulic system, close the applicable access panel:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

END OF TASK

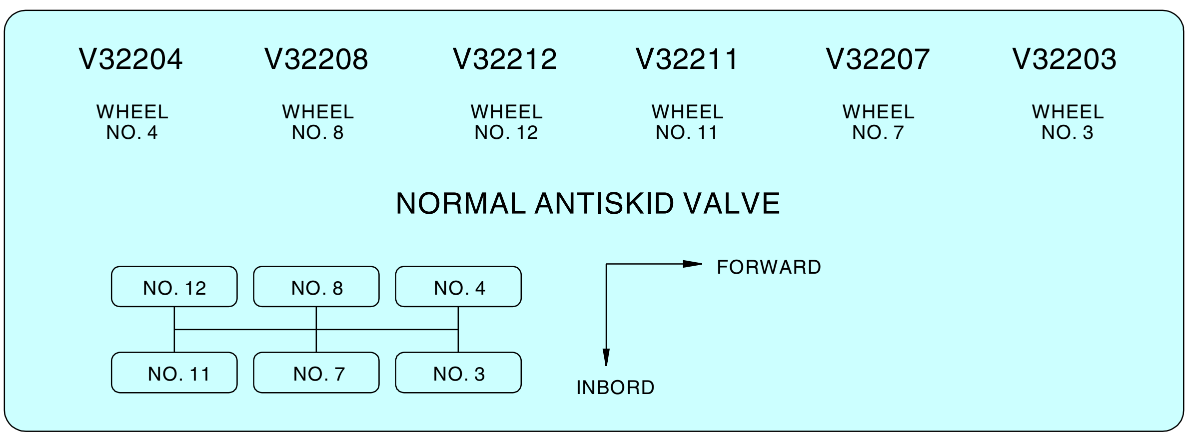


Antiskid Hydraulic Fuses
Figure 201/32-41-00-990-802 (Sheet 1 of 2)



LEFT SIDE PLACARD
(VIEW LOOKING UP THROUGH THE WHEELS)

C



RIGHT SIDE PLACARD
(VIEW LOOKING UP THROUGH THE WHEELS)

C

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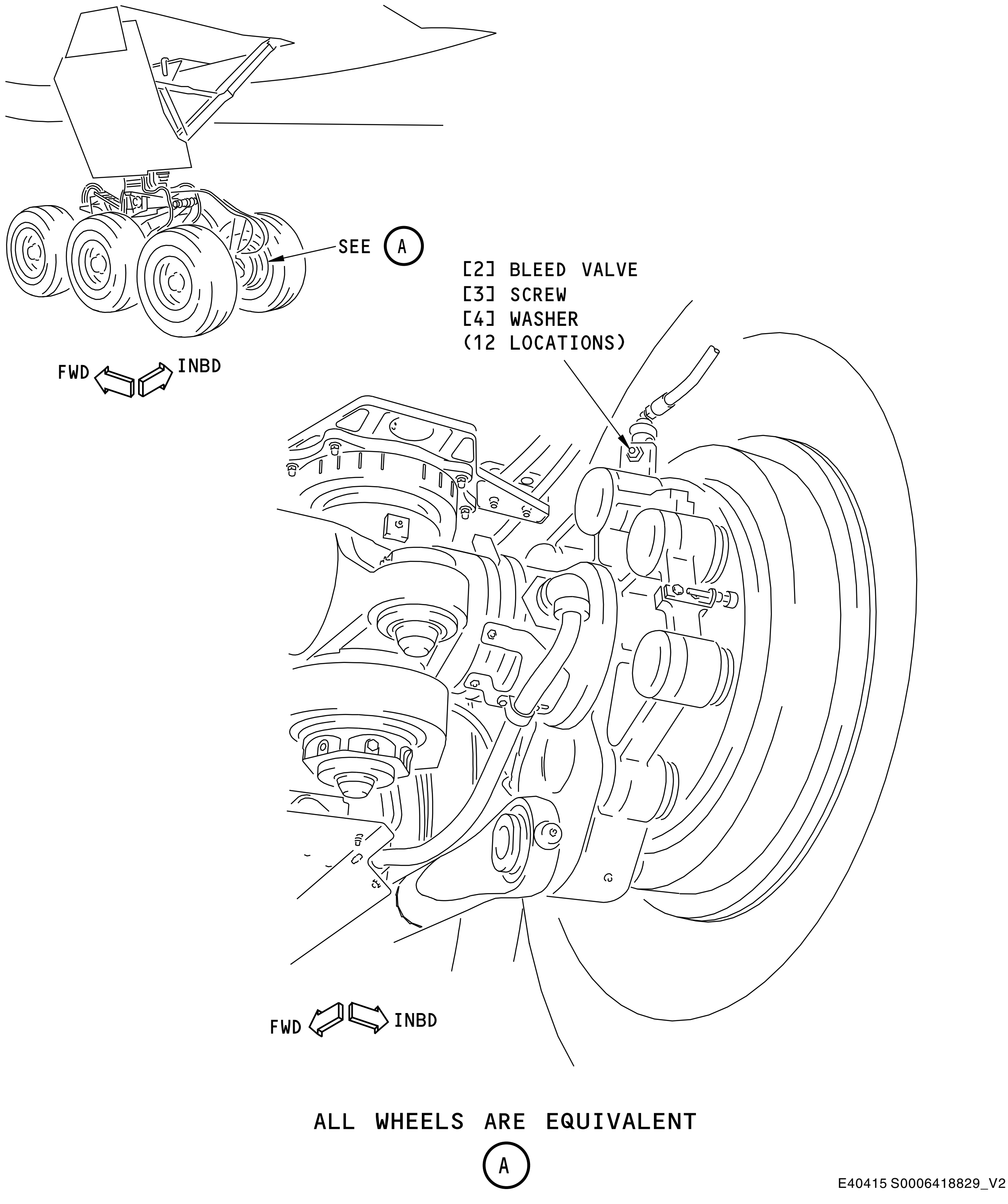
Antiskid Hydraulic Fuses
Figure 201/32-41-00-990-802 (Sheet 2 of 2)



Brake Hydro-Mechanical Control System - Bleeding
Figure 202/32-41-00-990-803

TASK 32-41-00-870-801

3. Alternate Hydraulic Brake System - Bleeding

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
12-12-01-610-801	Hydraulic Reservoir Fluid Level Check (P/B 301)
12-12-01-610-802	Hydraulic Reservoir Filling (P/B 301)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-15035	Bleeder Hose, Brake Part #: J32096-1 Supplier: 81205
STD-1055	Container - Oil Resistant, 5 Gallon (19 Liter)

C. Consumable Materials

Reference	Description	Specification
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for the Procedure

SUBTASK 32-41-00-860-031

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-41-00-480-013

WARNING

MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed on the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-00-010-005

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-41-00-480-015

(4) If you will use the fuse bypass levers [1] to reset the hydraulic fuses when you bleed the alternate system, approach the alternate antiskid valve modules on the main landing gear support beam through the left and right main landing gear wheel wells (Figure 203).

SUBTASK 32-41-00-480-014

(5) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-41-00-860-032

(6) Release the parking brake.

F. Alternate (center) Hydraulic System Bleeding

SUBTASK 32-41-00-710-014

(1) To prepare to bleed the alternate hydraulic system, do these steps:

(a) Make sure the right hydraulic system power is removed (TASK 29-11-00-860-808).

(b) Push and release the brake pedals repeatedly until the BRAKE ACCUM pressure gauge, on the P1 left forward panel, stabilizes at or near the brake accumulator precharge pressure.

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(c) Use the hydraulic service cart to pressurize the center hydraulic system to 800 psig (5516 kPa) (TASK 29-11-00-860-801).

NOTE: We recommend that you use the hydraulic service cart because of the large volume of hydraulic fluid this procedure removes from the center hydraulic system. This procedure removes a maximum of 5 gal (19 l) of hydraulic fluid from the center hydraulic system 2/5 gal (1.5 l) for each brake, 5 gal (19 l) for all twelve brakes.

1) If you use the airplane's hydraulic supply, monitor the quantity of hydraulic fluid in the reservoir when you bleed the system.

(d) Push the brake pedals slowly through approximately one-half of their total stroke and slowly release them.

1) Repeat this step several times to remove the air from the brake lines.

(e) Push both of the brake pedals fully to the stops and hold them there for 2 to 4 seconds and then release them.

1) Repeat this step 5 more times.

(f) Push the brake pedals fully and set the parking brake.

SUBTASK 32-41-00-710-015

(2) To bleed the alternate hydraulic system, do these steps for all twelve brakes (Figure 202, Figure 203):

NOTE: We recommend you do all of the steps below for one brake before you start the steps again for the next brake.

(a) Remove the screw [3] and washer [4] from the center of the bleed valve [2].

(b) Remove the lockwire from the bleed valve [2], if installed.

(c) Install the bleeder hose, SPL-15035 on the end of the bleed valve [2].

(d) Put the free end of the bleeder hose, SPL-15035 into a oil resistant container (5 gal)(19 Liter), STD-1055.

(e) Slowly loosen the bleed valve [2] about one half turn.

NOTE: This will let hydraulic fluid flow out of the bleeder hose, SPL-15035.

(f) Let hydraulic fluid flow out of the bleeder hose, SPL-15035 until there are no air bubbles in the flow of hydraulic fluid.

NOTE: The fluid can flow out of the bleeder hose, SPL-15035 very quickly and intermittently.

(g) If the fluid flow stops, the brake fuse has set, to reset the fuse, do the steps that follow:

1) Close the bleed valve [2].

2) Do one of the steps that follow to reset the fuse:

a) On the alternate antiskid valve, at the hydraulic fuse for the brake being bled, pull the fuse bypass lever [1] down and hold it in this bypass position for 5 seconds minimum (Figure 203).

NOTE: The placard by the antiskid valve will show which lever to pull for each brake.

b) Or, release the parking brake then reset the parking brake.

(h) Open the bleed valve [2] and continue to bleed the brake until there are no air bubbles in the flow of hydraulic fluid.

(i) Remove the bleeder hose, SPL-15035 from the bleed valve [2].

(j) Tighten the bleed valve [2] to 35.0 in-lb (4.0 N·m) - 55.0 in-lb (6.2 N·m).

(k) Install the washer [4] and screw [3] in the center of the bleed valve [2].

(l) Install MS20995C32 lockwire, G01048, on the bleed valve [2], if lockwire holes are available.

SUBTASK 32-41-00-870-001

(3) Release the brake pedals or the parking brake if it is set.

SUBTASK 32-41-00-870-002

(4) Make sure all of the alternate antiskid valve fuses are not set:

(a) Operate the brake pedals several times.

(b) Look for movement of the brake wear indicator pins to make sure all of the brakes operate.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-00-860-033

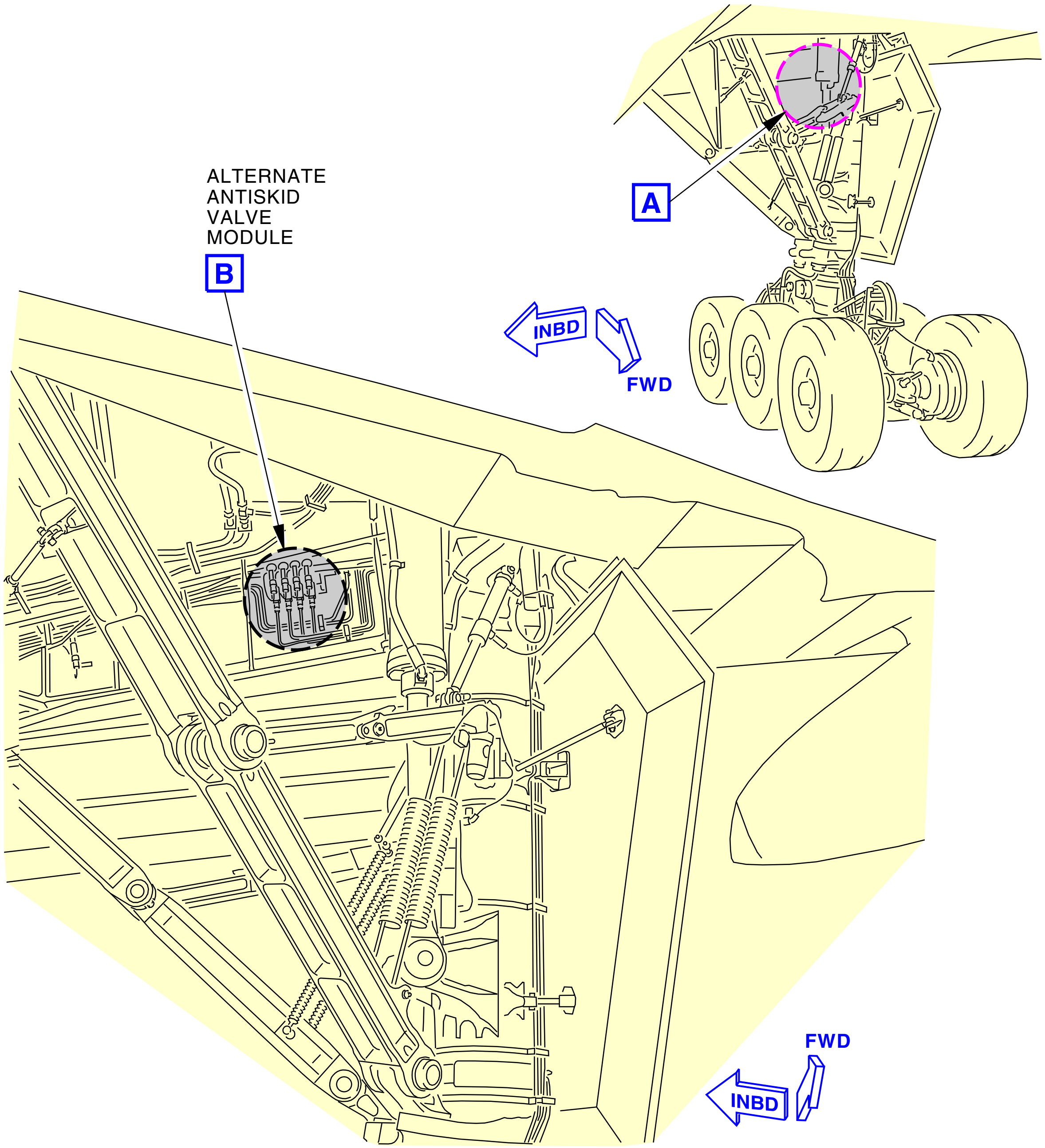
(1) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-41-00-870-003

(2) Make sure the fluid in the center hydraulic reservoir is at the correct level, do this task: Hydraulic Reservoir Fluid Level Check, TASK 12-12-01-610-801.

(a) If the center hydraulic reservoir needs to be filled, do this task: Hydraulic Reservoir Filling, TASK 12-12-01-610-802.

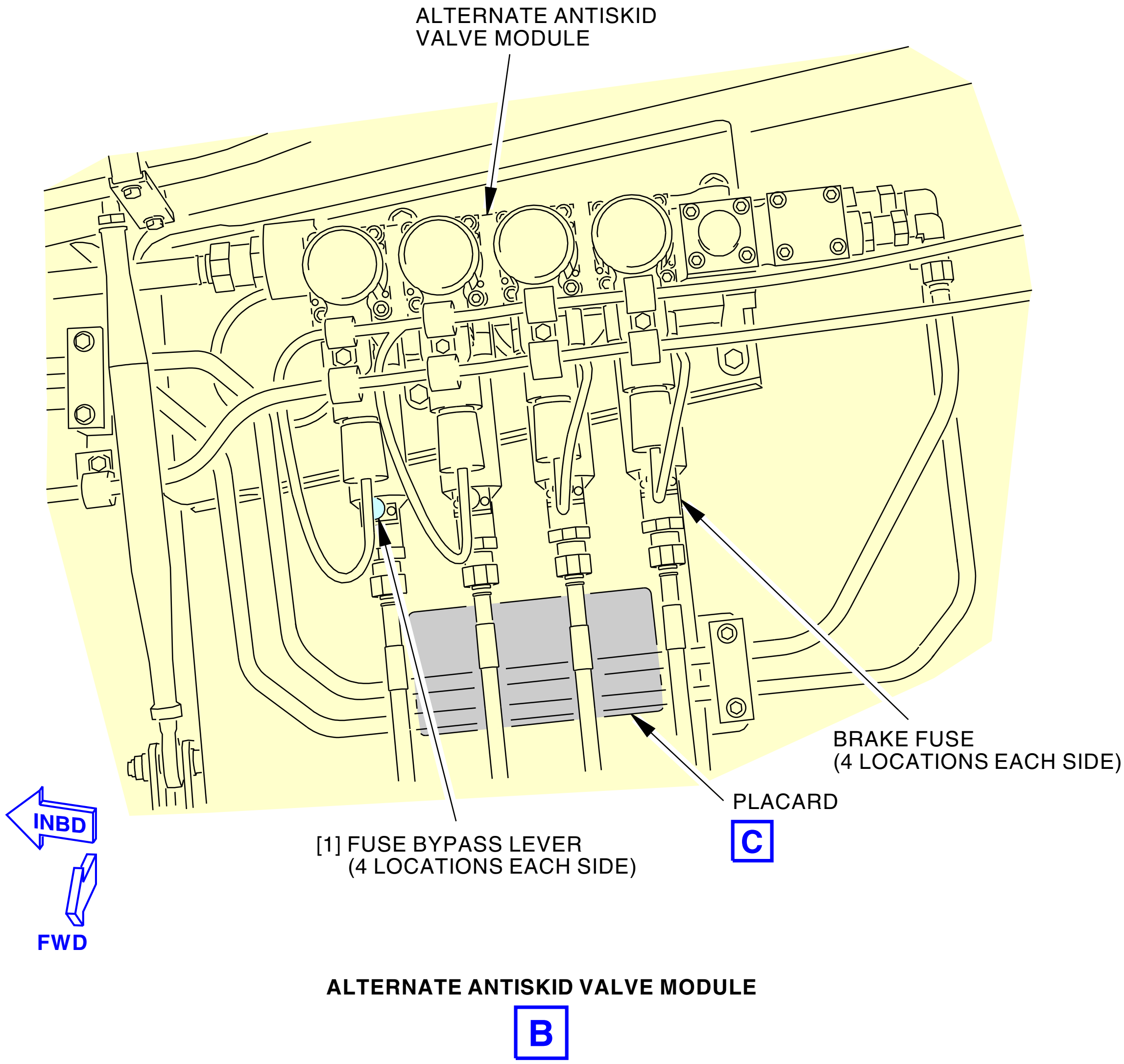
——— END OF TASK ———



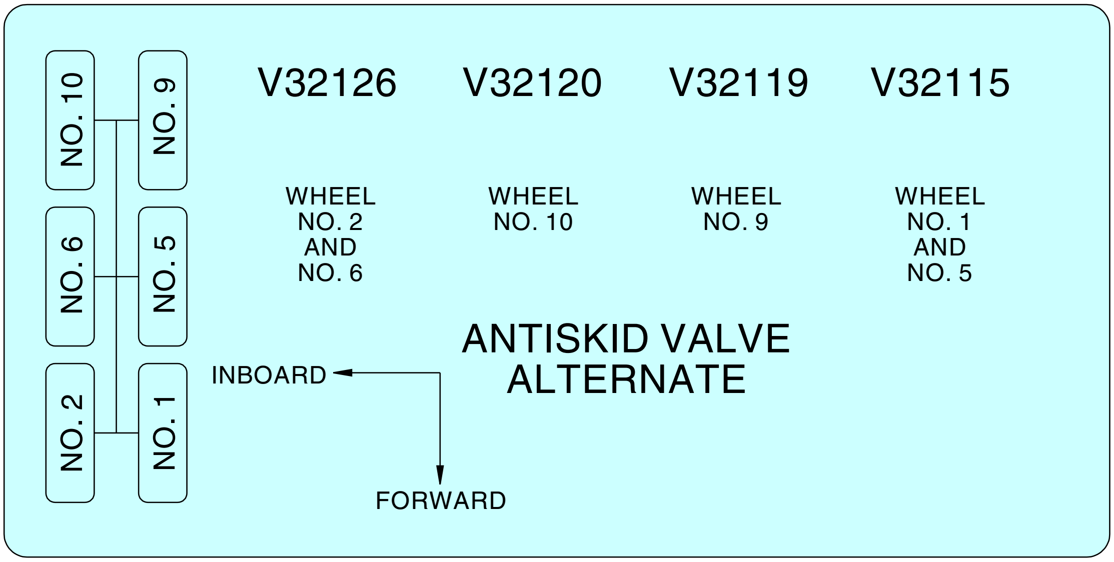
LEFT MAIN LANDING GEAR WHEEL WELL
(RIGHT MAIN LANDING GEAR IS EQUIVALENT)
A

E85457 S0006418832_V2

Alternate Antiskid Hydraulic Fuses
Figure 203/32-41-00-990-804 (Sheet 1 of 3)

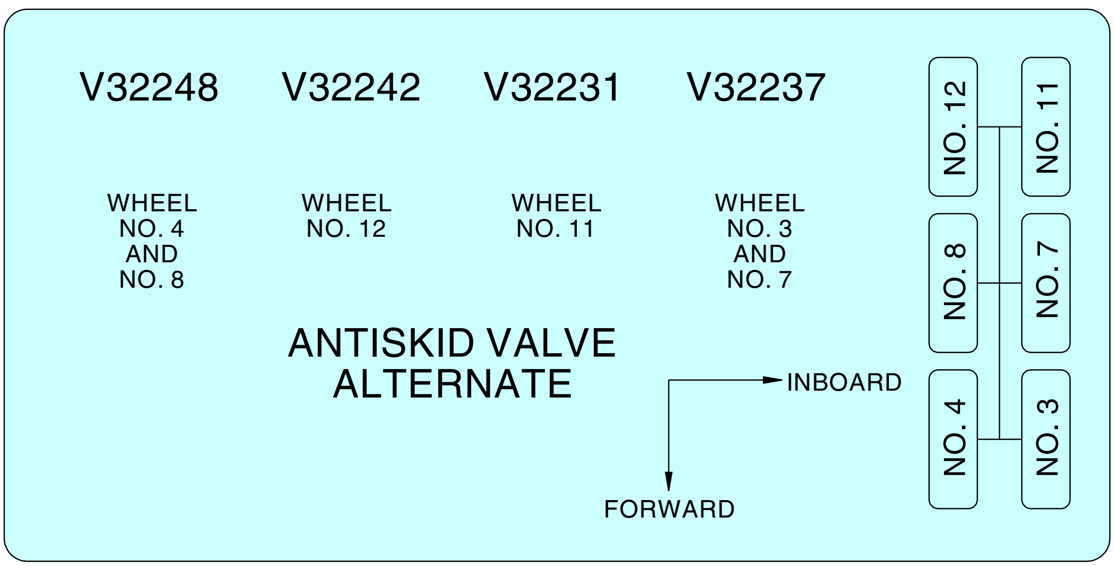


Alternate Antiskid Hydraulic Fuses
Figure 203/32-41-00-990-804 (Sheet 2 of 3)



LEFT SIDE PLACARD

C



RIGHT SIDE PLACARD

C

E85525 S0006418834_V2

Alternate Antiskid Hydraulic Fuses
Figure 203/32-41-00-990-804 (Sheet 3 of 3)

BRAKE HYDRO-MECHANICAL CONTROL SYSTEM - ADJUSTMENT/TEST

1. **General**
   - A. This procedure contains scheduled maintenance task data.
   - B. This procedure has these tasks:
     - (1) An adjustment of the brake hydro-mechanical control system
     - (2) A functional test of the brake pedal return/stop
     - (3) An operational test of the brake accumulator isolation valve
     - (4) An operational test of normal and alternate brake application
     - (5) A functional test of the brake pedal force
     - (6) An operational test of landing gear retract braking
   - C. To do a functional test of the brake hydro-mechanical control system, do all of the tasks in this procedure.

TASK 32-41-00-820-801

2. **Brake Hydro-Mechanical Control System Adjustment**
(Figure 501)

A. General

(1) The rig pins used in the task that follows are in rigging pin set, SPL-2532.

B. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
20-10-05-000-801	Turnbuckle Locking Clips Removal (P/B 401)
20-10-05-400-801	Turnbuckle Locking Clips Installation (P/B 401)
24-22-00-860-805	Supply Electrical Power (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1553	Tensiometer - Cable, Low Tension (200 lbs and below) Part #: 102-03108 Supplier: 21844 Part #: 102-03120 Supplier: 21844 Part #: ACX-250 Supplier: 13331 Part #: T60-1001-C8-1A Supplier: 0N8U4 Opt Part #: 102-03110 Supplier: 21844 Opt Part #: ACM-200 Supplier: 13331
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205
SPL-2534	Pin - Rig (J20003-8 Assembly Included in Kit J20003-34) Part #: J20003-34 Supplier: 81205

(Continued)

Reference	Description
SPL-2535	Pin - Rig (J20003-15 Assembly Included in Kit J20003-34) Part #: J20003-34 Supplier: 81205
SPL-2536	Pin - Rig (J20003-10 Assembly Included in Kit J20003-34) Part #: J20003-34 Supplier: 81205
SPL-2537	Pin - Rig (J20003-6 Assembly Included in Kit J20003-34) Part #: J20003-34 Supplier: 81205

D. **Location Zones**

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
121	Forward Cargo Compartment, Left
122	Forward Cargo Compartment, Right
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

E. **Prepare for the Adjustment**

SUBTASK 32-41-00-820-004

(1) Make sure that the temperatures internal and external to the airplane are equal within 5 degrees Fahrenheit (3 degrees C) when you adjust the brake cables, and that the two temperatures are stable for a period of one hour before and during the adjustment of the brake cables.

SUBTASK 32-41-00-860-019

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-41-00-480-006

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-00-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-41-00-480-001

(5) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-41-00-860-001

(6) Release the parking brake.

F. Brake Control System - Adjustment

SUBTASK 32-41-00-820-001

(1) Do these steps to adjust the pushrod [6] for the right brake metering valve and then the left brake metering valve (Figure 501):

(a) Remove the nut [5], washer [4], bolt [2], and bushing [3] to disconnect the pushrod [6] from the aft brake cable quadrant [1].

(b) Install the rig pin (J20003-10 assembly), SPL-2536, in the rig pin hole for the aft brake cable quadrant [1].

NOTE: The placard on the inside of the box for the rig pin kit identifies the different rig pins.

(c) If it is necessary, adjust the length of the pushrod [6] to connect it.

1) Make sure at least half of the inspection hole in the pushrod is covered.

(d) Install the bushing [3], bolt [2], washer [4], and nut [5] to connect the pushrod [6] to the aft brake cable quadrant [1].

(e) Make sure the rig pin (J20003-10 assembly), SPL-2536, installed in the aft brake cable quadrant [1] moves freely through the hole.

(f) Remove the rig pin (J20003-10 assembly), SPL-2536, from the aft brake cable quadrant [1].

SUBTASK 32-41-00-820-002

(2) Do these steps to adjust the brake pedal bus assembly [13]:

(a) Install a rig pin (J20003-15 assembly), SPL-2535, in the brake control bellcrank [7] (one each in the captain's and first officer's brake pedal shafts).

(b) Remove the nuts [10], bolts [11], washers [15], and bushings [12] to disconnect the four horizontal pushrods [8] from the brake pedal bus assembly [13].

(c) Install a rig pin (J20003-8 assembly), SPL-2534, in the two forward brake cable quadrants [9].

(d) If it is necessary, adjust the length of the horizontal pushrods [8] to connect them.

1) Make sure at least half of inspection hole in each of the horizontal pushrods is covered.

(e) Install the bushings [12], washers [15], bolts [11], and nuts [10] to connect the four horizontal pushrods [8] to the brake pedal bus assembly [13].

(f) Make sure the rig pin (J20003-8 assembly), SPL-2534, installed in the two forward brake cable quadrants [9] move freely through the holes.

(g) Make sure the rig pin (J20003-15 assembly), SPL-2535, installed in the two brake control bellcranks [7] move freely through the holes.

(h) Remove the rig pin (J20003-8 assembly), SPL-2534, and rig pin (J20003-15 assembly), SPL-2535, from the two forward brake cable quadrants [9] and two brake control bellcranks [7].

SUBTASK 32-41-00-820-003

(3) Do these steps to adjust the brake cables for the left side and then the right side (Figure 501):

(a) Install the rig pin (J20003-10 assembly), SPL-2536, in the aft brake cable quadrant [1].

(b) Install the rig pin (J20003-8 assembly), SPL-2534, in the forward brake cable quadrant [9] on the same side.

(c) For the lock clips on the brake cables, do this task: Turnbuckle Locking Clips Removal, TASK 20-10-05-000-801.

1) The turnbuckle locking clips can be found in these locations:

a) Zone 112: Area Forward of Nose Landing Gear Wheel Well (2 locations).

b) Zone 121: Forward Cargo Compartment, Left (1 location).

c) Zone 122: Forward Cargo Compartment, Right (1 location).

(d) Adjust the brake cable tension with the low tension cable tensiometer, COM-1553, to the value shown in Table 501 Brake Cable Rigging Loads (Table 501).

Table 501/32-41-00-993-805

Brake Cable Rigging Loads	
Ambient Temperature (Degrees Fahrenheit)/ (Degrees Celsius)	Rigging Load (+/- 10 LBS) (+/-44 newton)
-20 (-29 C)	73 (325 newtons)
-10 (-23 C)	76 (338 newtons)
0 (-18 C)	79 (351 newtons)
10 (-12 C)	82 (365 newtons)
20 (-7 C)	85 (378 newtons)
30 (-1 C)	88 (391 newtons)
40 (4 C)	91 (405 newtons)
50 (10 C)	94 (418 newtons)
60 (16 C)	97 (431 newtons)
70 (21 C)	100 (445 newtons)
80 (27 C)	103 (458 newtons)
90 (32 C)	106 (472 newtons)
100 (38 C)	109 (485 newtons)
110 (43 C)	112 (498 newtons)
120 (49 C)	115 (512 newtons)

(e) Make sure the rig pin (J20003-10 assembly), SPL-2536, installed in the aft brake cable quadrant [1] moves freely through the hole.

(f) Make sure therig pin (J20003-8 assembly), SPL-2534, installed in the forward brake cable quadrant [9] moves freely through the hole.

(g) Do these steps if you installed new brake cables:

1) Increase the tension of the brake cables to 170 lb (77.1 kg) - 190 lb (86.2 kg).

2) Make sure the rig pin (J20003-10 assembly), SPL-2536, installed in the aft brake cable quadrant [1] moves freely through the hole.

3) Make sure the rig pin (J20003-8 assembly), SPL-2534, installed in the forward brake cable quadrant [9] moves freely through the hole.

4) Remove the rig pin (J20003-8 assembly), SPL-2534, from the forward brake cable quadrant [9].

5) Remove the rig pin (J20003-10 assembly), SPL-2536, from the aft brake cable quadrant [1].

6) Push the left and right brake pedals to their stops 25 times.

7) Install the rig pin (J20003-8 assembly), SPL-2534, in the forward brake cable quadrant [9].

8) Install the rig pin (J20003-10 assembly), SPL-2536, in the aft brake cable quadrant [1].

9) Use the thermometer to measure the temperature.

10) Adjust the brake cable tension with the cable tensiometer to the value shown in the brake cable tension vs. temperature chart (Table 501) and add 30 lbs at all temperatures to compensate for the initial tension loss of the cable.

11) Make sure the rig pin (J20003-10 assembly), SPL-2536, installed in the aft brake cable quadrant [1] moves freely through the hole.

12) Make sure the rig pin (J20003-8 assembly), SPL-2534, installed in the forward brake cable quadrant [9] moves freely through the hole.

(h) Remove the rig pin (J20003-8 assembly), SPL-2534, from the forward brake cable quadrant [9].

(i) Remove the rig pin (J20003-10 assembly), SPL-2536, from the aft brake cable quadrant [1].

(j) Push the left and right brake pedals to their stops 3 times.

(k) Install therig pin (J20003-8 assembly), SPL-2534, in the forward brake cable quadrant [9].

(l) Install the rig pin (J20003-10 assembly), SPL-2536, in the aft brake cable quadrant [1].

(m) Make sure the rig pin (J20003-10 assembly), SPL-2536, installed in the aft brake cable quadrant [1] moves freely through the hole.

(n) Make sure the rig pin (J20003-8 assembly), SPL-2534, installed in the forward brake cable quadrant [9] moves freely through the hole.

(o) Remove the rig pin (J20003-8 assembly), SPL-2534, and the rig pin (Included in Kit J20003-34), SPL-2537, from the forward brake cable quadrant [9].

(p) Remove the rig pin (J20003-10 assembly), SPL-2536, from the aft brake cable quadrant [1].

(q) For the lock clips on the brake cables, do this task: Turnbuckle Locking Clips Installation, TASK 20-10-05-400-801.

SUBTASK 32-41-00-700-002

(4) Do these functional tests and operational tests of the hydraulic brake system:

(a) Do this task: Brake Pedal Return/Stop - Functional Test, TASK 32-41-00-720-801.

(b) Do this task: Brake Accumulator Isolation Valve - Operational Test (Recommended), TASK 32-41-00-710-801.

(c) Do this task: Normal and Alternate Brake Application - Operational Test, TASK 32-41-00-710-802.

(d) Do this task: Brake Pedal Force - Functional Test, TASK 32-41-00-720-802.

(e) Do this task: Gear Retract Braking - Operational Test, TASK 32-41-00-710-803.

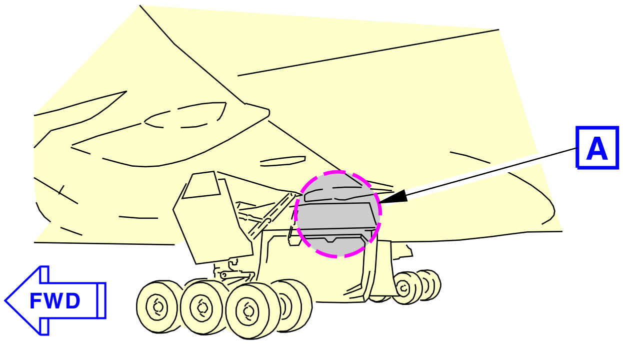
G. Put the Airplane Back to Its Usual Condition.

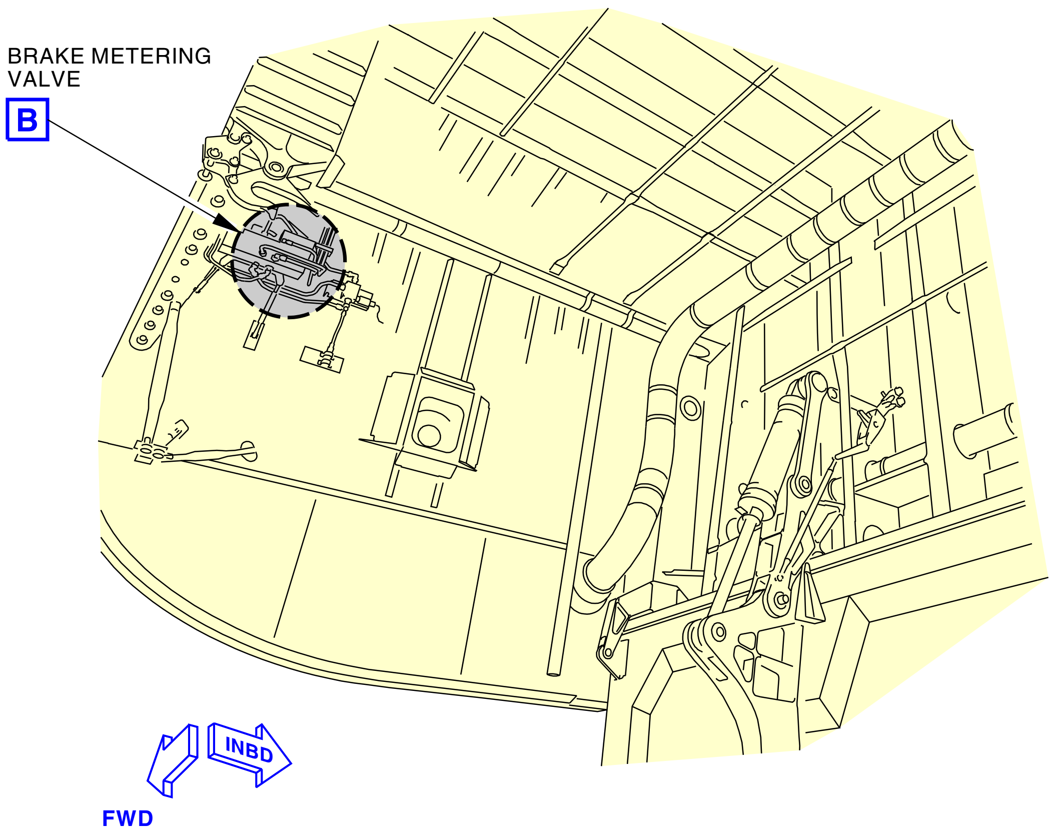
SUBTASK 32-41-00-410-006

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

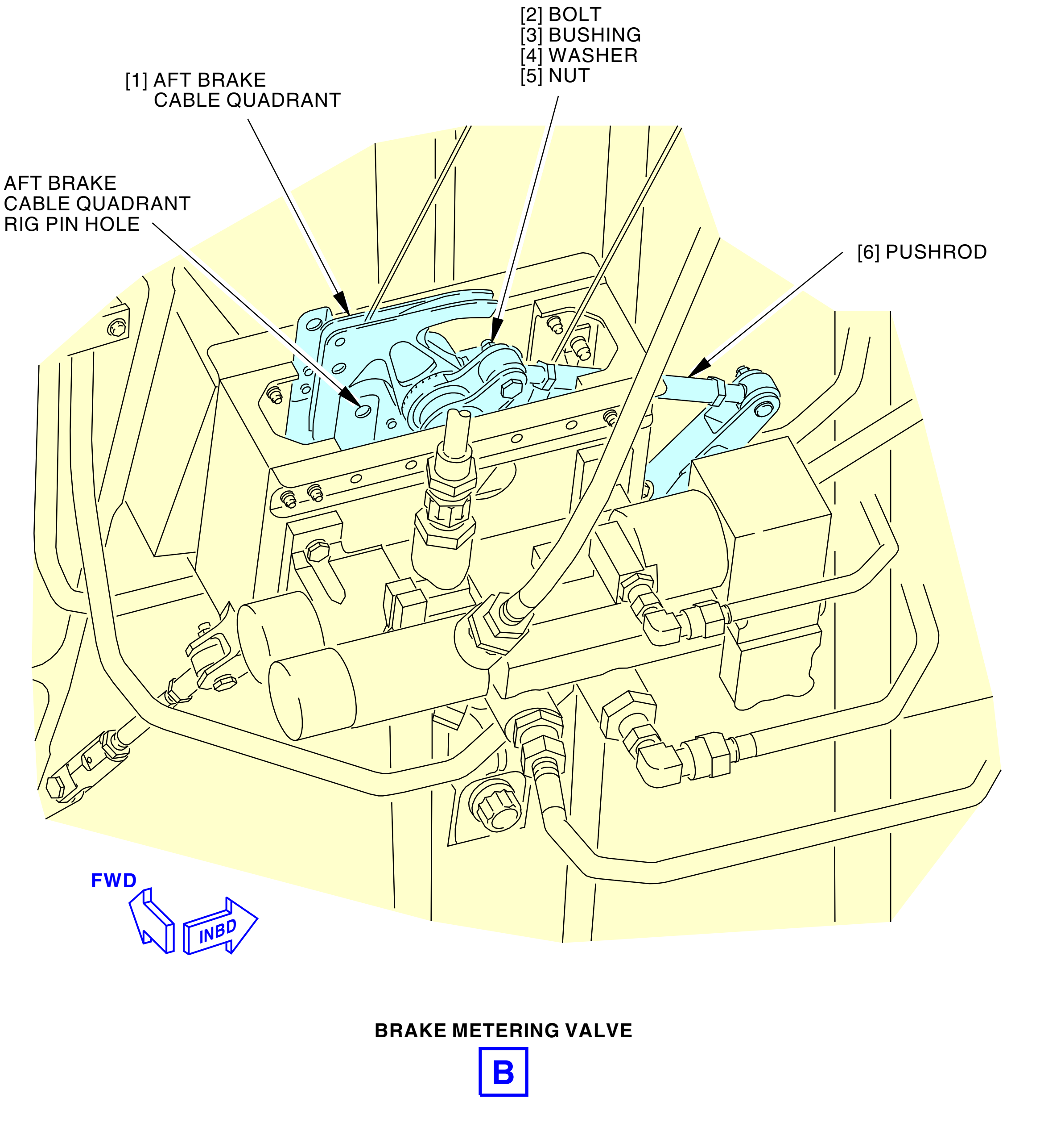




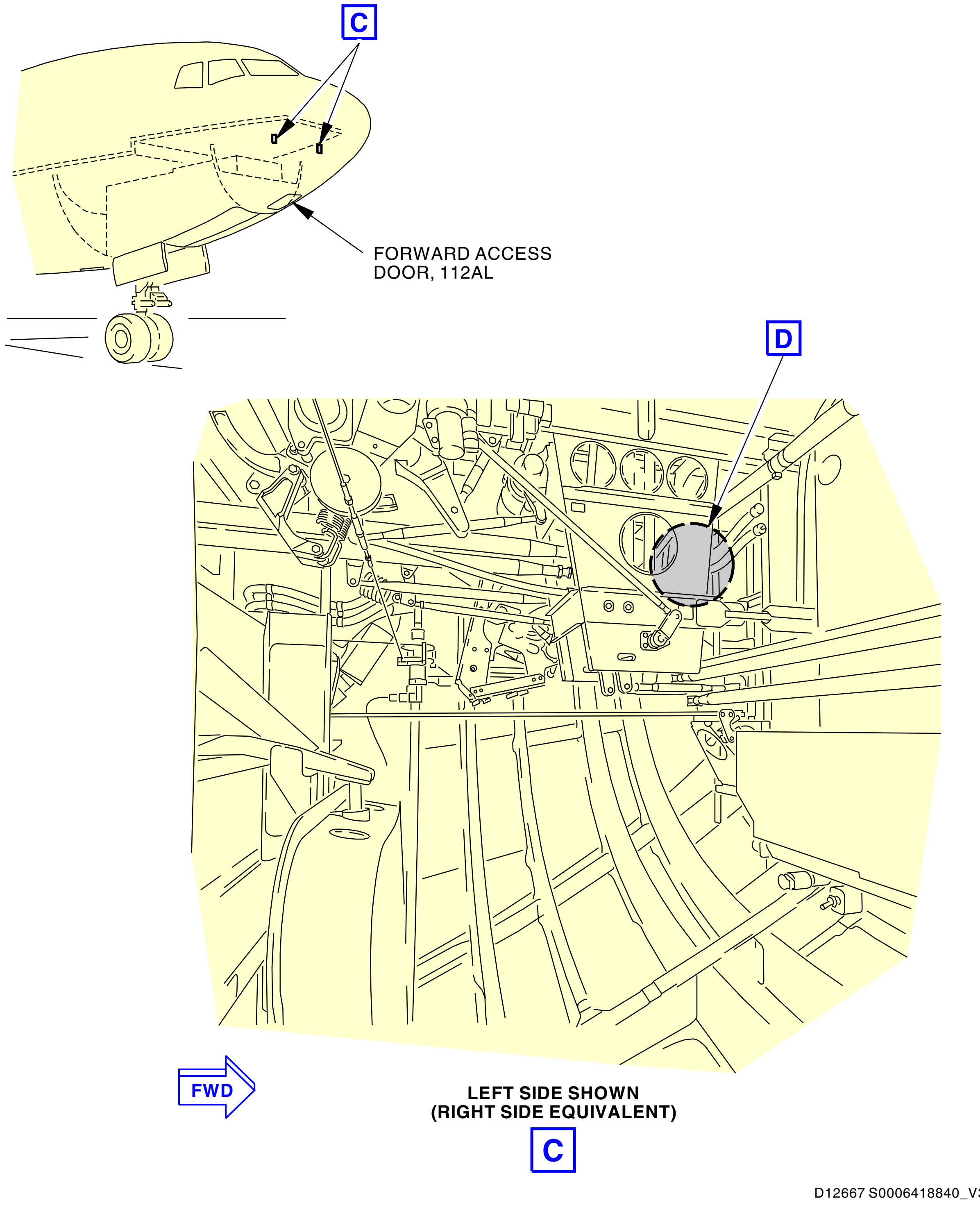
LEFT MAIN WHEEL WELL
(RIGHT SIDE EQUIVALENT)
A

D12672 S0006418838_V2

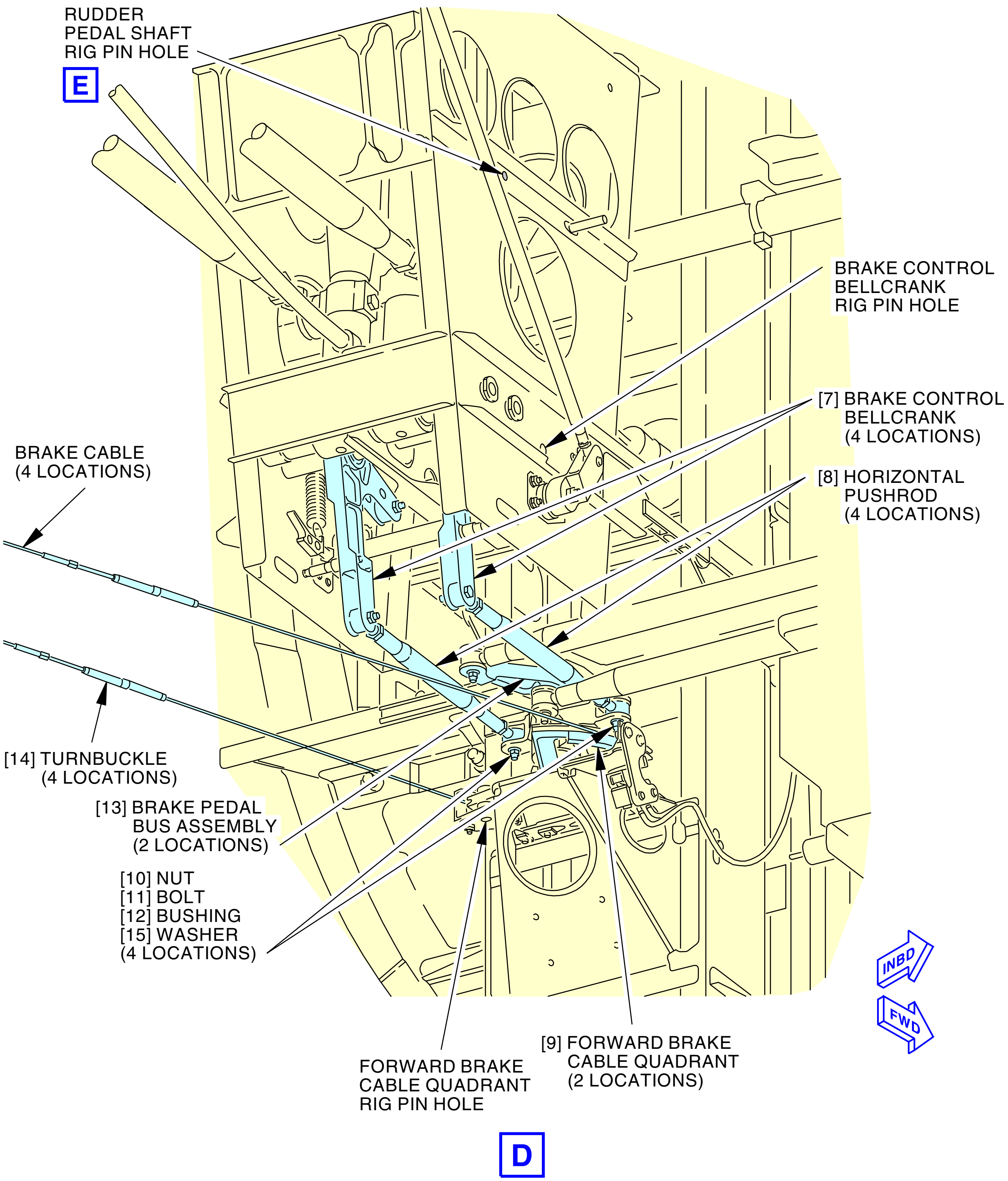
Brake Hydro-Mechanical Control System Adjustment
Figure 501/32-41-00-990-801 (Sheet 1 of 5)



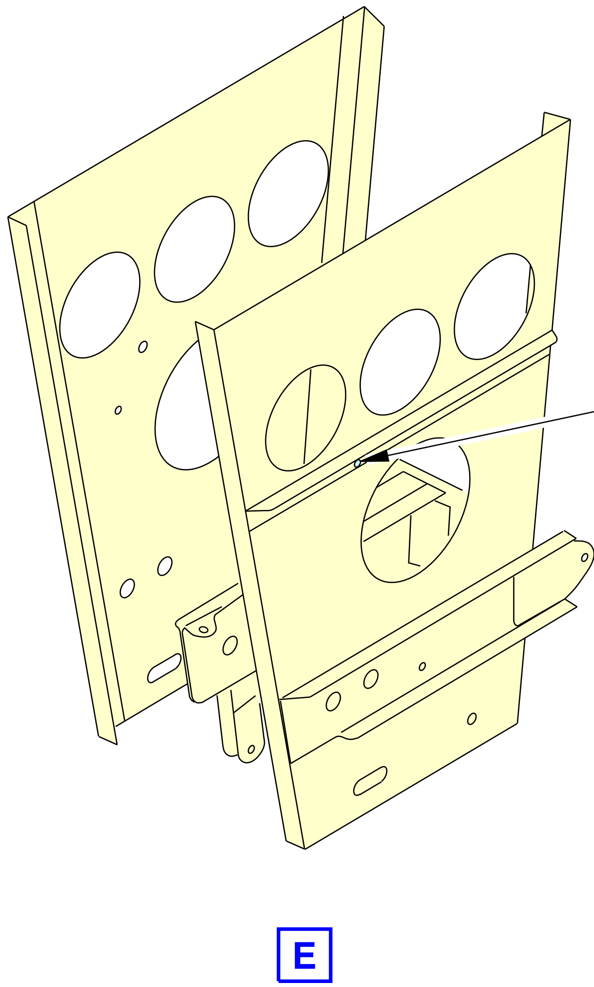
Brake Hydro-Mechanical Control System Adjustment
Figure 501/32-41-00-990-801 (Sheet 2 of 5)



Brake Hydro-Mechanical Control System Adjustment
Figure 501/32-41-00-990-801 (Sheet 3 of 5)



Brake Hydro-Mechanical Control System Adjustment
Figure 501/32-41-00-990-801 (Sheet 4 of 5)



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Brake Hydro-Mechanical Control System Adjustment
Figure 501/32-41-00-990-801 (Sheet 5 of 5)

TASK 32-41-00-720-801

3. Brake Pedal Return/Stop - Functional Test

(Figure 501)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) The rig pins used in the task that follows are in rigging pin set, SPL-2532.

B. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205
SPL-2535	Pin - Rig (J20003-15 Assembly Included in Kit J20003-34) Part #: J20003-34 Supplier: 81205
SPL-2536	Pin - Rig (J20003-10 Assembly Included in Kit J20003-34) Part #: J20003-34 Supplier: 81205

D. Location Zones

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

E. Procedure

SUBTASK 32-41-00-480-007

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-00-010-002

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-41-00-860-020

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-41-00-480-002

(4) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-41-00-860-002

(5) Release the parking brake.

SUBTASK 32-41-00-860-003

(6) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-41-00-480-008

(7) Install the two rig pins (J20003-15 assemblies), SPL-2535, in the rigging pin holes on the captain's and first officer's rudder pedal shafts.

NOTE: The placard on the inside of the box for the rigging pin kit identifies the different rigging pins.

SUBTASK 32-41-00-720-001

(8) Do these steps for the captain's brake pedals and then the first officer's brake pedals:

(a) Slowly push the brake pedals to their stops.

(b) Slowly release the brake pedals.

(c) Make sure that the brake pedals return smoothly to the full off position.

(d) Install the two rig pins (J20003-10 assemblies), SPL-2536, in the two aft brake cable quadrants [1] to make sure the brakes are in the full off position.

(e) Remove the two rig pins (J20003-10 assemblies), SPL-2536, from the two aft brake cable quadrants [1].

(f) Slowly push the brake pedals through one inch of travel.

(g) Slowly release the brake pedals.

(h) Make sure that the brake pedals return smoothly to the full off position.

(i) Install the two rig pins (J20003-10 assemblies), SPL-2536, in the two aft brake cable quadrants [1] to make sure the brakes are in the full off position.

(j) Remove the two rig pins (J20003-10 assemblies), SPL-2536, from the two aft brake cable quadrants [1].

(k) Remove the two rig pins (J20003-10 assemblies), SPL-2536, from the captain's and first officer's rudder pedal shafts.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-00-410-002

> **WARNING** OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

——— END OF TASK ———

TASK 32-41-00-710-801

4. Brake Accumulator Isolation Valve - Operational Test (Recommended)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left

C. Prepare for the Procedure

SUBTASK 32-41-00-480-009

> **WARNING** MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-00-480-023

> **WARNING** OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-41-00-860-036

(3) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

D. **Procedure**

SUBTASK 32-41-00-710-018

(1) Do the steps that follow to test the accumulator isolation valve:

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) For the right and the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

NOTE: Use both center system alternating current motor pumps (ACMP) to pressurize the main hydraulic system.

(b) Make sure the brake accumulator pressure is 3000 +/- 100 psig.

NOTE: There are two different gages you can use to measure the brake accumulator pressure. One gage is in the wheel well for the right main landing gear, below the brake accumulator. The other gage, the BRAKE ACCUM PRESS gage, is in the flight compartment on the main instrument panel for the captain (P1).

(c) Quickly apply the captain's brake pedals, fully push the pedals down.

NOTE: There should be a momentary decrease in pressure at the brake accumulator.

(d) Release the captain's brake pedals.

(e) For the right hydraulic system only, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

(f) Do one of the following steps to remove excess pressure from the right hydraulic system:

1) Let the system internal leakage decrease the pressure until the system pressure is less than 500 psi; or

WARNING	VERIFY ALL FLIGHT CONTROLS ARE FREE AND CLEAR OF EQUIPMENT AND PERSONNEL. FAILURE NOT TO COMPLY WILL RESULT IN DAMAGE TO EQUIPMENT OR PERSONNEL.

2) Make sure the FLT CONTROL HYD POWER toggle switch "R Tail", on the P61 panel, is set to the NORM position.

a) Move the FLT CONTROL HYD POWER toggle switch "C TAIL", on the P61 panel, to the SHUTOFF position.

WARNING	MAKE SURE THE FLIGHT CONTROL HYDRAULIC VALVE POWER SWITCHES ARE MOVED TO THE SHUT/OFF POSITION TO PREVENT DAMAGE TO EQUIPMENT OR PERSONNEL IF THE SYSTEM IS INADVERTENTLY PRESSURIZED.

b) Operate the pitch trim using the Alternate Pitch Trim lever until the right hydraulic system pressure decreases to less than 500 psi.

(g) Make sure the brake accumulator pressure is 3000 +/- 100 psig.

(h) Quickly apply the captain's brake pedals, for 2 to 4 seconds, fully pushing the pedals down.

NOTE: There should be NO momentary decrease in pressure at the brake accumulator, this indicates that the accumulator isolation valve is now in its secondary position isolating the accumulator.

(i) Release the captain's brake pedals.

(j) Move the FLT CONTROL HYD POWER toggle switch "C TAIL", on the P61 panel, to the NORM position.

(k) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

E. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-00-410-005

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

TASK 32-41-00-710-802

5. Normal and Alternate Brake Application - Operational Test

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This operational test does a check of these items:

(a) The operation of the brake alternate source selector valve

(b) The operation of the brakes with hydraulic power supplied by the NORMAL brake hydraulic system

(c) The operation of the brakes with hydraulic power supplied by the ALTERNATE brake hydraulic system.

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
211	Flight Compartment, Left
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for the Procedure

SUBTASK 32-41-00-480-010

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-00-860-044

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-41-00-860-022

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801

SUBTASK 32-41-00-720-002

(4) To show the maintenance page for the brake and steering systems on the multi-function display (MFD), do this task: Showing a Maintenance Page, TASK 31-61-00-800-804.

E. Procedure

SUBTASK 32-41-00-720-003

(1) Fully push and hold the captain's brake pedals.

NOTE: The parking brake can be set to hold the pedals.

SUBTASK 32-41-00-710-005

(2) Examine each brake's pistons to make sure that all brakes operated.

SUBTASK 32-41-00-720-004

(3) Make sure the BRAKE METERED PRESSURE for the NORMAL brake hydraulic system is approximately 3000 psig (20700 kPa).

NOTE: The maintenance page on the MFD shows the BRAKE METERED PRESSURE.

SUBTASK 32-41-00-720-005

(4) Release the captain's brake pedals (or parking brake).

SUBTASK 32-41-00-710-006

(5) Examine each brake's pistons to make sure that all brakes are released.

SUBTASK 32-41-00-860-023

(6) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-41-00-860-040

(7) Do these steps to remove excess pressure from the right hydraulic system:

WARNING	SET THE FLT CONTROL HYD VALVE POWER SWITCHES TO THE SHUTOFF POSITION. THIS WILL PREVENT ACCIDENTAL PRESSURIZATION. INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT CAN OCCUR IF THE SYSTEMS BECOME PRESSURIZED.

(a) Move the FLT CONTROL HYD POWER toggle switch "C TAIL", on the P61 panel, to the SHUTOFF position.

WARNING	MAKE SURE THAT ALL PERSONNEL AND MAINTENANCE EQUIPMENT ARE CLEAR OF FLIGHT CONTROL SURFACES BEFORE OPERATION.

(b) Operate the pitch trim using the Alternate Pitch Trim lever until the right hydraulic system pressure decreases to less than 500 psi.

SUBTASK 32-41-00-720-006

(8) Fully push and hold the captain's brake pedals.

NOTE: The parking brake can be set to hold the pedals.

SUBTASK 32-41-00-710-007

(9) Examine each brake's pistons to make sure that all brakes operated.

SUBTASK 32-41-00-720-007

(10) Make sure the BRAKE METERED PRESSURE for the ALTERNATE brake hydraulic system is approximately 3000 psig (20700 kPa).

NOTE: The maintenance page on the MFD shows the BRAKE METERED PRESSURE.

SUBTASK 32-41-00-720-008

(11) Release the captain's brake pedals (or parking brake).

SUBTASK 32-41-00-710-008

(12) Examine each brake's pistons to make sure that all brakes are released.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-00-860-005

(1) Put the MFD back to its normal condition so that it shows the EICAS engine secondary information.

SUBTASK 32-41-00-860-041

(2) Move the FLT CONTROL HYD POWER toggle switch “C TAIL” on the P61 panel, to the NORM position.

SUBTASK 32-41-00-860-024

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

TASK 32-41-00-720-802

6. Brake Pedal Force - Functional Test

(Figure 501, Figure 502)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) The rig pins used in the task that follows are in rigging pin set, SPL-2532.

B. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1452	Gauge - Mechanical Force, 0-100 lbs. (0.5 lbs. Resolution) Part #: LG-100 Supplier: 92456
SPL-1680	Protractor - Assembly, Control Column Part #: 4MIT65B80307-1 Supplier: 81205 Part #: A27021-29 Supplier: 81205 Part #: G76002-19 Supplier: 81205
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205
SPL-2534	Pin - Rig (J20003-8 Assembly Included in Kit J20003-34) Part #: J20003-34 Supplier: 81205
SPL-2535	Pin - Rig (J20003-15 Assembly Included in Kit J20003-34) Part #: J20003-34 Supplier: 81205
SPL-2555	Equipment - Measuring, Brake Pedal Load and Travel (Single Pedal) Part #: J32001-67 Supplier: 81205 Opt Part #: J32001-63 Supplier: 81205 Opt Part #: J32001-64 Supplier: 81205
SPL-10813	Gauge Set - Hydraulic Brake System, Pressure Checking Part #: C32051-1 Supplier: 81205 Opt Part #: F72977-62 Supplier: 81205
SPL-11464	Equipment - Measuring, Brake Pedal Load and Travel (Dual Pedal) Part #: J32001-68 Supplier: 81205
SPL-15031	Test Equipment - Brake Bleed Part #: G32075-16 Supplier: 81205
STD-1157	Gauge - Pressure, 0-3000 PSIG (0-20685 KPa)

D. Location Zones

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for Procedure

SUBTASK 32-41-00-860-045

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed in the nose and main landing gear (TASK 32-00-30-480-801).

SUBTASK 32-41-00-860-046

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR LOCKS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Open the doors for the landing gear and install the door safety pins (TASK 32-00-15-480-801).

SUBTASK 32-41-00-860-025

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-41-00-860-038

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-41-00-480-003

(5) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-41-00-860-006

(6) Release the parking brake.

SUBTASK 32-41-00-860-007

(7) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-41-00-480-021

(8) Do these steps to install a pressure gage at each brake:

- (a) Disconnect the brake at the brake disconnect:
  - 1) Pull up on the barrel of the brake disconnect.
  - 2) Turn the barrel counterclockwise to disconnect the brake hose from the brake assembly.
- (b) Remove the brake bleeder assembly from the brake.

  NOTE: Each brake bleeder assembly has a bleeder valve installed in an adapter. The adapter is installed in the brake.
- (c) Install the pressure gauge, SPL-15031, or the pressure gauge (0-3000 PSIG), STD-1157, 0 psi (0 kPa) – 3002 psi (20,700 kPa), or the optional gauge set, SPL-10813, on the brake bleed port.
- (d) Connect the brake at the brake disconnect:
  - 1) Turn the hose half of the brake disconnect until the internal tangs align with the slots inside the brake half of the brake disconnect and you can push the hose half down.
  - 2) Push down on the barrel and turn it clockwise to engage the threads.

3) Turn the barrel clockwise until the slots in the bottom of the barrel snap into place on the external tangs on the brake half of the brake disconnect.

(e) Do a visual check to make sure the slots on the barrel are fully and correctly engaged with the tangs on the brake half of the brake disconnect.

F. Brake Off Angle Test

SUBTASK 32-41-00-720-009

(1) Do these steps for the first officer's brake pedals and then the captain's brake pedals (Figure 501):

(a) Install the rig pin (J20003-15 assembly), SPL-2535, in the rudder pedal shaft rig pin hole.

(b) Install the two rig pins (J20003-8 assemblies), SPL-2534, in the left and right forward brake cable quadrants [9].

(c) Install the brake pedal load and travel measuring equipment, SPL-2555, or the brake pedal load and travel measuring equipment, SPL-11464, first on left brake pedal and next on the right brake pedal.

(d) Set the protractors to 0.

(e) Remove the two rig pins (J20003-8 assemblies), SPL-2534, from the left and right forward brake cable quadrants [9].

(f) Do these steps for the left brake pedal and then the right:

1) Fully push the brake pedal.

2) Make sure that the brake pedal angle is 15.5 degrees or more.

3) Release the brake pedal.

4) Make sure the that the brake pedal angle returned to within 1 degree of 0.

(g) If installed on the left or right first officer's brake pedal, remove the brake pedal load and travel measuring equipment, SPL-2555, or the brake pedal load and travel measuring equipment, SPL-11464, from the left or right brake pedal.

G. Normal System Brake Angle Test

SUBTASK 32-41-00-860-026

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(1) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-41-00-720-018

(2) The brake pedal force can be measured by using either the brake pedal load and travel measuring equipment, SPL-2555, or the brake pedal load and travel measuring equipment, SPL-11464, or the 0-100 lbs. (0.5 lbs. resolution) mechanical force gauge, COM-1452, and the control column assembly protractor, SPL-1680.

SUBTASK 32-41-00-720-010

(3) Do these steps for the captain's left pedal and then the right pedal:

NOTE: The brake pressure should be measured at each of the 12 brakes.

(a) For the brake pedal force measured using the brake pedal load and travel measuring equipment, SPL-2555, or the brake pedal load and travel measuring equipment, SPL-11464, do these steps:

NOTE: Pedal force is measured by the load applied at a point on the pedal, 5.58 in. (14.17 cm) from the pivot, 90 degrees to the face of the pedal.

1) Push the captain's brake pedal until the pressure gages installed on the applicable truck reach 550 psig (3792 kPa) – 650 psig (4482 kPa).
2) Make sure that the force on the pedal is 44.3 lb (20.1 kg) - 59.1 lb (26.8 kg).
3) Push the captain's brake pedal until the pressure gages installed on the applicable truck show to within 50 psig (345 kPa) of the right hydraulic system pressure.
4) Make sure that the force on the pedal is 88.7 lb (40.2 kg) - 110.9 lb (50.3 kg).
5) Make sure the brake pedal angle does not exceed 12.0 degrees.
6) Release the brake pedal.

(b) For the brake pedal force measured using the 0-100 lbs. (0.5 lbs. resolution) mechanical force gauge, COM-1452, spring scale and control column assembly protractor, SPL-1680.

NOTE: Pedal force is measured by the load applied at the tip of the pedal, 8.25 in. (20.96 cm) from the pivot, 90 degrees to the face of the pedal.

1) Push the captain's brake pedal until the pressure gages installed on the applicable truck reach 550 psig (3792 kPa) – 650 psig (4482 kPa).
2) Make sure that the force on the pedal is 30 lb (14 kg) - 40 lb (18 kg).
3) Push the captain's brake pedal until the pressure gages installed on the applicable truck show to within 50 psig (345 kPa) of the right hydraulic system pressure.
4) Make sure that the force on the pedal is 60 lb (27 kg) - 75 lb (34 kg).
5) Make sure the brake pedal angle does not exceed 12.0 degrees.
6) Release the brake pedal.

H. Parking Brake Angle Test

SUBTASK 32-41-00-860-008

(1) Set the parking brake.

SUBTASK 32-41-00-720-011

(2) Make sure that the brake pedal angle is 12.0 degrees or more.

SUBTASK 32-41-00-720-012

(3) Make sure the pressure gages show to within 50 psig (345 kPa) of the right hydraulic system pressure.

NOTE: The brake pressure should be measured at each of the 12 brakes.

SUBTASK 32-41-00-860-009

(4) Release the parking brake.

SUBTASK 32-41-00-860-027

(5) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

I. Alternate System Brake Angle Test

SUBTASK 32-41-00-860-028

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(1) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-41-00-720-019

(2) The brake pedal force can be measured by using either the brake pedal load and travel measuring equipment, SPL-2555, or the brake pedal load and travel measuring equipment, SPL-11464, or the 0-100 lbs. (0.5 lbs. resolution) mechanical force gauge, COM-1452, and the control column assembly protractor, SPL-1680.

SUBTASK 32-41-00-720-013

(3) Do these steps for the captain's left pedal and then the right pedal:

NOTE: The brake pressure should be measured at each of the 12 brakes.

(a) For the brake pedal force measured using the brake pedal load and travel measuring equipment, SPL-2555, or the brake pedal load and travel measuring equipment, SPL-11464.

NOTE: Pedal force is measured by the load applied at a point on the pedal, 5.58 in. (14.17 cm) from the pivot, 90 degrees to the face of the pedal.

1) Push the captain's brake pedal until the pressure gages installed on the applicable truck reach 550 psig (3792 kPa) – 650 psig (4482 kPa).

2) Make sure that the force on the pedal is 44.3 lb (20.1 kg) – 59.1 lb (26.8 kg).

3) Push the captain's brake pedal until the pressure gages installed on the applicable truck show to within 50 psig (345 kPa) of the center hydraulic system pressure.

4) Make sure that the force on the pedal is 88.7 lb (40.2 kg) – 110.9 lb (50.3 kg).

5) Make sure the brake pedal angle does not exceed 12.0 degrees.

6) Release the brake pedal.

7) Remove the brake pedal load and travel measuring equipment, SPL-2555, or the brake pedal load and travel measuring equipment, SPL-11464, from the right and left pedals.

(b) For the brake pedal force measured using the spring scale 0-100 lbs. (0.5 lbs. resolution) mechanical force gauge, COM-1452, and control column assembly protractor, SPL-1680.

NOTE: Pedal force is measured by the load applied at the tip of the pedal, 8.25 in. (20.96 cm) from the pivot, 90 degrees to the face of the pedal.

1) Push the captain's brake pedal until the pressure gages installed on the applicable truck reach 550 psig (3792 kPa) – 650 psig (4482 kPa).

2) Make sure that the force on the pedal is 30 lb (14 kg) – 40 lb (18 kg).

3) Push the captain's brake pedal until the pressure gages installed on the applicable truck show to within 50 psig (345 kPa) of the center hydraulic system pressure.

4) Make sure that the force on the pedal is 60 lb (27 kg) – 75 lb (34 kg).

5) Make sure the brake pedal angle does not exceed 12.0 degrees.

6) Release the brake pedal.

(c) Remove the 0-100 lbs. (0.5 lbs. resolution) mechanical force gauge, COM-1452, spring scale and control column assembly protractor, SPL-1680, from the right and left pedals.

SUBTASK 32-41-00-860-029

(4) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

J. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-00-020-001

(1) Remove the rig pin (J20003-15 assembly), SPL-2535, from the rudder pedal shaft rig pin hole.

SUBTASK 32-41-00-080-002

(2) Do these steps to remove the pressure gages at each brake:

(a) Disconnect the brake at the brake disconnect:

1) Pull up on the barrel of the brake disconnect.

2) Turn the barrel counterclockwise to disconnect the brake hose from the brake assembly.

(b) Remove the pressure gauge, SPL-15031, or the pressure gauge (0-3000 PSIG), STD-1157, or the optional gauge set, SPL-10813, from the brake bleed port.

(c) Install the brake bleeder assembly on the brake.

NOTE: Each brake bleeder assembly has a bleed valve installed in an adapter. The adapter is installed in the brake.

1) Tighten the bleed valve to 35 in-lb (4 N·m) to 55 in-lb (6 N·m).

(d) Connect the brake at the brake disconnect:

1) Turn the hose half of the brake disconnect until the internal tangs align with the slots inside the brake half of the brake disconnect and you can push the hose half down.

2) Push down on the barrel and turn it clockwise to engage the threads.

3) Turn the barrel clockwise until the slots in the bottom of the barrel snap into place on the external tangs on the brake half of the brake disconnect.

(e) Do a visual check to make sure the slots on the barrel are fully and correctly engaged with the tangs on the brake half of the brake disconnect.

SUBTASK 32-41-00-080-001

(3) Do these steps to do a leak check of the brake bleeder assembly:

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Set the parking brake.

(c) Make sure there is no leakage from the brake bleeder assembly.

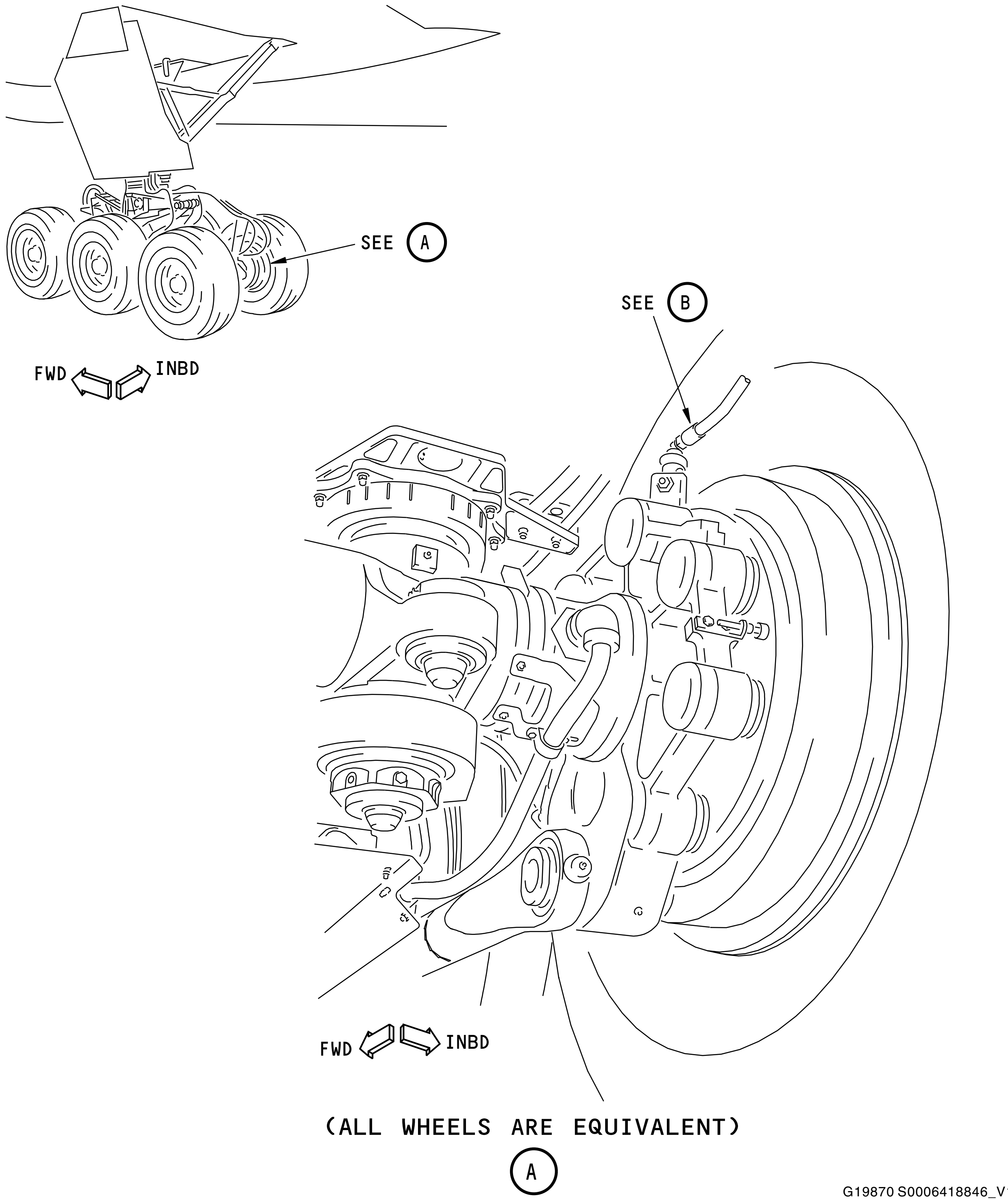
(d) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-41-00-860-047

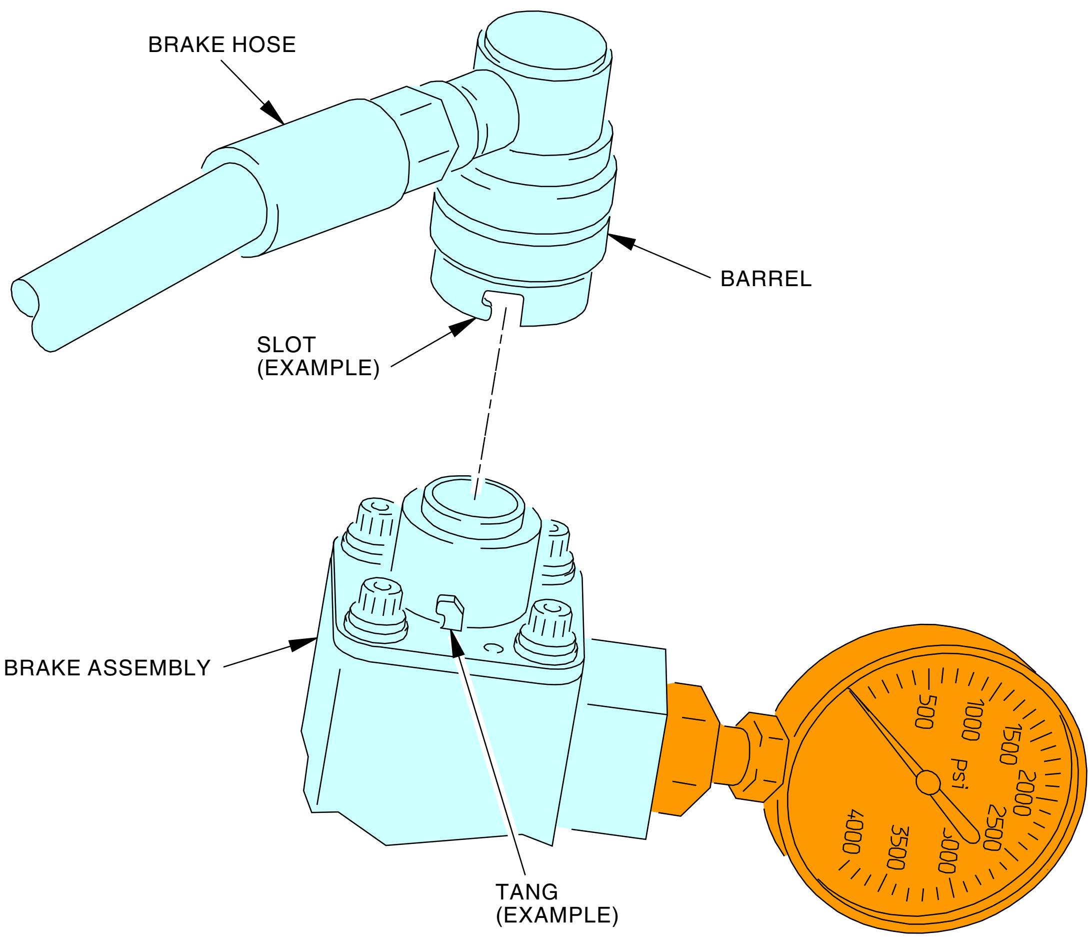
WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Remove the door safety pins. Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

——— END OF TASK ———



Brake Line Disconnection and Pressure Gage Installation
Figure 502/32-41-00-990-806 (Sheet 1 of 2)



BRAKE LINE DISCONNECTION AND PRESSURE GAGE INSTALLATION (EXAMPLE)

B

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**Brake Line Disconnection and Pressure Gage Installation
Figure 502/32-41-00-990-806 (Sheet 2 of 2)**

TASK 32-41-00-710-803

7. Gear Retract Braking - Operational Test

(Figure 503, Figure 504)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Procedure

SUBTASK 32-41-00-860-030

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-41-00-480-011

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-00-010-003

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-41-00-860-011

WARNING: KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-41-00-710-009

(5) Do a gear retract braking check:

(a) Push the HYD button on the Multi-Function Display select panel (MFD).

NOTE: The MFD is above the control lever for the landing gear in the flight compartment.

(b) Make sure the center hydraulic system shows 2900 psig (19,995 kPa) - 3200 psig (22,063 kPa) on the MFD.

(c) Push the LOCK OVRD button on the control module for the landing gear and hold it down.

NOTE: This releases the lock for the control lever.

(d) Move the control lever for the landing gear to the UP position.

(e) Release the LOCK OVRD button.

(f) Examine each brake's pistons to make sure that all brakes are engaged.

(g) Make sure that the brake metering valve does not produce an unusual sound, like a buzzing, clicking, or scrapping noise.

(h) Move the control lever for the landing gear to the DN position.

(i) Examine each brake's pistons to make sure that all brakes are released.

SUBTASK 32-41-00-860-039

(6) Do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

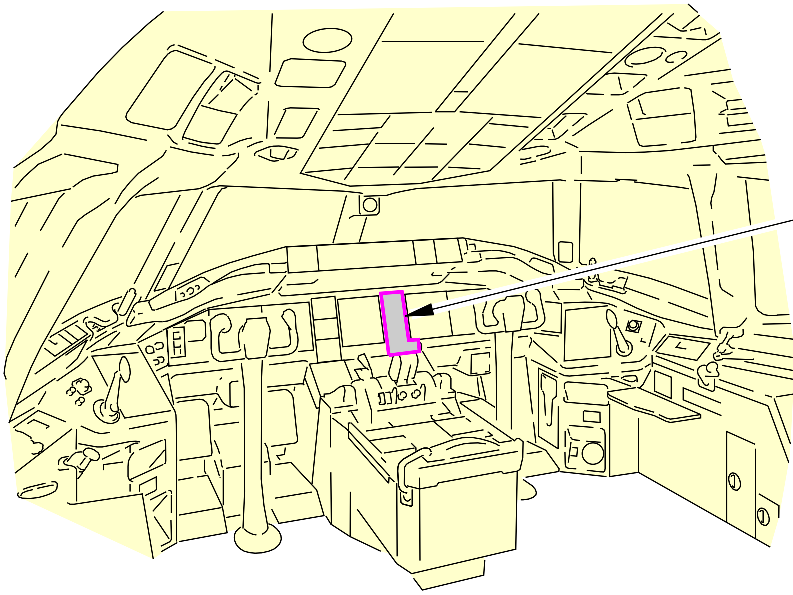
D. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-00-410-003

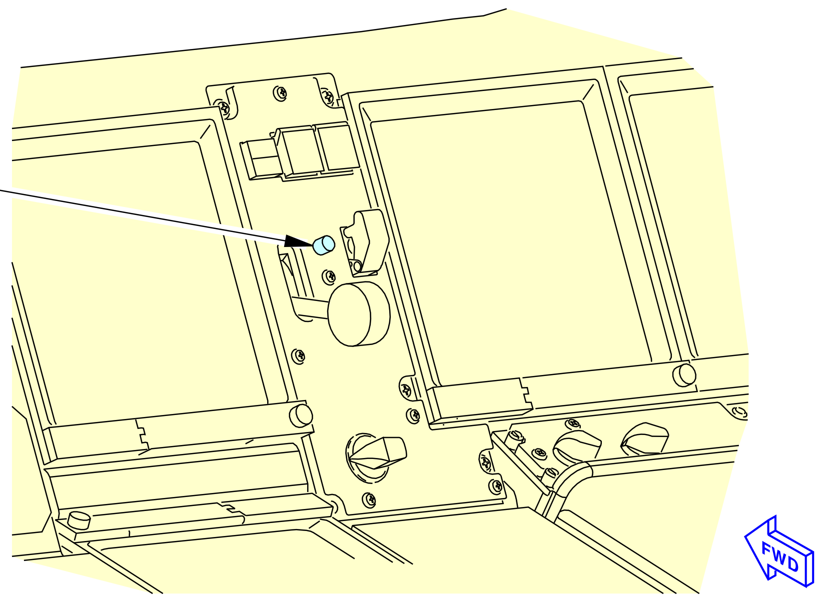
WARNING: OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK



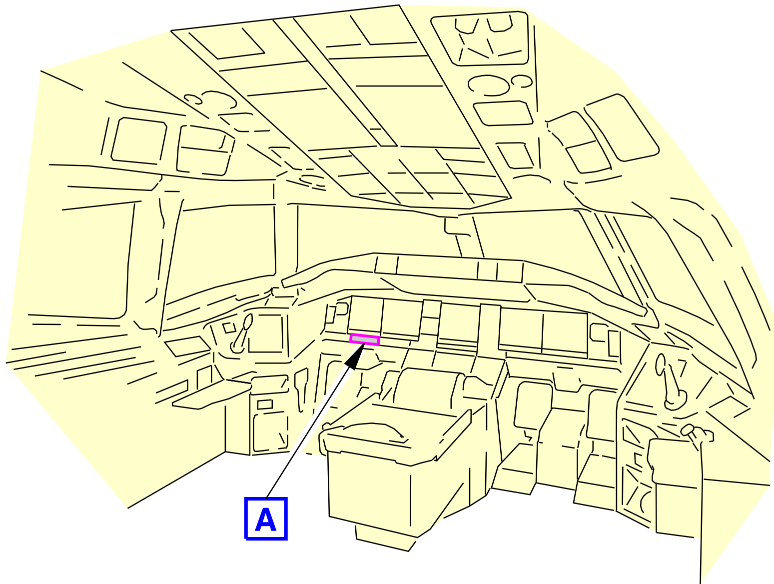
FLIGHT COMPARTMENT



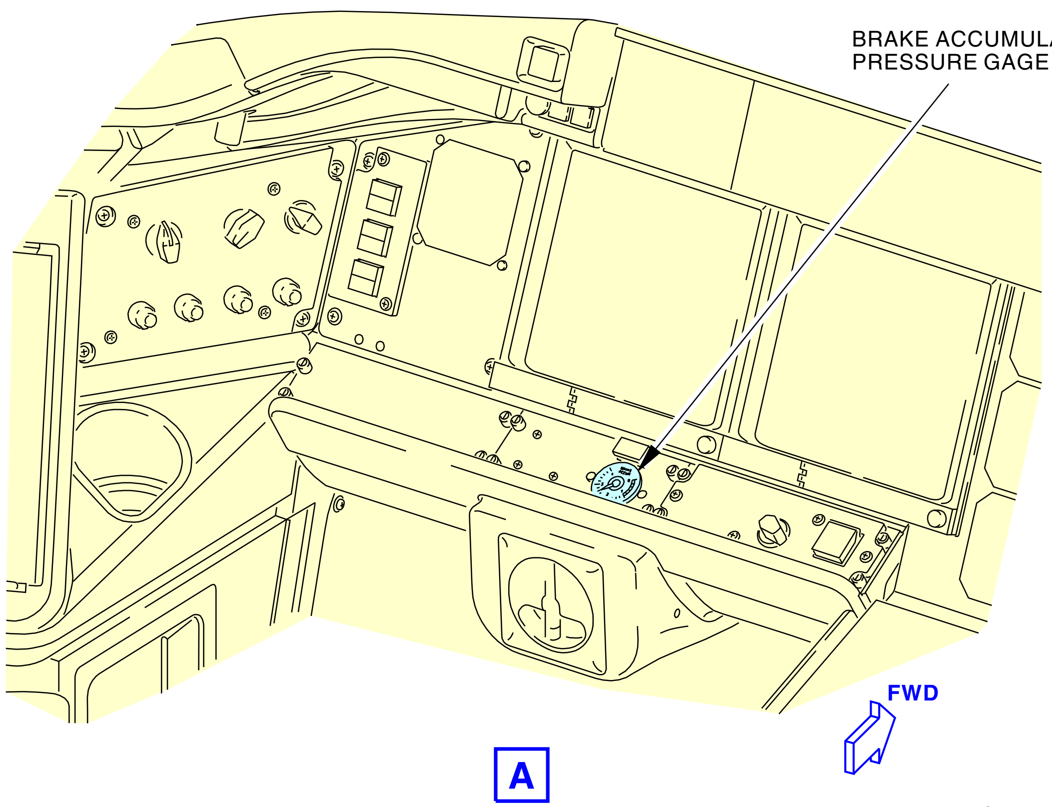
LANDING GEAR CONTROL LEVER MODULE
A

K22162 S0006418850_V2

Landing Gear Control Lever Module Location
Figure 503/32-41-00-990-807



FLIGHT COMPARTMENT



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Brake Accumulator Pressure Gage (Flight Compartment) Location
Figure 504/32-41-00-990-808

BRAKE ACCUMULATOR PRESSURE INDICATION SYSTEM - INSPECTION/CHECK

1. General

A. This procedure contains scheduled maintenance task data.

B. This procedure provides instructions to perform the functional test of the pressure indication system for the brake accumulator

TASK 32-41-00-720-804

2. Brake Accumulator Pressure Indication System - Inspection/Check

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
12-15-04-610-801	Check of the Brake Accumulator Precharge Pressure (P/B 301)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left

C. Prepare for the Procedure

SUBTASK 32-41-00-860-042

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-41-00-480-022

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-00-010-008

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-41-00-700-003

(4) To make sure the brake accumulator has the correct pressure precharge, do this task: Check of the Brake Accumulator Precharge Pressure, TASK 12-15-04-610-801.

SUBTASK 32-41-00-700-004

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) Do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

D. Procedure

SUBTASK 32-41-00-720-020

(1) Measure the brake accumulator pressure with the direct reading gage.

NOTE: The direct reading gage is in the wheel well for the right main landing gear, below the brake accumulator.

SUBTASK 32-41-00-720-021

(2) Measure the brake accumulator pressure with the BRAKE ACCUM PRESS gage.

NOTE: The BRAKE ACCUM PRESS gage is in the flight compartment on the main instrument panel for the captain (P1).

SUBTASK 32-41-00-710-019

(3) Make sure the pressure shown by the BRAKE ACCUM PRESS gage is within 200 psi (1380 kPa) of the pressure shown by the direct reading pressure gage.

(a) If the BRAKE ACCUM PRESS gage is not within 200 psi (1380 kPa) of the pressure shown on the direct reading gage, see the following:

1) Check the direct reading gage for defects.

2) Check the brake accumulator pressure transducer for defects

3) Check the BRAKE ACCUM PRESS gage for defects.

E. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-00-860-043

(1) Do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-41-00-410-007

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

BRAKE PEDAL BUS MECHANISM - REMOVAL/INSTALLATION

1. **General**
   A. This procedure has these tasks:
      (1) A removal of the brake pedal bus mechanism
      (2) An installation of the brake pedal bus mechanism.
   B. In this procedure the brake pedal bus mechanism is referred to as the mechanism assembly [1].

TASK 32-41-01-000-801

2. **Brake Pedal Bus Mechanism Removal**
   (Figure 401)

   A. **References**

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
20-10-05-000-801	Turnbuckle Locking Clips Removal (P/B 401)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)

   B. **Location Zones**

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well

   C. **Access Panels**

Number	Name/Location
112AL	Forward Access Door

   D. **Prepare for the Removal**

SUBTASK 32-41-01-860-001

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-41-01-860-002

(2) For the right and center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-41-01-480-001

(3) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-41-01-860-003

(4) Release the parking brake.

SUBTASK 32-41-01-860-004

(5) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-41-01-010-001

(6) Open this access panel:

Number	Name/Location
112AL	Forward Access Door

   E. **Brake Pedal Bus Mechanism Removal**

SUBTASK 32-41-01-020-005

(1) Disconnect the two brake cables [10] from the forward brake cable quadrant [7]:

(a) Remove the turnbuckle locking clips [9] from the turnbuckles [8] for the two brake cables [10] (TASK 20-10-05-000-801).

(b) Loosen the turnbuckles [8] for the two brake cables [10].

(c) Remove the cotter pins [18].

(d) Disconnect the brake cables [10] from the forward brake cable quadrant [7].

SUBTASK 32-41-01-020-001

(2) Disconnect the four pushrods [11] from the mechanism assembly [1]:

(a) Remove the nuts [15], washers [14], bolts [12], and bearings [13].

(b) Remove the pushrods [11] from the mechanism assembly [1].

SUBTASK 32-41-01-020-006

(3) Disconnect the wires from the switch.

SUBTASK 32-41-01-020-002

(4) Remove the nuts [5], washers [4], and bolts [3] which hold the upper support [2] to the airplane.

SUBTASK 32-41-01-020-003

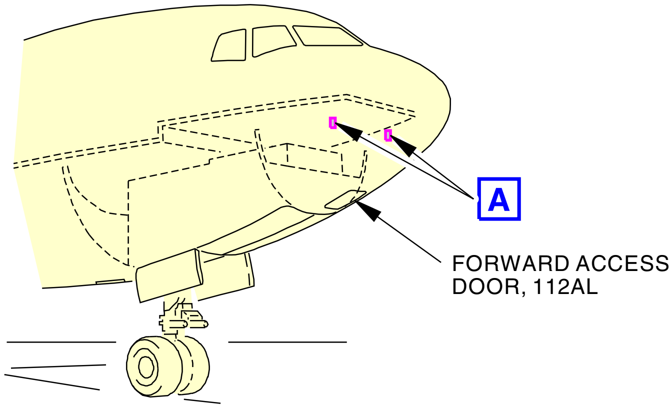
(5) Remove the bolts [17], bolt [19], bolt [20], bolt [21], and bolts [22] that hold the lower support [6] to the airplane structure.

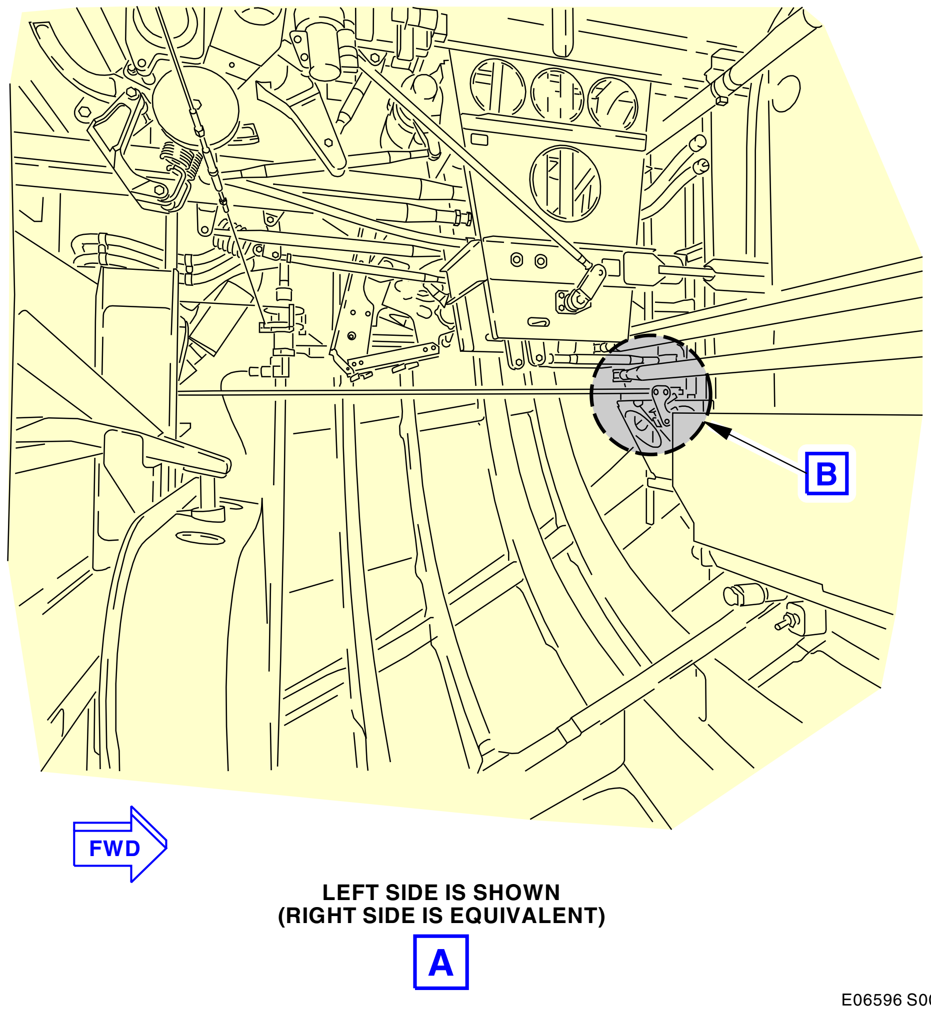
NOTE: You will need to rotate the forward brake cable quadrant [16] to get access to some of the bolts.

SUBTASK 32-41-01-020-004

(6) Lift the mechanism assembly [1] from the airplane structure.

——— END OF TASK ———





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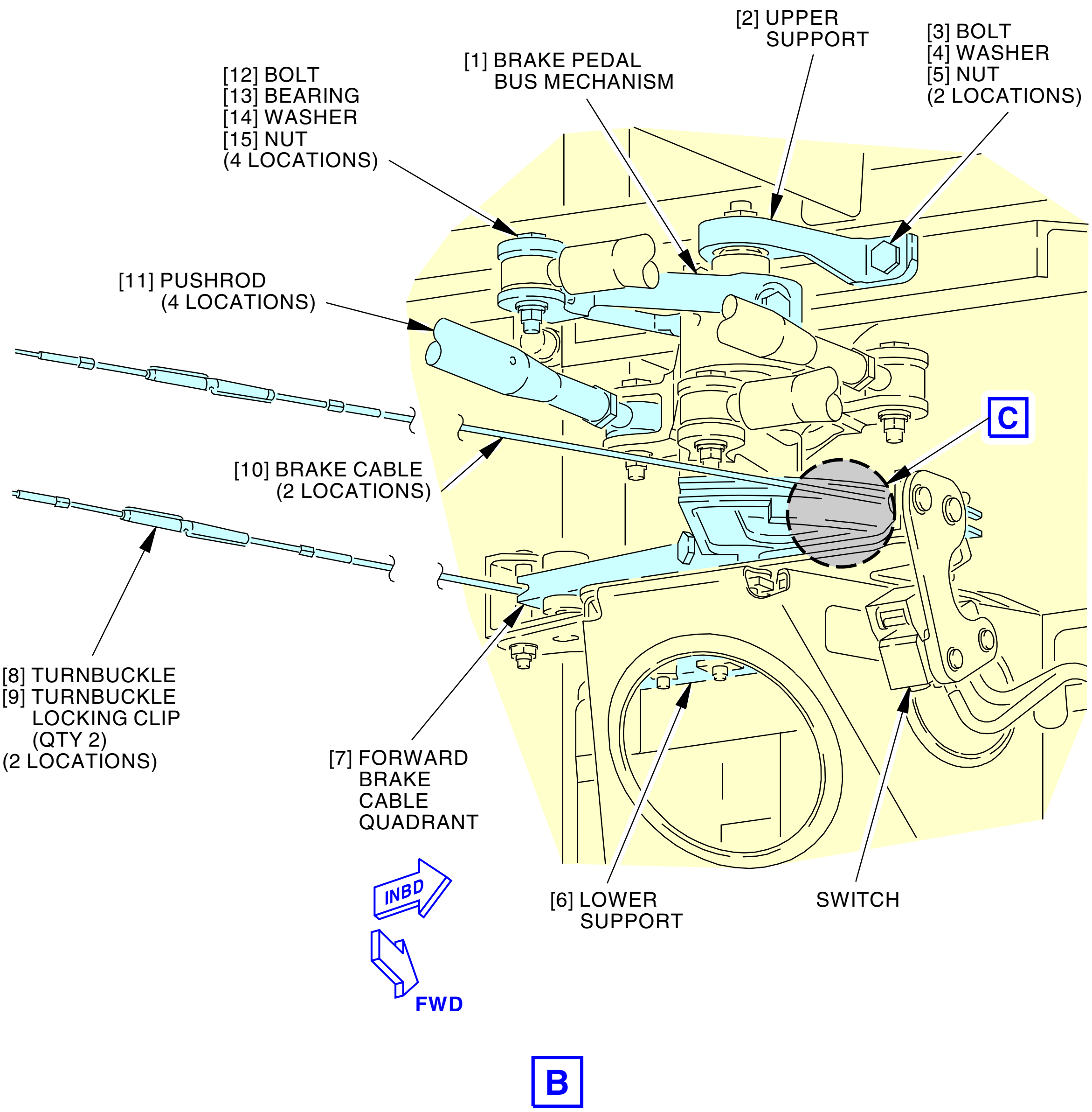
Brake Pedal Bus Mechanism Installation
Figure 401/32-41-01-990-801 (Sheet 1 of 3)



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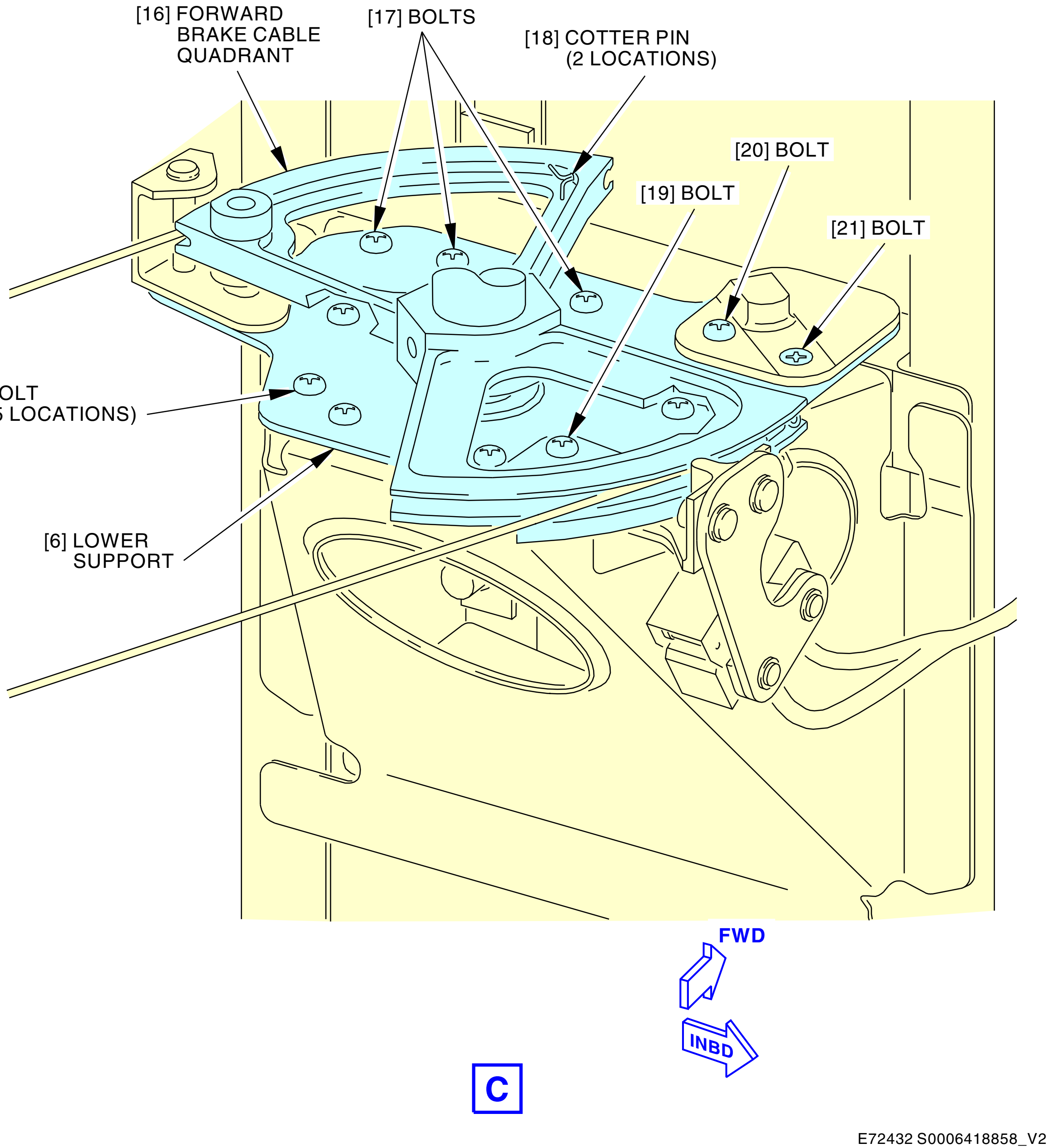
Brake Pedal Bus Mechanism Installation
Figure 401/32-41-01-990-801 (Sheet 2 of 3)



Brake Pedal Bus Mechanism Installation
Figure 401/32-41-01-990-801 (Sheet 3 of 3)

TASK 32-41-01-400-801

3. **Brake Pedal Bus Mechanism Installation**

(Figure 401)

A. **References**

Reference	Title
32-41-00-820-801	Brake Hydro-Mechanical Control System Adjustment (P/B 501)

B. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Mechanism assembly	32-41-01-10-090	ARO ALL
		32-41-01-10-093	ARO ALL

C. **Location Zones**

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well

D. **Access Panels**

Number	Name/Location
112AL	Forward Access Door

E. **Brake Pedal Bus Mechanism Installation**

SUBTASK 32-41-01-420-001

(1) Put the mechanism assembly [1] in its position to align the lower support [6] in the airplane structure.

SUBTASK 32-41-01-420-005

(2) Install the bolts [17], bolt [19], bolt [20], bolt [21], and bolts [22] to connect the lower support [6] to the airplane structure.

NOTE: You will need to rotate the forward brake cable quadrant [16] to get access to some of the bolts.

SUBTASK 32-41-01-420-002

(3) Install the bolts [3], washers [4], and nuts [5] to connect the upper support [2] to the airplane structure.

SUBTASK 32-41-01-420-003

(4) Install the bearings [13], bolts [12], washers [14], and nuts [15] to connect the four pushrods [11] to the mechanism assembly [1].

SUBTASK 32-41-01-420-006

(5) Connect the wires to the switch.

SUBTASK 32-41-01-420-004

(6) Connect the two brake cables [10] to the forward brake cable quadrant [7]:

(a) Put the end of each brake cable [10] in its position in the forward brake cable quadrant [7].

(b) Install the cotter pins [18].

SUBTASK 32-41-01-820-001

(7) Do this task: Brake Hydro-Mechanical Control System Adjustment, TASK 32-41-00-820-801.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-01-410-001

(1) Close this access panel:

Number	Name/Location
112AL	Forward Access Door

———— END OF TASK ————

BRAKE METERING VALVE (NORMAL/ALTERNATE) - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the brake metering valve (normal/alternate)

(2) An installation of the brake metering valve (normal/alternate).

B. There are two valve assemblies on the airplane. One is in the right main landing gear wheel well, one is in the left main landing gear wheel well.

C. Each valve assembly contains a normal metering valve, an alternate metering valve, and a gear retract braking actuator.

D. The brake metering valve is referred to as the valve [35].

TASK 32-41-02-000-801

2. Brake Metering Valve (Normal/Alternate) Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

C. Prepare for the Removal

SUBTASK 32-41-02-860-001

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-41-02-480-005

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-02-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-41-02-480-001

(4) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-41-02-860-005

(5) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-41-02-860-002

(6) Release the parking brake.

SUBTASK 32-41-02-860-003

(7) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

D. Brake Metering Valve (Normal/Alternate) Removal

SUBTASK 32-41-02-020-002

(1) Do these steps to remove the crank [16]:

NOTE: The right crank [16] and the left crank [16] are different.

(a) Remove the nut [15], bolt [12], washer [14], and bushing [13].

(b) Move the rod [11] away from the crank [16].

(c) Disconnect the crank [16] from the input shaft of the valve [35]:

1) Remove the nut [20], washer [19], and bolt [18].

(d) Remove the crank [16].

SUBTASK 32-41-02-020-003

(2) Disconnect the hydraulic tube [5], hydraulic tube [6], hydraulic tube [17], hydraulic tube [25], hydraulic tube [26], hydraulic tube [33], hydraulic tube [34] from the valve [35].

(a) Do not disconnect the hydraulic lines from the elbow fittings, disconnect the elbow fittings from the valve.

SUBTASK 32-41-02-480-002

(3) Install a cap or plug on all open hydraulic tube [5], hydraulic tube [6], hydraulic tube [17], hydraulic tube [25], hydraulic tube [26], hydraulic tube [33], hydraulic tube [34] and ports.

SUBTASK 32-41-02-020-004

(4) Remove the valve [35]:

(a) Remove the bolts [31], and washers [32] that hold the valve assembly to the quadrant support assembly.

(b) Remove the valve [35] from the airplane.

SUBTASK 32-41-02-020-005

(5) If the valve [35] you will install does not have hydraulic fittings installed, do these steps:

(a) Remove the fittings and packings from these ports:

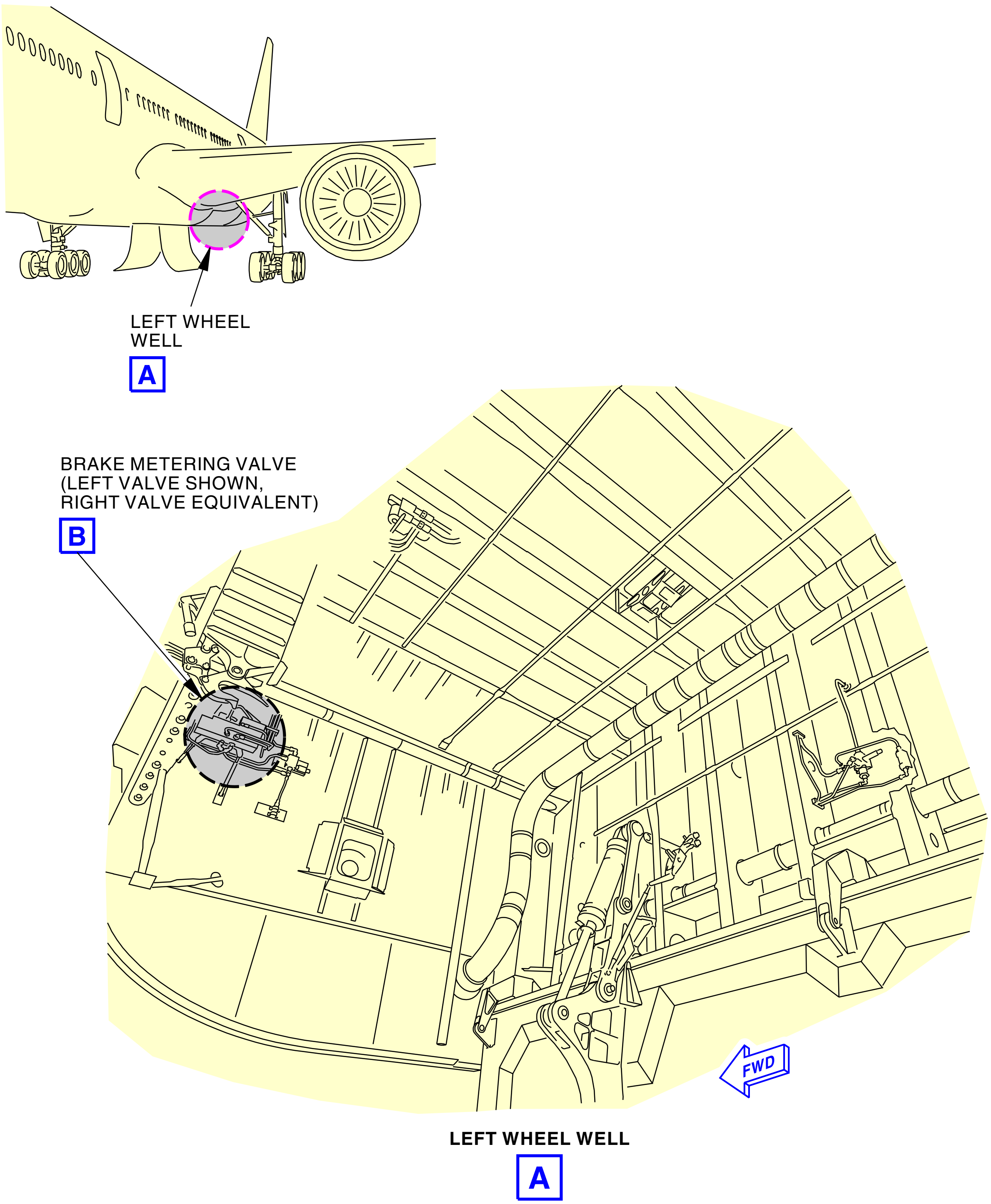
1) BRAKE A: adapter [30], ring [29], packing [28], and packing [27]
2) BRAKE B: adapter [30], ring [29], packing [28], and packing [27]
3) PRESS A: filter [24], ring [23], packing [22] and packing [21]
4) PRESS B: filter [24], ring [23], packing [22] and packing [21]
5) PRESS C: adapter [10], ring [9], packing [8] and packing [7]
6) RETURN A: adapter [4], ring [3], packing [2], and packing [1]
   a) For the valve [35] in the left wheel well, remove the valve [39].
7) RETURN B: adapter [4], ring [3], packing [2], and packing [1].

(b) Discard the packings and rings.

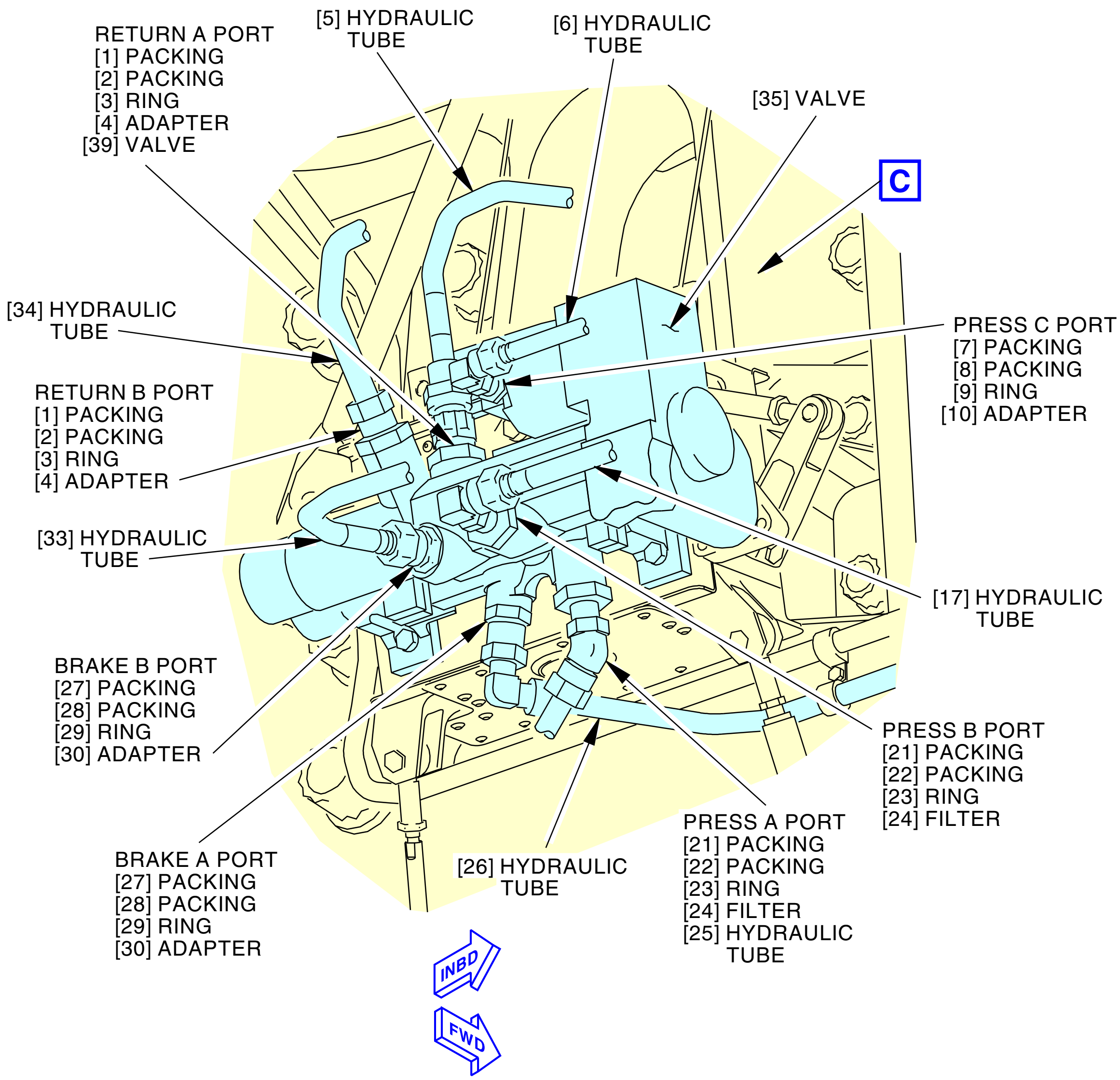
SUBTASK 32-41-02-480-003

(6) Install plugs in the ports of the valve [35].

END OF TASK



Brake Metering Valve (Normal/Alternate) Installation
Figure 401/32-41-02-990-801 (Sheet 1 of 3)



BRAKE METERING VALVE
(HYDRAULIC TUBE CONNECTIONS)

B

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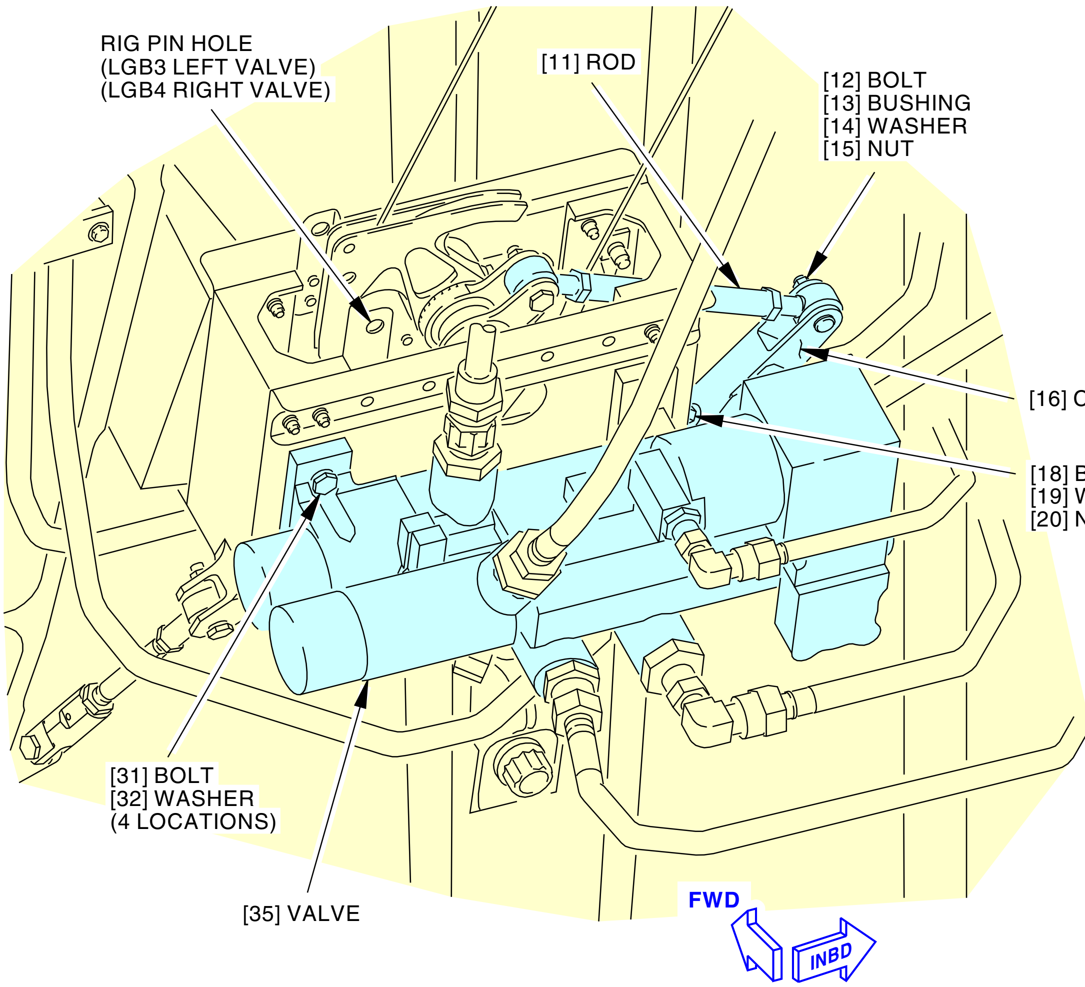
Brake Metering Valve (Normal/Alternate) Installation
Figure 401/32-41-02-990-801 (Sheet 2 of 3)



BRAKE METERING VALVE INSTALLATION

C

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Brake Metering Valve (Normal/Alternate) Installation
Figure 401/32-41-02-990-801 (Sheet 3 of 3)

TASK 32-41-02-400-801

3. Brake Metering Valve (Normal/Alternate) Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
20-11-00-910-801	Standard Torque Values (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Packing	32-41-03-02-155	ARO ALL
		32-41-03-02-170	ARO ALL
2	Packing	32-41-03-02-155	ARO ALL
		32-41-03-02-170	ARO ALL
3	Ring	32-41-03-02-140	ARO ALL
7	Packing	32-41-03-02-160	ARO ALL
8	Packing	32-41-03-02-145	ARO ALL
9	Ring	32-41-03-02-130	ARO ALL
21	Packing	32-41-03-02-170	ARO ALL
22	Packing	32-41-03-02-155	ARO ALL
23	Ring	32-41-03-02-140	ARO ALL
24	Filter	32-41-03-02-175	ARO ALL
27	Packing	32-41-03-02-150	ARO ALL

(Continued)

AMM Item	Description	AIPC Reference	AIPC Effectivity
27 (cont.)		32-41-03-02-165	ARO ALL
28	Packing	32-41-03-02-150	ARO ALL
		32-41-03-02-165	ARO ALL
29	Ring	32-41-03-02-135	ARO ALL
35	Valve	32-41-03-02-180	ARO ALL

E. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

F. Brake Metering Valve (Normal/Alternate) Installation

SUBTASK 32-41-02-080-001

(1) Remove plugs in the ports of the valve [35].

SUBTASK 32-41-02-160-001

(2) Clean the filter [24], if it necessary.

SUBTASK 32-41-02-640-001

(3) If the replacement valve does not have hydraulic fittings installed in the ports, do these steps:

(a) Use hydraulic fluid, D00153, to lubricate the hydraulic fittings and packings for these ports in the valve:

1) BRAKE A: adapter [30], ring [29], packing [28], and packing [27]

2) BRAKE B: adapter [30], ring [29], packing [28], and packing [27]

3) PRESS A: filter [24], ring [23], packing [22], packing [21]

4) PRESS B: filter [24], ring [23],packing [22] and packing [21]

5) PRESS C: adapter [10], ring [9], packing [8] and packing [7]

6) RETURN A: adapter [4], ring [3], packing [2], and packing [1]

a) For the valve [35] in the left wheel well, lubricate the valve [39].

7) RETURN B: adapter [4], ring [3], packing [2], and packing [1].

(b) Install the fittings and packings in these ports in the valve:

1) BRAKE A: adapter [30], ring [29], packing [28], and packing [27]

2) BRAKE B: adapter [30], ring [29], packing [28], and packing [27]

3) PRESS A: filter [24], ring [23],packing [22] and packing [21]

4) PRESS B: filter [24], ring [23],packing [22] and packing [21]

5) PRESS C: adapter [10], ring [9], packing [8], and packing [7]

6) RETURN A: adapter [4], ring [3], and packing [1]

a) For the valve [35] in the left wheel well, install the valve [39].

7) RETURN B: adapter [4], ring [3], packing [2], and packing [1].

SUBTASK 32-41-02-480-004

(4) Install caps on the fittings.

SUBTASK 32-41-02-420-001

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(5) Install the crank [16], on the input shaft of the valve [35]:

NOTE: The right crank [16] and the left crank [16] are different.

(a) Put the crank [16] on the input shaft of the valve [35].

(b) Apply a layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the bolt [18].

NOTE: Apply the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the entire bolt [18] except the head.

(c) Apply a layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the face of nut [20] that contacts washer [19].

(d) Install the bolt [18], washer [19], and nut [20]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

SUBTASK 32-41-02-420-002

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(6) Install the valve [35]:

(a) Hold the valve [35] in its position on the quadrant support assembly.

(b) Apply a layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the bolts [31].

NOTE: Apply the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the entire bolt [31] except the head.

(c) Install the bolts [31], and washers [32]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

SUBTASK 32-41-02-420-003

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(7) Do these steps to connect the rod [11].

(a) Install rigging pin LGB3 (left side) or rigging pin LGB4 (right side) in the rigging pin hole for the aft brake cable quadrant. The rigging pins are from rigging pin set, SPL-2532.

NOTE: The placard on the inside of the box for the rigging pin kit identifies the different rigging pins.

(b) Apply a layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the bolt [12].

NOTE: Apply the Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the entire bolt [12] except the head.

(c) Put the rod [11] in its position in the crank [16].

(d) Look at the alignment of the holes for bolt [12] in the crank [16] and rod [11].

1) If it is necessary, adjust the length of the rod [11] until you can easily install the bolt [12] and bushing [13].

(e) Install the bolt [12], bushing [13], washer [14], and nut [15]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

NOTE: The nut [15] must be the forward (bulkhead side) of the crank [16] and the bolt head on the aft (valve side) of the crank [16].

(f) Remove rigging pin LGB3 or LGB4.

SUBTASK 32-41-02-080-002

(8) Remove the caps on the valve assembly.

SUBTASK 32-41-02-080-003

(9) Remove the caps or plugs from all mating hydraulic tube [5], hydraulic tube [6], hydraulic tube [17], hydraulic tube [25], hydraulic tube [26], hydraulic tube [33], and hydraulic tube [34].

SUBTASK 32-41-02-420-004

(10) Connect the hydraulic tube [5], hydraulic tube [6], hydraulic tube [17], hydraulic tube [25], hydraulic tube [26], hydraulic tube [33], hydraulic tube [34] to the valve assembly (7 locations).

(a) If the elbows are not connected to the hydraulic tube [6], hydraulic tube [17], hydraulic tube [25], hydraulic tube [26] do these steps:

1) Connect the elbows to the hydraulic tube [6], hydraulic tube [17], hydraulic tube [25], hydraulic tube [26].

a) Tighten the B-nut on the hydraulic tube [6] to 270 ±14 in-lb (31 ±2 N·m).

b) Tighten the B-nuts on the hydraulic tube [17], hydraulic tube [25], hydraulic tube [26] to 500 ±25 in-lb (56 ±3 N·m).

(b) Tighten the B-nuts on the hydraulic tube [5], hydraulic tube [34] to 280 ±14 in-lb (32 ±2 N·m).

(c) Tighten the B-nut on the elbow connected to the hydraulic tube [6] to 140 ±7 in-lb (16 ±1 N·m).

(d) Tighten the B-nuts on the elbows connected to the hydraulic tube [17], hydraulic tube [25] to 270 ±14 in-lb (31 ±2 N·m).

(e) Tighten the B-nut on the elbow connected to the hydraulic tube [26] to 500 ±25 in-lb (56 ±3 N·m).

(f) Tighten the B-nut on the hydraulic tube [33] to 500 ±25 in-lb (56 ±3 N·m).

G. Brake Metering Valve (Normal/Alternate) Installation Test

SUBTASK 32-41-02-710-001

(1) Do a normal brake application check:

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Push the HYD button on the multifunction display select panel (MFD).

NOTE: The MFD is above the control lever for the landing gear in the flight compartment.

(c) Make sure the right hydraulic system shows 2900 psig (19,995 kPa)-3200 psig (22,063 kPa) on the MFD.

(d) Fully push the captain's brake pedals slowly six times to bleed air that entered the normal brake system.

(e) Fully push and hold the captain's brake pedals.

NOTE: The parking brake can be set to hold the pedals.

(f) Examine each brake's pistons to make sure that all brakes are engaged.

(g) Make sure there is no leakage from the valve [35] or fittings.

(h) Release the brake pedals (or parking brake).

(i) Make sure that the valve assembly has returned to the neutral position:

1) Install rigging pin LGB3 (left side) or rigging pin LGB4 (right side) in the rigging pin hole for the aft brake cable quadrant.

2) Remove rigging pin LGB3 or LGB4.

(j) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-41-02-710-002

(2) Do the alternate brake application check:

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Make sure the right hydraulic system is not pressurized (TASK 29-11-00-860-808).

(c) Push the HYD button on the multifunction display select panel (MFD).

NOTE: The MFD is above the control lever for the landing gear in the flight compartment.

(d) Make sure the center hydraulic system shows 2900 psig (19,995 kPa)-3200 psig (22,063 kPa) on the MFD.

(e) Fully push the captain's brake pedals slowly six times to bleed air that entered the alternate brake system.

(f) Fully push and hold the captain's brake pedals.

NOTE: The parking brake can be set to hold the brake pedals.

(g) Examine each brake's pistons to make sure that all brakes are engaged.

(h) Make sure there is no leakage from the valve assembly or fittings.

(i) Release the brake pedals (or parking brake).

(j) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-41-02-710-003

(3) Do a gear retract braking actuator check:

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) For the right and center hydraulic systems, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Push the HYD button on the multi-function display select panel (MFD).

NOTE: The MFD is above the control lever for the landing gear in the flight compartment.

(c) Make sure the right and center hydraulic system shows 2900 psig (19,995 kPa)-3200 psig (22,063 kPa) on the MFD.

(d) Push the LOCK OVRD button on the control module for the landing gear and hold it down.

NOTE: This releases the lock for the control lever.

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	MAKE SURE THAT THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. THE DOORS OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(e) Move the control lever for the landing gear to the UP position.

NOTE: This will open the doors for the nose and main landing gear.

(f) Release the LOCK OVRD button.

(g) Examine each brake's pistons to make sure that all brakes are engaged.

(h) Make sure there that the valve assembly does not produce noise or unusual sound.

(i) Move the control lever for the landing gear to the DN position.

(j) Examine each brake's pistons to make sure that all brakes are released.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-02-860-006

(1) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-41-02-410-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

BRAKE METERING VALVE ACTUATION/SUPPORT ASSEMBLY - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the brake metering valve actuation/support assembly

(2) An installation of the brake metering valve actuation/support assembly.

TASK 32-41-03-000-801

2. Brake Metering Valve Actuation/Support Assembly Removal

(Figure 401)

A. References

Reference	Title
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-41-02-000-801	Brake Metering Valve (Normal/Alternate) Removal (P/B 401)

B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

C. Prepare for the Removal

SUBTASK 32-41-03-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-03-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-41-03-020-001

(3) Do this task: Brake Metering Valve (Normal/Alternate) Removal, TASK 32-41-02-000-801.

SUBTASK 32-41-03-020-002

(4) Loosen the brake cable turnbuckles.

SUBTASK 32-41-03-020-003

(5) Disconnect the brake cables from the aft brake cable quadrant.

D. Brake Metering Valve Actuation/Support Assembly Removal

SUBTASK 32-41-03-020-004

(1) Remove the nut [5], the bolt [3], the bushing [13] and the washer [4] which hold the support rod [6] to the brake metering valve actuation/support module assembly [2].

SUBTASK 32-41-03-020-005

(2) Remove the nut [9], the bolt [7], the bushing [12], and the washer [8] which hold the support rod [10] to the brake metering valve actuation/support module assembly [2].

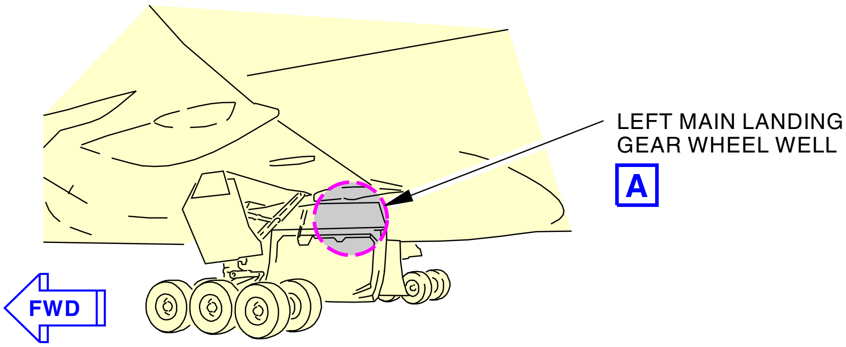
SUBTASK 32-41-03-020-006

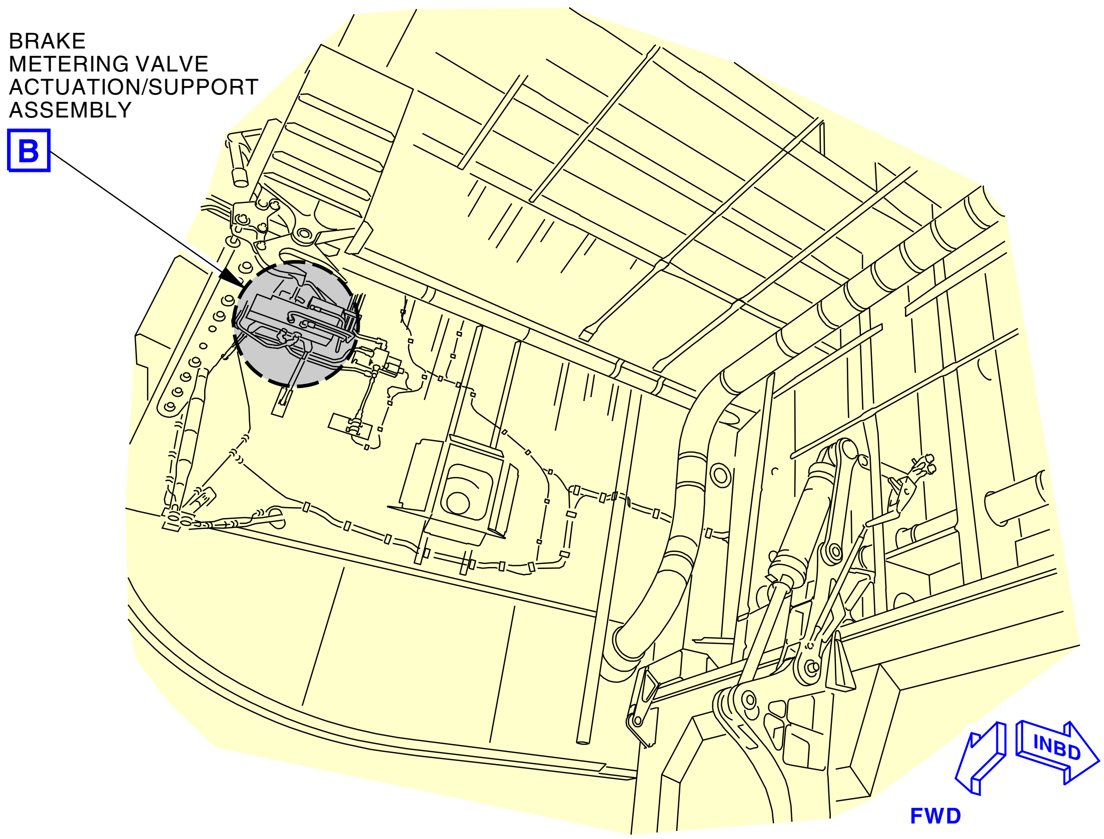
(3) Remove the bolts [1] and the washers [11] which hold the brake metering valve actuation/support module assembly [2] to the airplane.

SUBTASK 32-41-03-020-007

(4) Remove the brake metering valve actuation/support module assembly [2] from the airplane.

END OF TASK

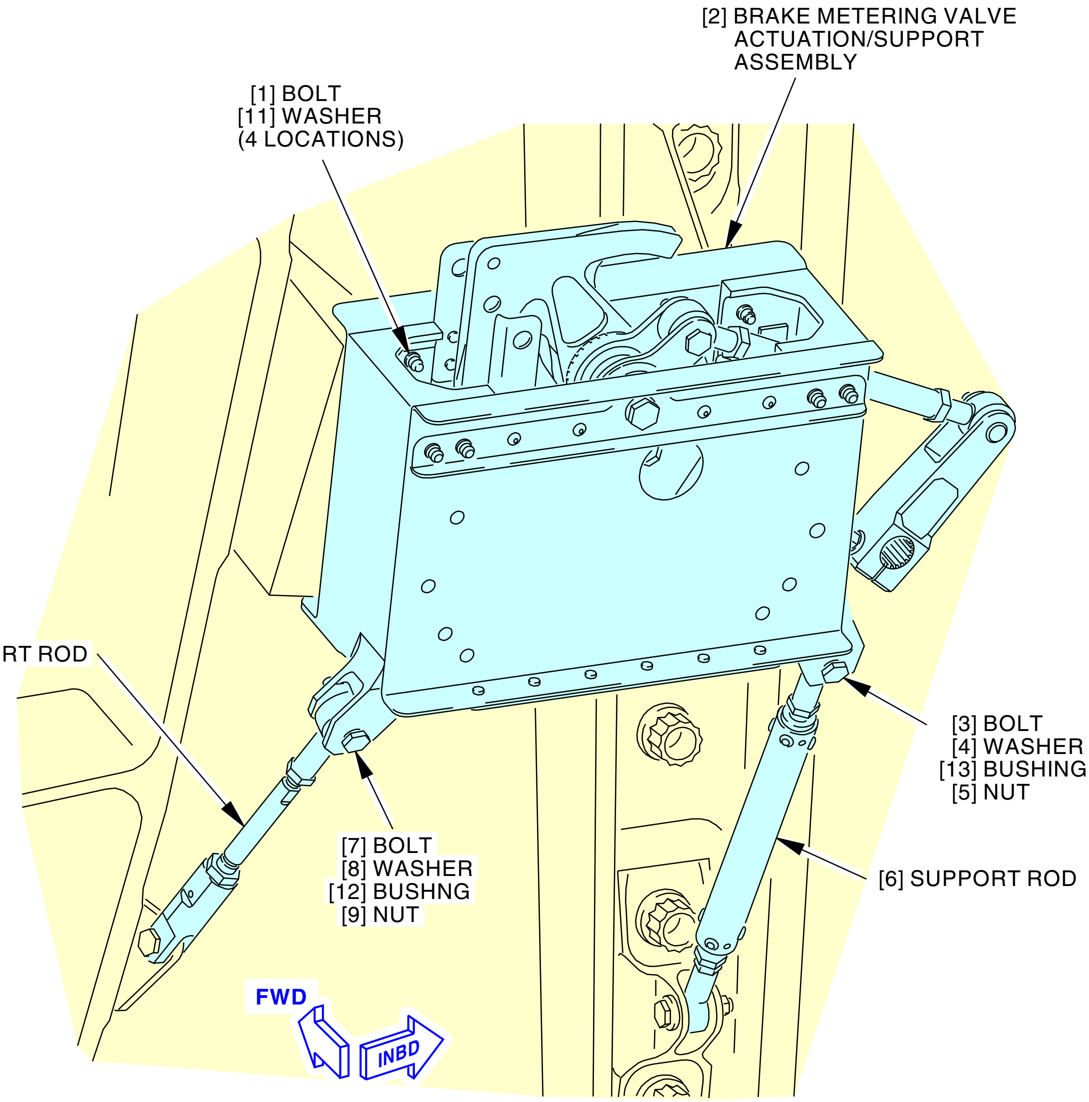




LEFT MAIN LANDING GEAR WHEEL WELL
(RIGHT SIDE EQUIVALENT)
A

E00133 S0006418870_V2

Brake Metering Valve Actuation/Support Assembly Installation
Figure 401/32-41-03-990-801 (Sheet 1 of 2)



BRAKE METERING VALVE
ACTUATION/SUPPORT ASSEMBLY

B

E00154 S0006418871_V2

Brake Metering Valve Actuation/Support Assembly Installation
Figure 401/32-41-03-990-801 (Sheet 2 of 2)

TASK 32-41-03-400-801

3. Brake Metering Valve Actuation/Support Assembly Installation

(Figure 401)

A. References

Reference	Title
20-11-00-910-801	Standard Torque Values (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-41-00-820-801	Brake Hydro-Mechanical Control System Adjustment (P/B 501)
32-41-02-400-801	Brake Metering Valve (Normal/Alternate) Installation (P/B 401)

B. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Module assembly	32-41-03-02-095	ARO ALL
		32-41-03-02-100	ARO ALL

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

E. Brake Metering Valve Actuation/Support Assembly Installation

SUBTASK 32-41-03-420-001

(1) Hold the brake metering valve actuation/support module assembly [2] against the airplane.

SUBTASK 32-41-03-420-002

(2) Install the bolts [1] and the washers [11] which hold the brake metering valve actuation/support module assembly [2] to the airplane.

SUBTASK 32-41-03-420-007

WARNING

USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(WARNING PRECEDES)

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the bolt [3] and the bolt [7].

SUBTASK 32-41-03-420-008

(4) Apply sealant, A00247 to the outside diameter of the bushing [12] and the bushing [13].

SUBTASK 32-41-03-420-003

(5) Install the bolt [7], the washer [8], the bushing [12], and the nut [9] which hold the support rod [10] to the brake metering valve actuation/support module assembly [2]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

SUBTASK 32-41-03-420-004

(6) Install the bolt [3], the washer [4], the bushing [13], and the nut [5] which hold the support rod [6] to the brake metering valve actuation/support module assembly [2]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

SUBTASK 32-41-03-420-005

(7) Connect the brake cables to the aft brake cable quadrant.

SUBTASK 32-41-03-420-006

(8) Do this task: Brake Metering Valve (Normal/Alternate) Installation, TASK 32-41-02-400-801.

SUBTASK 32-41-03-820-001

(9) Do this task: Brake Hydro-Mechanical Control System Adjustment, TASK 32-41-00-820-801.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-03-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

BRAKE ALTERNATE SOURCE SELECTOR VALVE - REMOVAL/INSTALLATION

1. General

A. This procedure contains scheduled maintenance task data.

B. This procedure has these tasks:

(1) A removal of the brake alternate source selector valve

(2) An installation of the brake alternate source selector valve

(3) An operational test of the brake alternate source selector valve.

C. In this procedure the brake alternate source selector valve will be referred to as the valve assembly [1].

TASK 32-41-04-000-801

2. Brake Alternate Source Selector Valve Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
117	Main Equipment Center, Left
143	Main Landing Gear Wheel Well, Left
211	Flight Compartment, Left

C. Prepare for the Removal

SUBTASK 32-41-04-480-003

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-04-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-41-04-480-001

(3) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-41-04-860-002

(4) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-41-04-860-003

(5) Release the parking brake.

SUBTASK 32-41-04-860-013

(6) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

Row	Col	Number	Name
B	3	C33610	MD & T CHANNEL 3

D. Brake Alternate Source Selector Valve Removal

SUBTASK 32-41-04-020-001

(1) Do the steps that follow to remove the valve assembly [1]:

NOTE: Make sure you leave all hydraulic tees and elbows on the hydraulic lines.

(a) Disconnect the hydraulic lines from the valve assembly [1].

(b) Install caps or plugs on the hydraulic lines.

(c) Disconnect the elecrtrical connector [2] from the switch [7].

(d) Remove the switch [7] from the valve assembly [1].

(e) Remove and discard the packing [8] from the switch [7].

(f) Remove the bolts [3] and washers [4].

(g) Remove the valve assembly [1] from the airplane.

SUBTASK 32-41-04-020-002

(2) If the valve assembly [1] you will install does not have reducer [5], union [9], reducer [11], and reducer [13] installed, do these steps:

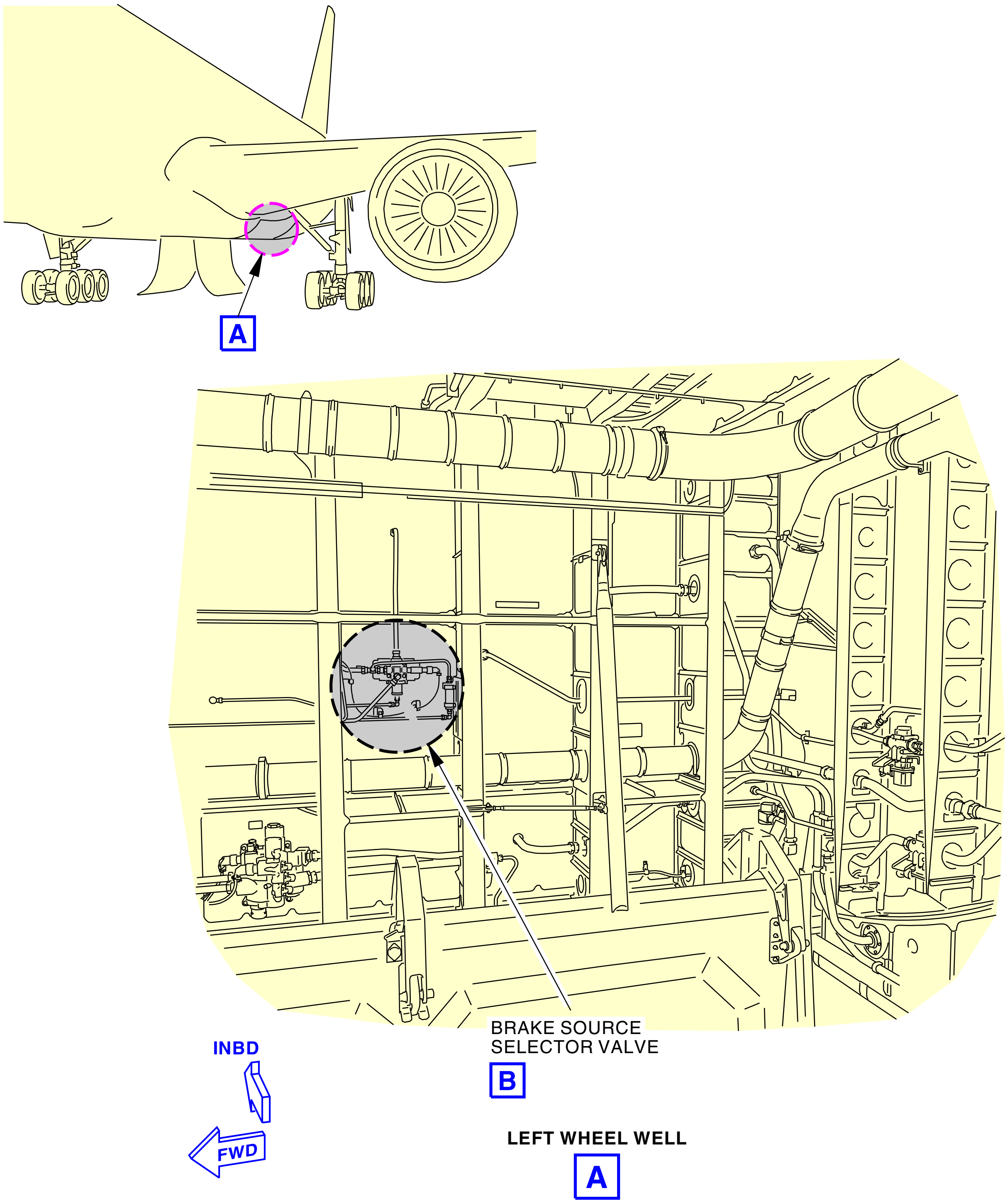
(a) Remove the reducer [5], union [9], reducer [11], reducer [13].

(b) Remove and discard the packing [6], packing [10], packing [12], and packing [14] from the applicable fitting.

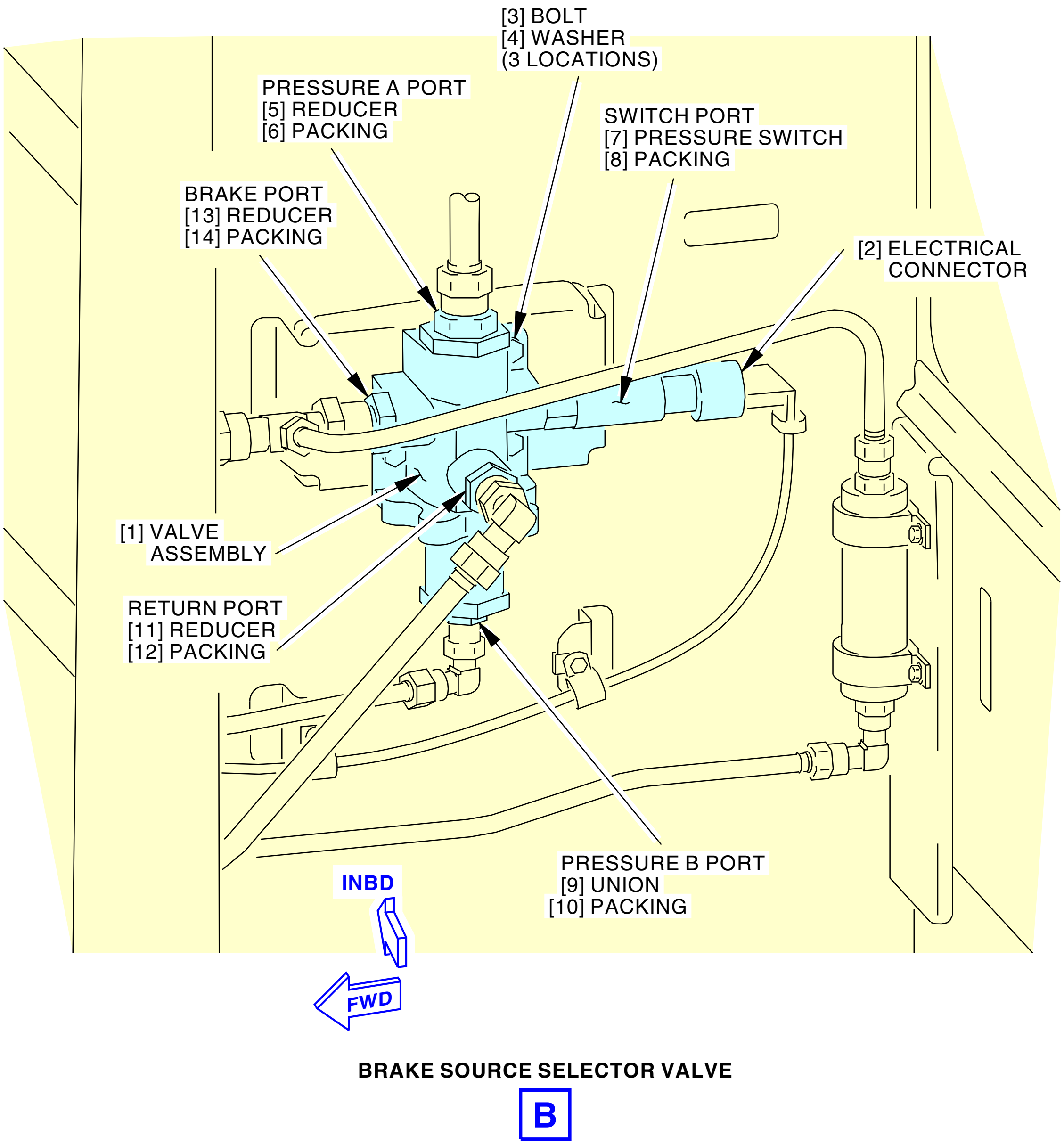
SUBTASK 32-41-04-480-002

(3) Install caps or plugs on the ports of the valve assembly [1].

END OF TASK



Brake Source Selector Valve Installation
Figure 401/32-41-04-990-801 (Sheet 1 of 2)



Brake Source Selector Valve Installation
Figure 401/32-41-04-990-801 (Sheet 2 of 2)

TASK 32-41-04-400-801

3. Brake Alternate Source Selector Valve Installation

(Figure 401)

A. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Valve assembly	32-41-04-01-005	ARO ALL
		32-41-04-01-040	ARO ALL
6	Packing	32-41-04-01-030	ARO ALL
8	Packing	32-41-04-01-025	ARO ALL
10	Packing	32-41-04-01-025	ARO ALL
12	Packing	32-41-04-01-025	ARO ALL
14	Packing	32-41-04-01-030	ARO ALL

D. Location Zones

Zone	Area
117	Main Equipment Center, Left
143	Main Landing Gear Wheel Well, Left
211	Flight Compartment, Left

E. Brake Alternate Source Selector Valve Installation

SUBTASK 32-41-04-020-003

(1) Remove the caps or plugs from the ports of the valve assembly [1].

SUBTASK 32-41-04-410-001

(2) If the reducer [5], switch [7], union [9], reducer [11] and reducer [13] are not installed in the valve assembly [1], do these steps:

(a) Lubricate the packing [6], packing [8], packing [10], packing [12], and packing [14] with hydraulic fluid, D00153.

(b) Install the packing [6] on the reducer [5], then install the reducer [5] in the PRESS A port of the valve assembly [1].

(c) Install the packing [8] on the switch [7], then install the switch [7] in the SWITCH port of the valve assembly [1].

(d) Install the packing [10] on the union [9], then install the union [9] in the PRESS B port of the valve assembly [1].

(e) Install the packing [12] on the reducer [11], then install the reducer [11] in the RETURN port of the valve assembly [1].

(f) Install the packing [14] on the reducer [13], then install the reducer [13] in the BRAKE port of the valve assembly [1].

SUBTASK 32-41-04-420-001

(3) Do the steps that follow to install the valve assembly [1]:

(a) Make sure the valve assembly [1] and the mounting bracket are clean.

(b) Hold the valve assembly [1] on the mounting bracket.

(c) Install the bolts [3] and washers [4].

(d) Connect the elecrtrical connector [2] to the valve assembly [1].

(e) Remove the caps or plugs from the applicable hydraulic lines.

(f) Connect the hydraulic lines to the valve assembly [1].

NOTE: Make sure that all hydraulic elbows and tees connected to the hydraulic lines.

1) Tighten the B-nuts on the PRESS A and BRAKE ports to 700 ±35 in-lb (79 ±4 N·m).

2) Tighten the B-nut on the RETURN port to 500 ±25 in-lb (56 ±3 N·m).

3) Tighten the B-nut on the PRESS B port to 270 ±14 in-lb (31 ±2 N·m).

SUBTASK 32-41-04-860-014

(4) Remove the safety tag and close this circuit breaker:

Standby Power Management Panel, P310

Row	Col	Number	Name
B	3	C33610	MD & T CHANNEL 3

SUBTASK 32-41-04-790-001

(5) Do a leak check of the selector valve:

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) For the right and the center hydraulic systems, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Make sure there is no leakage from the valve assembly [1].

(c) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

(d) Make sure there is no leakage from the valve assembly [1].

(e) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(f) Do a leak check of the RETURN port of the valve assembly [1].

1) Push the LOCK OVRD button on the control module for the landing gear and hold it down.

NOTE: This releases the lock for the control lever.

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

2) Move the landing gear control lever to the UP position.

3) Release the LOCK OVRD button.

4) Make sure there is no leakage from the valve assembly [1].

5) Examine each brake's pistons to make sure that all of the brakes operated.

6) Move the landing gear control lever to the DN position.

7) Make sure there is no leakage from the valve assembly [1].

8) Examine each brake's pistons to make sure that all of the brakes released.

(g) For the right and the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-04-860-004

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801

SUBTASK 32-41-04-860-005

(2) Fully push the captain's brake pedals and set the parking brake.

SUBTASK 32-41-04-860-006

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-41-04-860-007

(4) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

TASK 32-41-04-710-801

4. Brake Alternate Source Selector Valve - Installation Test

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This installation test does a check of the brake alternate source selector valve.

B. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
211	Flight Compartment, Left

D. Prepare for the Procedure

SUBTASK 32-41-04-480-005

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-04-860-009

WARNING: KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) For the right and center hydraulic systems, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-41-04-720-001

(3) To show the LANDING GEAR BRKS/STRNG maintenance page on the multi-function display (MFD), do this task: Showing a Maintenance Page, TASK 31-61-00-800-804.

E. Procedure

SUBTASK 32-41-04-720-002

(1) Fully push and hold the captain's brake pedals.

NOTE: The parking brake can be set to hold the pedals.

SUBTASK 32-41-04-720-003

(2) Make sure the NORM brake metered pressure shows 2800 - 3200 psig (19,300 - 22,100 kPa) on the LANDING GEAR BRKS/STRNG maintenance page.

SUBTASK 32-41-04-720-004

(3) Make sure the ALTN brake metered pressure shows 0 - 160 psig (0 - 1,100 kPa) on the LANDING GEAR BRKS/STRNG maintenance page.

SUBTASK 32-41-04-720-005

(4) Release the captain's brake pedals (or parking brake).

SUBTASK 32-41-04-860-010

(5) For the right hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

NOTE: Do not use the brake pedals until the system is depressurized.

SUBTASK 32-41-04-720-006

(6) Fully push and hold the captain's brake pedals.

NOTE: The parking brake can be set to hold the pedals.

SUBTASK 32-41-04-720-007

(7) Make sure the NORM brake metered pressure shows 0 - 160 psig (0 - 1,100 kPa) on the LANDING GEAR BRKS/STRNG maintenance page.

SUBTASK 32-41-04-720-008

(8) Make sure the ALTN brake metered pressure shows 2800 - 3200 psig (19,300 - 22,100 kPa)on the LANDING GEAR BRKS/STRNG maintenance page.

SUBTASK 32-41-04-720-009

(9) Release the captain's brake pedals (or parking brake).

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-04-860-011

(1) Put the MFD back to its normal condition so that it shows the EICAS engine secondary information.

SUBTASK 32-41-04-860-012

(2) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

——— END OF TASK ———

BRAKE ACCUMULATOR ISOLATION VALVE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the brake accumulator isolation valve

(2) An installation of the brake accumulator isolation valve.

(3) The brake accumulator isolation valve is referred to as the valve assembly [15] in this procedure.

TASK 32-41-05-000-801

2. Brake Accumulator Isolation Valve Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
144	Main Landing Gear Wheel Well, Right

C. Prepare for the Removal

SUBTASK 32-41-05-480-003

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-05-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-41-05-480-001

(3) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-41-05-860-001

(4) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-41-05-860-002

(5) Release the parking brake.

SUBTASK 32-41-05-860-003

(6) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

D. Accumulator Isolation Valve Removal

SUBTASK 32-41-05-020-001

(1) Do these steps to remove the valve assembly [15]:

(a) Make sure you leave all hydraulic tees on the hydraulic lines.

(b) Disconnect the hydraulic tube [1], hydraulic tube [4], hydraulic tube [7], and hydraulic tube [12] from the valve assembly [15].

(c) Install caps or plugs on the hydraulic tube [1], hydraulic tube [4], hydraulic tube [7], and hydraulic tube [12].

(d) Remove the bolts [10] and washers [11] that attach the valve assembly [15] to the mounting bracket.

(e) Remove the valve assembly [15] from the airplane.

SUBTASK 32-41-05-020-002

(2) If the replacement valve assembly [15] does not have hydraulic fittings installed, do these steps:

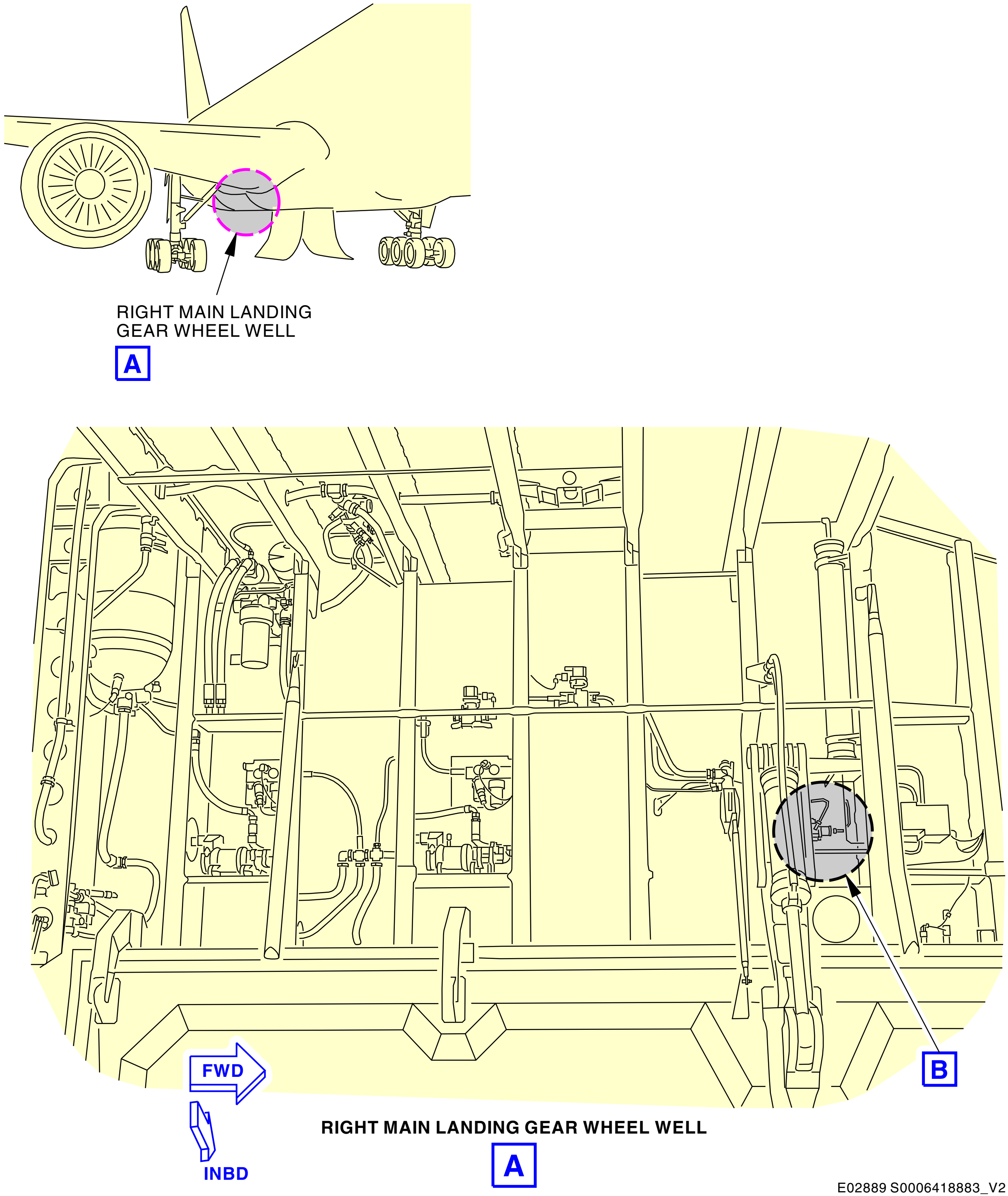
(a) Remove the union [2], union [5], union [8], reducer [13], and reducer [16] from the ports in the valve assembly [15].

(b) Remove and discard the packing [3], packing [6], packing [9], packing [14], packing [17].

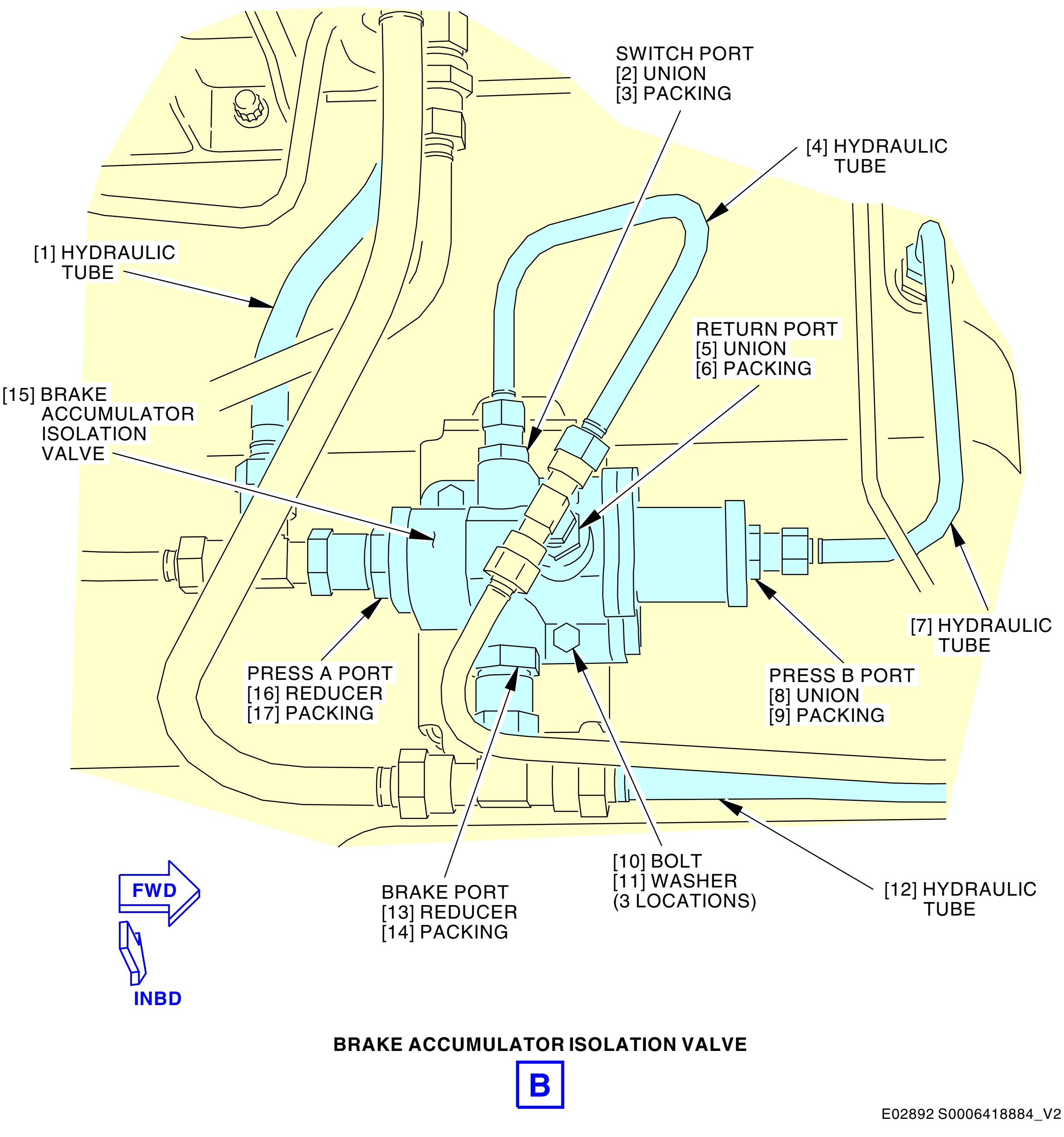
SUBTASK 32-41-05-480-002

(3) Install caps or plugs on the ports of the valve assembly [15].

——— END OF TASK ———



Brake Accumulator Isolation Valve Installation
Figure 401/32-41-05-990-801 (Sheet 1 of 2)



Brake Accumulator Isolation Valve Installation
Figure 401/32-41-05-990-801 (Sheet 2 of 2)

TASK 32-41-05-400-801

3. **Brake Accumulator Isolation Valve Installation**

(Figure 401)

A. **References**

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

B. **Consumable Materials**

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

C. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Packing	32-41-05-01-020	ARO ALL
6	Packing	32-41-05-01-020	ARO ALL
9	Packing	32-41-05-01-020	ARO ALL
14	Packing	32-41-05-01-025	ARO ALL
15	Valve assembly	32-41-05-01-005	ARO ALL
17	Packing	32-41-05-01-025	ARO ALL

D. **Location Zones**

Zone	Area
144	Main Landing Gear Wheel Well, Right

E. **Accumulator Isolation Valve Installation**

SUBTASK 32-41-05-080-001

(1) Remove the caps or plugs on the ports of the valve assembly [15].

SUBTASK 32-41-05-410-002

(2) If the union [2], union [5], union [8], reducer [13], and reducer [16] are not installed in the valve assembly [15], do these steps:

(a) Lubricate the packing [3], packing [6], packing [9], packing [14], and packing [17] with hydraulic fluid, D00153.

(b) Install the packing [17] on the reducer [16], then install the reducer [16] in the PRESS A port of the valve assembly [15].

(c) Install the packing [3] on the union [2], then install the union [2] in the SWITCH port of the valve assembly [15].

(d) Install the packing [9] on the union [8], then install the union [8] in the PRESS B port of the valve assembly [15].

(e) Install the packing [6] on the union [5], then install the union [5] in the RETURN port of the valve assembly [15].

(f) Install the packing [14] on the reducer [13], then install the reducer [13] in the BRAKE port of the valve assembly [15].

SUBTASK 32-41-05-420-002

(3) Do these steps to install the valve assembly [15]:

(a) Make sure the valve assembly [15] and the mounting bracket are clean.

(b) Hold the valve assembly [15] on the mounting bracket.

(c) Install the bolts [10] and washers [11].

(d) Remove the caps or plugs from mating hydraulic tube [1], hydraulic tube [4], hydraulic tube [7], and hydraulic tube [12].

(e) Connect the hydraulic tube [1], hydraulic tube [4], hydraulic tube [7], and hydraulic tube [12] to the valve assembly [15].

1) Make sure that all the hydraulic tees are connected to the hydraulic lines.

2) Tighten the B-nuts on the hydraulic lines connected to the SWITCH, PRESS B and RETURN ports to 270 ±14 in-lb (31 ±2 N·m).

3) Tighten the B-nuts on the hydraulic lines connected to the PRESS A and BRAKE ports to 700 ±35 in-lb (79 ±4 N·m).

F. Accumulator Isolation Valve Installation Test

SUBTASK 32-41-05-710-002

(1) Do the steps that follow to make sure the brake accumulator does not leak:

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) For the right and the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Make sure the PRESS A, PRESS B, and the BRAKE hydraulic connections on the accumulator isolation valve do not leak.

(c) For the right and center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

(d) Make sure the SWITCH and the RETURN hydraulic connections on the accumulator isolation valve do not leak.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-05-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

BRAKE DISCONNECT - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has these tasks:

      (1) A removal of the brake disconnect

      (2) An installation of the brake disconnect.

   B. In this procedure, the brake disconnect is referred to in two different ways. The part of the brake disconnect that is attached to the hose is called the coupling (hose half) [1]. The part of the brake disconnect that is attached to the brake is called the coupling (brake half) [6].

   C. The brake disconnects are installed on each main landing gear brake.

TASK 32-41-06-000-801

2. **Brake Disconnect Removal**

   (Figure 401)

   A. **References**

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   B. **Location Zones**

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

   C. **Prepare for the Removal**

SUBTASK 32-41-06-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

      (1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-06-860-001

      (2) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-41-06-480-002

      (3) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-41-06-860-002

      (4) Release the parking brake.

SUBTASK 32-41-06-860-003

      (5) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-41-06-020-005

      (6) Disconnect the coupling (hose half) [1] from the coupling (brake half) [6]:

(a) Pull up on the barrel [7] of the coupling (hose half) [1].

(b) Turn the barrel [7] counterclockwise to disconnect the coupling (hose half) [1] from the coupling (brake half) [6].

D. Brake Disconnect Removal (Hose Half)

SUBTASK 32-41-06-020-001

(1) Disconnect the hydraulic hose from the coupling (hose half) [1].

SUBTASK 32-41-06-480-003

(2) Install a plug on the hydraulic hose.

E. Brake Disconnect Removal (Brake Half)

SUBTASK 32-41-06-020-002

(1) Remove the bolt [2] and washer [3] which hold the coupling (brake half) [6] to the brake.

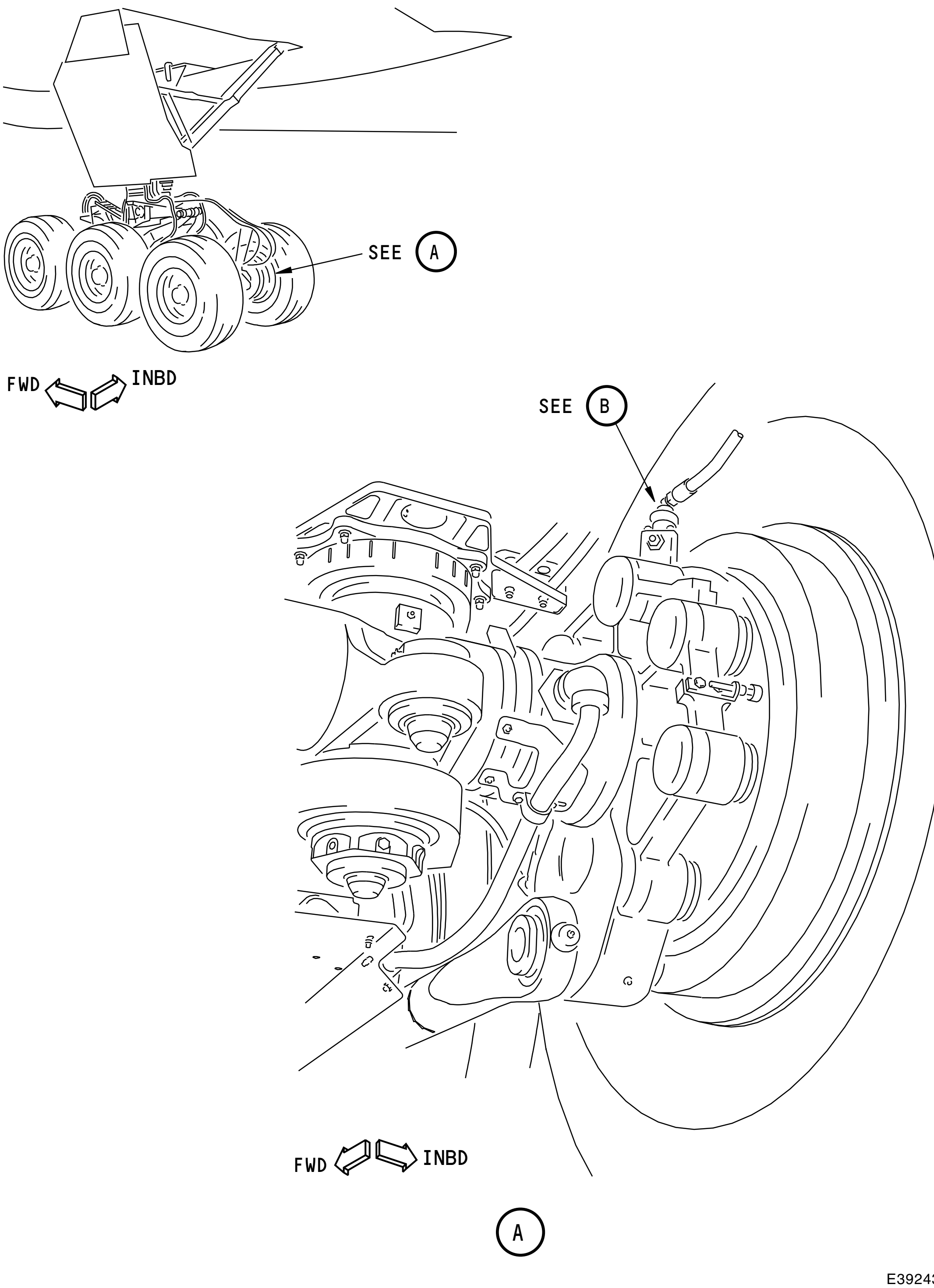
SUBTASK 32-41-06-020-003

(2) Remove the coupling (brake half) [6] from the brake.

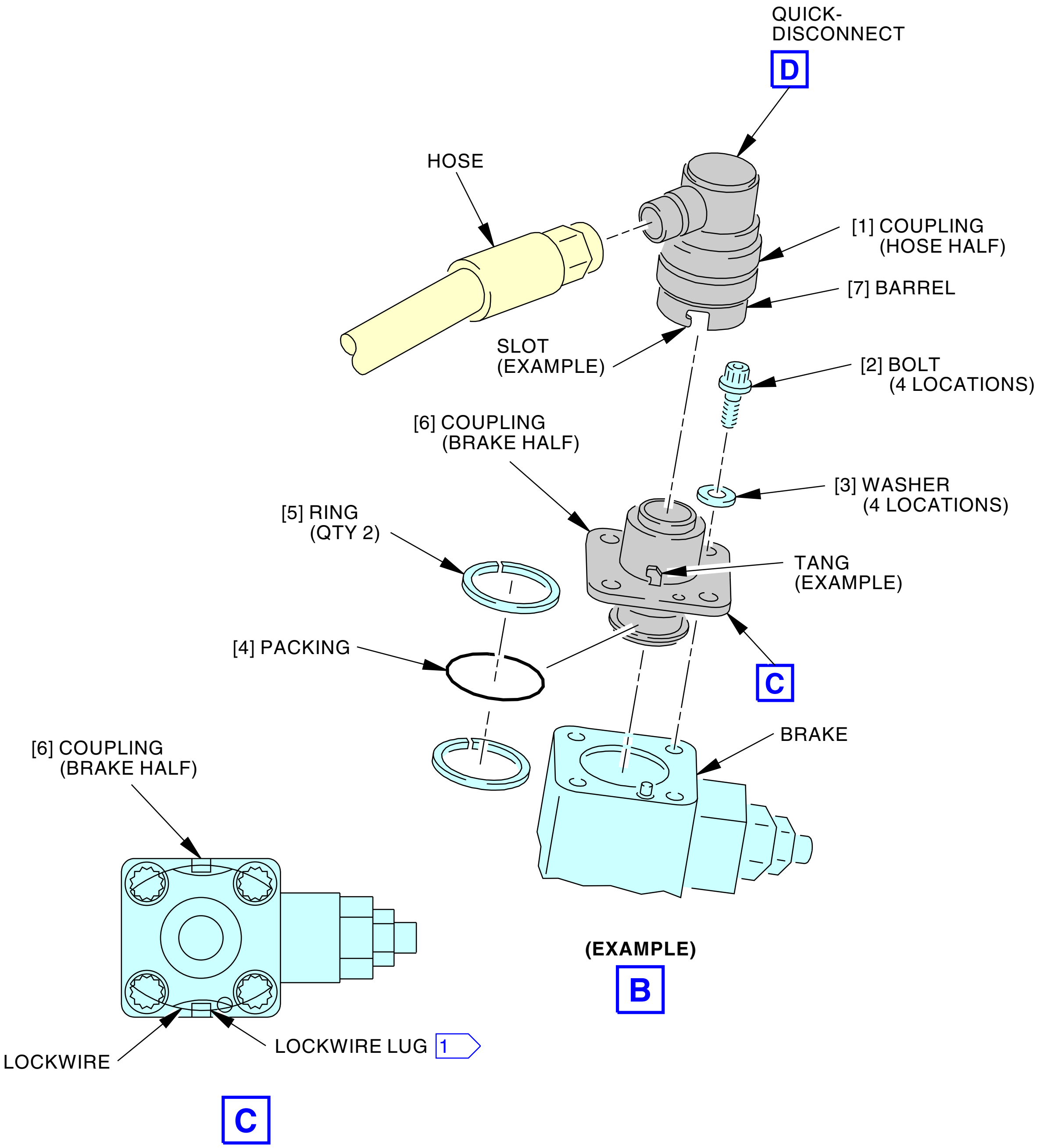
SUBTASK 32-41-06-020-004

(3) Remove and discard the packing [4].

——— END OF TASK ———



Brake Disconnect Installation
Figure 401/32-41-06-990-801 (Sheet 1 of 3)



1 MAKE SURE THE LOCKWIRE IS ROUTED THROUGH THE LOCKWIRE LUG. THIS PREVENTS INTERFERENCE BETWEEN LOCKWIRE AND BRAKE DISCONNECT COUPLING.

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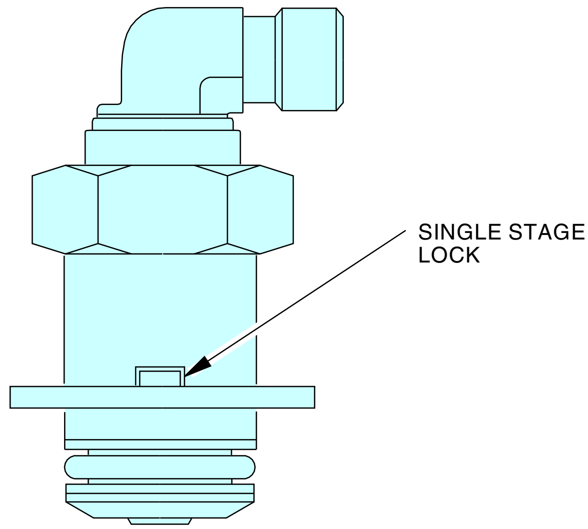
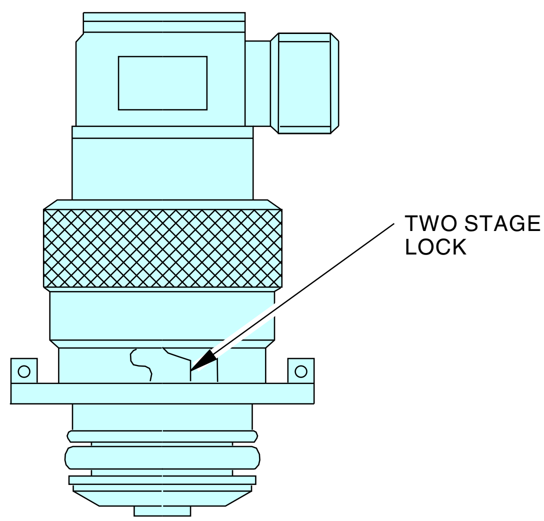
Brake Disconnect Installation
Figure 401/32-41-06-990-801 (Sheet 2 of 3)



**SINGLE STAGE
QUICK-DISCONNECT**

D



**TWO STAGE
QUICK-DISCONNECT**

D

G99953 S0006418892_V2

**Brake Disconnect Installation
Figure 401/32-41-06-990-801 (Sheet 3 of 3)**

TASK 32-41-06-400-801

3. Brake Disconnect Installation

(Figure 401)

A. General

(1) Some brakes and brake hose assemblies have different quick disconnect assemblies installed on them. Some quick disconnects have a hook shaped tang and slot, called a two stage lock, while other disconnects have a square shaped tang and slot, called a single stage lock. Make sure that you install the correct disconnect half for the mating disconnect half that is already installed on the airplane (Figure 401).

B. References

Reference	Title
29-11-00-200-804	Main Hydraulic Systems External Leakage Check (P/B 601)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-41-00-870-801	Alternate Hydraulic Brake System - Bleeding (P/B 201)
32-41-00-870-802	Normal Hydraulic Brake System - Bleeding (P/B 201)

C. Consumable Materials

Reference	Description	Specification
D00571	Grease - BATCO X8401-2	

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
4	Packing	32-45-07-05B-035	ARO ALL

E. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Brake Disconnect Installation

SUBTASK 32-41-06-420-002

(1) Brake Disconnect Installation (Hose Half):

(a) Remove the plug from the hydraulic hose.

(b) Apply a thin layer of BATCO X8401-2 grease, D00571, to the hydraulic hose threads and coupling (hose half) [1] threads.

(c) Connect the hydraulic hose to the coupling (hose half) [1].

(d) Tighten the B-nut on the hydraulic hose to 270 ±14 in-lb (31 ±2 N·m).

SUBTASK 32-41-06-420-003

(2) Brake Disconnect Installation (Brake Half):

(a) Lubricate the upper and the lower (shafts and flat surfaces of brake half) of the coupling (brake half) [6], packing [4], and ring [5] with BATCO X8401-2 grease, D00571.

(b) Install the new packing [4] and ring [5] on the coupling (brake half) [6].

(c) Install the coupling (brake half) [6] on the brake.

(d) Apply BATCO X8401-2 grease, D00571, to the bolt [2] and washer [3].

(e) Install the bolt [2] and washer [3] which hold the coupling (brake half) [6] to the brake.

(f) Install the bolt [2] and washer [3] which hold the coupling (brake half) [6] to the brake.

(g) Tighten the bolt [2] to 68 in-lb (8 N·m) - 83 in-lb (9 N·m).

(h) Safety the coupling (brake half) [6] to the brake housing with the lockwire.

1) Make sure that the bolts are safety wired in pairs.

2) Put the lockwire for each bolt pair through the lockwire lug on the brake disconnect fitting to prevent interference between the lockwire and the two halves of the disconnect fitting.

SUBTASK 32-41-06-420-001

(3) Connect the coupling (hose half) [1] to the coupling (brake half) [6] on the brake:

(a) Install the coupling (hose half) [1] on the coupling (brake half) [6]:

1) Turn the coupling (hose half) [1] until the internal tangs align with the slots inside the coupling (brake half) [6] and you can push the coupling (hose half) [1] down.

2) Push down on the barrel [7] and turn it clockwise to engage the threads.

3) Turn the barrel [7] clockwise until the slots in the bottom of the barrel snap into place on the external tangs on the coupling (brake half) [6].

(b) Do a visual check to make sure the slots on coupling (hose half) [1] are fully and correctly engaged with the tangs on the coupling (brake half) [6].

G. Brake Disconnect Installation Test

SUBTASK 32-41-06-870-001

(1) To bleed air from the brake lines, do these steps:

(a) Do this task: Normal Hydraulic Brake System - Bleeding, TASK 32-41-00-870-802.

(b) Do this task: Alternate Hydraulic Brake System - Bleeding, TASK 32-41-00-870-801.

SUBTASK 32-41-06-860-004

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(2) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801

SUBTASK 32-41-06-860-005

(3) Fully push and hold the captain's brake pedals.

NOTE: You can set the parking brake to hold the pedals.

SUBTASK 32-41-06-790-001

(4) Do a check of the coupling (hose half) [1] and coupling (brake half) [6] for leaks.

SUBTASK 32-41-06-790-003

(5) If there are leaks in the hose half of the brake quick disconnect, refer to the hydraulic system external leakage limits for static seals (TASK 29-11-00-200-804).

SUBTASK 32-41-06-790-002

(6) Release the captain's brake pedals (or parking brake).

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-06-860-006

(1) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

———— END OF TASK ————

BRAKE ACCUMULATOR - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has these tasks:

      (1) A removal of the brake accumulator

      (2) An installation of the brake accumulator.

   B. In this procedure the brake accumulator [9] is installed on the forward upper center panel of the right wheel well.

TASK 32-41-07-000-801

2. **Brake Accumulator Removal**

   (Figure 401)

   NOTE: This procedure is a scheduled maintenance task.

   A. **References**

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   B. **Location Zones**

Zone	Area
144	Main Landing Gear Wheel Well, Right

   C. **Prepare for the Removal**

SUBTASK 32-41-07-480-002

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-07-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-41-07-480-001

(3) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-41-07-860-001

(4) Do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-41-07-860-002

(5) Release the parking brake.

SUBTASK 32-41-07-860-003

(6) Fully push the captain's brake pedals twelve times to remove the hydraulic pressure from the accumulator.

D. Accumulator Removal

SUBTASK 32-41-07-840-001

(1) Do these steps to remove the gas pressure from the brake accumulator [9]:

(a) Remove the cap [4] from the brake accumulator charging valve [3].

WARNING DO NOT LOOSEN THE BODY OF THE HYDRAULIC ACCUMULATOR CHARGING VALVE. THE PRESSURE IN THE HYDRAULIC ACCUMULATORS CAN QUICKLY PUSH THE CHARGING VALVE OFF THE MANIFOLD ASSEMBLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(b) Turn the outer nut [2] of the brake accumulator charging valve [3] one turn counterclockwise.

NOTE: This will release the gas pressure from the accumulator.

(c) Make sure the brake accumulator pressure gauge [1] goes to zero.

SUBTASK 32-41-07-020-001

(2) Do these steps to remove the brake accumulator [9]:

(a) Disconnect the hydraulic tube [5] from the top (fluid port) of the brake accumulator [9].

(b) Put a plug in the hydraulic tube.

(c) Disconnect the gas line [13] from the bottom of the brake accumulator [9].

(d) Put a cap on the gas line [13].

(e) Put caps on the reducer [6] and reducer [11] on the brake accumulator [9].

(f) Loosen the clamp [8] and clamp [10] which hold the brake accumulator [9] to the center panel of the right wheel well.

(g) Open the clamps.

(h) Remove the brake accumulator [9] from the airplane.

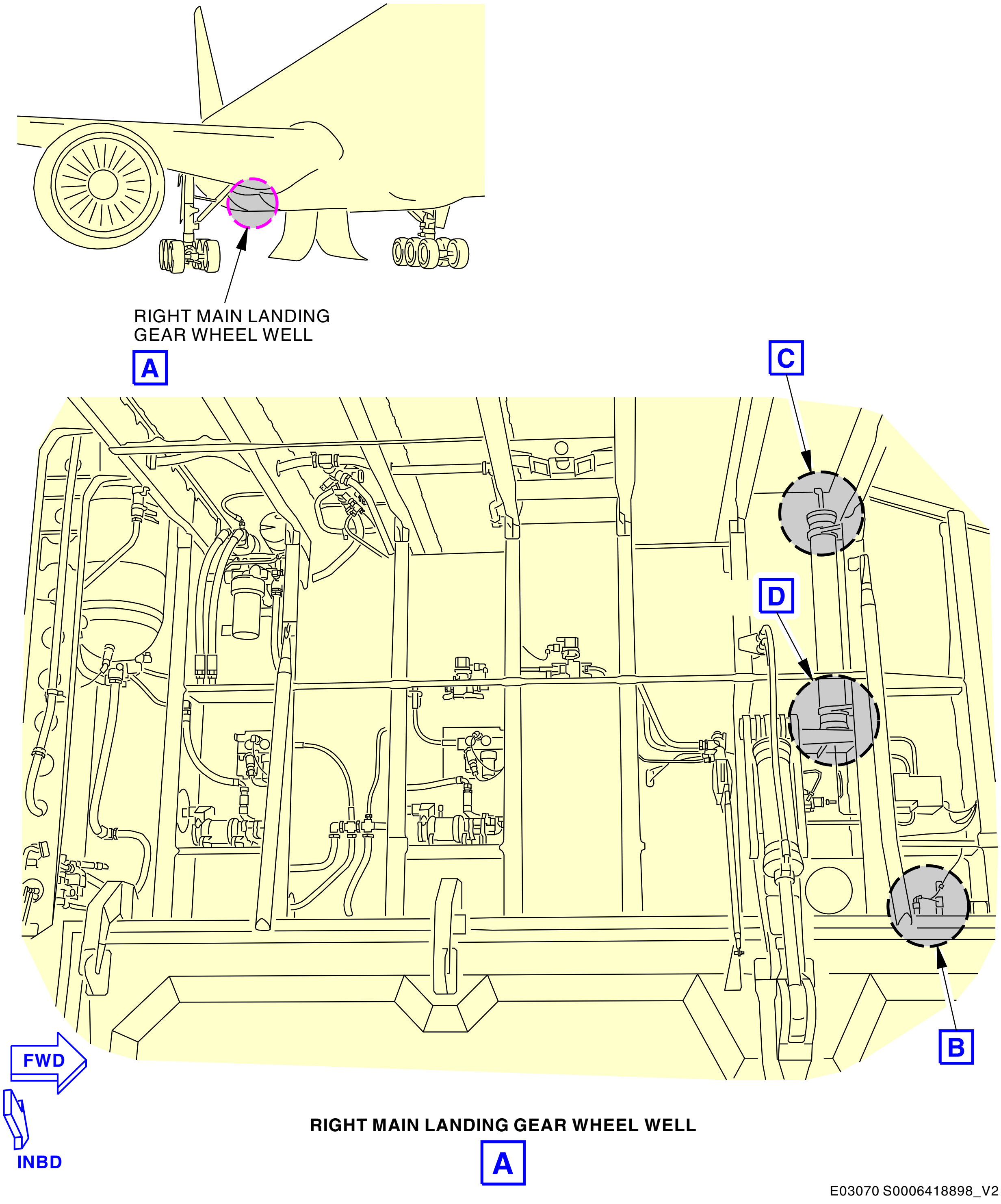
SUBTASK 32-41-07-020-002

(3) If the replacement brake accumulator [9] that you will install does not have fittings installed, do these steps:

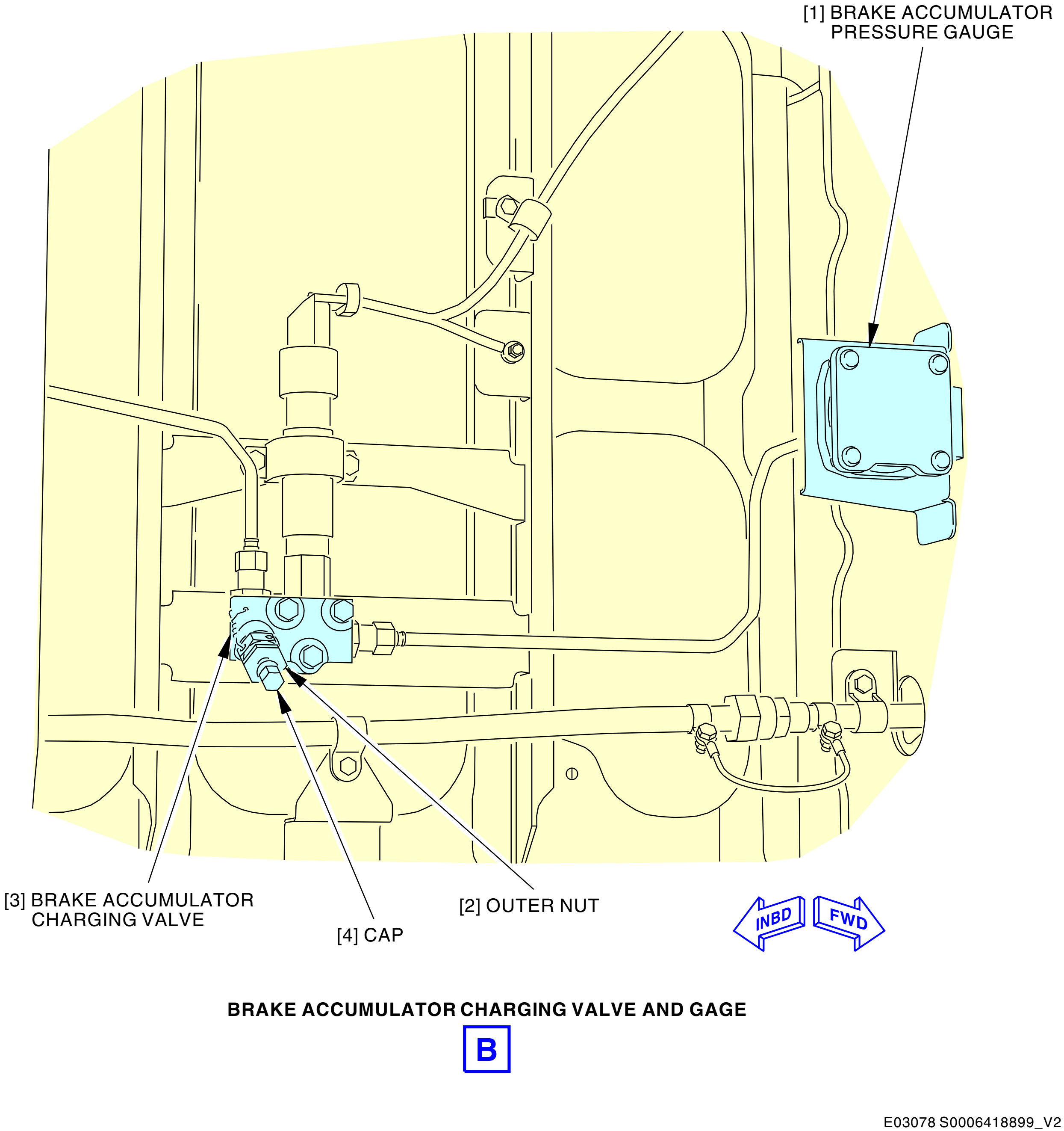
(a) Remove the reducer [6] and reducer [11], and packing [7] and packing [12] from the ports in the brake accumulator [9].

(b) Discard the packing [7] and packing [12].

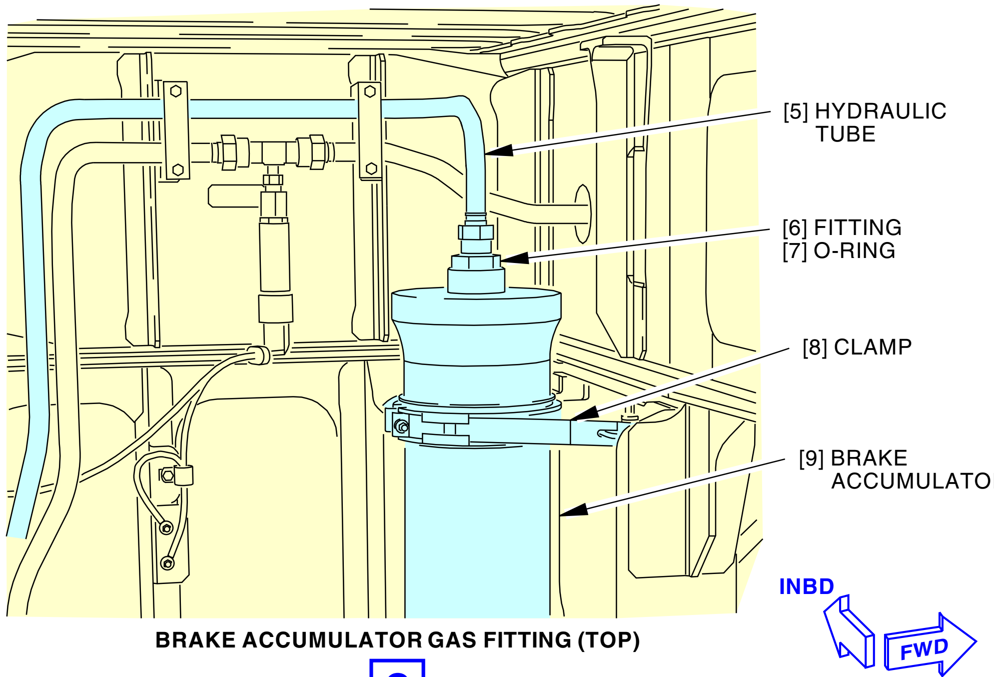
END OF TASK



Brake Accumulator Installation
Figure 401/32-41-07-990-801 (Sheet 1 of 3)

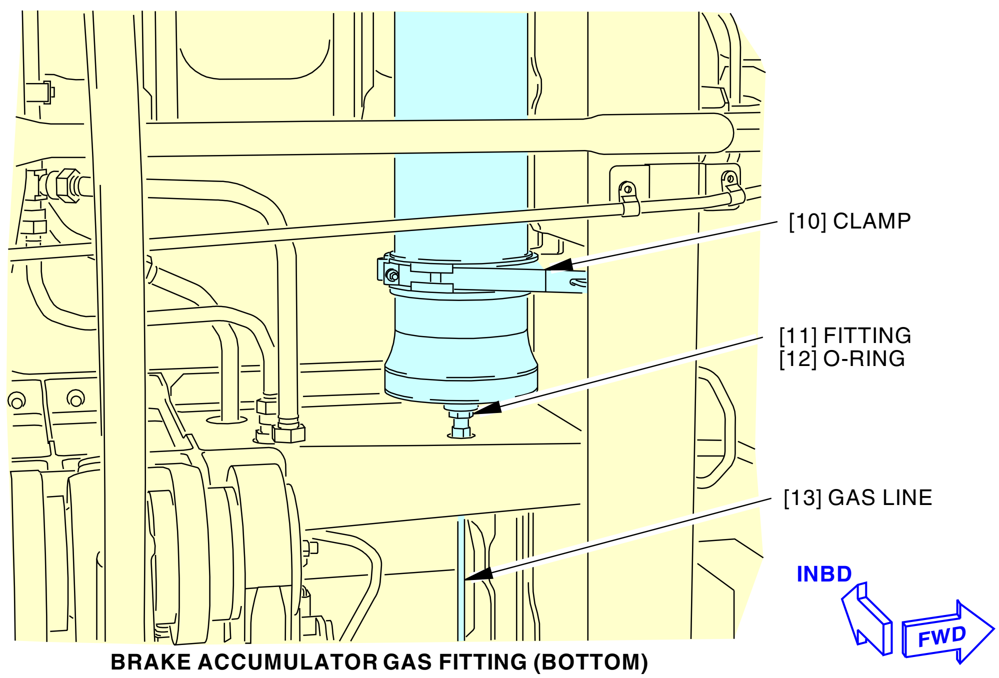


Brake Accumulator Installation
Figure 401/32-41-07-990-801 (Sheet 2 of 3)



BRAKE ACCUMULATOR GAS FITTING (TOP)

C



BRAKE ACCUMULATOR GAS FITTING (BOTTOM)

D

E03086 S0006418900_V2

Brake Accumulator Installation
Figure 401/32-41-07-990-801 (Sheet 3 of 3)

TASK 32-41-07-400-801

3. Brake Accumulator Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
12-15-04-610-802	Brake Accumulator Servicing (P/B 301)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
7	Packing	32-41-07-01-020	ARO ALL
9	Brake accumulator	32-41-07-01-025	ARO ALL
		32-41-09-01-035	ARO ALL
12	Packing	32-41-07-01-015	ARO ALL

D. Location Zones

Zone	Area
144	Main Landing Gear Wheel Well, Right

E. Accumulator Installation

SUBTASK 32-41-07-080-001

(1) Remove the caps or plugs on the ports of the brake accumulator [9].

SUBTASK 32-41-07-420-001

(2) If the replacement brake accumulator [9] does not have a hydraulic fitting installed in the port, do these steps:

(a) Lubricate the reducer [6] and new packing [7] with hydraulic fluid, D00153.

(b) Install the new packing [7] onto the reducer [6] and the reducer [6] into the FLUID port of the brake accumulator [9].

(c) Lubricate the reducer [11] and new packing [12] with hydraulic fluid, D00153.

(d) Install the new packing [12] onto the reducer [11] and the reducer [11] into the GAS port of the brake accumulator [9].

SUBTASK 32-41-07-420-002

(3) Do these steps to install the brake accumulator [9]:

(a) Put the brake accumulator [9] in its position in the clamp [8] and clamp [10].

(b) Align the gas line [13] from the brake accumulator charging valve [3] and the reducer [11] on the bottom of the brake accumulator [9].

(c) Tighten the fastener on each clamp to 60.0 in-lb (6.8 N·m) - 90.0 in-lb (10.2 N·m).

(d) Connect the gas line [13] from the accumulator charging valve to the reducer [11] on the bottom end of the brake accumulator [9].

(e) Connect the hydraulic tube [5] to the reducer [6] on the top of the brake accumulator [9].

NOTE: Make sure that the elbow is connected to the hydraulic tube [5].

1) Tighten the B-nut on the hydraulic tube [5] to 1200 ±60 in-lb (136 ±7 N·m).

SUBTASK 32-41-07-610-002

(4) Do this task: Brake Accumulator Servicing, TASK 12-15-04-610-802.

F. Accumulator Installation Test

SUBTASK 32-41-07-710-001

(1) Do these steps to do an operational test of the brake accumulator [9]:

(a) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

(b) Push and release the brake pedals fully a minimum of seven times.

(c) Examine each brake's piston to make sure that all brakes engaged and then released.

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(d) For the right and center hydraulic systems, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(e) Make sure the brake accumulator pressure gage shows approximately 3000 psig (20,684 kPa).

(f) Do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-07-410-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

BRAKE ACCUMULATOR PRESSURE GAGE (WHEEL WELL) - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the brake accumulator pressure gage (wheel well)

(2) An installation of the brake accumulator pressure gage (wheel well).

B. In this procedure the brake accumulator pressure gage is referred to as the gage assembly [4] and is installed on the forward lower center panel of the right wheel well.

TASK 32-41-08-000-801

2. Brake Accumulator Pressure Gage (Wheel Well) Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Tools/Equipment

Reference	Description
STD-1130	Cap - Protective, Flareless Tube, 1/2-20 Thread
STD-1131	Plug - Protective, Flareless Tube, 1/2-20 Thread

C. Location Zones

Zone	Area
144	Main Landing Gear Wheel Well, Right

D. Prepare for the Removal

SUBTASK 32-41-08-480-002

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-08-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-41-08-480-001

(3) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-41-08-860-001

(4) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-41-08-860-002

(5) Release the parking brake.

SUBTASK 32-41-08-860-003

(6) Fully push the captain's brake pedals twelve times to remove the hydraulic pressure from the brake accumulator.

E. Brake Accumulator Pressure Gage Removal

SUBTASK 32-41-08-840-001

(1) Do these steps to remove the gas pressure from the brake accumulator:

(a) Remove the cap [16] from the brake accumulator charging valve [1].

WARNING	DO NOT LOOSEN THE BODY OF THE BRAKE-ACCUMULATOR CHARGING VALVE. THE PRESSURE IN THE BRAKE ACCUMULATOR CAN QUICKLY PUSH THE GAS CHARGING VALVE OFF THE MANIFOLD. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(b) Turn the outer nut [2] of the brake accumulator charging valve [1] one turn counterclockwise.

NOTE: This will release the gas pressure from the brake accumulator.

(c) Make sure the gage assembly [4] for the brake accumulator goes to zero.

SUBTASK 32-41-08-020-001

(2) Do these steps to remove the gage assembly [4]:

(a) Disconnect the gas line [3] from the gage assembly [4].

(b) Remove the four nuts [12] and four washers [11] from the four screws [7].

(c) Remove the gage assembly [4] from its mounting bracket.

(d) Remove the mounting flange [13], gage assembly [4], and mounting flange [5] from the screws [7].

(e) Remove the four spacers [10], four washers [8], four rubber washers [9], and shield [6] from the screws [7].

(f) Remove the four rubber washers [9] and four washers [8] from the screws [7].

(g) Install the protective Flareless Tube Plug, 1/2-20 Thread, STD-1131, or Flareless Tube Cap, 1/2-20 Thread, STD-1130, on the union [14] and on the gas line [3].

SUBTASK 32-41-08-020-002

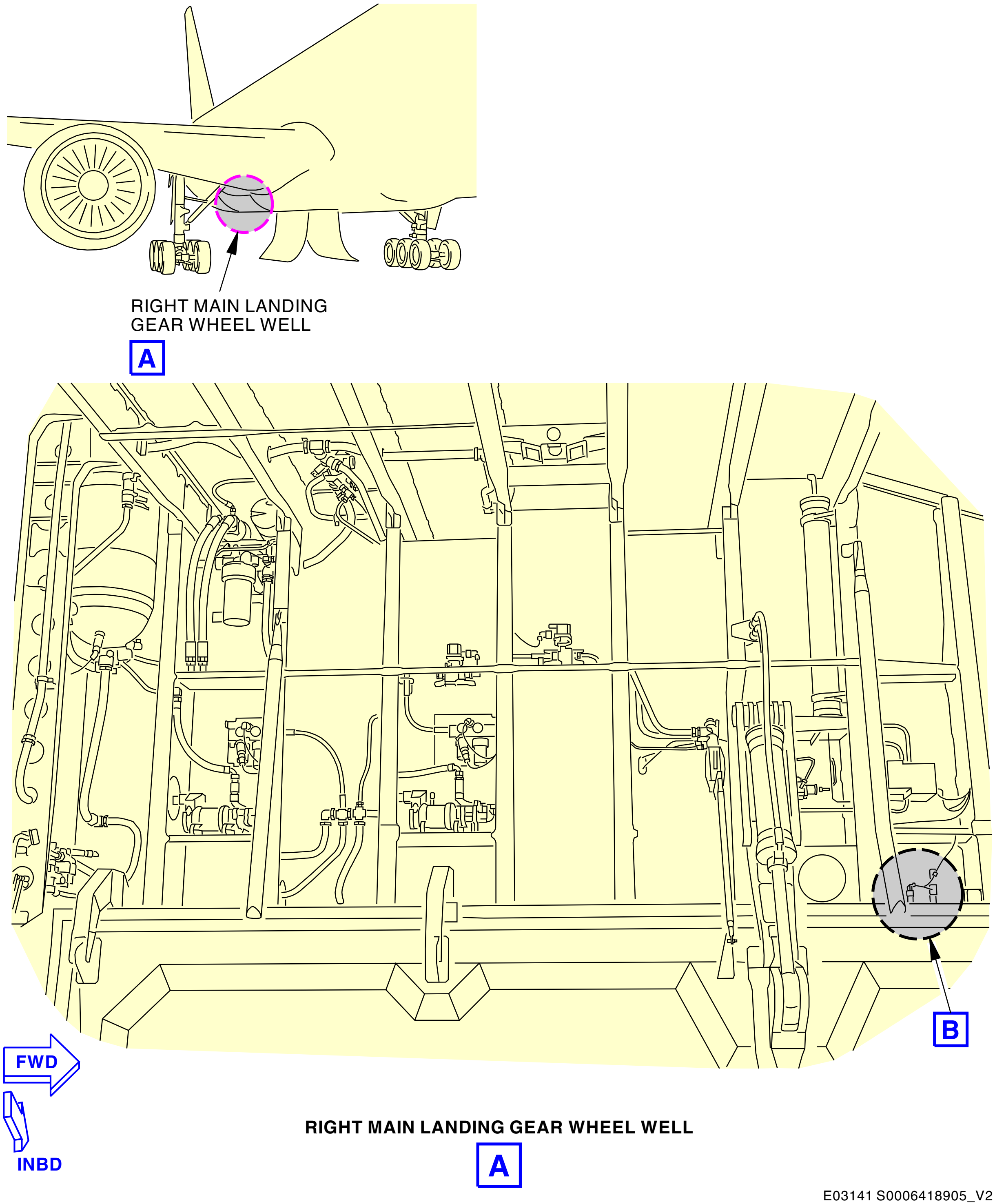
(3) If the replacement gage assembly [4] does not have a union [14] installed, then do these steps:

(a) Remove the union and packing [15] from the port of the gage.

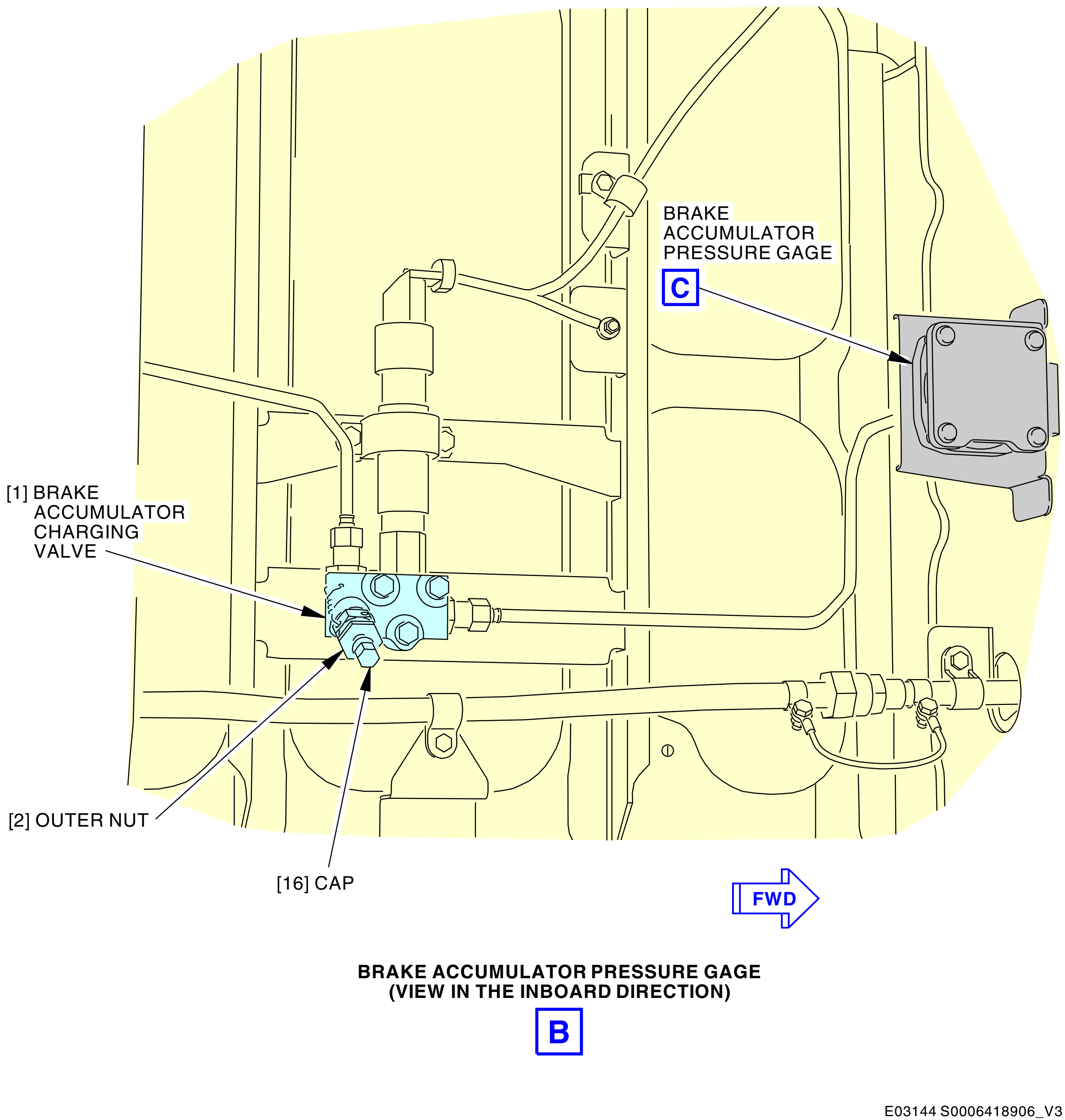
(b) Discard the packing [15].

(c) Install the new packing [15] and union [14] on the new gage.

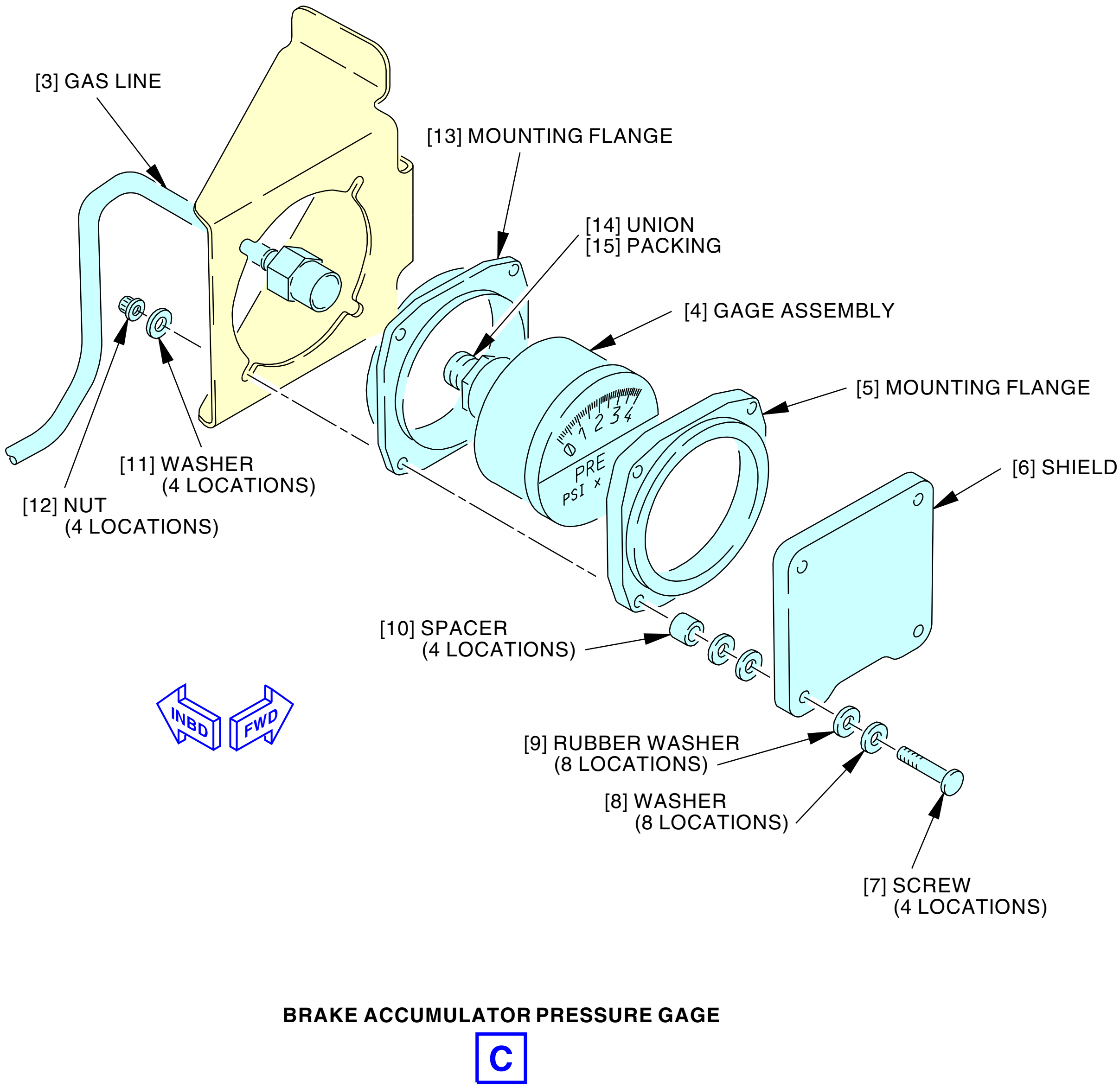
——— END OF TASK ———



Brake Accumulator Pressure Gage (Wheel Well) Installation
Figure 401/32-41-08-990-801 (Sheet 1 of 3)



Brake Accumulator Pressure Gage (Wheel Well) Installation
Figure 401/32-41-08-990-801 (Sheet 2 of 3)



Brake Accumulator Pressure Gage (Wheel Well) Installation
Figure 401/32-41-08-990-801 (Sheet 3 of 3)

TASK 32-41-08-400-801

3. Brake Accumulator Pressure Gage (Wheel Well) Installation

(Figure 401)

A. References

Reference	Title
12-15-04-610-802	Brake Accumulator Servicing (P/B 301)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

B. Tools/Equipment

Reference	Description
STD-1130	Cap - Protective, Flareless Tube, 1/2-20 Thread
STD-1131	Plug - Protective, Flareless Tube, 1/2-20 Thread

C. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
4	Gage assembly	32-41-09-01-150	ARO ALL
		32-41-09-01-165	ARO ALL
15	Packing	32-41-09-01-160	ARO ALL

E. Location Zones

Zone	Area
144	Main Landing Gear Wheel Well, Right

F. Brake Accumulator Pressure Gage Installation

SUBTASK 32-41-08-080-001

(1) Remove the cap or plug from the port of the gage assembly [4] and gas line [3].

SUBTASK 32-41-08-420-002

(2) If the replacement gage assembly [4] does not have a union [14] installed in the port, then do these steps:

(a) Lubricate the new packing [15] with hydraulic fluid, D00153.

(b) Install the new packing [15] on the union [14].

(c) Install the union [14] into the port of the gage.

SUBTASK 32-41-08-420-001

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) Do these steps to install the gage assembly [4]:

(a) Install the four washers [8], four washers [9], and shield [6] on the screws [7].

NOTE: The rubber washers should always be against the shield.

(b) Install the four rubber washers [9], four washers [8], and four spacers [10] on top of the shield on the screws [7].

(c) Install the mounting flange [5], gage assembly [4], and mounting flange [13] on top of the spacers on the screws [7].

(d) Apply Cor-Ban 27L Compound, G50237, or Mastinox 6856 K, C00913, to the threads of the screws [7].

(e) Install the accumulator pressure gage assembly on the bracket on the center panel of the right wheel well.

(f) Install the four washers [11] and four nuts [12] on the screws [7].

(g) Remove the protective Flareless Tube Plug, 1/2-20 Thread, STD-1131, or Flareless Tube Cap, 1/2-20 Thread, STD-1130, from the union [14] and from the gas line [3].

(h) Connect the gas line [3] to the union [14] on the gage assembly [4].

SUBTASK 32-41-08-610-001

(4) Do this task: Brake Accumulator Servicing, TASK 12-15-04-610-802.

G. Brake Accumulator Pressure Gage Installation Test

SUBTASK 32-41-08-710-001

(1) In the operational test, for each pressure reading, compare the pressure measured by the brake accumulator pressure gage in the wheel well with the pressure measured by the brake accumulator pressure gage in the flight compartment.

(a) Make sure the compared pressure values are approximately the same.

SUBTASK 32-41-08-790-001

(2) Do these steps to do an operational test of the gage assembly [4]:

(a) If the right and center hydraulic systems are energized, then, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

(b) Make sure the pressure gage shows approximately 3000 psig (20,684 kPa).

(c) Fully push the captain's brake pedals twelve times to remove the hydraulic pressure from the brake accumulator.

(d) Make sure the pressure gage shows approximately 1000 psig (6895 kPa).

NOTE: The correct precharge pressure for the brake accumulator is shown on a placard near the pressure gage.

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(e) For the right and center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(f) Make sure the pressure gage shows approximately 3000 psig (20,684 kPa).

(g) For the right and center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-08-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

BRAKE ACCUMULATOR CHARGING VALVE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the brake accumulator charging valve

(2) An installation of the brake accumulator charging valve.

B. In this procedure the brake accumulator charging valve will be referred to as the valve [12] and is installed on the forward lower center panel of the right wheel well.

TASK 32-41-09-000-801

2. Brake Accumulator Charging Valve Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-41-10-000-801	Brake Accumulator Pressure Transducer Removal (P/B 401)

B. Location Zones

Zone	Area
144	Main Landing Gear Wheel Well, Right

C. Prepare for the Removal

SUBTASK 32-41-09-480-002

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: TASK 32-00-30-480-801.

SUBTASK 32-41-09-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-41-09-480-001

(3) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-41-09-860-001

(4) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-41-09-860-002

(5) Release the parking brake.

SUBTASK 32-41-09-860-003

(6) Fully push the captain's brake pedals twelve times to remove the hydraulic pressure from the brake accumulator.

D. Brake Accumulator Charging Valve Removal

SUBTASK 32-41-09-840-001

(1) Do these steps to remove the gas pressure from the brake accumulator:

(a) Remove the cap [9] from the valve [12].

WARNING	DO NOT LOOSEN THE BODY OF THE CHARGING VALVE. THE PRESSURE IN THE BRAKE ACCUMULATOR CAN QUICKLY PUSH THE CHARGING VALVE OFF THE MANIFOLD. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(b) Turn the outer nut [10] of the valve [12] one turn counterclockwise.

NOTE: This will release the gas pressure from the brake accumulator.

(c) Make sure the brake accumulator pressure gage [2] goes to zero.

SUBTASK 32-41-09-020-001

(2) Do these steps to remove the valve [12]:

(a) Remove the lockwire from the valve [12].

(b) Remove the valve [12] from the manifold assembly [8].

(c) Remove and discard the packing [11] from the valve [12].

(d) Install a plug in the port of the manifold valve.

SUBTASK 32-41-09-020-002

(3) If it is necessary to remove the manifold assembly [8], do these steps:

(a) Do this task: Brake Accumulator Pressure Transducer Removal, TASK 32-41-10-000-801.

(b) Disconnect the gas tube [3] and gas tube [15] from the manifold assembly.

(c) Install plugs on the gas tubes.

(d) Remove the bolts [6] and washers [7] which hold the manifold assembly [8] to the airplane.

(e) Remove the manifold assembly from the airplane.

(f) Install caps or plugs in the ports of the manifold.

SUBTASK 32-41-09-020-003

(4) If the manifold assembly [8] you will install does not have the union [4] or union [14] installed, do these steps:

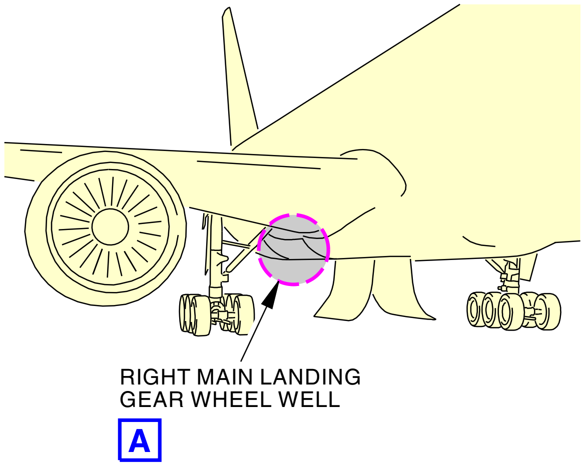
(a) Remove the union [4].

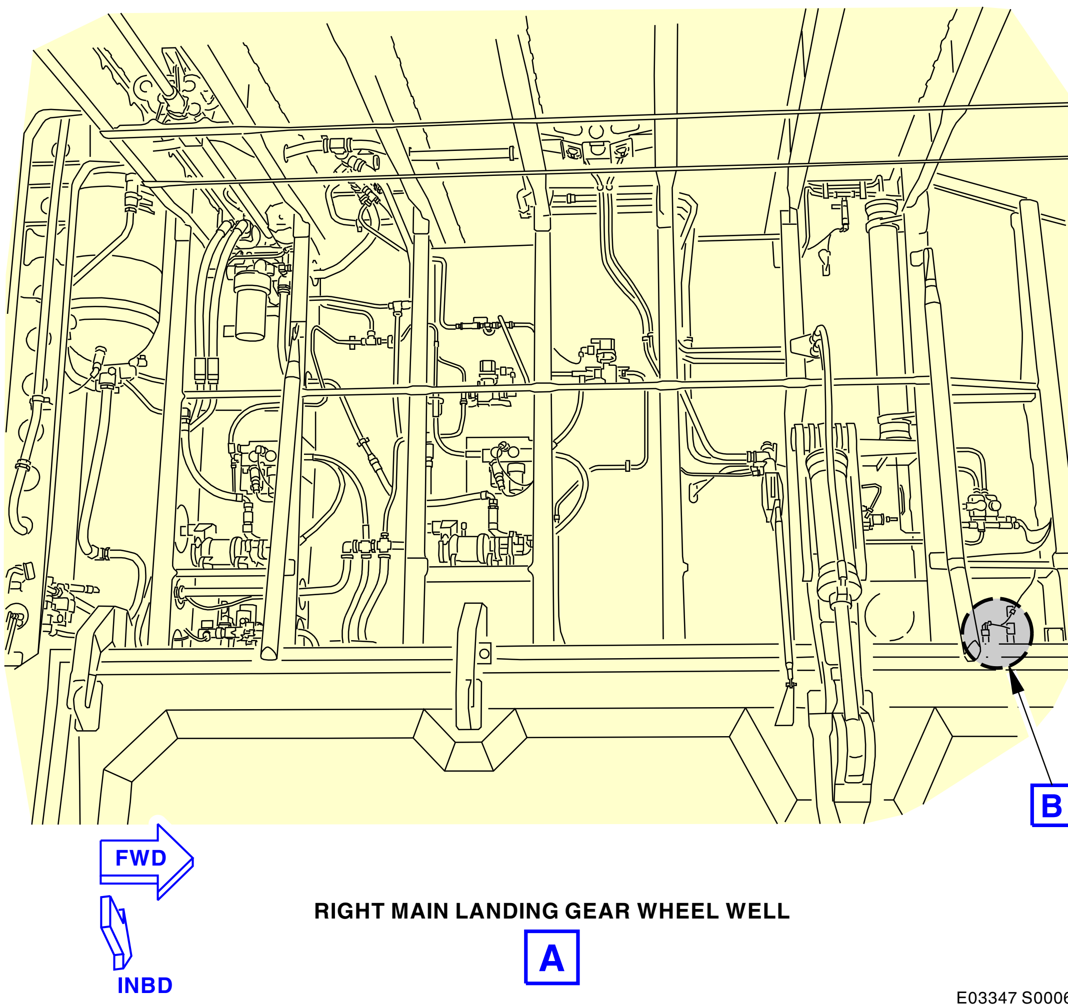
(b) Remove and discard the packing [5] from the union [4].

(c) Remove the union [14].

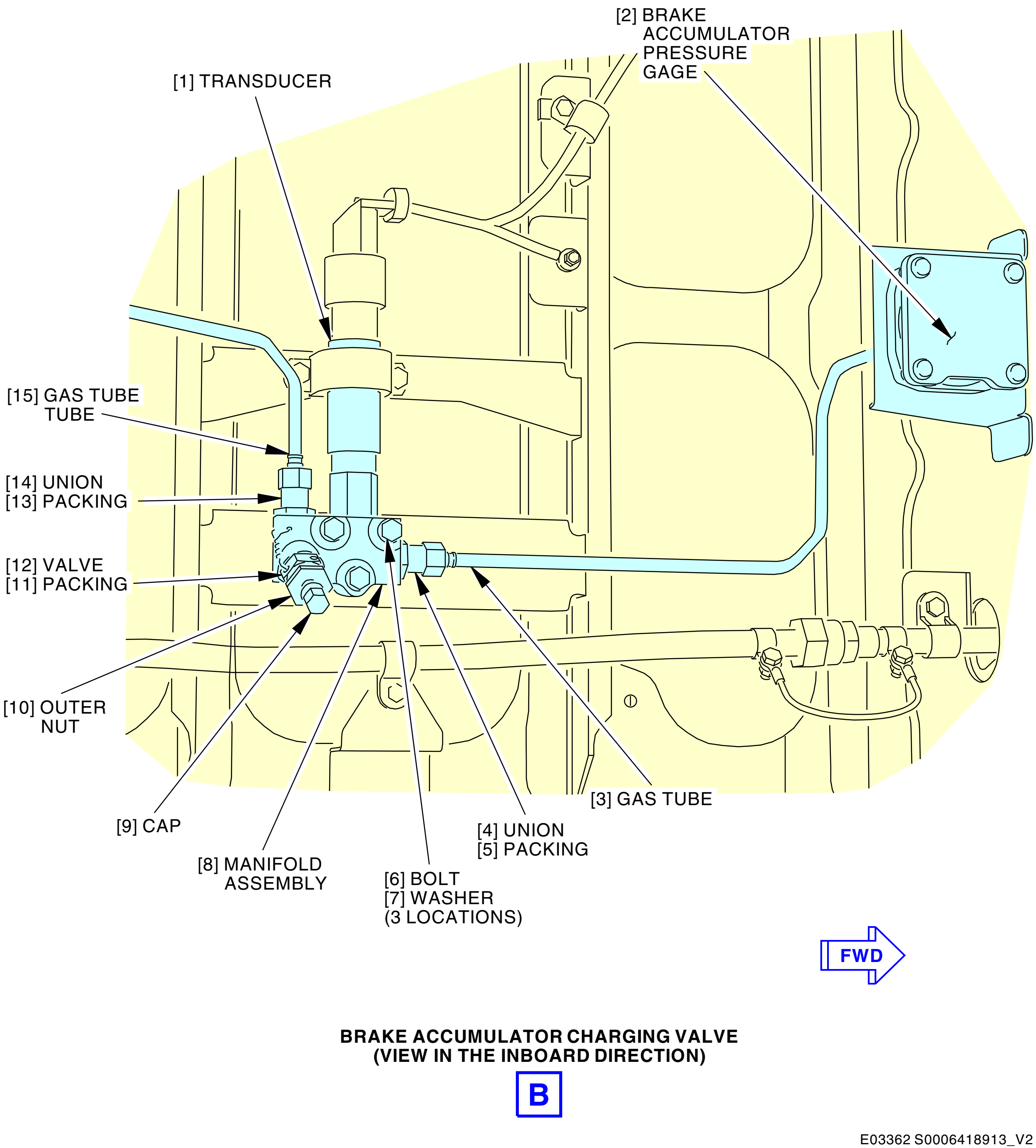
(d) Remove and discard the packing [13] from the union [14].

END OF TASK





Brake Accumulator Charging Valve Installation
Figure 401/32-41-09-990-801 (Sheet 1 of 2)



Brake Accumulator Charging Valve Installation
Figure 401/32-41-09-990-801 (Sheet 2 of 2)

TASK 32-41-09-400-801

3. **Brake Accumulator Charging Valve Installation**

(Figure 401)

A. **References**

Reference	Title
12-15-04-610-802	Brake Accumulator Servicing (P/B 301)
20-11-00-910-801	Standard Torque Values (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-41-10-400-801	Brake Accumulator Pressure Transducer Installation (P/B 401)

B. **Consumable Materials**

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
5	Packing	32-41-09-01-095	ARO ALL
11	Packing	32-41-09-01-068	ARO ALL
12	Valve	32-41-09-01-075	ARO ALL
13	Packing	32-41-09-01-095	ARO ALL

D. **Location Zones**

Zone	Area
144	Main Landing Gear Wheel Well, Right

E. **Brake Accumulator Charging Valve Installation**

SUBTASK 32-41-09-420-002

(1) If you removed the manifold assembly [8], do these steps:

(a) Remove the caps or plugs from the ports of the manifold.

(b) If the manifold assembly [8] you will install does not have the union [4] and union [14] installed do these steps:

1) Lubricate the new packing [5] and packing [13] with hydraulic fluid, D00153.

2) Install the packing [5] on the union [4].

3) Install the union [4] in the port of the manifold assembly [8].

4) Install the packing [13] on the union [14].

5) Install the union [14] in the port of the manifold assembly [8].

(c) Remove the caps or plugs from the gas tube [3] and gas tube [15].

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(d) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the threads of the bolts [6].

(e) Hold the manifold assembly [8] in position on the airplane.

(f) Install the bolts [6] and washers [7] (TASK 20-11-00-910-801).

(g) Connect the gas tube [15] and gas tube [3] to the manifold assembly [8].

(h) Do this task: Brake Accumulator Pressure Transducer Installation, TASK 32-41-10-400-801.

SUBTASK 32-41-09-420-001

(2) Do these steps to install the valve [12]:

(a) Lubricate the new packing [11] with hydraulic fluid, D00153.

(b) Install the new packing [11] on the valve [12].

(c) Install the valve [12] in the manifold assembly [8].

(d) Safety the valve [12] with lockwire.

SUBTASK 32-41-09-610-001

(3) Do this task: Brake Accumulator Servicing, TASK 12-15-04-610-802.

F. Brake Accumulator Charging Valve Installation Test

SUBTASK 32-41-09-790-001

(1) Do these steps to do an operational test of the manifold assembly [8] and valve [12]:

(a) Make sure that the right and center hydraulic systems are de-energized. If they are energized, then for the right and center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

(b) Make sure the brake accumulator pressure gage [2] shows approximately 3000 psig (20,684 kPa).

(c) Fully push the captain's brake pedals twelve times to remove the hydraulic pressure from the brake accumulator.

(d) Make sure the brake accumulator pressure gage [2] shows approximately 1000 psig (6895 kPa).

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(e) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(f) Make sure the brake accumulator pressure gage shows approximately 3000 psig (20,684 kPa).

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-09-860-004

(1) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-41-09-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

——— END OF TASK ———

BRAKE ACCUMULATOR PRESSURE TRANSDUCER - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the brake accumulator pressure transducer

(2) An installation of the brake accumulator pressure transducer.

B. The brake accumulator pressure transducer is located on the manifold assembly [10] on the forward lower center panel of the right wheel well.

C. In this procedure the brake accumulator pressure transducer is referred to as the transducer [4].

TASK 32-41-10-000-801

2. Brake Accumulator Pressure Transducer Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
144	Main Landing Gear Wheel Well, Right

C. Prepare for the Removal

SUBTASK 32-41-10-480-002

> **WARNING** MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-10-010-001

> **WARNING** OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-41-10-860-004

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-41-10-480-001

(4) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-41-10-860-002

(5) Release the parking brake.

SUBTASK 32-41-10-860-003

(6) Fully push the captain's brake pedals twelve times to remove the hydraulic pressure from the brake accumulator.

SUBTASK 32-41-10-860-007

(7) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

Row	Col	Number	Name
B	5	C32632	LG BRAKE PRESSURE IND

D. Brake Accumulator Pressure Transducer Removal

SUBTASK 32-41-10-840-001

(1) Do these steps to remove the gas pressure from the brake accumulator:

(a) Remove the cap [11] from the brake accumulator charging valve [7].

WARNING DO NOT LOOSEN THE BODY OF THE BRAKE-ACCUMULATOR CHARGING VALVE. THE PRESSURE IN THE BRAKE ACCUMULATOR CAN QUICKLY PUSH THE GAS CHARGING VALVE OFF THE MANIFOLD. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(b) Turn the outer nut [6] of the brake accumulator charging valve [7] one turn counterclockwise.

NOTE: This will release the gas pressure from the brake accumulator.

(c) Make sure the brake accumulator pressure gage [5] goes to zero.

SUBTASK 32-41-10-020-001

(2) Do these steps to remove the transducer [4] from the manifold assembly [10]:

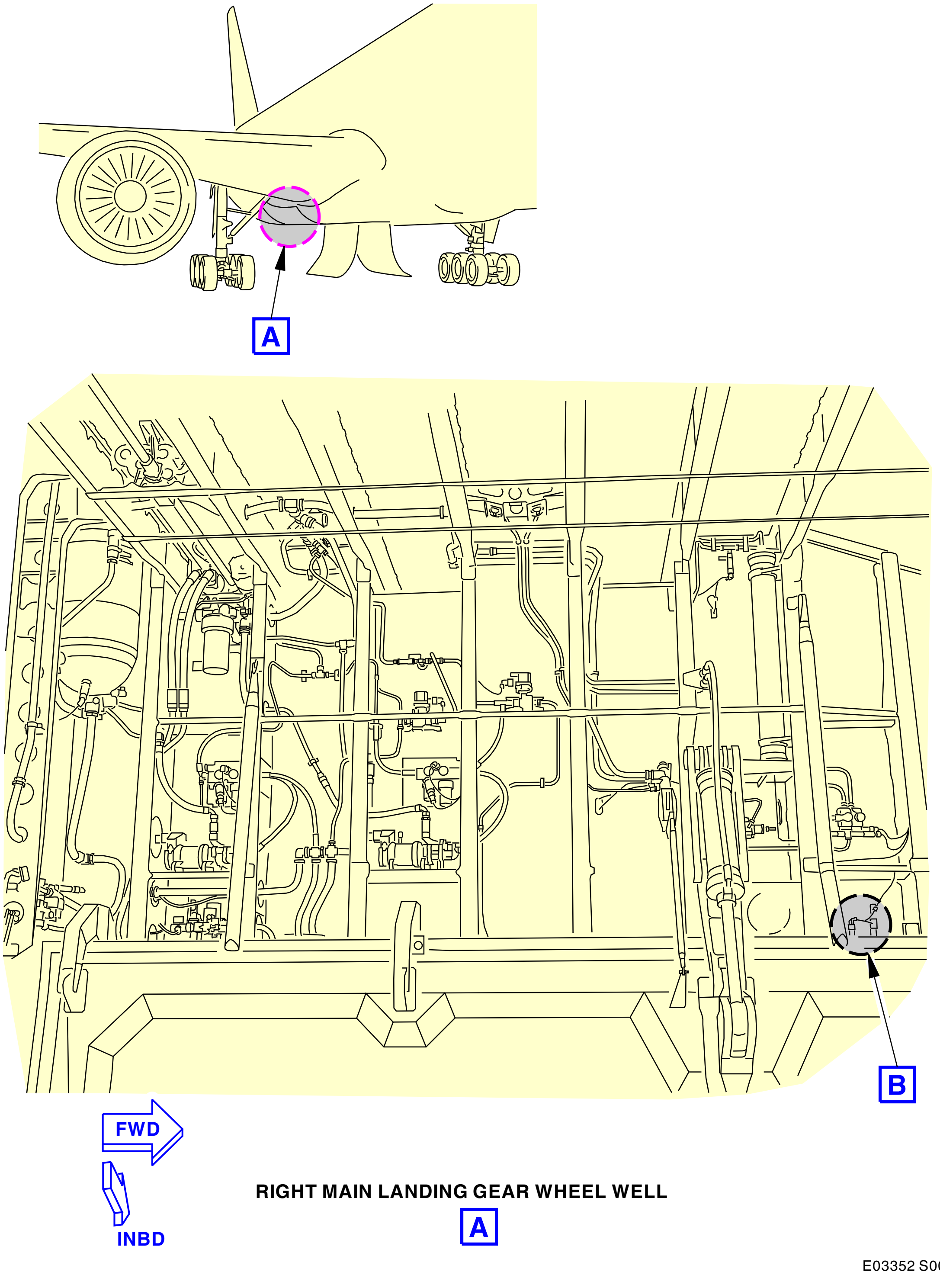
(a) Disconnect the electrical connector [3] from the transducer [4].

(b) Remove the bolts [1], washers [2], and clamp [9].

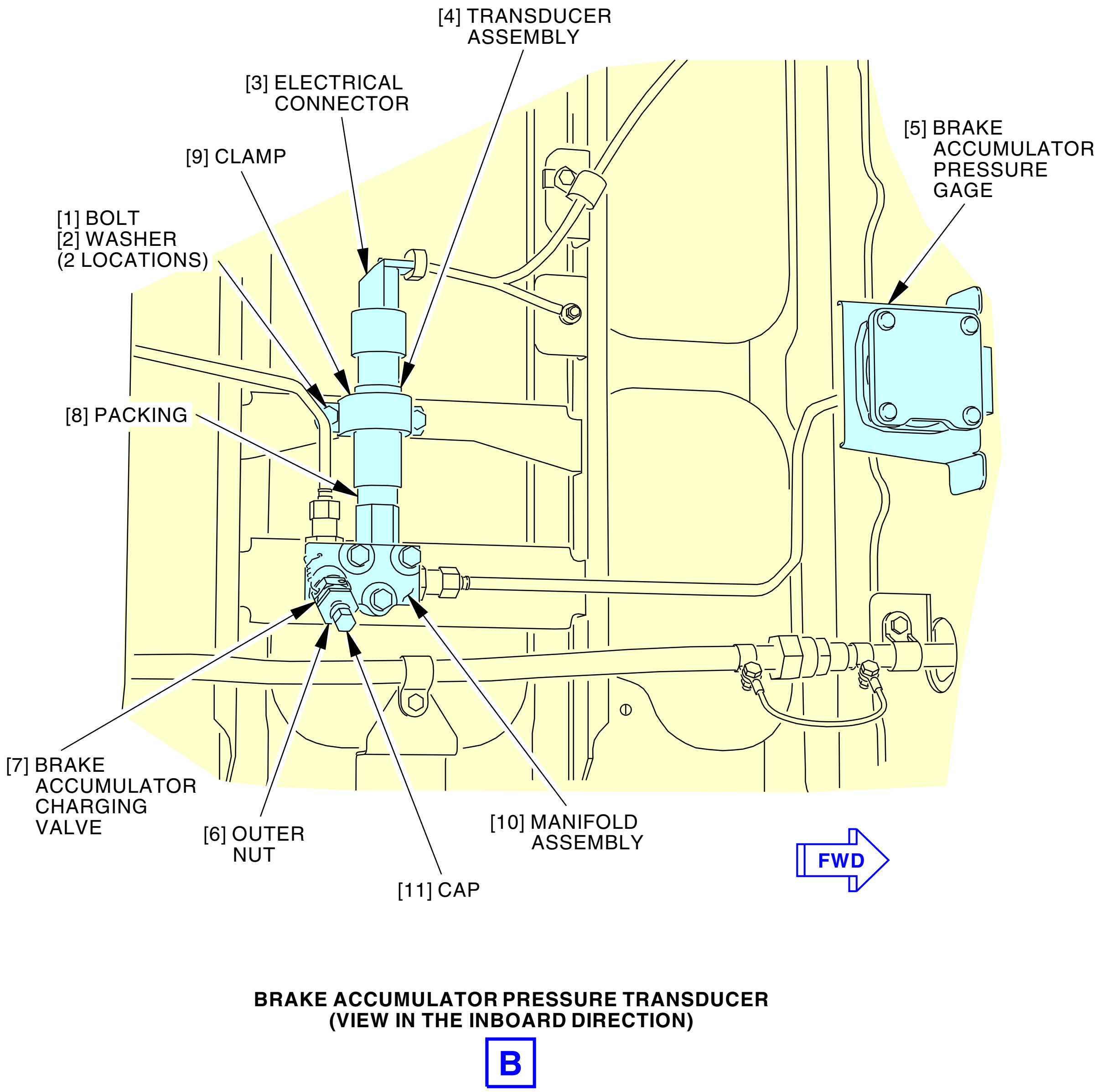
(c) Remove the transducer [4].

(d) Remove and discard the packing [8].

END OF TASK



Brake Accumulator Pressure Transducer Installation
Figure 401/32-41-10-990-801 (Sheet 1 of 2)



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Brake Accumulator Pressure Transducer Installation
Figure 401/32-41-10-990-801 (Sheet 2 of 2)

TASK 32-41-10-400-801

3. Brake Accumulator Pressure Transducer Installation

(Figure 401re)

A. References

Reference	Title
12-15-04-610-802	Brake Accumulator Servicing (P/B 301)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
4	Transducer	32-41-09-01-080	ARO ALL
8	Packing	32-41-09-01-095	ARO ALL
		32-41-09-01-100	ARO ALL

D. Location Zones

Zone	Area
144	Main Landing Gear Wheel Well, Right

E. Brake Accumulator Pressure Transducer Installation

SUBTASK 32-41-10-420-001

(1) Do these steps to install the transducer [4] on the manifold assembly [10]:

(a) Lubricate a new packing [8] with hydraulic fluid, D00153.

(b) Install the packing [8] on the transducer [4].

(c) Install the transducer [4] in the manifold assembly [10].

(d) Torque the transducer [4] to a maximum of 270 ±27 in-lb (31 ±4 N·m).

(e) Install the clamp [9], bolts [1] and washers [2].

(f) Connect the electrical connector [3] to the transducer [4].

SUBTASK 32-41-10-860-008

(2) Remove the safety tag and close this circuit breaker:

Standby Power Management Panel, P310

Row	Col	Number	Name
B	5	C32632	LG BRAKE PRESSURE IND

SUBTASK 32-41-10-610-001

(3) Do this task: Brake Accumulator Servicing, TASK 12-15-04-610-802.

SUBTASK 32-41-10-410-002

(4) Make sure the cap [11] is installed.

F. Brake Accumulator Pressure Transducer Installation Test

SUBTASK 32-41-10-860-009

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-41-10-860-005

(2) For the right hydraulic system, do this task: do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-41-10-720-001

(3) Measure the brake accumulator pressure with the direct reading gage.

NOTE: The direct reading gage is in the wheel well for the right main landing gear, below the brake accumulator.

SUBTASK 32-41-10-720-002

(4) Measure the brake accumulator pressure with the BRAKE ACCUM PRESS gage.

NOTE: The BRAKE ACCUM PRESS gage is in the flight compartment on the main instrument panel for the captain (P1).

SUBTASK 32-41-10-710-001

(5) Make sure the pressure shown by the BRAKE ACCUM PRESS gage is approximately the same as the pressure shown by the direct reading pressure gage.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-10-860-006

(1) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-41-10-410-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

BRAKE ACCUMULATOR PRESSURE GAGE (FLIGHT COMPARTMENT) - REMOVAL/INSTALLATION

1. **General**
   - A. This procedure has these tasks:
     - (1) A removal of the brake accumulator pressure gage (flight compartment).
     - (2) An installation of the brake accumulator pressure gage (flight compartment).
   - B. In this procedure the brake accumulator pressure gage (flight compartment) is referred to as the indicator [1].

TASK 32-41-11-000-801

2. **Brake Accumulator Pressure Gage (Flight Compartment) Removal**
(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. Location Zones

Zone	Area
211	Flight Compartment, Left

B. Prepare for the Removal

SUBTASK 32-41-11-860-001

(1) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

Row	Col	Number	Name
B	5	C32632	LG BRAKE PRESSURE IND

C. Brake Accumulator Pressure Gage Assembly Removal

SUBTASK 32-41-11-020-001

(1) Loosen the quick release fasteners [2] that hold the P1-2 panel to the airplane.

SUBTASK 32-41-11-020-002

(2) Pull the P1-2 panel away from the left forward panel.

SUBTASK 32-41-11-020-003

(3) Disconnect the electrical connector [3] from the indicator [1].

SUBTASK 32-41-11-020-004

(4) Loosen the clamp that holds the indicator [1]:

NOTE: The clamp has two bolts [4], the bolt on the right holds the clamp to the P1-2 panel, the bolt on the left loosens the clamp.

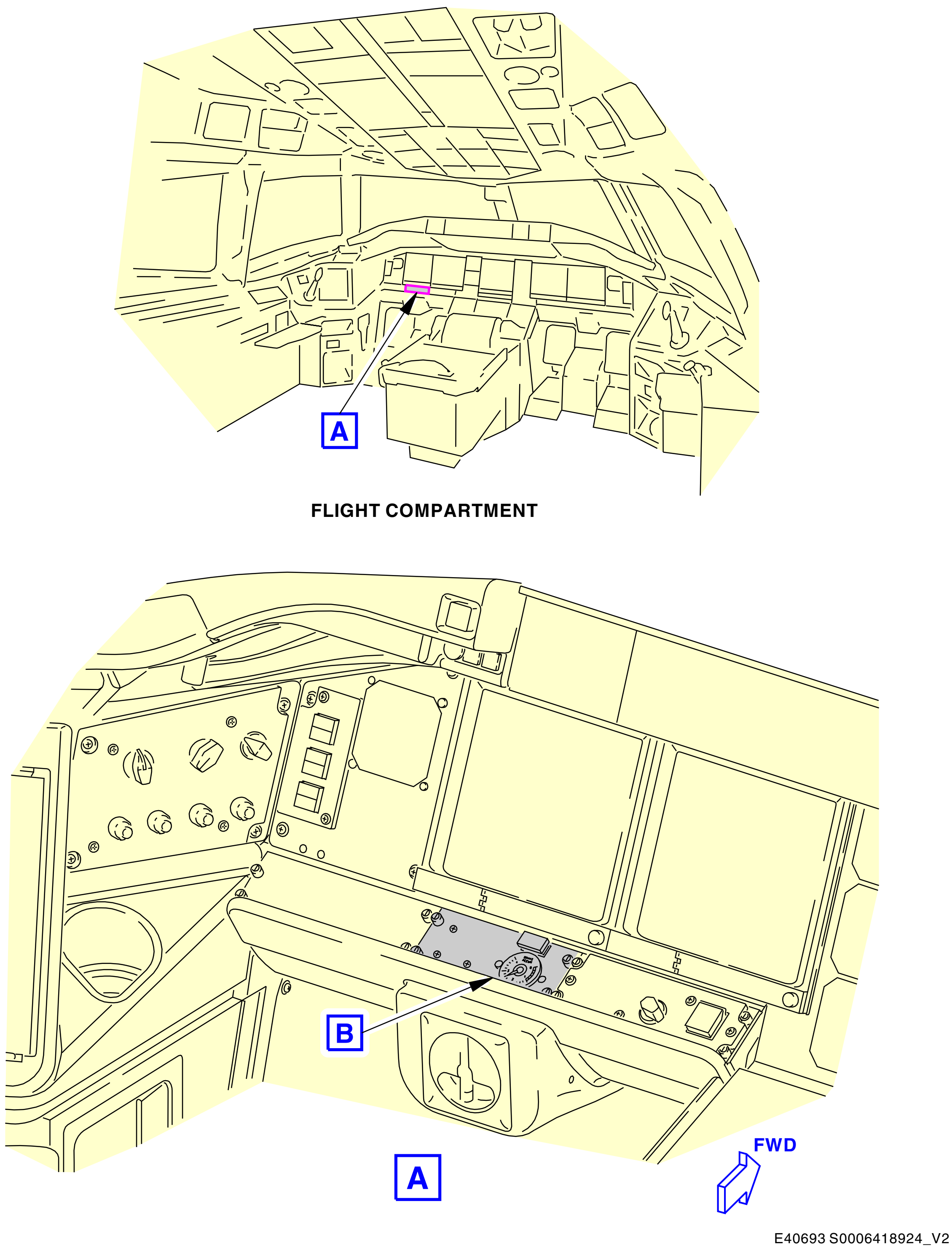
(a) Loosen the bolt [4] on the left of the indicator [1] until the indicator [1] can be removed from the P1-2 panel.

NOTE: Do not loosen the bolt [4] on the right of the indicator [1].

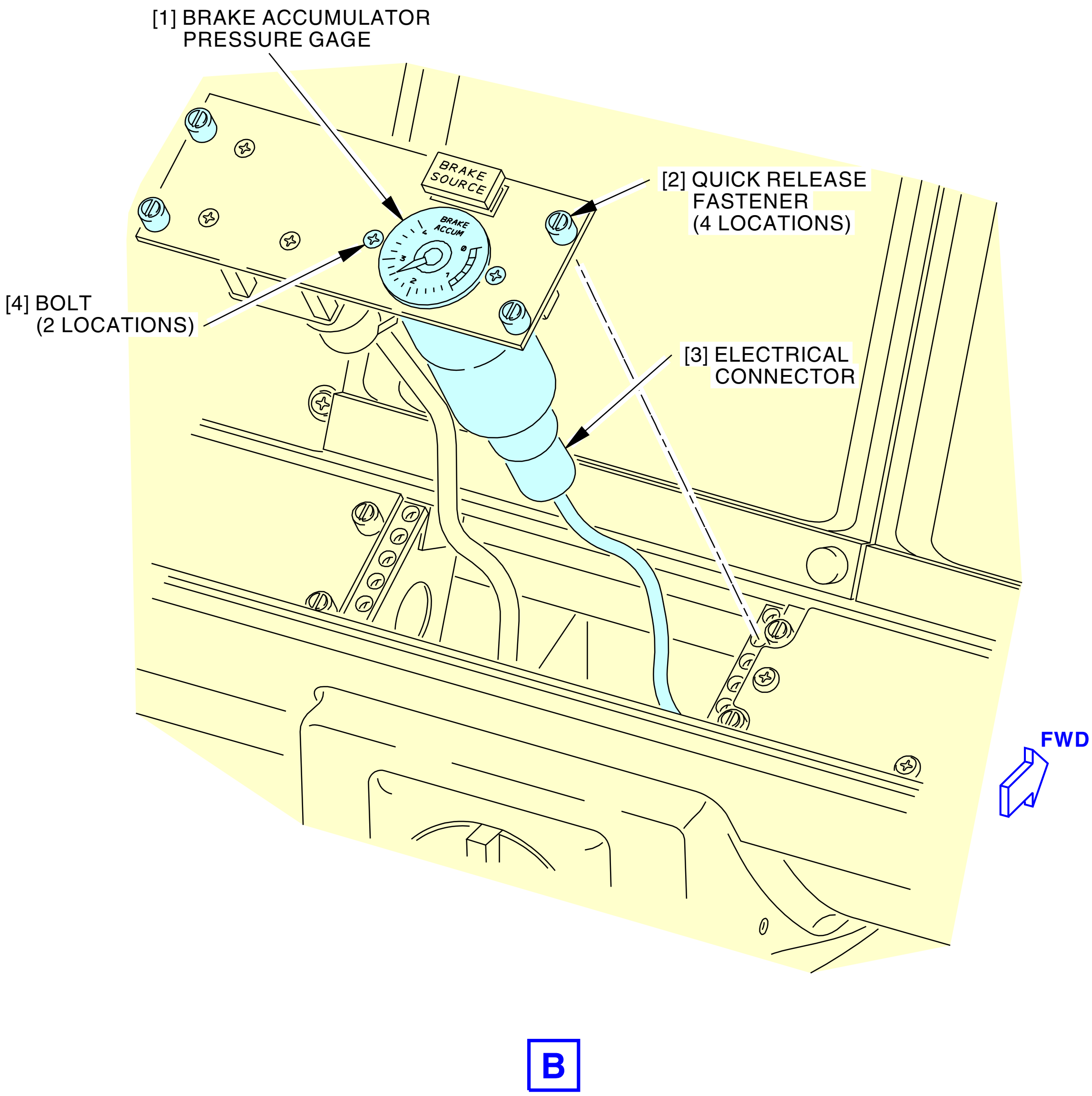
SUBTASK 32-41-11-020-005

(5) Remove the indicator [1].

——— END OF TASK ———



Brake Accumulator Pressure Gage (Flight Compartment) Installation
Figure 401/32-41-11-990-801 (Sheet 1 of 2)



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Brake Accumulator Pressure Gage (Flight Compartment) Installation
Figure 401/32-41-11-990-801 (Sheet 2 of 2)

TASK 32-41-11-400-801

3. nyufBrake Accumulator Pressure Gage (Flight Compartment) Installation
(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Indicator	32-41-11-01-012	ARO ALL

C. Location Zones

Zone	Area
211	Flight Compartment, Left

D. Brake Accumulator Pressure Gage Assembly Installation

SUBTASK 32-41-11-420-001

(1) Hold the indicator [1] on the P1-2 panel.

SUBTASK 32-41-11-020-006

(2) Tighten the clamp that holds the indicator [1]:

NOTE: The clamp has two bolts [4], the bolt on the right holds the clamp to the P1-2 panel, the bolt [4] on the left tightens the clamp.

(a) Make sure the bolt [4] on the right of the indicator [1] is tight.

(b) Tighten the bolt [4] on the left of the indicator [1] until the indicator [1] is firmly held to the P1-2 panel.

SUBTASK 32-41-11-420-003

(3) Connect the electrical connector [3] to the indicator [1].

SUBTASK 32-41-11-420-004

(4) Hold the P1-2 panel on the left forward panel.

SUBTASK 32-41-11-420-005

(5) Tighten the quick release fasteners [2] which hold the P1-2 panel to the airplane.

SUBTASK 32-41-11-860-002

(6) Remove the safety tag and close this circuit breaker:

Standby Power Management Panel, P310

Row	Col	Number	Name
B	5	C32632	LG BRAKE PRESSURE IND

E. Brake Accumulator Pressure Gage Assembly Installation Test

SUBTASK 32-41-11-710-003

(1) In the installation test, for each pressure reading, compare the pressure measured by the brake accumulator pressure gage in the flight compartment with the pressure measured by the brake accumulator pressure gage in the wheel well.

(a) Make sure the compared pressure values are approximately the same.

SUBTASK 32-41-11-860-003

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-41-11-860-004

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801

SUBTASK 32-41-11-710-001

(4) Make sure the indicator [1] shows approximately 3000 psig.

SUBTASK 32-41-11-860-005

(5) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-41-11-480-001

(6) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-41-11-860-006

(7) Release the parking brake.

SUBTASK 32-41-11-860-007

(8) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-41-11-710-002

(9) Make sure the brake accumulator pressure gage (flight compartment) shows approximately 1000 psig.

END OF TASK

BRAKE HYDRAULIC FLOW LIMITER - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the brake hydraulic flow limiter.

(2) An installation of the brake hydraulic flow limiter.

B. The brake hydraulic flow limiters for all six brake assemblies are located at the upper outboard corner of each main gear outer cylinder.

TASK 32-41-12-020-801

2. Brake Hydraulic Flow Limiter Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

C. Prepare for the removal.

SUBTASK 32-41-12-480-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-12-480-002

WARNING MAKE SURE THE MAIN LANDING GEAR DOOR SAFETY LOCKS ARE INSTALLED WHEN PERSONS WORK IN THE WHEELWELL AREAS. DOOR MOVEMENT CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-41-12-480-003

(3) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-41-12-860-002

(4) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-41-12-860-003

(5) Release the parking brake.

SUBTASK 32-41-12-864-001

(6) Fully push the captain's brake pedals twelve times to remove the hydraulic pressure from the brake accumulator.

D. Brake Hydraulic Flow Limiter Removal

NOTE: This procedure will remove one of the six brake hydraulic flow limiters on each main landing gear. The limiters are identical. You can use this procedure for any of the limiters.

SUBTASK 32-41-12-020-005

(1) Disconnect the upper and lower hydraulic lines [1] from the brake hydraulic flow limiter [2].

SUBTASK 32-41-12-020-003

(2) Remove the brake hydraulic flow limiter retaining nut and washer from the upper side of the retaining bracket.

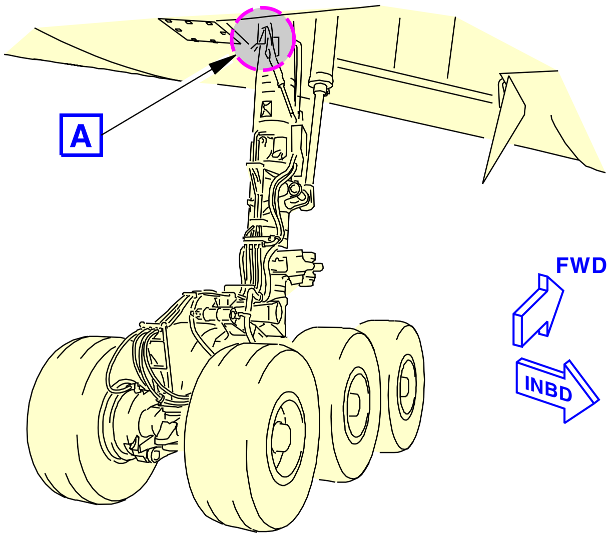
SUBTASK 32-41-12-020-004

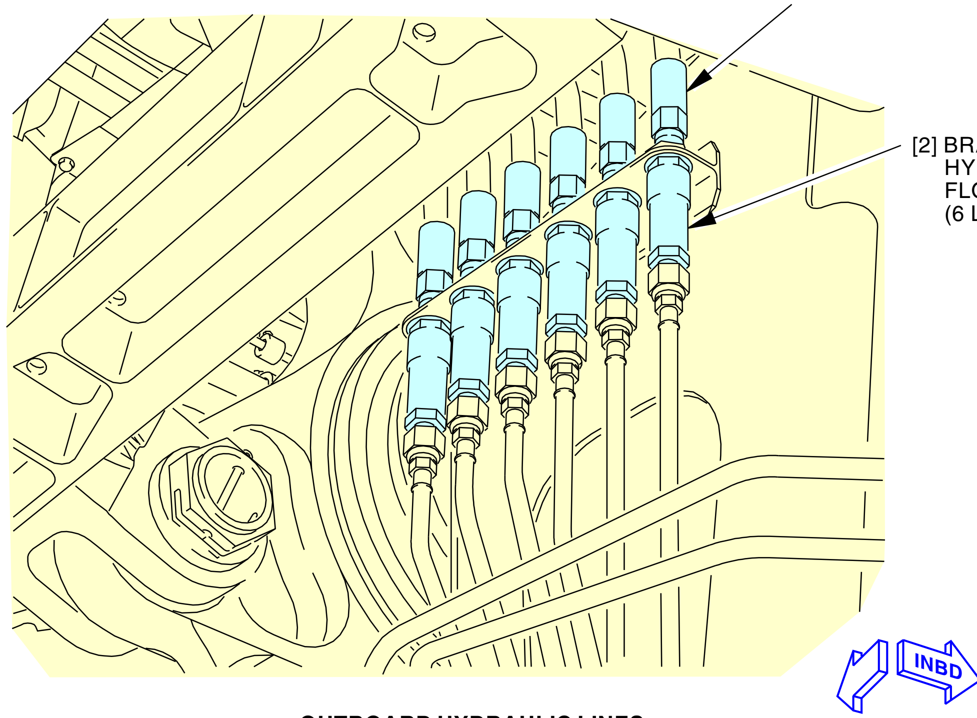
(3) Remove the brake hydraulic flow limiter [2] from the airplane.

SUBTASK 32-41-12-480-004

(4) Install protective caps or plugs on the hydraulic lines and brake hydraulic flow limiter ports.

END OF TASK





OUTBOARD HYDRAULIC LINES
A

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Brake hydraulic Flow Limiter
Figure 401/32-41-12-990-801

TASK 32-41-12-420-801

3. Brake Hydraulic Flow Limiter Installation

(Figure 401)

A. References

Reference	Title
12-12-01-610-801	Hydraulic Reservoir Fluid Level Check (P/B 301)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Brake hydraulic flow limiter	32-41-00-07-770	ARO ALL
		32-41-00-07A-793	ARO ALL

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

D. Brake Hydraulic Flow Limiter Installation

SUBTASK 32-41-12-080-001

(1) Remove the caps or plugs from the hydraulic lines [1].

SUBTASK 32-41-12-420-001

(2) Install the brake hydraulic flow limiter [2] in the airplane.

SUBTASK 32-41-12-430-001

(3) Install the brake hydraulic flow limiter retaining nut and washer on the upper side of the retaining bracket.

SUBTASK 32-41-12-430-002

(4) Connect the upper and lower hydraulic lines [1] to the brake hydraulic flow limiter [2].

E. Brake Hydraulic Flow Limiter Leak Check

SUBTASK 32-41-12-863-001

WARNING: KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(1) For the right and center hydraulic systems, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-41-12-750-001

(2) Examine the brake hydraulic flow limiter [2] for leaks.

F. Put The Airplane Back To Its Usual Condition

SUBTASK 32-41-12-020-002

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-41-12-610-001

(2) Make sure the fluid in the hydraulic reservoir is at the correct level, do this task: Hydraulic Reservoir Fluid Level Check, TASK 12-12-01-610-801.

——— END OF TASK ———

BRAKE SOURCE PRESSURE SWITCHES - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the brake source pressure switches

(2) An installation of the brake source pressure switches.

B. There are two brake source pressure switches.

(1) The switch for the normal system is installed off the right hydraulic system pressure line in the right wheel well.

(2) The switch for the alternate system is installed on the brake alternate source selector valve in the left wheel well.

C. In these procedure the two brake source pressure switches are referred to as the switches [1].

TASK 32-41-13-000-801

2. Brake Source Pressure Switches Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
117	Main Equipment Center, Left
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

C. Prepare for the Removal

SUBTASK 32-41-13-480-002

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-13-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-41-13-860-002

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-41-13-860-008

(4) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

Row	Col	Number	Name
B	3	C33610	MD & T CHANNEL 3

SUBTASK 32-41-13-480-001

(5) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-41-13-860-003

(6) Release the parking brake.

SUBTASK 32-41-13-860-004

(7) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

D. Brake Source Pressure Switches Removal

SUBTASK 32-41-13-020-001

(1) Disconnect the electrical connector [2] from the switch [1].

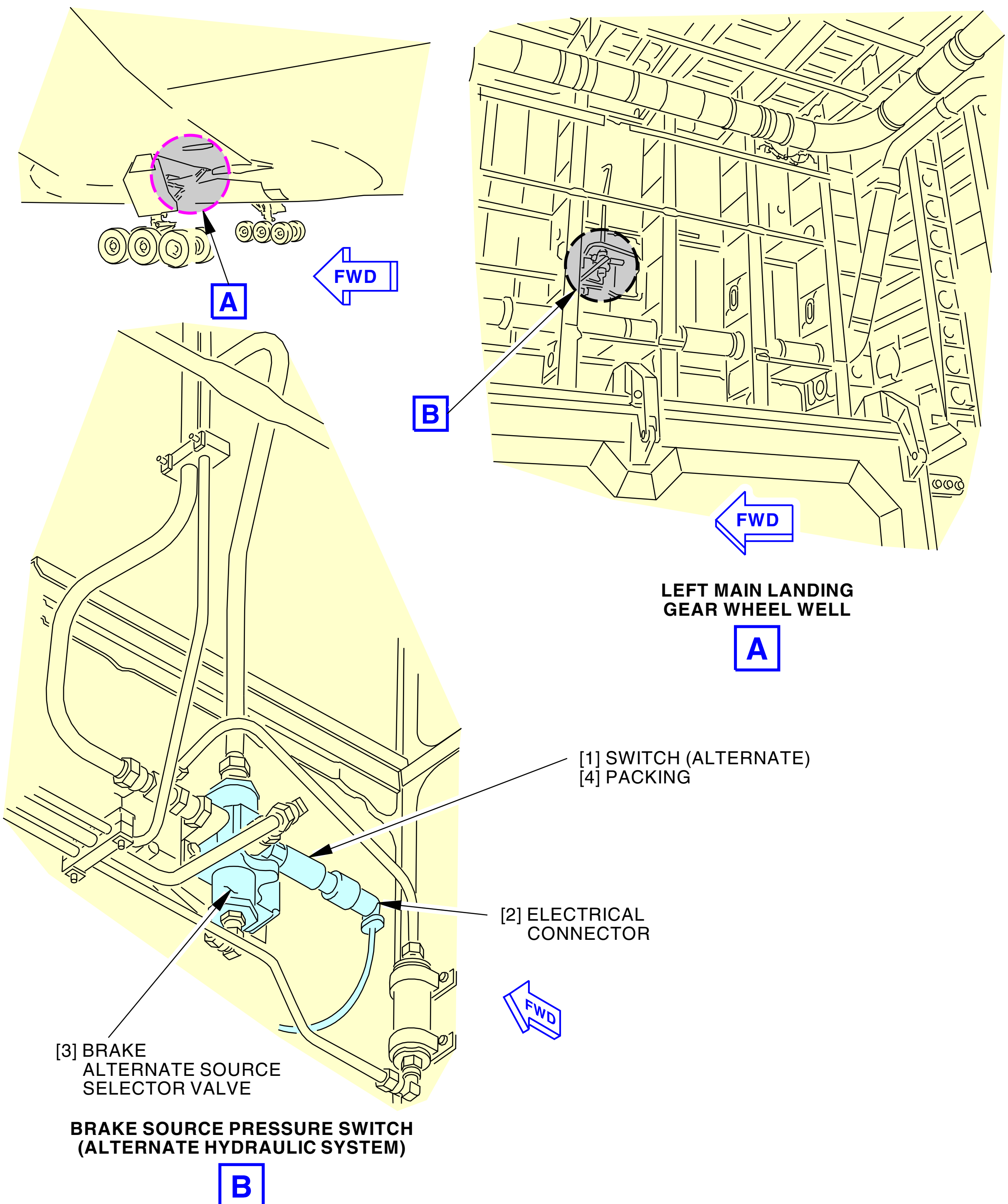
SUBTASK 32-41-13-020-002

(2) Remove the switch [1] from the airplane.

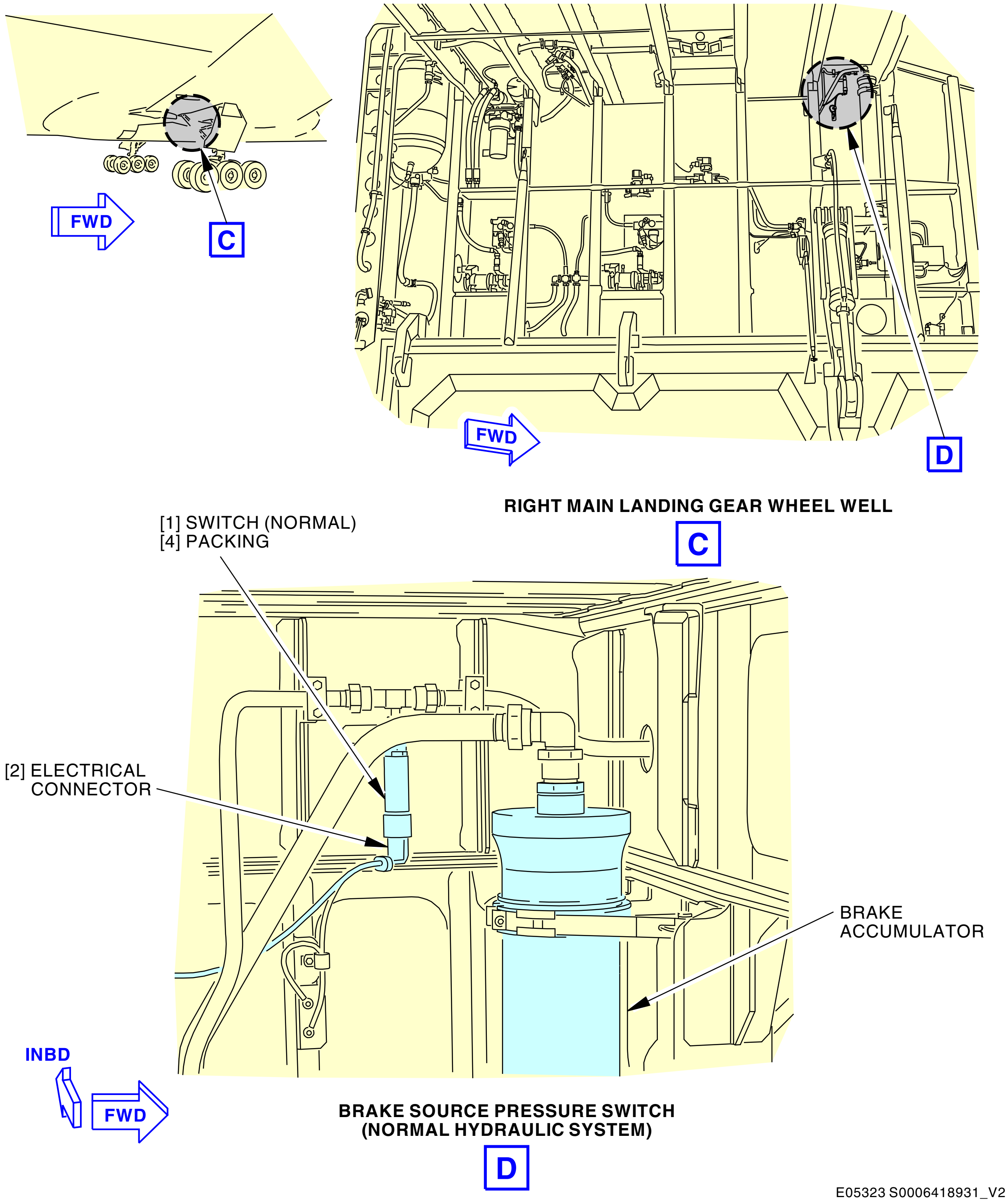
SUBTASK 32-41-13-020-003

(3) Remove and discard the packing [4] from the switch [1].

END OF TASK



Brake Source Pressure Switches Installation
Figure 401/32-41-13-990-801 (Sheet 1 of 2)



Brake Source Pressure Switches Installation
Figure 401/32-41-13-990-801 (Sheet 2 of 2)

TASK 32-41-13-400-801

3. Brake Source Pressure Switches Installation

(Figure 401)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Switch	29-11-87-50A-455	ARO ALL
		32-41-04-01-035	ARO ALL
4	Packing	29-11-87-50A-450	ARO ALL
		32-41-04-01-025	ARO ALL

D. Location Zones

Zone	Area
117	Main Equipment Center, Left
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

E. Brake Source Pressure Switches Installation

SUBTASK 32-41-13-420-003

(1) Lubricate the packing [4] with hydraulic fluid, D00153.

SUBTASK 32-41-13-420-004

(2) Install the packing [4] on the switch [1].

SUBTASK 32-41-13-420-001

(3) Install the switch [1].

SUBTASK 32-41-13-420-002

(4) Connect the electrical connector [2] to the switch [1].

SUBTASK 32-41-13-860-009

(5) Remove the safety tag and close this circuit breaker:

Standby Power Management Panel, P310

Row	Col	Number	Name
B	3	C33610	MD & T CHANNEL 3

F. Brake Source Pressure Switches Installation Test

SUBTASK 32-41-13-860-010

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-41-13-860-005

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-41-13-710-001

(3) Make sure the BRAKE SOURCE advisory message does not show on EICAS.

SUBTASK 32-41-13-710-002

(4) For the right hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-41-13-710-003

(5) Make sure the BRAKE SOURCE advisory message shows on EICAS.

SUBTASK 32-41-13-860-006

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-41-13-710-004

(7) Make sure the BRAKE SOURCE advisory message does not show on EICAS.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-13-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-41-13-710-005

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

BRAKE SURGE ACCUMULATOR - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the brake surge accumulator

(2) An installation of the brake surge accumulator.

(3) An operational test of the brake surge accumulator.

B. In this procedure the brake surge accumulator is referred to as the accumulator [12].

TASK 32-41-14-000-801

2. Brake Surge Accumulator Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing

C. Access Panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel

D. Prepare for the Removal

SUBTASK 32-41-14-480-002

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-14-860-002

(2) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-41-14-480-001

(3) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-41-14-860-003

(4) Release the parking brake.

SUBTASK 32-41-14-010-001

(5) To gain access to the accumulator [12] open this access panel:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel

E. Brake Surge Accumulator Removal

SUBTASK 32-41-14-840-001

(1) Do these steps to remove the gas pressure from the accumulator [12]:

(a) Remove the cap [2] from the brake surge accumulator charging valve [1].

WARNING	DO NOT LOOSEN THE BODY OF THE BRAKE-SURGE-ACCUMULATOR CHARGING-VALVE. THE PRESSURE IN THE BRAKE SURGE ACCUMULATOR CAN QUICKLY PUSH THE CHARGING VALVE OFF THE MANIFOLD. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(b) Turn the outer nut [3] of the brake surge accumulator charging valve [1] one turn counterclockwise.

NOTE: This will release the gas pressure from the brake surge accumulator.

(c) Make sure the break surge accumulator pressure gage [4] goes to zero.

SUBTASK 32-41-14-020-001

(2) Do these steps to remove the accumulator [12]:

(a) Disconnect the hydraulic tube [7] from the top (FLUID port) of the accumulator [12].

(b) Disconnect the gas tube [9] from the bottom (GAS port) of the accumulator [12].

(c) Put a cap or plug in the hydraulic tube [7] and gas tube [9].

(d) Put a cap or plug on the reducer [5] and reducer [10] on the accumulator [12].

(e) Remove the nut [14] and washer [13] from the clamps [8] which holds the accumulator [12] to the airplane.

(f) Remove the accumulator [12] from the airplane.

(g) Remove the bracket [15], clamp [16] and clamp [8] from the accumulator [12].

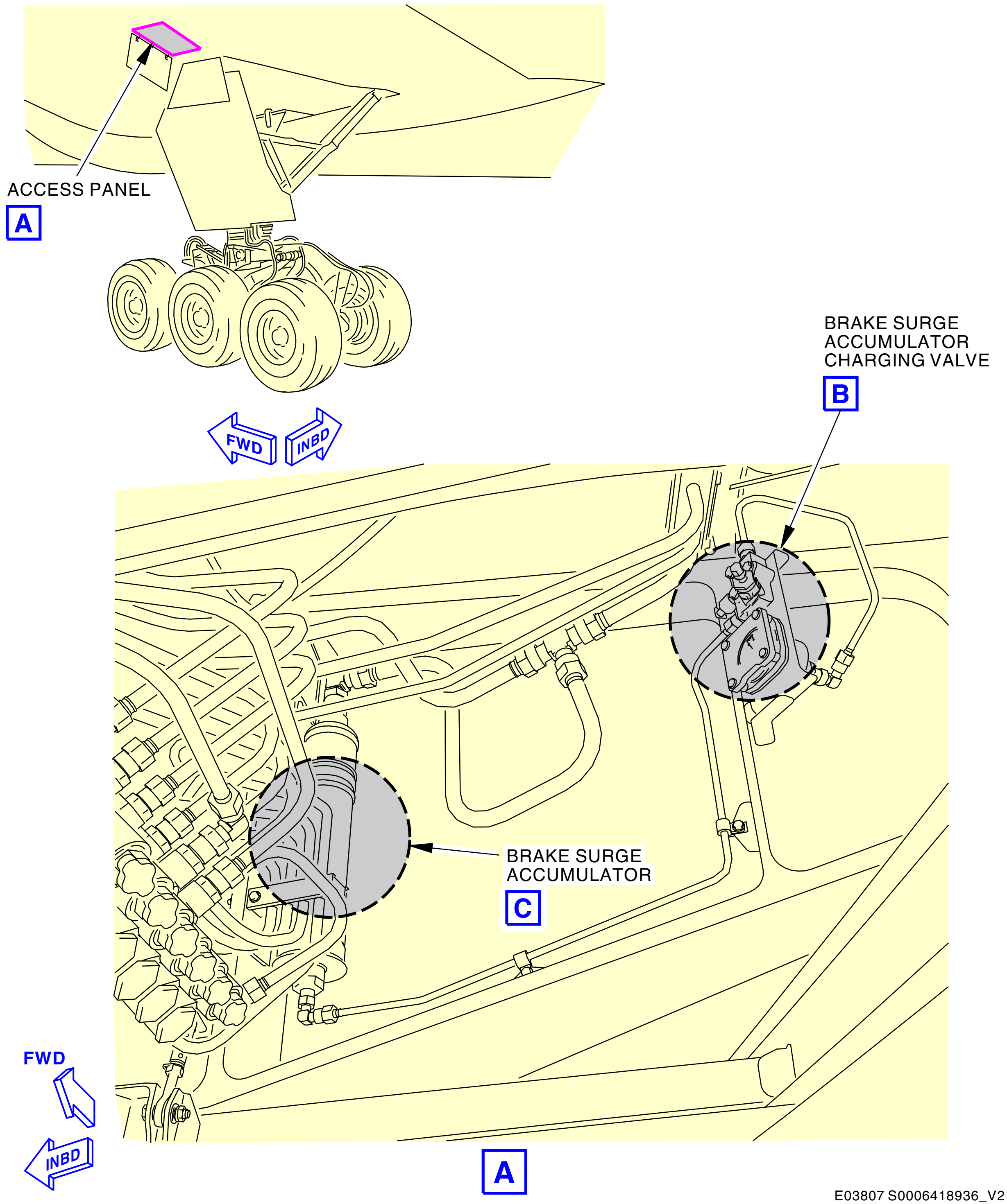
SUBTASK 32-41-14-020-002

(3) If the replacement accumulator [12] that you will install does not have fittings installed, do these steps:

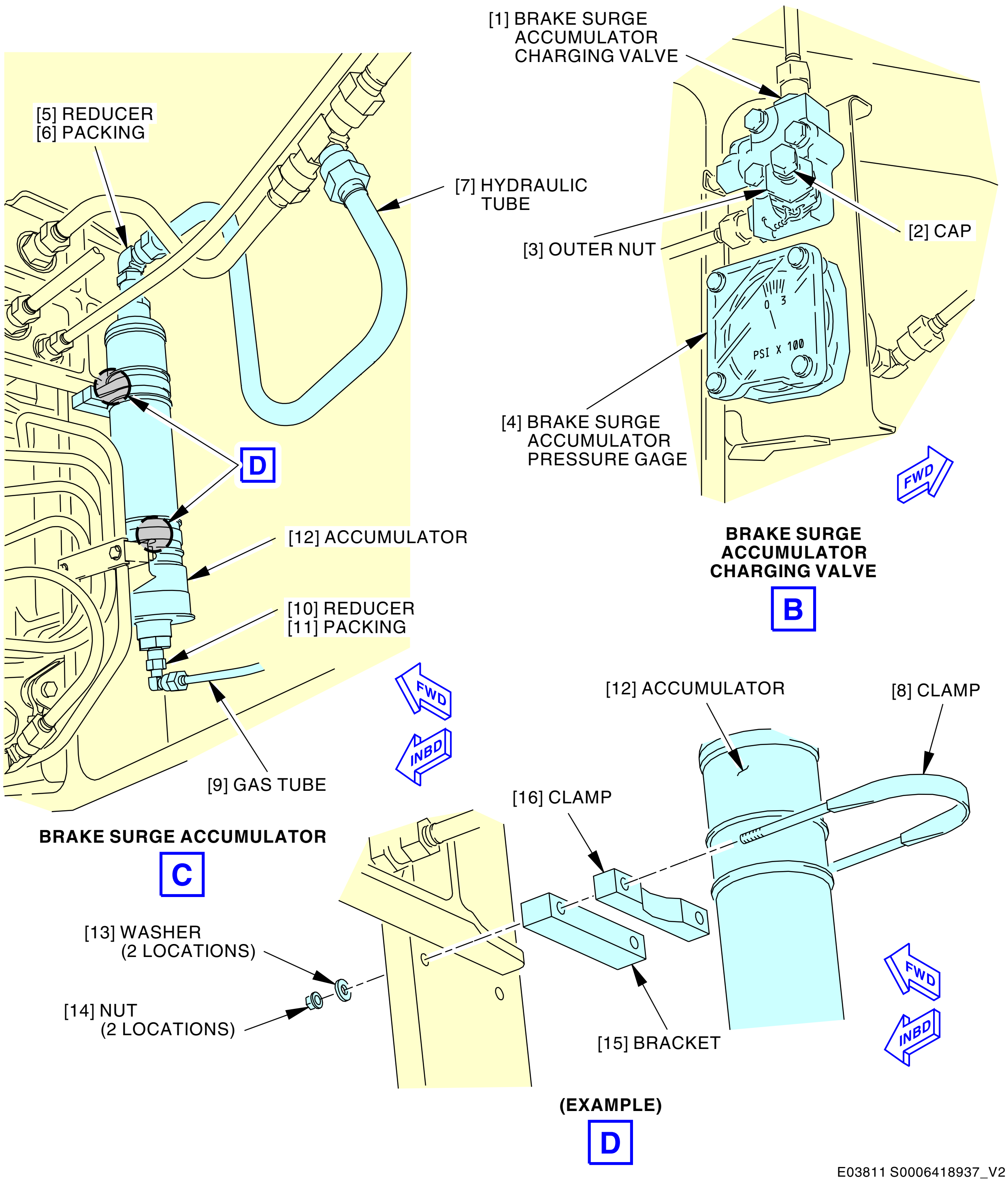
(a) Remove the reducer [5] and reducer [10], and the packing [6] and packing [11].

(b) Discard the packing [6] and packing [11].

END OF TASK



Brake Surge Accumulator Installation
Figure 401/32-41-14-990-801 (Sheet 1 of 2)



Brake Surge Accumulator Installation
Figure 401/32-41-14-990-801 (Sheet 2 of 2)

TASK 32-41-14-400-801

3. Brake Surge Accumulator Installation

(Figure 401)

A. References

Reference	Title
12-15-09-610-802	Brake Surge Accumulator Servicing (P/B 301)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)

B. Consumable Materials

Reference	Description	Specification
C50056	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
6	Packing	32-41-14-01-043	ARO ALL
11	Packing	32-41-14-01-043	ARO ALL
12	Accumulator	32-41-14-01-030	ARO ALL
		32-41-14-01-045	ARO ALL

D. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing

E. Access Panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel

F. Brake Surge Accumulator Installation

SUBTASK 32-41-14-020-003

(1) If installed, remove the caps or plugs from the ports of the replacement accumulator [12], the hydraulic tube [7] and the gas tube [9].

SUBTASK 32-41-14-420-001

(2) If the replacement accumulator [12] does not have a hydraulic fitting installed in the port, do these steps:

(a) Lubricate the reducer [5] and packing [6] with hydraulic fluid, D00153.

(b) Install the reducer [5] and packing [6] into the FLUID port of the accumulator [12].

(c) Lubricate the reducer [10] and packing [11] with hydraulic fluid, D00153.

(d) Install the reducer [10] and packing [11] into the GAS port of the accumulator [12].

SUBTASK 32-41-14-420-002

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) Do these steps to install the accumulator [12]:

(a) Apply corrosion inhibiting material, G50136 (preferred) or Mastinox 6856 K, C50056 (alternate) to the threads of the clamp [8].

(b) Put the clamp [8] over the accumulator [12] and then install the clamp [16] and the bracket [15].

(c) Install the accumulator [12] on the forward face of the main landing gear beam and install the washers [13] and nuts [14].

(d) If you apply corrosion inhibiting material, G50136 tighten the nuts [14] to 15 in-lb (1.7 N·m)-20 ft-lb (27.1 N·m) or if you apply Mastinox 6856 K, C50056 tighten the nuts [14] to 20 in-lb (2.3 N·m)-25 in-lb (2.8 N·m).

(e) Connect the gas tube [9] from the brake surge accumulator charging valve [1] to the reducer [10] on the bottom of the accumulator [12].

(f) Connect the hydraulic tube [7] to the reducer [5] on the top of the accumulator [12].

NOTE: Make sure that the elbow is connected to the hydraulic tube [7].

1) Tighten the B-nut on the hydraulic tube [7] to 700 ±35 in-lb (79 ±4 N·m).

SUBTASK 32-41-14-610-002

(4) Do this task: Brake Surge Accumulator Servicing, TASK 12-15-09-610-802.

G. Brake Surge Accumulator Operational Test

SUBTASK 32-41-14-710-001

(1) Do an operational test of the accumulator [12]:

(a) Fully push the captain's brake pedals five times to bleed air from the system.

(b) Make sure the break surge accumulator pressure gage [4] shows the precharge pressure.

NOTE: The correct precharge pressure for the brake surge accumulator is shown on a placard near the pressure gage.

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(c) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(d) Look for leaks at the hydraulic fitting on top of the accumulator [12].

(e) Apply a soap solution to the gas fitting on the bottom of the accumulator [12].

(f) Examine the gas tube [9] and reducer [10] for air bubbles.

(g) Examine each brake's pistons to make sure that all brakes are released.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-14-010-002

(1) Close this access panel:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel

SUBTASK 32-41-14-860-005

(2) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

BRAKE SURGE ACCUMULATOR CHARGING VALVE - REMOVAL/INSTALLATION

1. **General**
   A. This procedure has these tasks:
      (1) A removal of the brake surge accumulator charging valve
      (2) An installation of the brake surge accumulator charging valve.
      (3) An operational test of the brake surge accumulator charging valve.
   B. This procedure has these reductions:
      (1) The brake surge accumulator charging valve [4] is referred to as the valve [4].
      (2) The brake surge accumulator pressure gage [6] is referred to as the pressure gage [6].

TASK 32-41-15-000-801

2. **Brake Surge Accumulator Charging Valve Removal**
(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing

C. Access Panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel

D. Prepare for the Removal

SUBTASK 32-41-15-480-002

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-15-860-002

(2) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-41-15-480-001

(3) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-41-15-860-003

(4) Release the parking brake.

SUBTASK 32-41-15-010-001

(5) To gain access to the valve [4];

Open this access panel:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel

E. Brake Surge Accumulator Charging Valve Removal

SUBTASK 32-41-15-840-001

(1) Do these steps to remove the gas pressure from the brake surge accumulator:

(a) Remove the cap [8] from the valve [4].

WARNING DO NOT LOOSEN THE BODY OF THE BRAKE-SURGE-ACCUMULATOR CHARGING-VALVE. THE PRESSURE IN THE BRAKE SURGE ACCUMULATOR CAN QUICKLY PUSH THE CHARGING VALVE OFF THE MANIFOLD. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(b) Turn the outer nut [7] of the valve [4] one turn counterclockwise.

NOTE: This will release the gas pressure from the brake surge accumulator.

(c) Make sure the pressure gage [6] goes to zero.

SUBTASK 32-41-15-020-001

(2) Do these steps to remove the valve [4]:

(a) Remove the lockwire from the valve [4].

(b) Remove the valve [4] from the manifold [10].

(c) Remove and discard the packing [9] from the valve [4].

(d) Install a plug in the manifold [10].

SUBTASK 32-41-15-020-002

(3) If it is necessary to remove the manifold [10], do these steps:

(a) Disconnect the gas tube [1] and gas tube [5] from the manifold [10].

(b) Remove the bolts [2] and washers [3].

(c) Remove the manifold [10] from the airplane.

(d) Install caps or plugs on the gas tube [1] and gas tube [5].

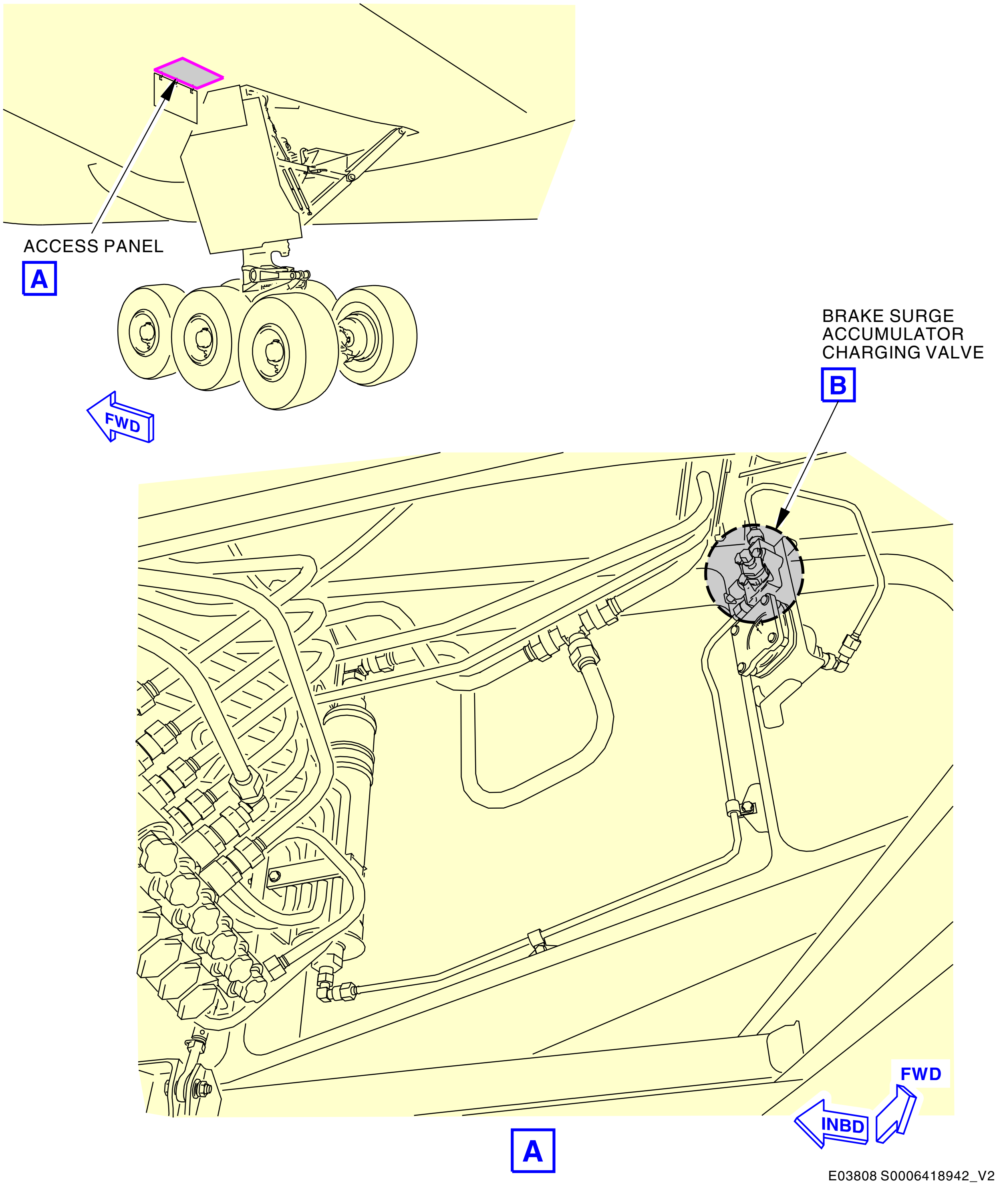
(e) If the manifold [10] that you will install does not have the unions [11] and cap assembly [13], do these steps:

1) Remove the three unions [11] and the cap assembly [13] from the manifold [10].

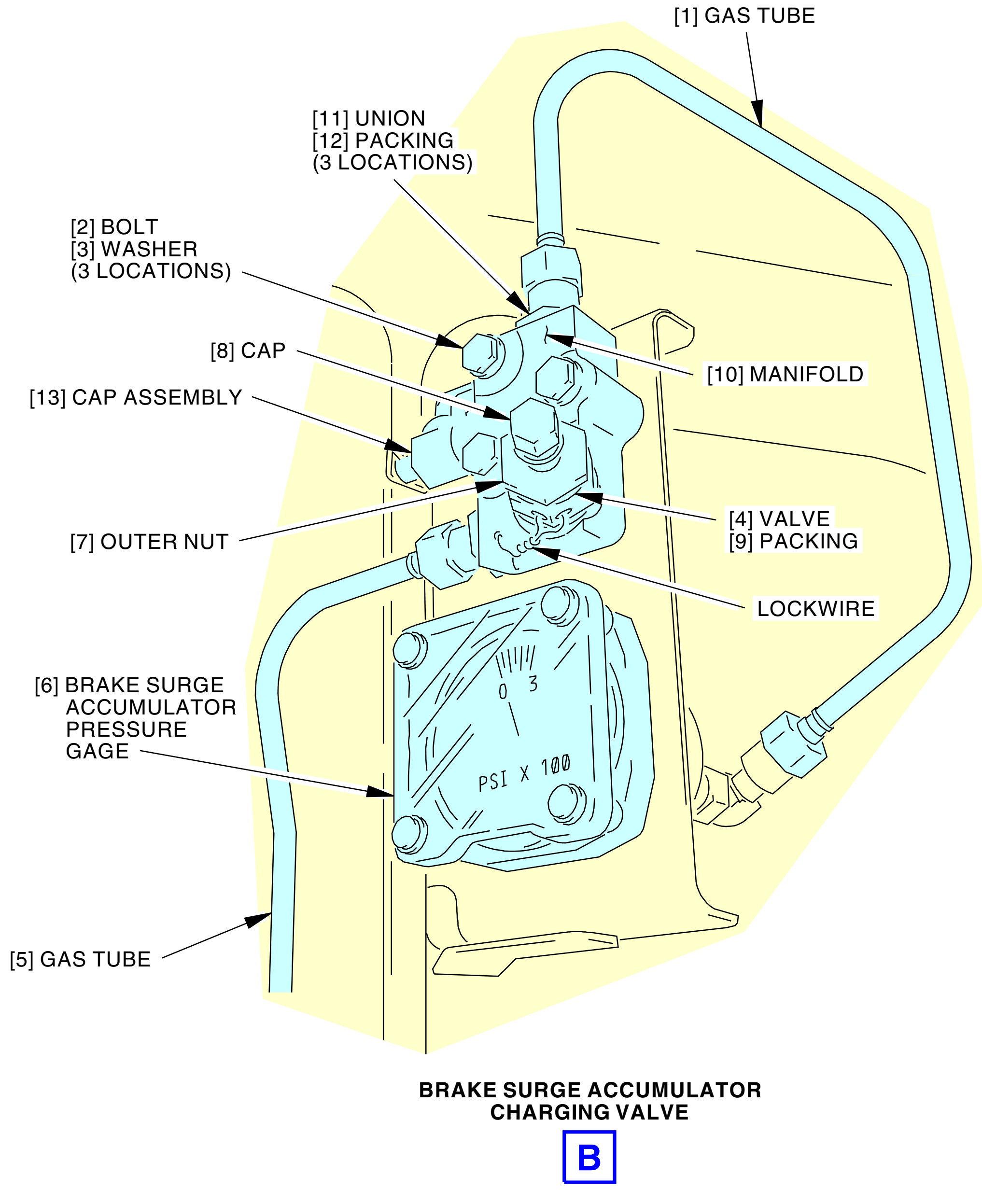
2) Remove and discard the packings [12] from the unions [11].

(f) Install caps or plugs in the ports of the manifold [10].

END OF TASK



Brake Surge Accumulator Charging Valve Installation
Figure 401/32-41-15-990-801 (Sheet 1 of 2)



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Brake Surge Accumulator Charging Valve Installation
Figure 401/32-41-15-990-801 (Sheet 2 of 2)

TASK 32-41-15-400-801

3. **Brake Surge Accumulator Charging Valve Installation**
(Figure 401)

A. **References**

Reference	Title
12-15-09-610-802	Brake Surge Accumulator Servicing (P/B 301)
20-11-00-910-801	Standard Torque Values (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)

B. **Consumable Materials**

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
4	Valve	32-41-15-01-020	ARO ALL
9	Packing	32-41-15-01-025	ARO ALL
12	Packing	32-41-15-01-030	ARO ALL

D. **Location Zones**

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing

E. **Access Panels**

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel

F. **Brake Surge Accumulator Charging Valve Installation**

SUBTASK 32-41-15-420-001

WARNING: USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(WARNING PRECEDES)

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(1) If you will install the manifold [10], do these steps:
  (a) Remove the caps or plugs from the ports of the manifold [10].
  (b) If the manifold you will install does not have the three unions [11] installed, do these steps:
    1) Lubricate the new packings [12] with hydraulic fluid, D00153.
    2) Install the new packings [12] on the unions [11].
    3) Install the unions [11] and the cap assembly [13] in the manifold [10].
  (c) Remove the caps or plugs from the gas tube [1] and gas tube [5].
  (d) Put the manifold [10] in its position on the airplane.
  (e) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the bolt [2].
  (f) Install the bolts [2] and washers [3]. Refer to Standard Torque Values, TASK 20-11-00-910-801.
  (g) Connect the gas tube [1] and gas tube [5] to the manifold [10].

SUBTASK 32-41-15-420-002

(2) Do these steps to install the valve [4]:
  (a) Lubricate a new packing [9] with hydraulic fluid, D00153.
  (b) Install the new packing [9] on the valve [4].
  (c) Install the valve [4] in the manifold [10].
  (d) Safety the valve [4] with lockwire.

SUBTASK 32-41-15-610-001

(3) Do this task: Brake Surge Accumulator Servicing, TASK 12-15-09-610-802.

G. Brake Surge Accumulator Charging Valve Operational Test

SUBTASK 32-41-15-710-001

(1) Do these steps to do an operational test of the manifold [10] and valve [4] installation:
  (a) Fully push the captain's brake pedals five times to bleed air from the system.
  (b) Make sure the pressure gage [6] shows the precharge pressure.

  NOTE: The correct precharge pressure for the brake surge accumulator is shown on a placard near the pressure gage.

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(c) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(d) Do a check to make sure the cap assembly [13] is installed.

(e) Apply a soap solution to the unions [11], the gas tube [1] connection, the gas tube [5] connection, the valve [4] and to the cap assembly [13].

(f) Make sure that there are not air bubbles.

NOTE: Air bubbles show that there is a leak.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-15-410-001

(1) Close this access panel:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel

SUBTASK 32-41-15-860-005

(2) For from the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

BRAKE SURGE ACCUMULATOR PRESSURE GAUGE - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has these tasks:

      (1) A removal of the brake surge accumulator pressure gauge.

      (2) An installation of the brake surge accumulator pressure gauge.

      (3) An operational test of the brake surge accumulator pressure gauge.

   B. In this procedure the brake surge accumulator pressure gauge will be referred to as the pressure gauge.

TASK 32-41-16-000-801

2. **Brake Surge Accumulator Pressure Gauge Removal**

   (Figure 401)

   A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   B. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing

   C. Access Panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel

   D. Prepare for the Removal

   SUBTASK 32-41-16-480-002

   WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

   (1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

   SUBTASK 32-41-16-860-002

   (2) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

   SUBTASK 32-41-16-480-001

   (3) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

   SUBTASK 32-41-16-860-003

   (4) Release the parking brake.

SUBTASK 32-41-16-010-001

(5) To gain access to the pressure gauge [8] open this access panel:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel

E. Brake Surge Accumulator Pressure Gauge Assembly Removal

SUBTASK 32-41-16-840-001

(1) Do these steps to remove the gas pressure from the brake surge accumulator:

(a) Remove the cap [3] from the brake surge accumulator charging valve [1].

WARNING DO NOT LOOSEN THE BODY OF THE BRAKE-SURGE-ACCUMULATOR CHARGING-VALVE. THE PRESSURE IN THE BRAKE SURGE ACCUMULATOR CAN QUICKLY PUSH THE CHARGING VALVE OFF THE MANIFOLD. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(b) Turn the outer nut [4] of the brake surge accumulator charging valve [1] one turn counterclockwise.

NOTE: This will release the gas pressure from the brake surge accumulator.

(c) Make sure the brake surge pressure gauge [8] goes to zero.

SUBTASK 32-41-16-020-001

(2) Do these steps to remove the pressure gauge [8]:

(a) Disconnect the gas tube [2] from the pressure gauge [8].

(b) Remove the nuts [5] and washers [6] from the screw [14].

(c) Remove the pressure gauge [8] off of its mounting bracket.

(d) Remove the mounting flange [7], pressure gauge [8] and mounting flange [9] from the screw [14].

(e) Remove the spacers [10], rubber washer [13], rubber washer [12] and shield [11] from the screw [14].

(f) Remove the rubber washer [12] and washer [13] from the screw [14].

(g) Put a cap on the union [15] on the pressure gauge [8].

(h) Remove the pressure gauge [8] from the airplane.

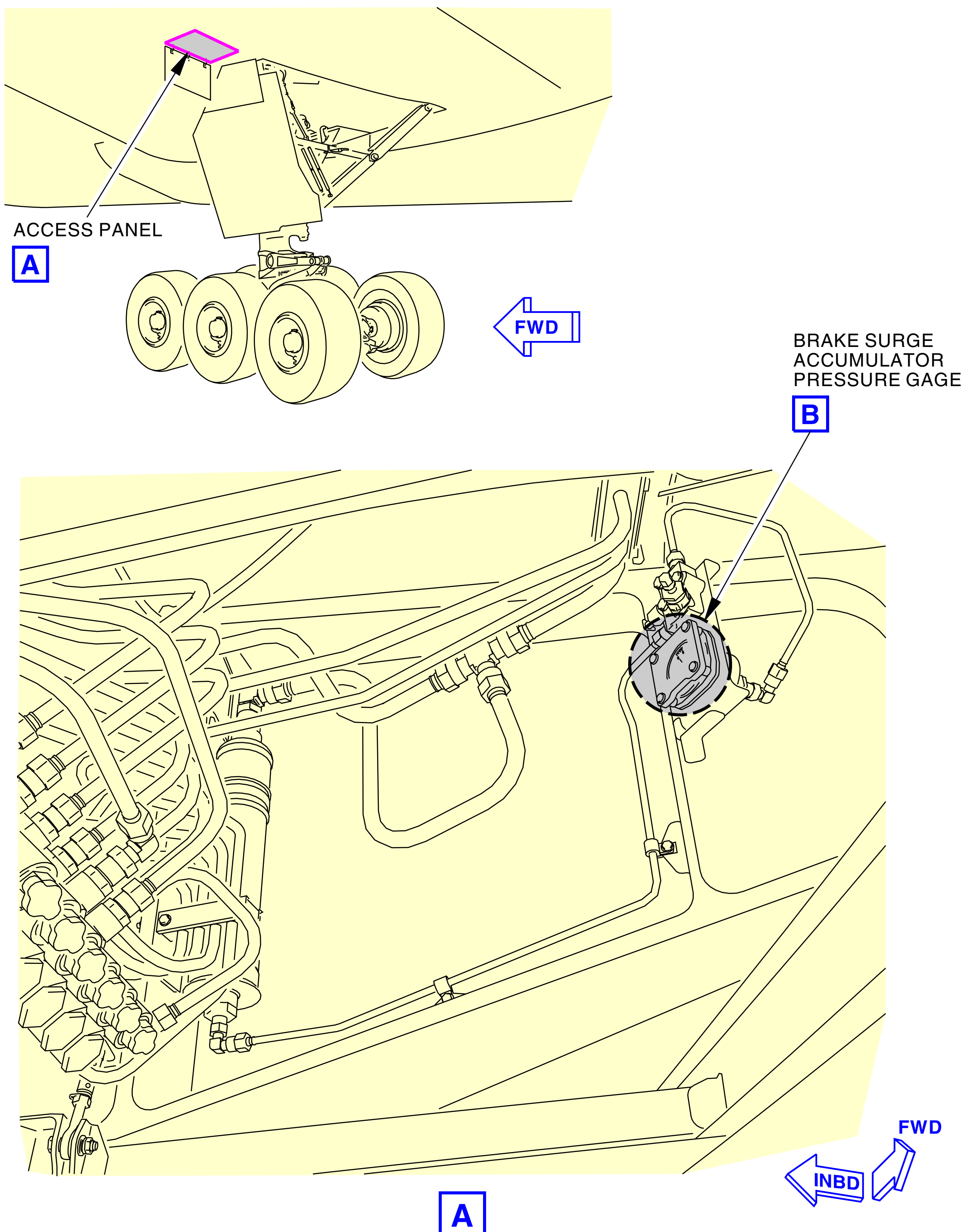
SUBTASK 32-41-16-020-002

(3) If the replacement pressure gauge [8] does not have a union [15] installed, do these steps:

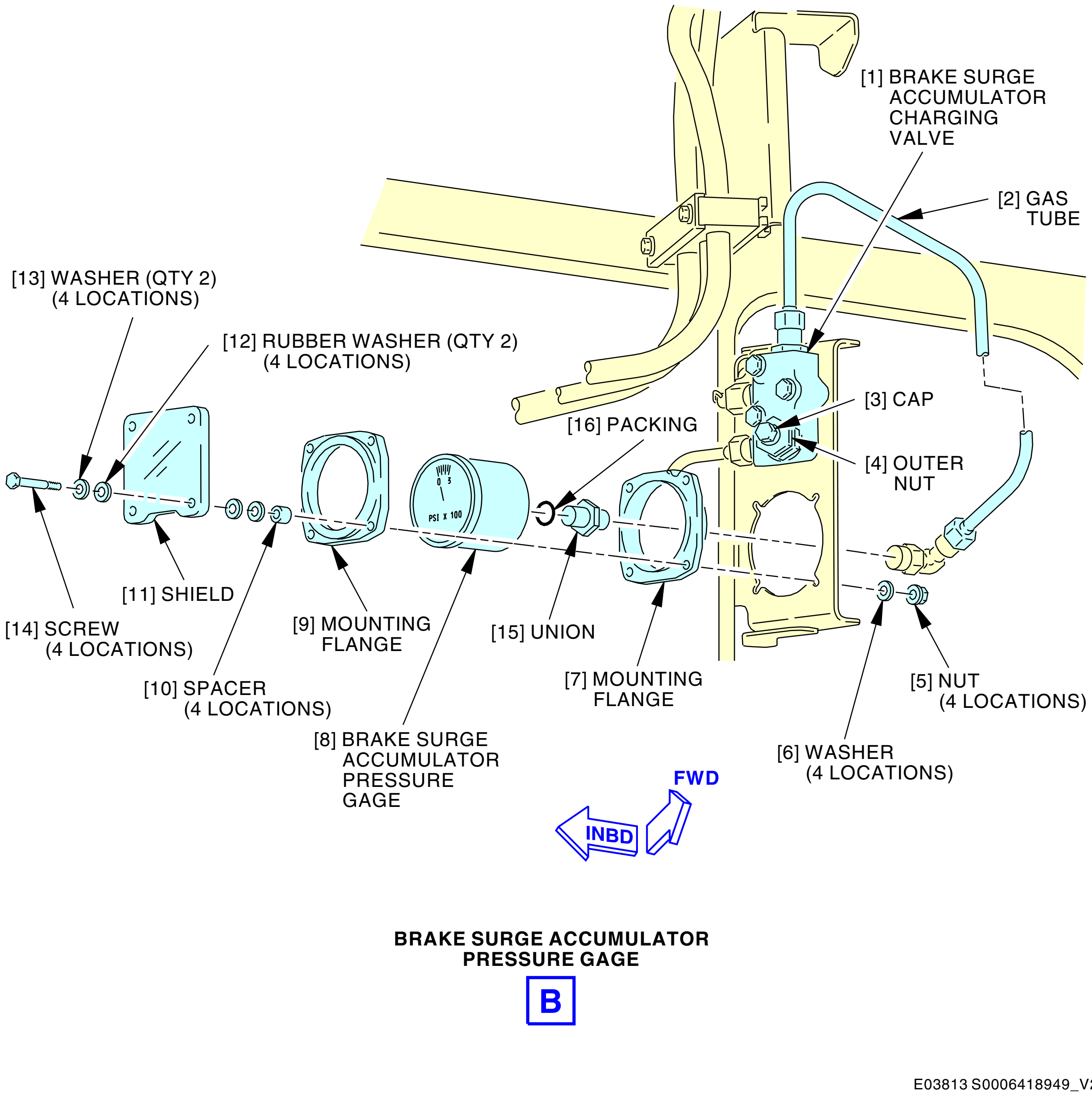
(a) Remove the union [15] and packing [16] from the pressure gauge [8].

(b) Discard the packing [16].

END OF TASK



Brake Surge Accumulator Pressure Gage Installation
Figure 401/32-41-16-990-801 (Sheet 1 of 2)



Brake Surge Accumulator Pressure Gage Installation
Figure 401/32-41-16-990-801 (Sheet 2 of 2)

TASK 32-41-16-400-801

3. Brake Surge Accumulator Pressure Gauge Installation

(Figure 401)

A. References

Reference	Title
12-15-09-610-802	Brake Surge Accumulator Servicing (P/B 301)
20-11-00-910-801	Standard Torque Values (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)

B. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
8	Gauge	32-41-14-01-105	ARO ALL
		32-41-16-01-015	ARO ALL
16	Packing	32-41-14-01-115	ARO ALL
		32-41-16-01-010	ARO ALL

D. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing

E. Access Panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel

F. Brake Surge Accumulator Pressure Gauge Assembly Installation

SUBTASK 32-41-16-020-003

(1) Remove the cap or plug from the port of the pressure gauge [8] and the gas tube [2].

SUBTASK 32-41-16-420-002

(2) If the replacement pressure gauge [8] does not have a union [15] installed in the port, do these steps:

(a) Lubricate the new packing [16] with hydraulic fluid, D00153.

(b) Install the new packing [16] on the union [15].

(c) Install the union [15] in the port of the pressure gauge [8].

SUBTASK 32-41-16-420-001

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) Do these steps to install the pressure gauge [8]:

(a) Install the washer [13], rubber washer [12] and the shield [11] on the screw [14].

NOTE: The rubber washers should always be against the shield.

(b) Install the rubber washer [12], washer [13] and the spacer [10] on the screw [14].

(c) Install the mounting flanges [9], the pressure gauge [8] and the mounting flange [7] on the screw [14].

(d) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the threads of the screw [14].

(e) Align the pressure gauge [8] on the mounting bracket on the forward face of the main landing gear beam.

(f) Install the washers [6] and nuts [5]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

(g) Connect the gas tube [2] to the union [15] on the pressure gauge [8].

SUBTASK 32-41-16-610-001

(4) Do this task: Brake Surge Accumulator Servicing, TASK 12-15-09-610-802.

G. Brake Surge Accumulator Pressure Gauge Assembly Operational Test

SUBTASK 32-41-16-710-001

(1) Do these steps to do an operational test of the pressure gauge [8]:

(a) Fully push the captain's brake pedals five times to bleed air from the system.

(b) Make sure the brake surge accumulator pressure gauge [8] shows the precharge pressure.

NOTE: The correct precharge pressure for the brake surge accumulator is shown on a placard near the pressure gage.

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(c) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801

(d) Apply a soap solution to the fittings of the pressure gauge [8].

(e) Examine the fittings for air bubbles.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-16-410-001

(1) Close this access panel:

Number	**Name/Location**
551DB	Inboard Fixed Trailing Edge Panel

SUBTASK 32-41-16-860-005

(2) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

BRAKE HYDRO-MECHANICAL FUSE ASSEMBLY - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) The removal of the brake hydro-mechanical fuse assemblies.

(2) The installation of the brake hydro-mechanical fuse assemblies.

(3) Each brake hydro-mechanical fuse assembly is referred to as the fuse assembly [8] in this procedure.

B. There are two fuse assemblies for the brake hydro-mechanical control. The fuse assembly in the left Main Landing Gear Wheel Well is for the Alternate Source Selector Valve for the Main Landing Gear. The fuse assembly in the right Main Landing Gear Wheel Well is for is for the Brake Accumulator Isolator Valve.

TASK 32-41-17-000-801

2. Brake Hydro-Mechanical Fuse Assembly Removal

(Figure 401)

A. References

Reference	Title
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

C. Prepare for the Removal

SUBTASK 32-41-17-480-001

> **WARNING** MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-17-480-002

> **WARNING** OBEY THE INSTALLATION PROCEDURE FOR THE DOOR LOCKS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Open the doors for the landing gear and install the door safety pins, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-41-17-480-003

(3) Make sure the tires have chocks installed around them.

SUBTASK 32-41-17-860-002

(4) Release the parking brake.

SUBTASK 32-41-17-860-001

(5) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-41-17-860-003

(6) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

Row	Col	Number	Name
B	3	C33610	MD & T CHANNEL 3

SUBTASK 32-41-17-870-001

(7) Fully push the captain's brake pedals twelve times to remove the pressure.

D. Brake Hydro-Mechanical Fuse Assembly Removal

SUBTASK 32-41-17-020-001

(1) Remove the fuse assembly [8] for the Alternate Source Selector Valve.

(a) Remove the screws [1], the washers [2] and the clamps [3] from the airplane.

(b) Disconnect the hydraulic lines [4] from the fuse assembly [8].

(c) Remove the fuse assembly [8] from the airplane.

(d) Install plugs on the hydraulic lines [4].

(e) Remove the elbow [5] from the fuse assembly [8].

(f) Remove the union [6] and the packing [7] from the fuse assembly [8].

SUBTASK 32-41-17-020-002

(2) Remove the fuse assembly [8] for the Brake Accumulator Isolator Valve.

(a) Remove the screws [1], the washers [2], the nuts [9], and the clamp [10] from the airplane.

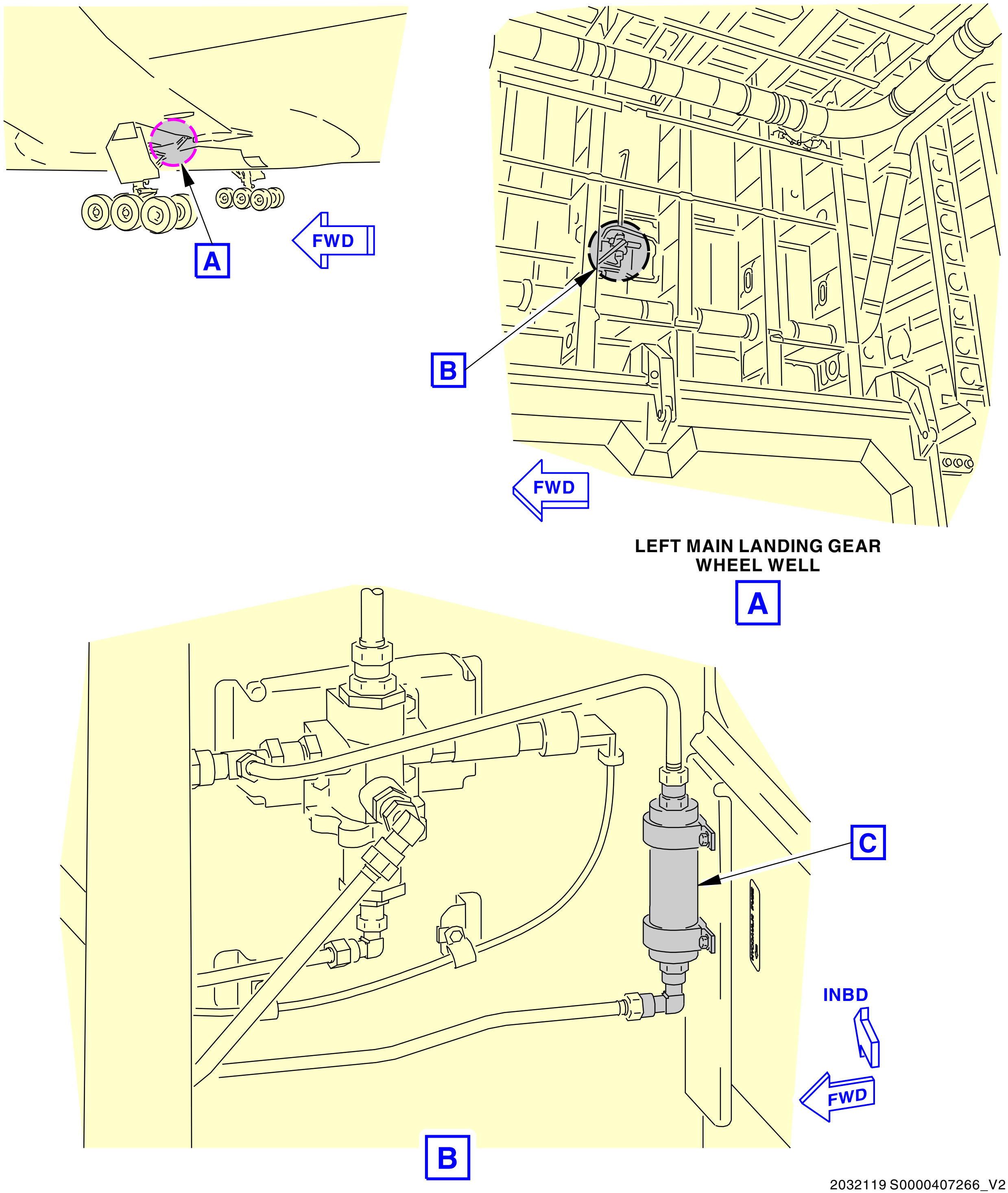
(b) Disconnect the hydraulic lines [4] from the fuse assembly [8].

(c) Remove the fuse assembly [8] from the airplane.

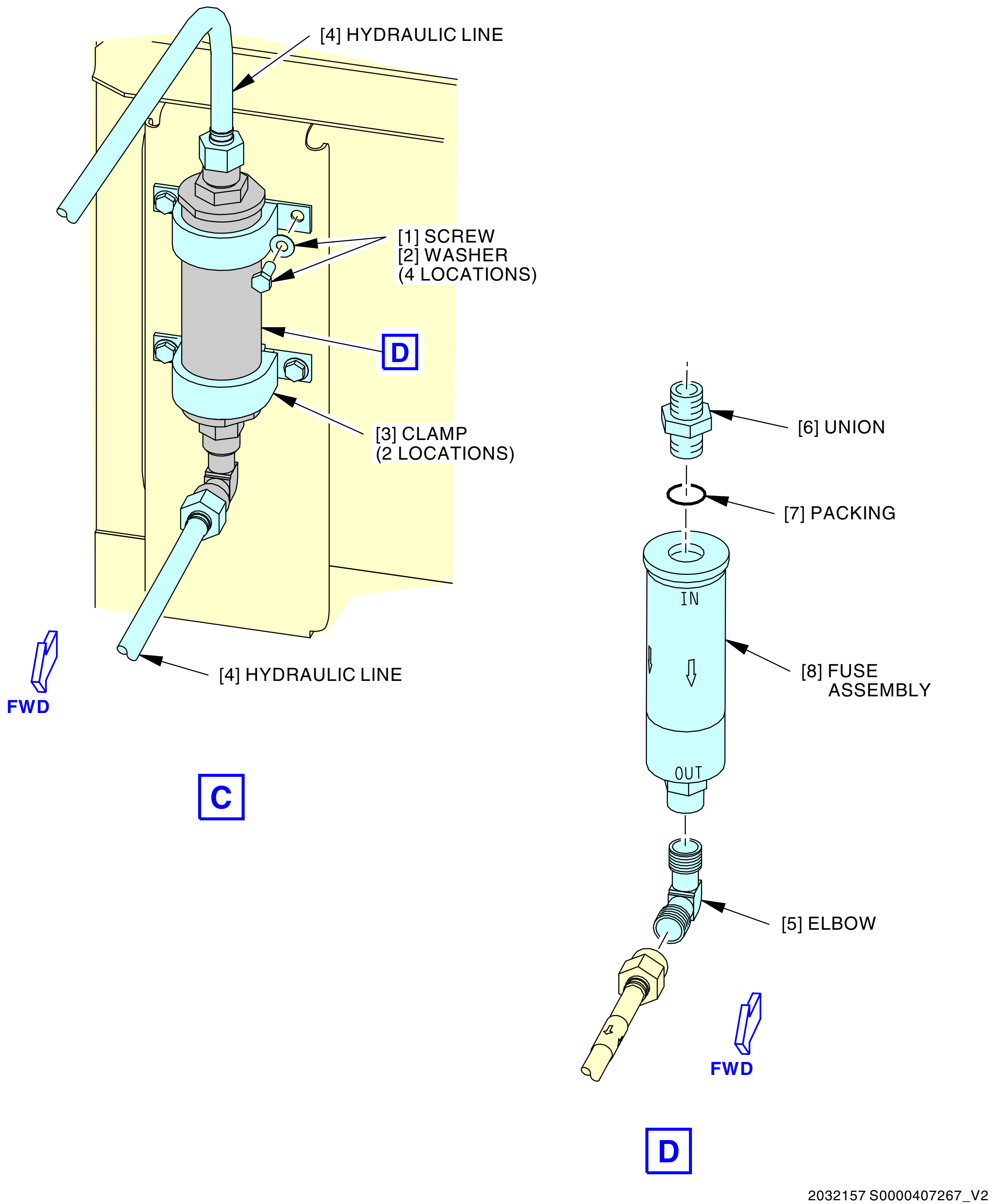
(d) Install plugs on the hydraulic lines [4].

(e) Remove the union [6] and the packing [7] from the fuse assembly [8].

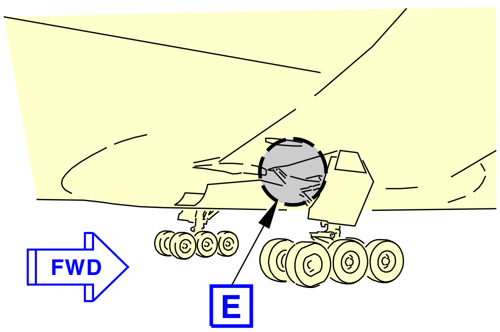
——— END OF TASK ———

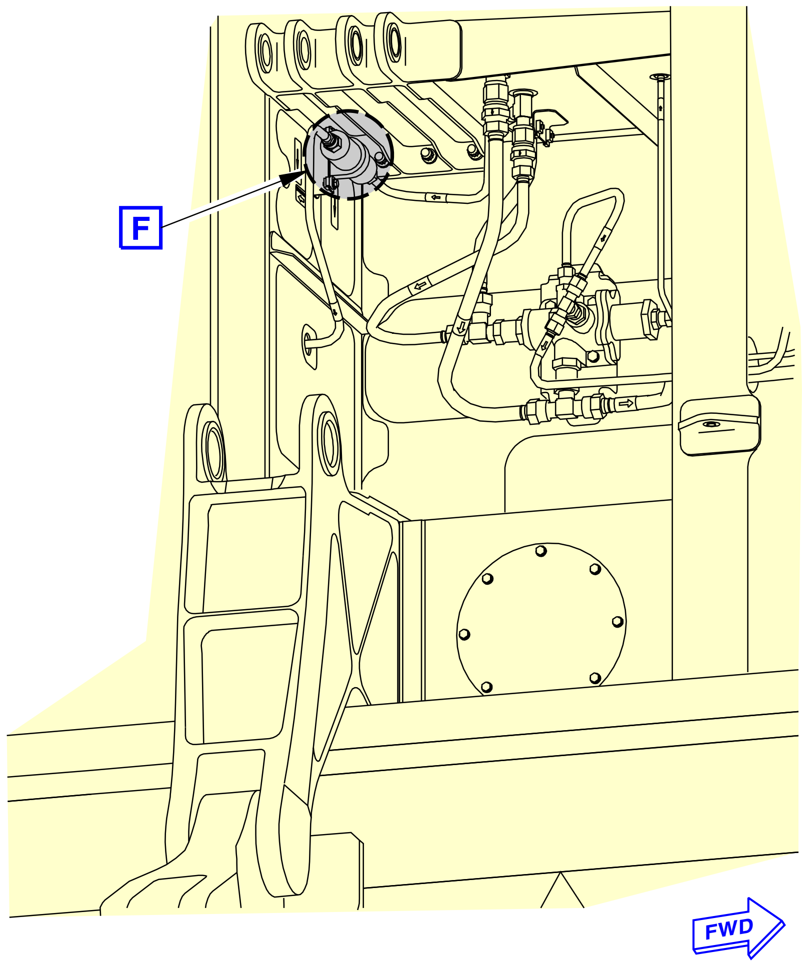


Brake Hydro-Mechanical Fuse Assembly Installation
Figure 401/32-41-17-990-801 (Sheet 1 of 4)



Brake Hydro-Mechanical Fuse Assembly Installation
Figure 401/32-41-17-990-801 (Sheet 2 of 4)



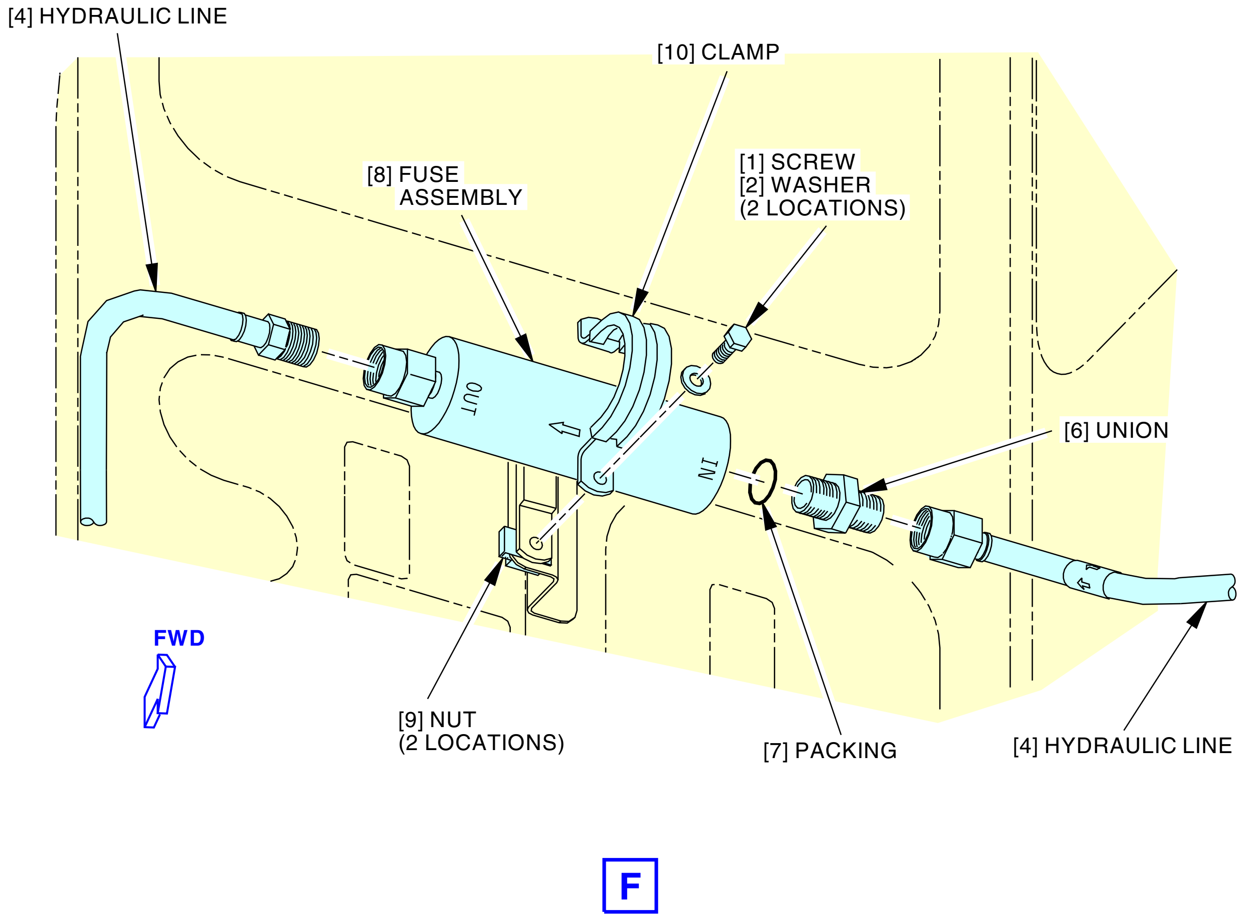


RIGHT MAIN LANDING GEAR WHEEL WELL

E

2032161 S0000407268_V2

Brake Hydro-Mechanical Fuse Assembly Installation
Figure 401/32-41-17-990-801 (Sheet 3 of 4)



2032181 S0000407269_V2

Brake Hydro-Mechanical Fuse Assembly Installation
Figure 401/32-41-17-990-801 (Sheet 4 of 4)

TASK 32-41-17-400-801

3. Brake Hydro-Mechanical Fuse Assembly - Installation

(Figure 401)

A. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-41-00-870-801	Alternate Hydraulic Brake System - Bleeding (P/B 201)
32-41-00-870-802	Normal Hydraulic Brake System - Bleeding (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

D. Prepare for the Installation

SUBTASK 32-41-17-480-004

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-41-17-480-005

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR LOCKS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Open the doors for the landing gear and install the door safety pins, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-41-17-480-006

(3) Make sure the tires have chocks installed around them.

E. Brake Hydro-Mechanical Fuse Assembly Installation

SUBTASK 32-41-17-420-001

(1) Install the fuse assembly [8] for the Brake Accumulator Isolator Valve.

(a) Lubricate the packing [7] with hydraulic fluid, D00153.

(b) Install the packing [7] and the union [6] on the fuse assembly [8].

(c) Remove the plugs from the hydraulic lines [4].

(d) Put the fuse assembly [8] on the airplane.

(e) Connect the hydraulic lines [4] to the fuse assembly [8].

1) Tighten the B-nuts on the hydraulic lines [4] to 270 ±14 in-lb (31 ±2 N·m).

(f) Install the clamp [10], the nuts [9], the washers [2] and the screws [1] on the airplane.

SUBTASK 32-41-17-420-002

(2) Install the fuse assembly [8] for the Alternate Source Selector Valve.

(a) Lubricate the packing [7] with hydraulic fluid, D00153.

(b) Install the packing [7] and the union [6] on the fuse assembly [8].

(c) Install the elbow [5] on the fuse assembly [8].

(d) Remove the plugs from the hydraulic lines [4].

(e) Put the fuse assembly [8] on the airplane.

(f) Connect the hydraulic lines [4] to the fuse assembly [8].

1) Tighten the B-nuts on the hydraulic lines [4] to 270 ±14 in-lb (31 ±2 N·m).

(g) Install the clamps [3], the washers [2], and the screws [1] on the airplane.

F. Brake Hydro-Mechanical Fuse Assembly Test

SUBTASK 32-41-17-860-004

(1) Remove the safety tag and close this circuit breaker:

Standby Power Management Panel, P310

Row	Col	Number	Name
B	3	C33610	MD & T CHANNEL 3

SUBTASK 32-41-17-860-005

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) For the right and the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-41-17-790-001

(3) Do a visual check of the fuse assemblies [8] and the hydraulic lines [4] for leaks.

SUBTASK 32-41-17-860-006

(4) Do this task: Normal Hydraulic Brake System - Bleeding, TASK 32-41-00-870-802.

SUBTASK 32-41-17-860-010

(5) Do this task: Alternate Hydraulic Brake System - Bleeding, TASK 32-41-00-870-801.

SUBTASK 32-41-17-790-002

(6) Do a visual check of the fuse assemblies [8] and the hydraulic lines [4] for leaks.

SUBTASK 32-41-17-780-001

(7) Make sure the brake accumulator pressure gage shows approximately 3000 psig (20,684 kPa).

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-41-17-860-007

(1) For the right and the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-41-17-860-008

(2) Set the parking brake.

SUBTASK 32-41-17-860-009

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Remove the door safety pins, do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

ANTISKID/AUTOBRAKE SYSTEM - ADJUSTMENT/TEST

1. **General**
   - A. This procedure contains scheduled maintenance task data.
   - B. This procedure has these tasks:
     - (1) A functional test of the hydraulic fuses for the normal or the alternate antiskid module
     - (2) A functional test of the antiskid/autobrake system

TASK 32-42-00-710-801

2. **Normal or Alternate Antiskid Module Hydraulic Fuses - Functional Test**
(Figure 501, Figure 502)

NOTE: This procedure is a scheduled maintenance task.

A. **General**

(1) This procedure provides instructions to test the hydraulic fuses of the normal or the alternate antiskid modules. The hydraulic system that you pressurize will determine which antiskid module that you test.

NOTE: The right hydraulic system is the normal brake system, the center hydraulic system is the alternate brake system.

(2) In this procedure the hydraulic fuse for the antiskid module will be referred to as the fuse.

B. **References**

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-41-00-990-802	Figure: Antiskid Hydraulic Fuses (P/B 201)
32-45-07-700-802	Main Landing Gear Brake Fast Check (Wheel Installed on the Airplane) (P/B 601)

C. **Tools/Equipment**

Reference	Description
STD-1110	Container - Hydraulic Fluid Resistant, 5 Gallon (19 Liter)

D. **Location Zones**

Zone	Area
211	Flight Compartment, Left
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing
731	Left Main Landing Gear
741	Right Main Landing Gear

E. **Access Panels**

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

F. Prepare for the Procedure

SUBTASK 32-42-00-860-002

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-42-00-480-002

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed on the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-00-860-003

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-42-00-480-003

(4) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-00-860-004

(5) Release the parking brake.

SUBTASK 32-42-00-860-005

(6) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-42-00-860-006

(7) Set the parking brake.

SUBTASK 32-42-00-010-001

(8) Open the applicable access panels to get access to the fuses on the antiskid module:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

G. Procedure

SUBTASK 32-42-00-710-001

(1) Do these steps for all twelve brakes on the Normal Antiskid Brake System (Figure 502):

NOTE: On the Alternate Antiskid System, it is only necessary to bleed the following 8 brakes:

- No. 1 or No. 5 brake
- No. 2 or No. 6 brake
- No. 3 or No. 7 brake
- No. 4 or No. 8 brake
- No. 9 brake
- No. 10 brake
- No. 11 brake
- No. 12 brake

NOTE: We recommend you do all of the steps below for one brake before you start the steps again for the next brake.

(a) Remove the screw [3] and washer [4] from the center of the bleed valve [2].

(b) Remove the lockwire from the bleed valve [2], if installed.

(c) Install the bleed hose on the end of the bleed valve [2].

(d) Put the free end of the bleed hose into a 5 gallon (19 liter) hydraulic fluid resistant container, STD-1110.

WARNING: KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(e) Use the hydraulic service cart to pressurize the center and/or the right hydraulic system as follows:

NOTE: The right hydraulic system is the normal brake system, and the center hydraulic system is the alternate brake system.

NOTE: We recommend that you use the hydraulic service cart because of the large volume of hydraulic fluid this procedure removes from the hydraulic system. This procedure removes a maximum of 5 gal (19 l) of hydraulic fluid from the hydraulic system 0.4 gal (1.5 l) for each brake, 5 gal (19 l) for all twelve brakes).

NOTE: If you use the airplane's hydraulic supply, monitor the quantity of hydraulic fluid in the reservoir when you bleed the system.

1) For the test for the fuses for the normal antiskid module, pressurize the right hydraulic system to 250 psig (1724 kPa) (TASK 29-11-00-860-801).

2) For the test for the fuses for the alternate antiskid module, pressurize the center hydraulic system to 250 psig (1724 kPa) (TASK 29-11-00-860-801).

3) For the test for the fuses for both the normal antiskid module and the alternate antiskid module, pressurize both the right hydraulic system and the center hydraulic system to 250 psig (1724 kPa) (TASK 29-11-00-860-801).

(f) Slowly open the bleed valve [2] about one half turn.

NOTE: This will let hydraulic fluid flow out of the bleed hose.

NOTE: The fluid can flow out of the hose very quickly and intermittently.

(g) Make sure that the flow of hydraulic fluid stops after approximately 0.25 gal (0.95 l) to 0.4 gal (1.5 l) flow into the 5 gallon (19 liter) hydraulic fluid resistant container, STD-1110.

NOTE: This shows that the fuse is closed and operates correctly.

(h) Close the bleed valve [2].

(i) Do one of the steps that follow to reset the fuse:

1) On the normal or the alternate antiskid valve, at the hydraulic fuse for the brake being bled, pull the fuse bypass lever [1] down and hold it in this bypass position for 5 seconds minimum (Figure 501).

NOTE: The placard by the antiskid valve will show which lever to pull for each brake.

2) Or, release the parking brake then reset the parking brake.

(j) Open the bleed valve [2] and continue to bleed the brake until there are no air bubbles in the flow of hydraulic fluid.

(k) If the fluid flow stops, the brake fuse has set, to reset the fuse, do the steps that follow:

1) Close the bleed valve [2].

2) Do one of the steps that follow to reset the fuse:

a) On the normal antiskid valve, at the hydraulic fuse for the brake being bled, pull the fuse bypass lever [1] down and hold it in this bypass position for 5 seconds minimum (Figure 32-41-00-990-802).

NOTE: The placard by the antiskid valve will show which lever to pull for each brake.

b) Or, release the parking brake then reset the parking brake.

(l) Close the bleed valve [2].

(m) Remove the bleed hose from the bleed valve [2].

(n) Tighten the bleed valve [2] to 35 in-lb (4 N·m) - 55 in-lb (6 N·m).

1) Do a check for fluid leaks at the brake bleed valves (TASK 32-45-07-700-802).

(o) Install a lockwire on the bleed valve [2], if lockwire holes are available.

(p) Install the washer [4] and screw [3] in the center of the bleed valve [2].

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-42-00-860-007

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(1) For the right and center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-42-00-860-008

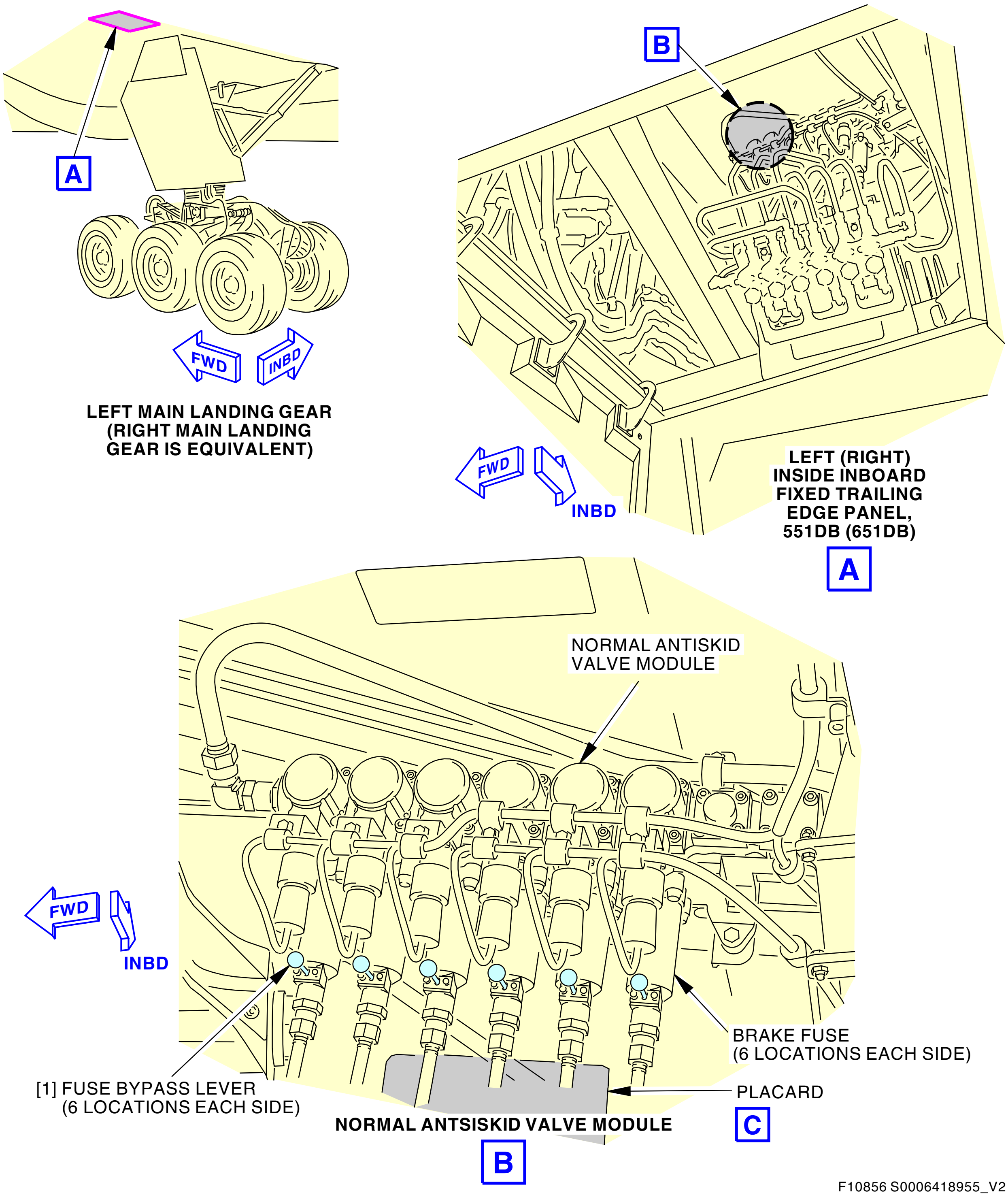
(2) For the right and center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-42-00-010-002

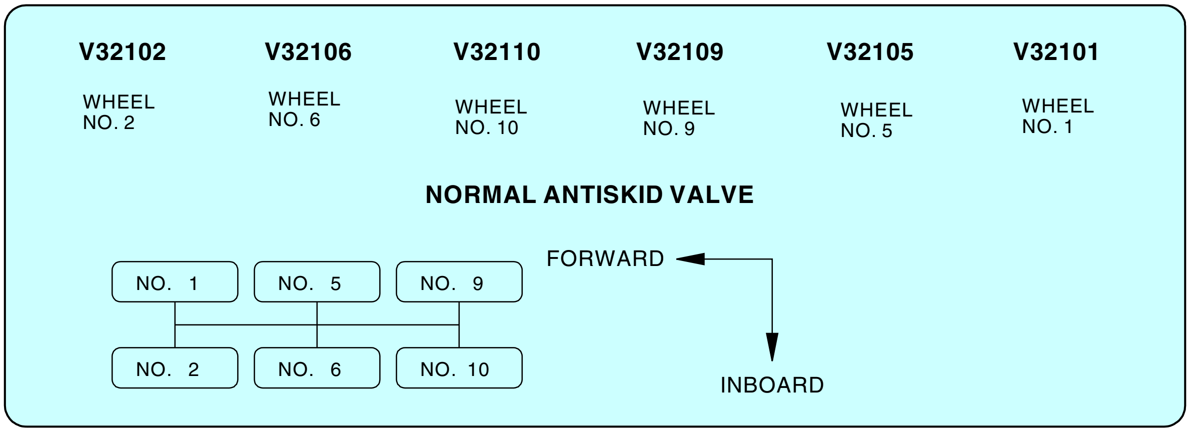
(3) Close the applicable access panels:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

END OF TASK

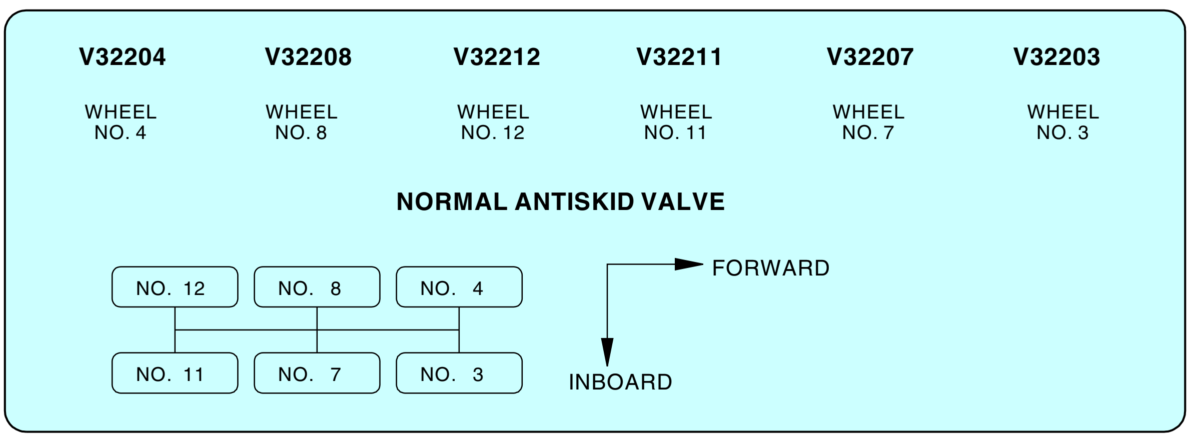


Antiskid Hydraulic Fuses
Figure 501/32-42-00-990-801 (Sheet 1 of 5)



LEFT SIDE PLACARD

C

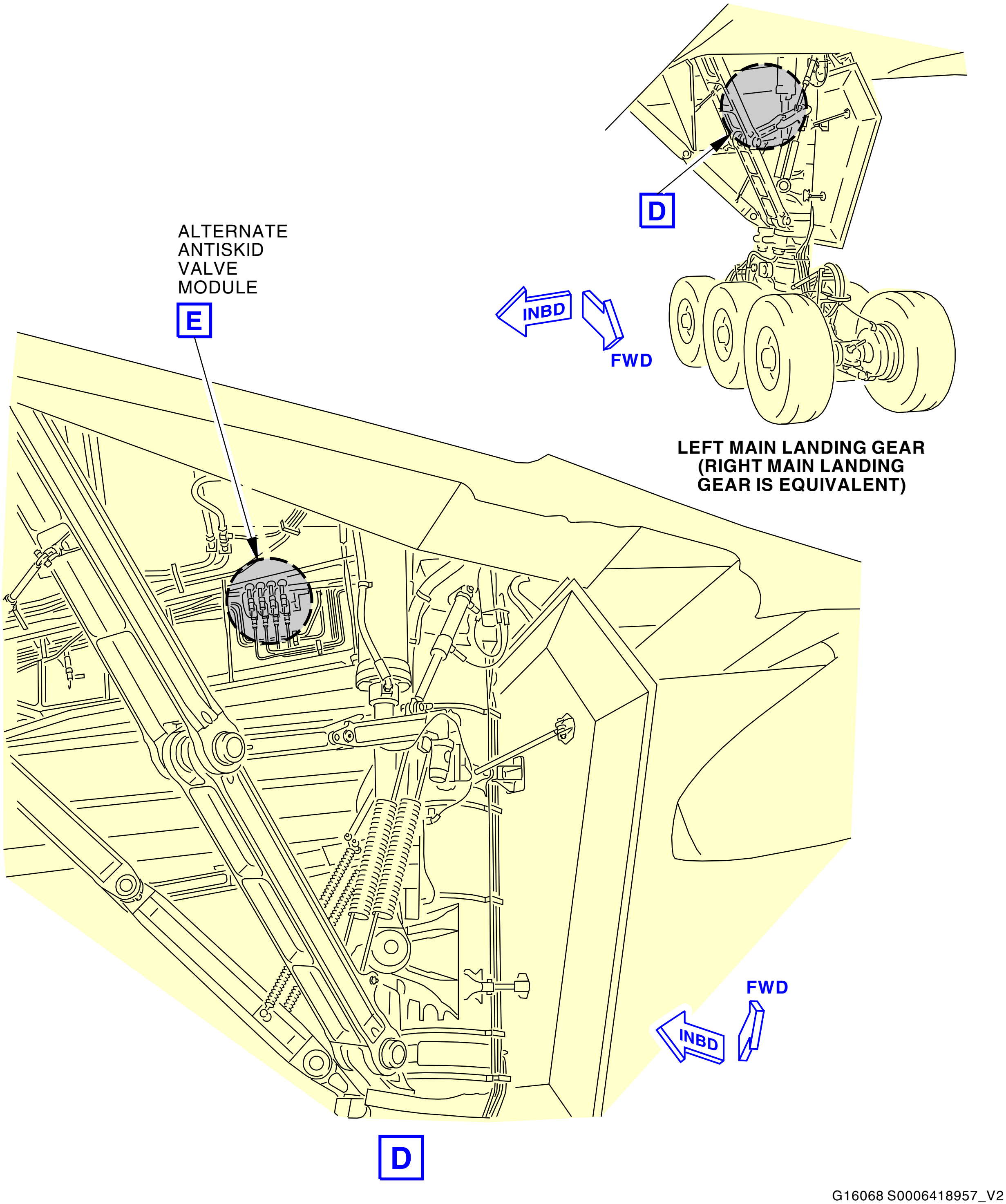


RIGHT SIDE PLACARD

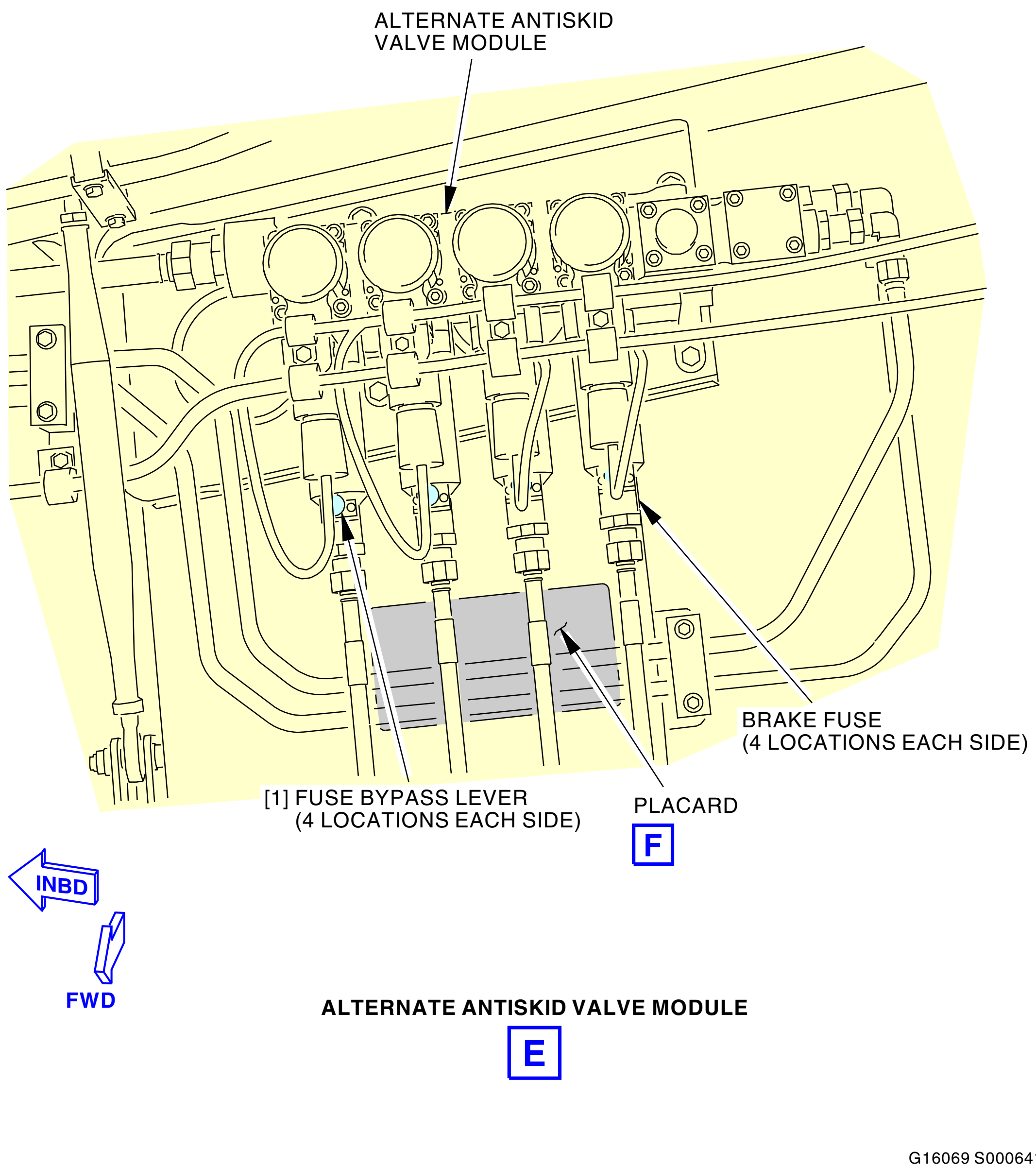
C

F10870 S0006418956_V3

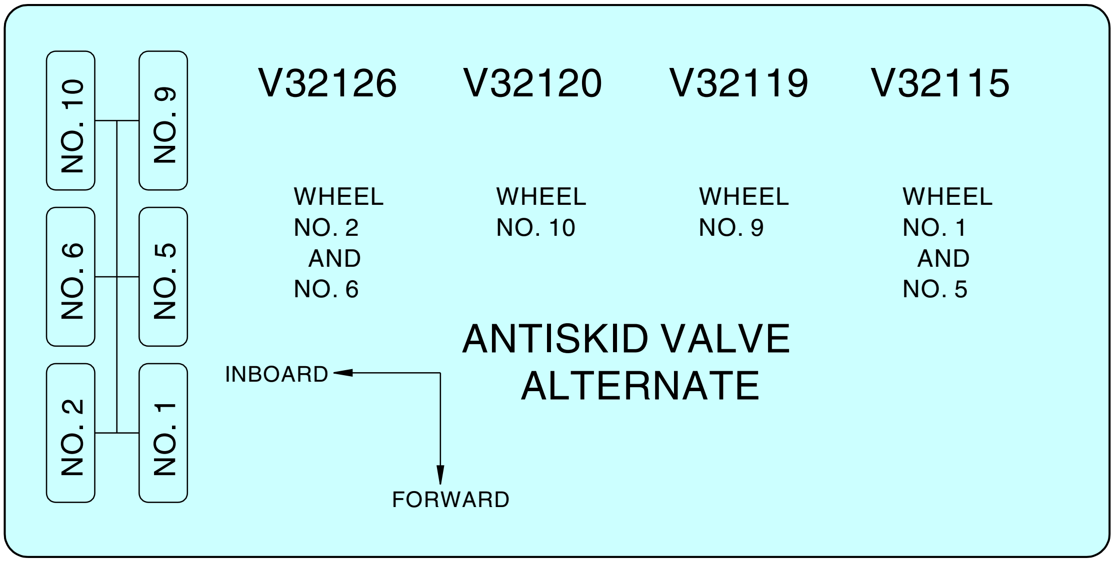
Antiskid Hydraulic Fuses
Figure 501/32-42-00-990-801 (Sheet 2 of 5)



Antiskid Hydraulic Fuses
Figure 501/32-42-00-990-801 (Sheet 3 of 5)

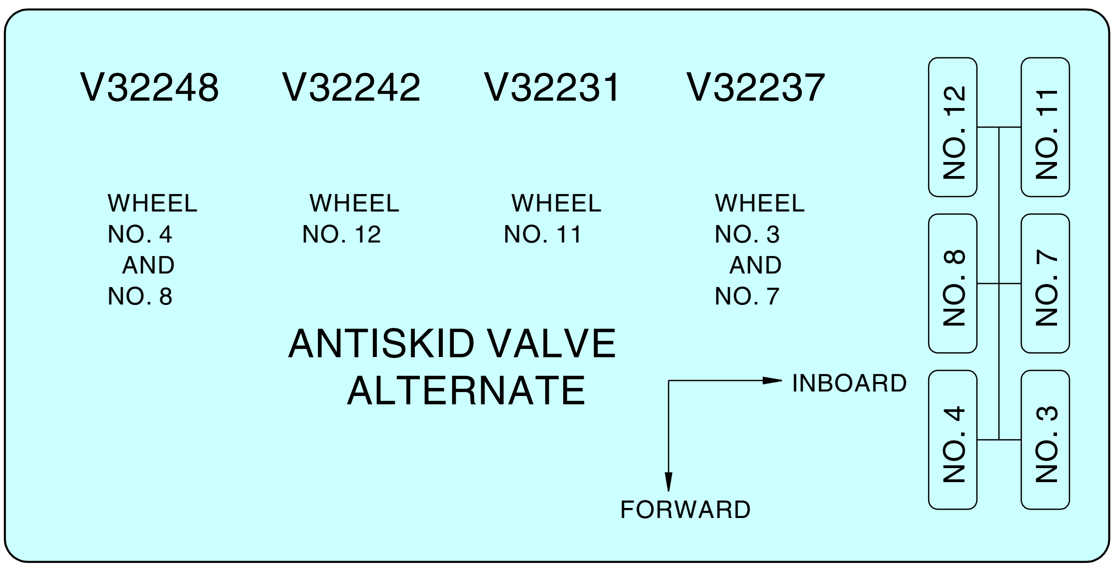


Antiskid Hydraulic Fuses
Figure 501/32-42-00-990-801 (Sheet 4 of 5)



LEFT SIDE PLACARD

F

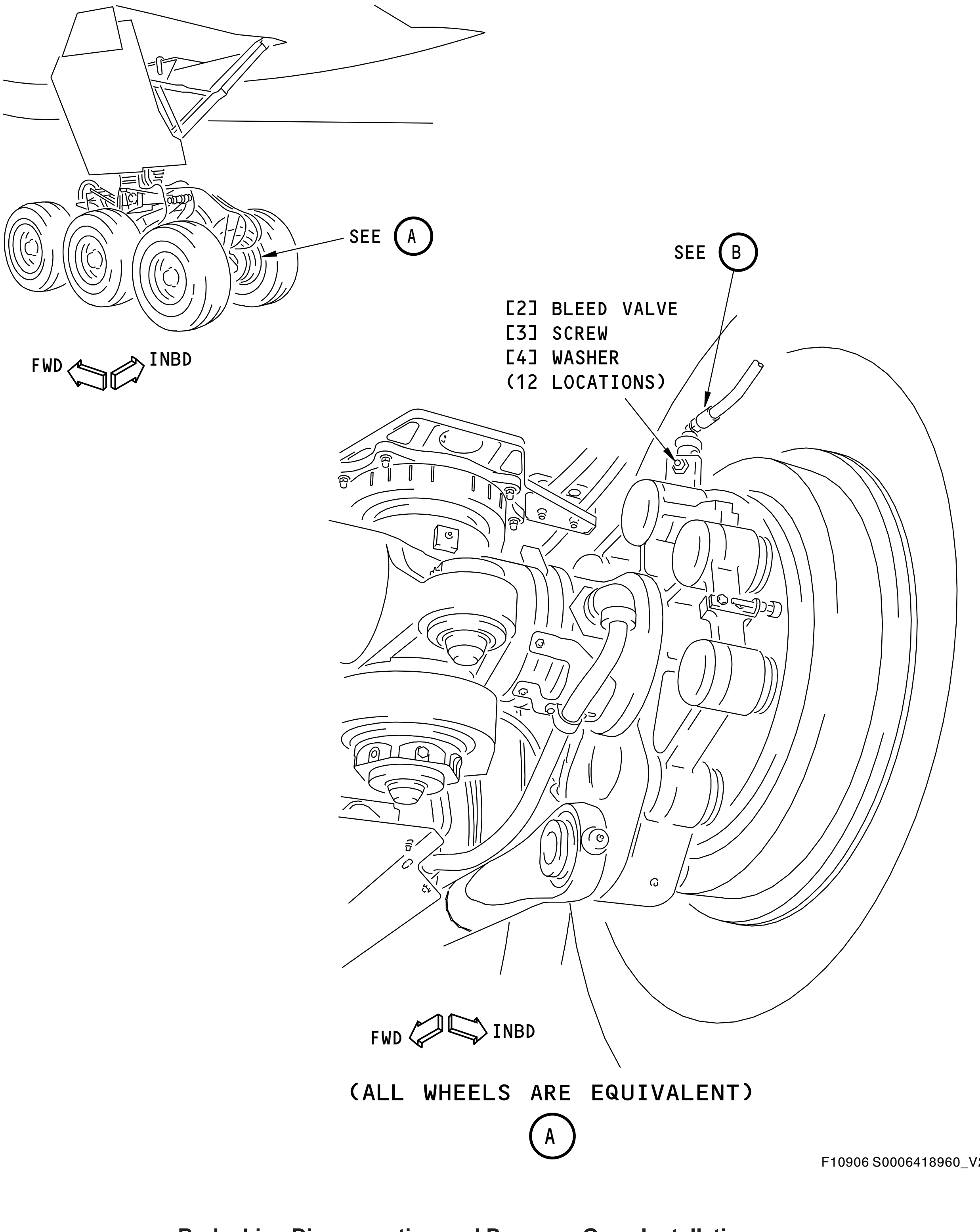


RIGHT SIDE PLACARD

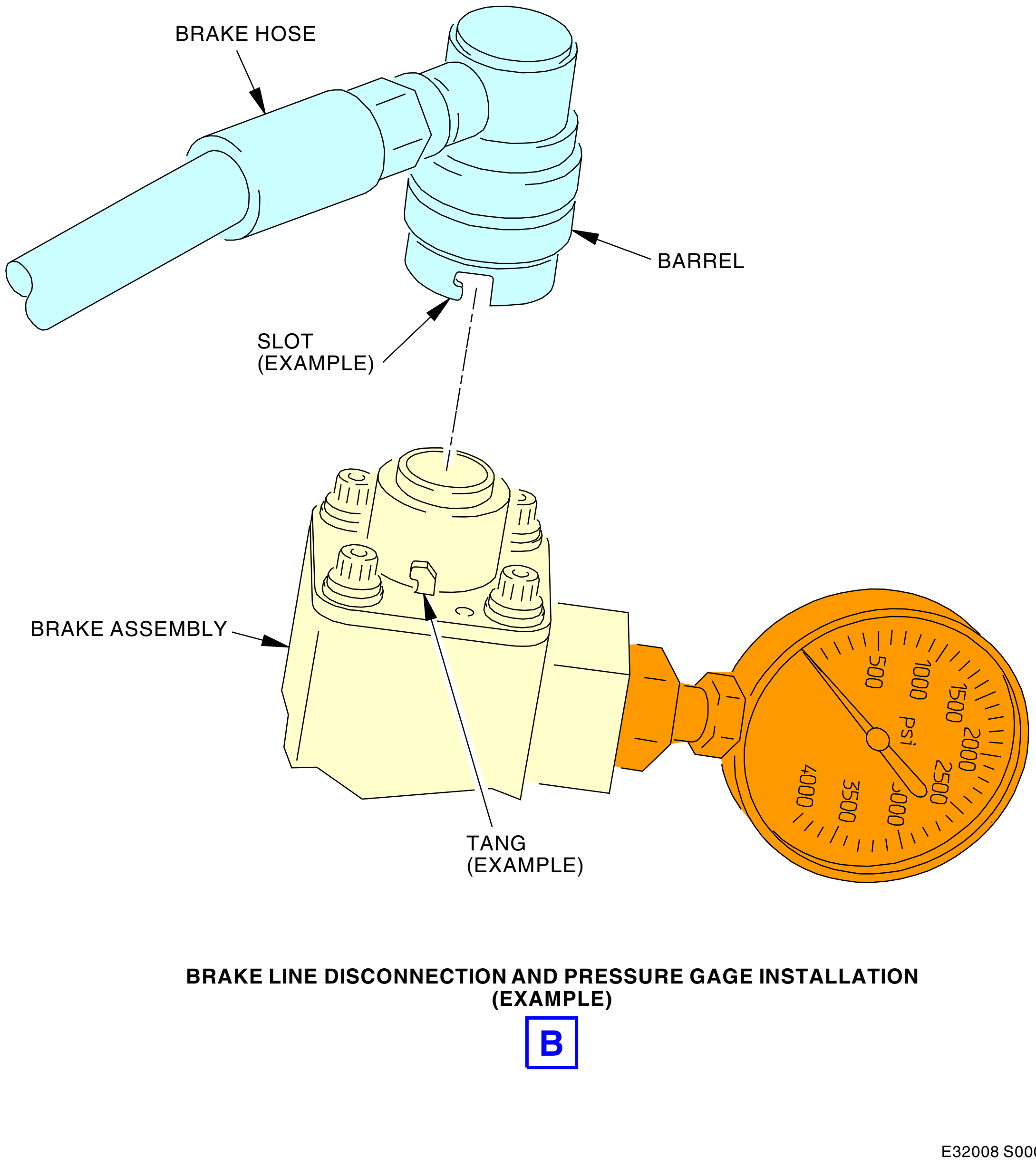
F

G16073 S0006418959_V2

Antiskid Hydraulic Fuses
Figure 501/32-42-00-990-801 (Sheet 5 of 5)



Brake Line Disconnection and Pressure Gage Installation
Figure 502/32-42-00-990-808 (Sheet 1 of 2)



Brake Line Disconnection and Pressure Gage Installation
Figure 502/32-42-00-990-808 (Sheet 2 of 2)

TASK 32-42-00-700-801

3. **Antiskid/Autobrake System - Functional Test**

(Figure 502)

A. **General**

(1) A Maintenance Access Terminal (MAT) is necessary for this procedure. For instructions on how to use a Maintenance Access Terminal, do this task: How to Use the Central Maintenance Computing System, TASK 45-10-00-740-808.

B. **References**

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-42-04-000-801	Antiskid Transducer Drive Removal (P/B 401)
32-42-04-400-801	Antiskid Transducer Drive Installation (P/B 401)
32-45-08-020-801	Main Landing Gear Hubcap - Removal (P/B 401)
32-45-08-420-801	Main Landing Gear Hubcap - Installation (P/B 401)
34-21-00-820-801	Air Data Inertial Reference Unit - Alignment (P/B 201)
45-10-00-740-808	How to Use the Central Maintenance Computing System (P/B 201)
FIM 32-42 TASK 833	BSCU Pin Program Disagree or Invalid - Fault Isolation

C. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1831	Adapter - Spin Up, Wheel Speed Transducer, Anti-Skid System Part #: A32075-10 Supplier: 81205 Opt Part #: A32075-1 Supplier: 81205 Opt Part #: A32075-9 Supplier: 81205
SPL-10813	Gauge Set - Hydraulic Brake System, Pressure Checking Part #: C32051-1 Supplier: 81205 Opt Part #: F72977-62 Supplier: 81205
SPL-15031	Test Equipment - Brake Bleed Part #: G32075-16 Supplier: 81205
STD-1157	Gauge - Pressure, 0-3000 PSIG (0-20685 KPa)
STD-11689	Gauge - Pressure, 0-5000 PSIG (0-34474 KPa)

D. **Location Zones**

Zone	Area
211	Flight Compartment, Left
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing
731	Left Main Landing Gear

(Continued)

Zone	Area
741	Right Main Landing Gear

E. Prepare for the Procedure

SUBTASK 32-42-00-860-009

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-42-00-480-004

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-00-860-010

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-42-00-480-005

(4) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-00-860-011

(5) Release the parking brake.

SUBTASK 32-42-00-860-012

(6) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-42-00-480-001

(7) Do these steps to install a pressure gage at each brake:

(a) Disconnect the brake at the brake disconnect:

1) Pull up on the barrel of the brake disconnect.

2) Turn the barrel counterclockwise to disconnect the brake hose from the brake assembly.

(b) Remove the brake bleeder assembly from the brake.

NOTE: Each brake bleeder assembly has a bleeder valve installed in an adapter. The adapter is installed in the brake.

(c) Install the pressure gauge, SPL-15031 or the pressure gauge (0-5000 PSIG), STD-11689, (0-34474 KPa), or the optional pressure gauge (0-3000 PSIG), STD-1157 or the gauge set, SPL-10813, on the brake bleed port.

(d) Connect the brake at the brake disconnect:

1) Turn the hose half of the brake disconnect until the internal tangs align with the slots inside the brake half of the brake disconnect and you can push the hose half down.

2) Push down on the barrel and turn it clockwise to engage the threads.

3) Turn the barrel clockwise until the slots in the bottom of the barrel snap into place on the external tangs on the brake half of the brake disconnect.

(e) Do a visual check to make sure the slots on the barrel are fully and correctly engaged with the tangs on the brake half of the brake disconnect.

F. Autobrake Indication Test

SUBTASK 32-42-00-860-013

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(1) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-42-00-860-014

(2) Make sure the thrust levers are in the IDLE position.

SUBTASK 32-42-00-710-003

(3) Make sure the Air Data Inertial Reference Unit (ADIRU) is operating and aligned (TASK 34-21-00-820-801).

SUBTASK 32-42-00-710-002

(4) Move the autobrake selector switch (P2-2) to the positions in Table 501, and make sure the indications on EICAS are correct:

Table 501/32-42-00-993-803 Autobrake Indication Test

Autobrake Selector Switch Position	EICAS Indication
1	AUTOBRAKE 1
2	AUTOBRAKE 2
3	AUTOBRAKE 3
4	AUTOBRAKE 4
MAX AUTO	AUTOBRAKE MAX
RTO	AUTOBRAKE RTO
DISARM	AUTOBRAKE

G. System Interface

SUBTASK 32-42-00-720-001

(1) Use a MAT to do the System Interface test.

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE

2) LINE MAINTENANCE

3) GROUND TESTS

4) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM

5) SYSTEM TEST

6) SYSTEM INTERFACE

7) CONTINUE.

(b) Do the test preparation instructions that show on the MAT.

(c) Start the test.

(d) Do the test instructions that show on the MAT.

(e) When the test is completed, make sure that PASSED shows adjacent to TEST CONDITION on the MAT.

(f) If FAILED shows, refer to the applicable Maintenance Message Index in the FIM to find the fault isolation task for each maintenance message that shows on the MAT.

ARO ALL; AIRPLANES WITH A 142-123 OR 142-123-01 (S294W401-XX) BSCU INSTALLED.

SUBTASK 32-42-00-720-016

(2) Use a MAT to do retrieve System Configuration.

ARO ALL

NOTE: This step only applies to airplanes with the data loadable BSCU, P/N 142-123.

ARO ALL; AIRPLANES WITH A 142-123 OR 142-123-01 (S294W401-XX) BSCU INSTALLED.

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE
2) LINE MAINTENANCE
3) SYSTEM CONFIGURATION
4) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM.

(b) When the SYSTEM CONFIGURATION screen appears, check the Pgrm Cnfg line, on both Primary and Secondary Chan.

NOTE: It should display the airplane type and the pin program corresponding to the airplane that the BSCU is currently installed on.

Airplane Type	Pin Program
777-200/300	0000
777-200LR/300ER	0001

(c) If the airplane type and pin program do not correspond to the airplane that the BSCU is currently installed on, refer to FIM 32-42 TASK 833.

(d) To put the MAT back to its initial condition, make these selections:

1) GO BACK
2) LINE MAINTENANCE
3) EXIT MAINTENANCE.

ARO ALL

H. Antiskid Brake Release

SUBTASK 32-42-00-720-002

(1) Do the Alternate Valve Release Test:

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE
2) LINE MAINTENANCE
3) GROUND TESTS
4) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM
5) SYSTEM TEST
6) ANTISKID BRAKE RELEASE
7) CONTINUE.

(b) Do the test preparation instructions that show on the MAT.

(c) Start the test.

(d) Select ALTERNATE VALVE to test the alternate antiskid valves.

(e) Do the test instructions that show on the MAT.

(f) Make the MAT selections in Table 502, and make sure the pressure gage at the applicable brake location drops to 0 psig (0 kPa) – 200 psig (1379 kPa) and then returns to 2800 psig (19,305 kPa) – 3200 psig (22,063 kPa):

Table 502/32-42-00-993-804 Antiskid Brake Release - Alternate Valve

MAT Selection	Applicable Brake Location
ALTERNATE VALVE 1&5	1 AND 5
ALTERNATE VALVE 9	9
ALTERNATE VALVE 2&6	2 AND 6
ALTERNATE VALVE 10	10
ALTERNATE VALVE 3&7	3 AND 7
ALTERNATE VALVE 11	11
ALTERNATE VALVE 4&8	4 AND 8
ALTERNATE VALVE 12	12

SUBTASK 32-42-00-720-003

(2) Do the Normal Valve Release Test:

(a) Make this selection on the MAT:

1) LEFT NORMAL VALVE.

(b) Make the MAT selections in Table 503, and make sure the pressure gage at the applicable brake location drops to 0 psig (0 kPa) – 200 psig (1379 kPa) and then returns to 2800 psig (19,305 kPa) – 3200 psig (22,063 kPa):

Table 503/32-42-00-993-805 Antiskid Brake Release - Left Normal Valve

MAT Selection	Applicable Brake Location
NORMAL VALVE 1	1
NORMAL VALVE 5	5
NORMAL VALVE 9	9
NORMAL VALVE 2	2
NORMAL VALVE 6	6
NORMAL VALVE 10	10

(c) Make this selection on the MAT:

1) RIGHT NORMAL VALVE.

(d) Make the MAT selections in Table 504, and make sure the pressure gage at the applicable brake location drops to 0 psig (0 kPa) – 200 psig (1379 kPa) and then returns to 2800 psig (19,305 kPa) – 3200 psig (22,063 kPa):

Table 504/32-42-00-993-806 Antiskid Brake Release - Right Normal Valve

MAT Selection	Applicable Brake Location
NORMAL VALVE 3	3
NORMAL VALVE 7	7
NORMAL VALVE 11	11
NORMAL VALVE 4	4
NORMAL VALVE 8	8
NORMAL VALVE 12	12

I. **Autobrake Application**

SUBTASK 32-42-00-720-004

(1) Use the MAT to do the Autobrake Application test:

(a) ONBOARD MAINTENANCE

(b) LINE MAINTENANCE

(c) GROUND TESTS

(d) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM

(e) SYSTEM TEST

(f) AUTOBRAKE APPLICATION

(g) CONTINUE.

(h) Do the test preparation instructions that show on the MAT.

(i) Start the test.

(j) Do the test instructions that show on the MAT.

(k) When the test is completed, make sure that PASSED shows adjacent to TEST CONDITION on the MAT.

(l) If FAILED shows, refer to the applicable Maintenance Message Index in the FIM to find the fault isolation task for each maintenance message that shows on the MAT.

J. **Taxi Brake Release Test**

SUBTASK 32-42-00-860-018

(1) Make sure the right hydraulic system is pressurized (TASK 29-11-00-860-801).

SUBTASK 32-42-00-720-008

(2) For the LANDING GEAR BRKS/STRNG maintenance page, do this task: Showing a Maintenance Page, TASK 31-61-00-800-804.

SUBTASK 32-42-00-720-009

(3) Do these steps three times:

(a) Push the captain's left brake pedal until the NORM brake metered pressure shows 300 psig (2068 kPa) – 1500 psig (10,342 kPa) on the LANDING GEAR BRKS/STRNG maintenance page.

(b) Make sure the pressure gages on the left truck show these conditions:

NOTE: The sequence does not always start at the forward axle pair, but should follow the order: forward, center, aft.

1) One axle pair shows 0 psig (0 kPa) – 200 psig (1379 kPa).

2) Two axle pairs show more than 300 psig (2068 kPa).

(c) Release the captain's left brake pedal.

K. Wheelspeed Transducer Spin

SUBTASK 32-42-00-020-002

CAUTION REMOVE THE HUBCAP CAREFULLY. THERE IS A LOCATING PIN ON THE HUBCAP. SUDDEN MOVEMENTS CAN CAUSE DAMAGE TO THE LOCATING PIN.

(1) Remove the hubcap assembly [8] at each wheel location. Refer to this task: Main Landing Gear Hubcap - Removal, TASK 32-45-08-020-801.

(a) Remove the clamp [7].

(b) Remove the hubcap assembly [8] from the wheel.

NOTE: Keep the spacer with the hubcap assembly.

SUBTASK 32-42-00-720-015

(2) Use the MAT to do the Wheelspeed Transducer test:

(a) ONBOARD MAINTENANCE

(b) LINE MAINTENANCE

(c) GROUND TESTS

(d) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM

(e) SYSTEM TEST

(f) WHEELSPEED TRANSDUCER SPIN

(g) CONTINUE.

(h) Do the test preparation instructions that show on the MAT.

(i) Start the test.

(j) Do the test instructions that show on the MAT.

SUBTASK 32-42-00-720-011

(3) Use the spin up wheel speed transducer anti-skid system adapter, SPL-1831, and a variable speed drill to turn each antiskid transducer dog in Table 505, and make sure the MAT display is correct:

NOTE: The WHEELSPEED TRANSDUCER IS SPINNING screen is only displayed while the wheelspeed transducer is spinning. When the transducer stops spinning, the SPIN A WHEELSPEED TRANSDUCER screen will appear.

Table 505/32-42-00-993-807 Wheelspeed Transducer Spin

Wheelspeed Transducer	MAT Display
1	wheelspeed transducer 1 is spinning
5	wheelspeed transducer 5 is spinning
9	wheelspeed transducer 9 is spinning
10	wheelspeed transducer 10 is spinning
6	wheelspeed transducer 6 is spinning
2	wheelspeed transducer 2 is spinning

Table 505/32-42-00-993-807 Wheelspeed Transducer Spin (Continued)

Wheelspeed Transducer	MAT Display
3	wheelspeed transducer 3 is spinning
7	wheelspeed transducer 7 is spinning
11	wheelspeed transducer 11 is spinning
12	wheelspeed transducer 12 is spinning
8	wheelspeed transducer 8 is spinning
4	wheelspeed transducer 4 is spinning

(a) If you do not use the special tool to spin the transducer, make sure you use a single motion to spin the transducer. Each additional spin will send a screen request to AIMS.

NOTE: Multiple continuous spins will overload the AIMS memory and a protocol breakdown will occur. A BSCU internal fault will be generated.

If COMPLETE is then selected from the WHEELSPEED TRANSDUCER IS SPINNING screen, the test will indicate FAIL.

1) If a BSCU internal fault is generated and the test indicates FAIL, recycle the following two circuit breakers, and repeat the test:

Open and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
M	20	C32613	LG AUTOBRAKE/BITE/R-COMM CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
N	1	C32614	LG AUTOBRAKE/BITE/R-COMM CB 2

SUBTASK 32-42-00-720-013

(4) Do these steps to each wheel hubcap of the main landing gear to check the operation of the wheelspeed transducer drive assembly (Figure 503):

CAUTION DO NOT APPLY A FORCE GREATER THAN 5 POUND-FEET (6.8 NEWTON METERS) TO THE CUP. IF YOU APPLY TOO MUCH FORCE, YOU CAN CAUSE DAMAGE TO THE EQUIPMENT.

(a) Hold the hubcap assembly with one hand and apply a light torque to the cup of hubcap drive assembly with the fingers on your other hand.

NOTE: The cup of the drive assembly should not move in relation to the hubcap assembly.

NOTE: Do not compress the cup and drive assembly when you apply the torque to the cup.

(b) If the cup turns relative to the fan assembly, the drive assembly has failed and should be replaced.

1) Do these steps to replace the drive assembly:

a) Do this task: Antiskid Transducer Drive Removal, TASK 32-42-04-000-801.

b) Do this task: Antiskid Transducer Drive Installation, TASK 32-42-04-400-801.

(c) If the cup does not turn relative to the hubcap assembly, then the hubcap drive assembly is acceptable.

L. Put the Airplane Back to Its Usual Condition

SUBTASK 32-42-00-860-016

(1) For the right and center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-42-00-860-017

(2) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-42-00-080-001

(3) Do these steps to remove the pressure gages at each brake:

(a) Disconnect the brake at the brake disconnect:

1) Pull up on the barrel of the brake disconnect.

2) Turn the barrel counterclockwise to disconnect the brake hose from the brake assembly.

(b) Remove the pressure gauge, SPL-15031 or the pressure gauge (0-5000 PSIG), STD-11689, (0-34474 KPa), or the optional pressure gauge (0-3000 PSIG), STD-1157, or the gauge set, SPL-10813, from the brake bleed port.

(c) Install the brake bleeder assembly on the brake.

NOTE: Each brake bleeder assembly has a bleeder valve installed in an adapter. The adapter is installed in the brake.

(d) Connect the brake at the brake disconnect:

1) Turn the hose half of the brake disconnect until the internal tangs align with the slots inside the brake half of the brake disconnect and you can push the hose half down.

2) Push down on the barrel and turn it clockwise to engage the threads.

3) Turn the barrel clockwise until the slots in the bottom of the barrel snap into place on the external tangs on the brake half of the brake disconnect.

(e) Do a visual check to make sure the slots on the barrel are fully and correctly engaged with the tangs on the brake half of the brake disconnect.

(f) Do these steps to do a leak check of the brake bleeder assembly:

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

1) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

2) Set the parking brake.

3) Make sure there is no leakage from the brake bleeder assembly.

(g) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-42-00-420-001

(4) Install the hubcap assembly [8] at each wheel location. Refer to this task: Main Landing Gear Hubcap - Installation, TASK 32-45-08-420-801.

(a) Make sure the spacer [6] is correctly installed in the slot in the hubcap assembly [8].

(b) Turn the hubcap lightly back and forth until the transducer drive assembly in the hubcap engages the transducer dog in the axle.

(c) Turn the hubcap assembly [8] until the pin in the hubcap aligns with the hole in the wheel.

(d) Push the hubcap on the wheel.

(e) Put the clamp [7] in its position on the wheel, such that the attaching hardware of the clamp is at the top of the clamp rim and the nut of the attaching hardware points aft.

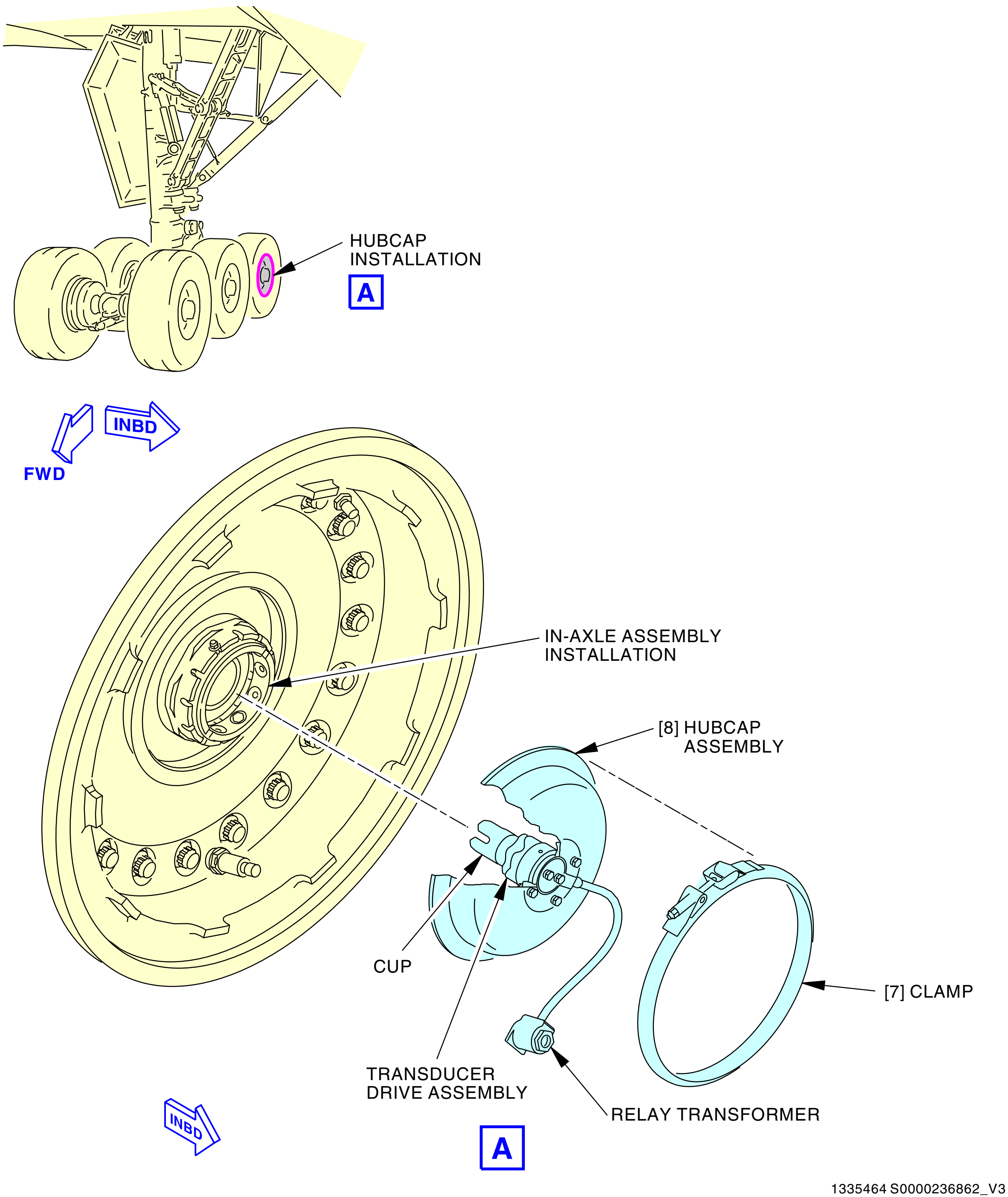
1) Do not tighten the clamp.

2) Make sure the clamp [7] extends over the edge of the hubcap assembly [8].

(f) For titanium clamps, tighten the clamp [7] to 60.0 in-lb (6.8 N·m) – 75.0 in-lb (8.5 N·m).

(g) For steel clamps, tighten the clamp [7] to 35 in-lb (4 N·m) - 45 in-lb (5 N·m).

——— END OF TASK ———



Hubcap Installation
Figure 503/32-42-00-990-802

BRAKE SYSTEM CONTROL UNIT (BSCU) - MAINTENANCE PRACTICES

1. General

A. This procedure has the task to install the software in the BSCU II.

(1) This procedure tells you how to install software in the BSCU II. The BSCU II must contain these pieces of software.

NOTE: There are two BSCU part numbers. The base part number S294W201 is referred to as the BSCU I and the base part number S294W401 is referred to as BSCU II. BSCU I has embedded software and is not data loadable.

(a) Autobrake/BITE/Comm Operational program software (ABC OPS)

(b) Antiskid Operational program software (Antiskid OPS)

(c) Operational program configuration (OPC)

(2) You can install the software in any sequence, but it is recommended that you install the OPS first.

NOTE: There are two OPS software part numbers and one OPC software part number for the BSCU II. For the BSCU II to be an approved installation, all software must be installed.

(3) A maintenance access terminal is required for this procedure. For instructions on how to use a maintenance access terminal, do this task: How to Use the Central Maintenance Computing System, TASK 45-10-00-740-808

(4) The airplane must be on the ground with no wheel speed and the parking brake set before installing the software.

NOTE: It is recommended to conduct data loading with the engines shut down.

(5) To read about the time that is necessary for software installation, do this task: On-Airplane Software Installation, TASK 20-15-11-400-801

TASK 32-42-01-470-801

2. BSCU Software Installation

A. General

(1) You can use the GSE-Laptop, maintenance device, SPL-5704, as an alternative to the PMAT in this task.

NOTE: The GSE-Laptop and the PMAT are equivalent for all of the PMAT functions that you will use in this task.

(2) A maintenance access terminal (MAT or PMAT) is necessary for this procedure. For instructions on how to use the MAT, do this task: How to Operate the MAT in the Flight Compartment, TASK 45-10-00-910-810.

(3) To read about the conditions and times necessary for software installation, do this task: On-Airplane Software Installation, TASK 20-15-11-400-801.

(a) The following names of software parts loaded into a BSCU module are used in the IPC to identify the specific software part numbers required for a particular aircraft tail number.

- BSCU OPS
- BSCU ANTI-SKID OPS
- BSCU OPC

REF: AIPC 46-00-00-32D

B. References

Reference	Title
20-15-11-400-801	On-Airplane Software Installation (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
45-10-00-910-810	How to Operate the MAT in the Flight Compartment (P/B 201)
AIPC 46-00-00-32D	Aircraft Illustrated Parts Catalog

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-5704	Device - Maintenance Part #: G45004-1 Supplier: 81205 Part #: G45004-3 Supplier: 81205 Opt Part #: G45002-20 Supplier: 81205 Opt Part #: G45002-25 Supplier: 81205 Opt Part #: G45002-29 Supplier: 81205 Opt Part #: J45001-1 Supplier: 81205 Opt Part #: J45003-1 Supplier: 81205

D. Location Zones

Zone	Area
212	Flight Compartment, Right

E. Procedure

SUBTASK 32-42-01-470-006

(1) To supply electrical power, do this task: Supply Electrical Power, TASK 24-22-00-860-805

SUBTASK 32-42-01-470-007

(2) Use a maintenance access terminal, MAT or PMAT or GSE Laptop to install the software in the BSCU II.

NOTE: Make sure you know the correct software part number for the BSCU II before you select the software part number on the display.

(a) If the software is on a disk, put the correct disk in the disk drive.

(b) Make these selections on the MAT:

1) ONBOARD MAINTENANCE
2) EXTENDED MAINTENANCE
3) DATA LOAD

(c) Make these selections to select the component that will receive the software:

1) SELECT DESTINATION
2) 32 Anti-skid/Autobrake Control System
3) Brake System Control Unit (Primary Chan or Secondary Chan)
4) ADD
5) CONTINUE

(d) Make these selections to select the source of the software:

1) SELECT SOURCE

2) Select the source for the software. If DISK DRIVE is the only selection, it is automatically selected.

3) Select the correct software part number from the display.

4) ADD

5) CONTINUE

(e) Select START to start the software installation.

(f) If the software data load fails, an error message screen will appear to indicate that the data load stopped. Follow the steps below to correct the problem.

1) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
M	20	C32613	LG AUTOBRAKE/BITE/R-COMM CB 1
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1
M	23	C32621	LG BRAKE CONTROL-BITE/L-COMM

Right Power Management Panel, P210

Row	Col	Number	Name
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2
N	1	C32614	LG AUTOBRAKE/BITE/R-COMM CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

2) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
M	20	C32613	LG AUTOBRAKE/BITE/R-COMM CB 1
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1
M	23	C32621	LG BRAKE CONTROL-BITE/L-COMM

Right Power Management Panel, P210

Row	Col	Number	Name
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2
N	1	C32614	LG AUTOBRAKE/BITE/R-COMM CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

3) Repeat steps (a) through (e) above.

4) An error screen will appear indicating problems with the load part number not being compatible with the hardware.

5) Select OVERRIDE. The data load will restart.

6) Continue with steps (g), (h) and (3).

(g) When the software installation is completed, make sure the correct software part number shows on the display.

(h) Select CONTINUE to remove the configuration display.

SUBTASK 32-42-01-470-008

(3) Repeat the procedure for the other Channel.

NOTE: The Anti-skid OPS only needs to be loaded on one Channel. The ABC OPS and the OPC need to be loaded on both Channels.

F. System Interface

SUBTASK 32-42-01-470-009

(1) Use a MAT to do the System Interface test.

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE

2) LINE MAINTENANCE

3) GROUND TESTS

4) 32 ANTI-SKID/AUTOBRAKE CONTROL SYSTEM

5) SYSTEM TEST

6) SYSTEM INTERFACE

7) CONTINUE

(b) Do the test preparation instructions that show on the MAT.

(c) Start the test.

(d) Do the test instructions that show on the MAT.

(e) When the test is completed, make sure that PASSED shows adjacent to TEST CONDITION on the MAT.

(f) If FAILED shows, refer to the applicable Maintenance Manual Index in the FIM to find the fault isolation task for each maintenance message that shows on the MAT.

END OF TASK

BRAKE SYSTEM CONTROL UNIT (BSCU) - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the brake system control unit (BSCU)

(2) An installation of the brake system control unit (BSCU).

B. The BSCU (referred to as the unit [1] in this procedure) is mounted in the electronic equipment rack, E6, which is located in the aft cargo compartment.

TASK 32-42-01-000-801

2. Brake System Control Unit (BSCU) Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
20-10-01-000-801	E/E Box Removal (P/B 401)
20-41-01-000-802	Conductive Dust Cap and Connector Cover Installation (P/B 201)

B. Location Zones

Zone	Area
152	Aft Cargo Compartment, Right

C. Prepare for the Removal

SUBTASK 32-42-01-860-001

(1) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
M	20	C32613	LG AUTOBRAKE/BITE/R-COMM CB 1
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1
M	23	C32621	LG BRAKE CONTROL-BITE/L-COMM

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	22	C32615	LDG GEAR PARKING BRAKE VALVE

Right Power Management Panel, P210

Row	Col	Number	Name
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2
N	1	C32614	LG AUTOBRAKE/BITE/R-COMM CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

D. Brake System Control Unit (BSCU) Removal

SUBTASK 32-42-01-840-001

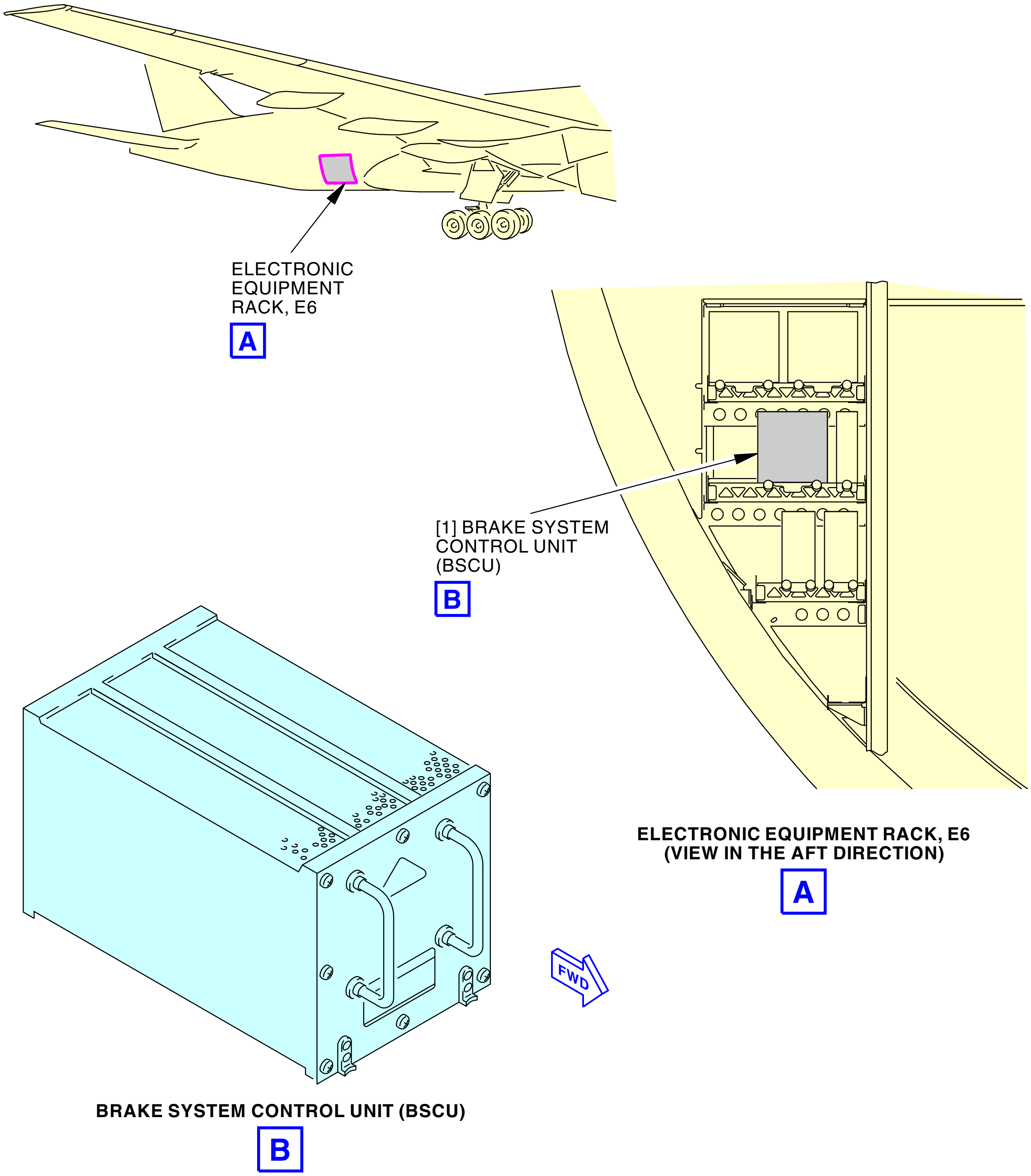
CAUTION	DO NOT TOUCH THE BSCU BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE BSCU.

(1) Do this task: Conductive Dust Cap and Connector Cover Installation, TASK 20-41-01-000-802.

SUBTASK 32-42-01-020-001

(2) Remove the unit [1] from the airplane, (TASK 20-10-01-000-801).

END OF TASK



Brake System Control Unit (BSCU) Installation
Figure 401/32-42-01-990-801

TASK 32-42-01-400-801

3. Brake System Control Unit (BSCU) Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) A maintenance access terminal is necessary for this procedure. For instructions on how to use a maintenance access terminal, do this task: How to Use the Central Maintenance Computing System, TASK 45-10-00-740-808.

B. References

Reference	Title
20-10-01-400-801	E/E Box Installation (P/B 401)
20-41-01-400-802	Conductive Dust Cap and Connector Cover Removal (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
45-10-00-740-808	How to Use the Central Maintenance Computing System (P/B 201)
45-10-00-750-803	How to Find the Hardware or Software Configuration of a System (P/B 201)
FIM 32-42 TASK 833	BSCU Pin Program Disagree or Invalid - Fault Isolation

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Unit	32-42-01-05-070	ARO ALL

D. Location Zones

Zone	Area
152	Aft Cargo Compartment, Right

E. Brake System Control Unit (BSCU) Installation

SUBTASK 32-42-01-840-002

CAUTION

DO NOT TOUCH THE UNIT BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE UNIT.

(1) Do this task: Conductive Dust Cap and Connector Cover Removal, TASK 20-41-01-400-802.

SUBTASK 32-42-01-420-001

(2) Install the unit [1], (TASK 20-10-01-400-801).

SUBTASK 32-42-01-860-002

(3) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
M	20	C32613	LG AUTOBRAKE/BITE/R-COMM CB 1
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1
M	23	C32621	LG BRAKE CONTROL-BITE/L-COMM

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	22	C32615	LDG GEAR PARKING BRAKE VALVE

Right Power Management Panel, P210

Row	Col	Number	Name
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2
N	1	C32614	LG AUTOBRAKE/BITE/R-COMM CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

F. Brake System Control Unit (BSCU) Installation Test

SUBTASK 32-42-01-860-003

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

ARO ALL; AIRPLANES WITH A 142-123 OR 142-123-01 (S294W401-XX) BSCU INSTALLED.

SUBTASK 32-42-01-750-001

(2) Use a maintenance access terminal (MAT) to make sure that the correct software is installed. Do this task: How to Find the Hardware or Software Configuration of a System, TASK 45-10-00-750-803.

SUBTASK 32-42-01-710-003

(3) Use a MAT to do retrieve System Configuration

NOTE: This step only applies to airplanes with the data loadable BSCU, P/N 142-123.

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE

2) LINE MAINTENANCE

3) SYSTEM CONFIGURATION

4) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM

(b) When the SYSTEM CONFIGURATION screen appears, check the Prgm Cnfg line, on both Primary and Secondary Chan. It should display the airplane type and the pin program corresponding to the airplane that the BSCU is currently installed on

AIRPLANE TYPE	PIN PROGRAM
777-200/200ER/300	0000
ARO ALL	
777-200LR/300ER	0001
ARO ALL; AIRPLANES WITH A 142-123 OR 142-123-01 (S294W401-XX) BSCU INSTALLED.	

(c) If the airplane type and pin program do not correspond to the airplane that the BSCU is currently installed on, refer to FIM 32-42 TASK 833.

(d) To put the MAT back to its initial condition, make these selections:

1) GO BACK

2) LINE MAINTENANCE

ARO ALL; AIRPLANES WITH A 142-123 OR 142-123-01 (S294W401-XX) BSCU INSTALLED. (Continued)

3) EXIT MAINTENANCE

ARO ALL

SUBTASK 32-42-01-710-001

(4) Use a maintenance access terminal (MAT) to do the LRU Replacement Test of the BSCU:

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE

2) LINE MAINTENANCE

3) GROUND TESTS

4) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM

5) LRU REPLACEMENT TEST

6) BSCU

7) CONTINUE

(b) Do the instructions that show on the MAT and then make these selections:

1) CONTINUE

2) START TEST

(c) When the test is completed, make sure that PASSED shows adjacent to TEST CONDITION on the MAT.

(d) If FAILED shows, refer to the applicable Maintenance Message Index in the FIM to find the fault isolation task for each maintenance message that shows on the MAT.

(e) To put the MAT back to its initial condition, make these selections:

1) LINE MAINTENANCE

2) EXIT MAINTENANCE

——— END OF TASK ———

ALTERNATE ANTI-SKID VALVE MODULE (4 - VALVE) - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the alternate anti-skid valve module (4 - valve)

(2) An installation of the alternate anti-skid valve module (4 - valve).

(3) A removal of an anti-skid valve

(4) An installation of an anti-skid valve

(5) A removal of an anti-skid hydraulic fuse

(6) An installation of an anti-skid hydraulic fuse

(7) A removal of the anti-skid filters

(8) An installation of the anti-skid filters

(9) A removal of the anti-skid shutoff valve

(10) An installation of the anti-skid shutoff valve

B. The alternate anti-skid valve modules are installed on a bracket, on the forward face of the main landing gear beam, in the left and right wheel well.

C. In this procedure, the alternate anti-skid valve module is referred to as the valve assembly.

TASK 32-42-02-000-801

2. Alternate Anti-skid Valve Module (4 - Valve) Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

C. Prepare for the Removal

SUBTASK 32-42-02-480-008

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-02-480-001

(2) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-02-860-001

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-42-02-860-002

(4) Release the parking brake.

SUBTASK 32-42-02-860-003

(5) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-42-02-860-004

(6) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

D. Alternate Anti-skid Valve Module (4 - Valve) Removal

SUBTASK 32-42-02-020-001

(1) Remove the screws [21] and clamps [20] and disconnect the wire bundles from the valve assembly [4] at the applicable electrical connectors [19]:

(a) Left alternate anti-skid module:

1) Wheel 1 & 5 connector, DV32115.

2) Wheel 9 connector, DV32119.

3) Wheel 10 connector, DV32120.

4) Wheel 2 & 6 connector, DV32126

(b) Right alternate anti-skid module:

1) Wheel 4 & 8 connector, DV32248.

2) Wheel 12 connector, DV32242.

3) Wheel 11 connector, DV32231.

4) Wheel 3 & 7 connector, DV32237.

SUBTASK 32-42-02-480-002

(2) Put a cap on the applicable electrical connectors [19].

SUBTASK 32-42-02-020-002

(3) Disconnect the hydraulic tube [1], hydraulic tube [11], hydraulic tube [12], hydraulic tube [15], hydraulic tube [16], hydraulic tube [17] and hydraulic tube [18] from the valve assembly [4].

SUBTASK 32-42-02-480-003

(4) Install plugs on the hydraulic lines hydraulic tube [1], hydraulic tube [11], hydraulic tube [12], hydraulic tube [15], hydraulic tube [16], hydraulic tube [17] and hydraulic tube [18].

SUBTASK 32-42-02-020-003

(5) Hold the valve assembly [4] and remove the bolts [5] and washers [6] which hold the valve assy to the bracket.

SUBTASK 32-42-02-020-004

(6) Remove the valve assembly [4] from the airplane.

SUBTASK 32-42-02-020-005

(7) If the valve assembly [4] you will install does not have hydraulic fittings installed, do these steps:

 (a) Remove these parts from these ports in the valve assembly [4]:

  1) SYS PRESS port: union [9] and packing [10].

  2) MTR PRESS port: union [7] and packing [8].

  3) RETURN port: union [2] and packing [3].

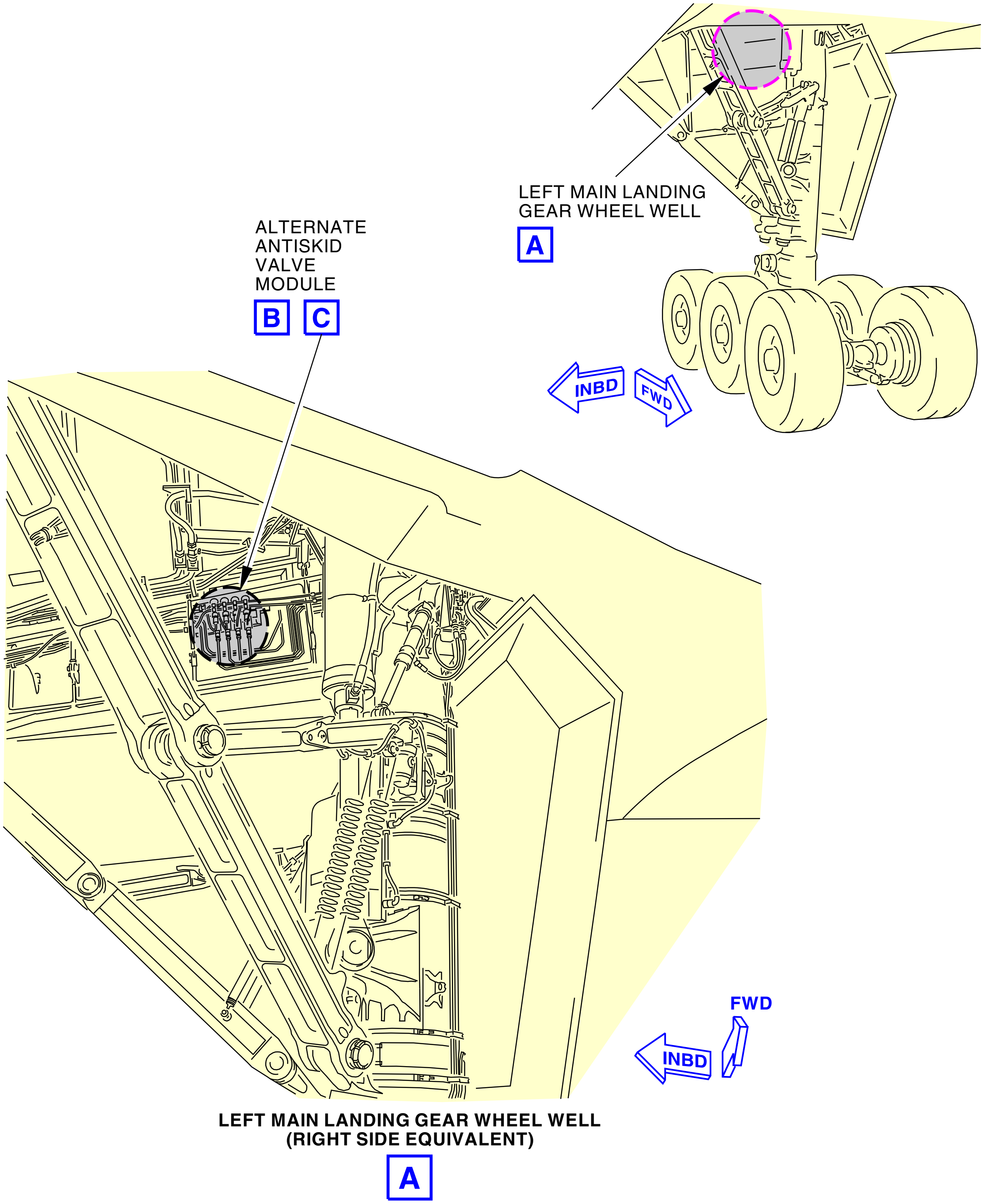
  4) Brake Fuse Port (4 locations): unions [13] and packings [14].

 (b) Discard the packing [3], packing [8], packing [10], packing [14].

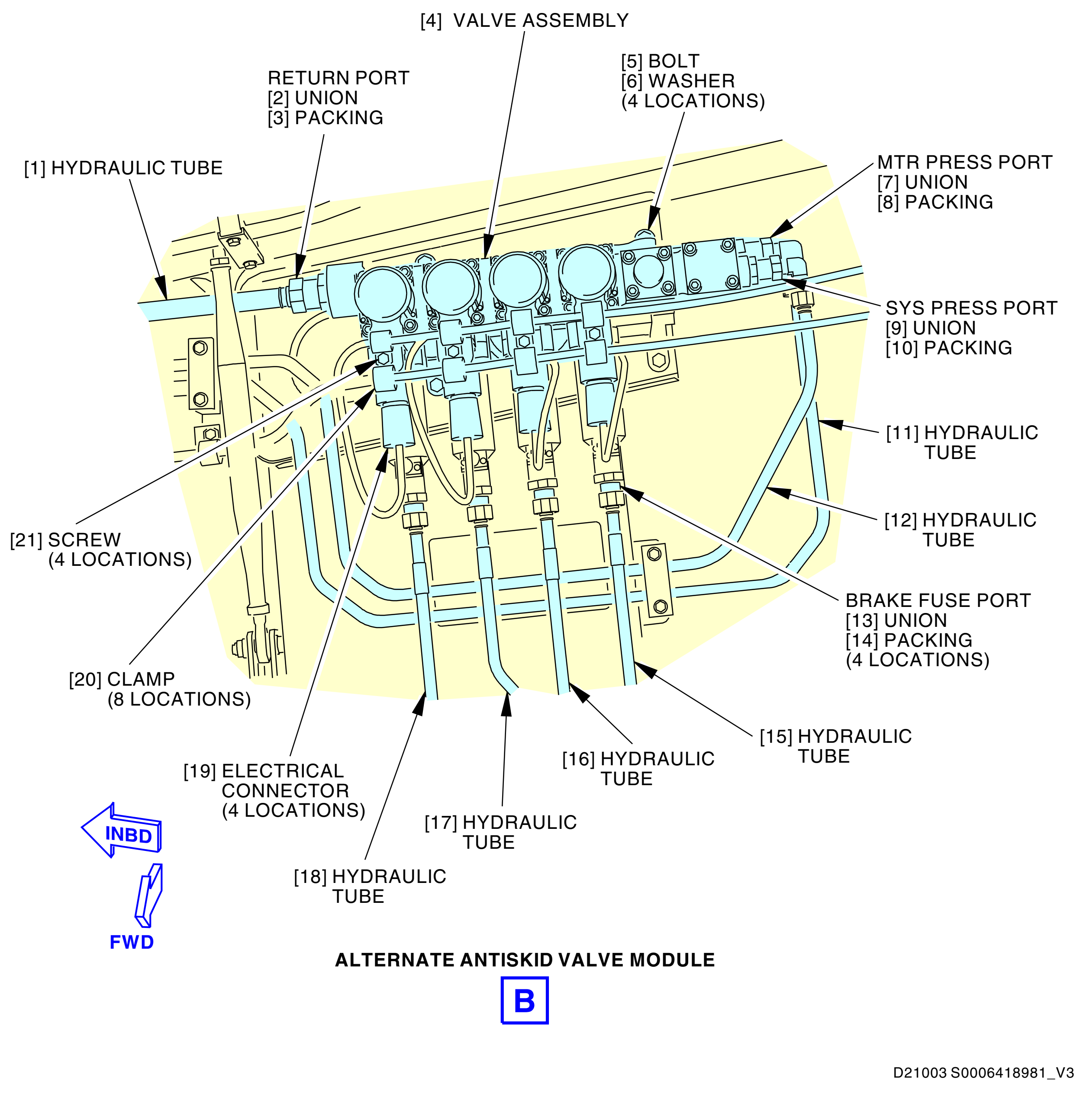
SUBTASK 32-42-02-480-004

(8) Put plugs in the ports of the valve assembly [4].

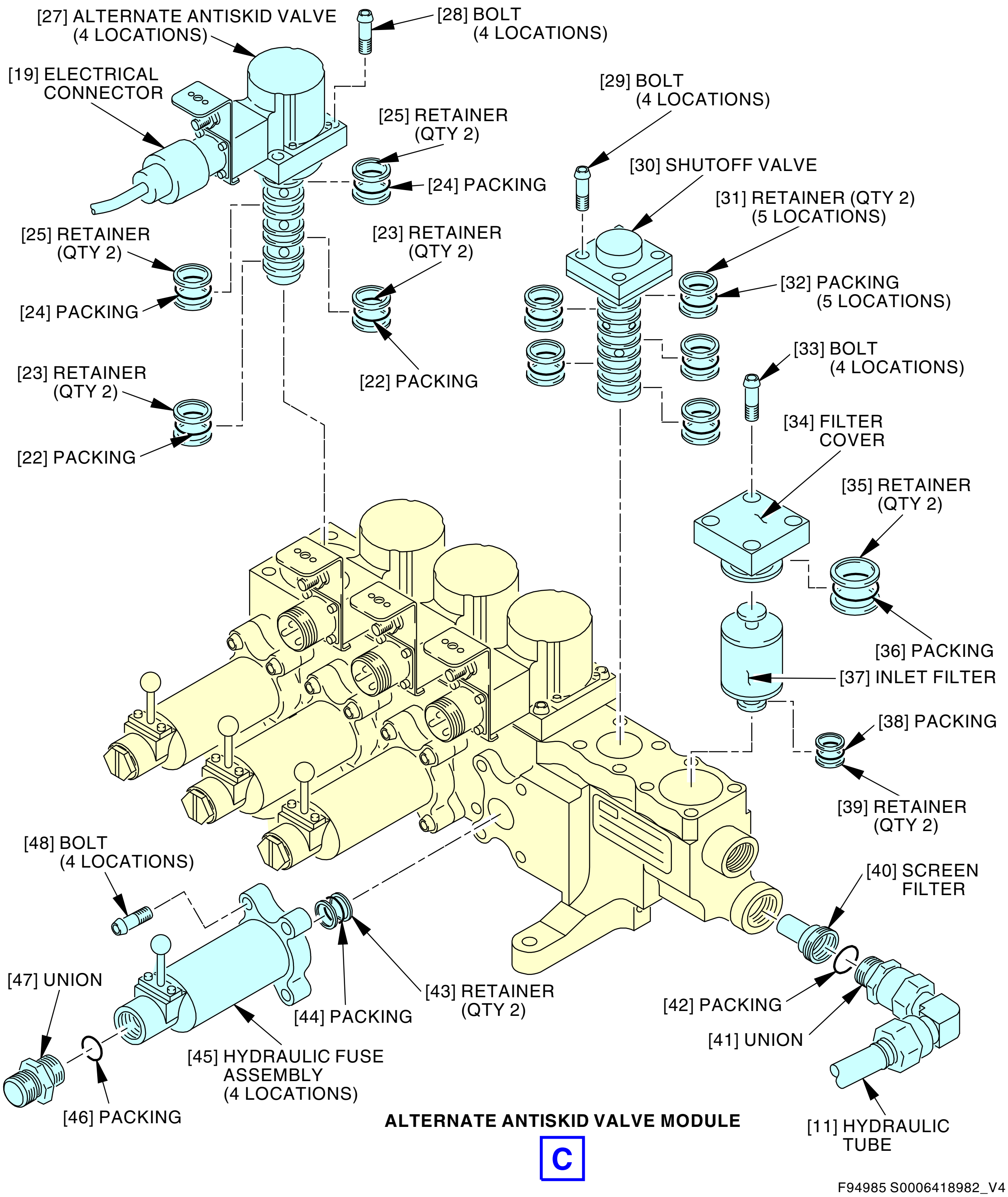
——— END OF TASK ———



Alternate Anti-skid Valve Module (4-Valve) Installation
Figure 401/32-42-02-990-801 (Sheet 1 of 3)



Alternate Anti-skid Valve Module (4-Valve) Installation
Figure 401/32-42-02-990-801 (Sheet 2 of 3)



Alternate Anti-skid Valve Module (4-Valve) Installation
Figure 401/32-42-02-990-801 (Sheet 3 of 3)

TASK 32-42-02-400-801

3. Alternate Antiskid Valve Module (4 - Valve) Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
20-11-00-910-801	Standard Torque Values (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-41-00-870-801	Alternate Hydraulic Brake System - Bleeding (P/B 201)

B. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Packing	32-42-02-01-050	ARO ALL
4	Valve assembly	32-42-02-01-010	ARO ALL
8	Packing	32-42-02-01-040	ARO ALL
10	Packing	32-42-02-01-045	ARO ALL
14	Packing	32-42-02-01-040	ARO ALL

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

E. Alternate Antiskid Valve Module (4 - Valve) Installation

SUBTASK 32-42-02-420-001

(1) If the valve assembly [4] that you will install does not have hydraulic fittings installed in the ports, do these steps:

(a) Lubricate the hydraulic fittings and packings for these ports in the valve assembly [4] with hydraulic fluid, D00153:

1) Brake Fuse Port (4 locations): unions [13] and packings [14].

2) RETURN port: union [2] and packing [3].

3) MTR PRESS port: union [7] and packing [8].

4) SYS PRESS port: union [9] and packing [10].

(b) Install these packings on these fittings and the fittings in the ports in the valve assembly [4]:

1) Brake Fuse Port (4 locations): unions [13] and packings [14].

2) RETURN port: union [2] and packing [3].

3) MTR PRESS port: union [7] and packing [8].

4) SYS PRESS port: union [9] and packing [10].

SUBTASK 32-42-02-420-002

(2) Align the valve assembly [4] in its position on the airplane.

SUBTASK 32-42-02-420-003

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(3) Do these steps to install the bolts [5]:

(a) Apply compound, Mastinox 6856 K, C00913, or Cor-Ban 27L Compound, G50237, to the bolt [5].

(b) Install the bolt [5] and washer [6] that attach the valve assembly [4] to mounting bracket (TASK 20-11-00-910-801).

SUBTASK 32-42-02-080-001

(4) Remove plugs from the hydraulic tube [1], hydraulic tube [11], hydraulic tube [12], hydraulic tube [15], hydraulic tube [16], hydraulic tube [17] and hydraulic tube [18].

SUBTASK 32-42-02-420-004

(5) Connect the hydraulic tube [1], hydraulic tube [11], hydraulic tube [12], hydraulic tube [15], hydraulic tube [16], hydraulic tube [17] and hydraulic tube [18] to the valve assembly [4].

NOTE: Make sure that the elbows are connected on the hydraulic tube [11] and hydraulic tube [12].

(a) Tighten the B-nut on the hydraulic tube [1] to 700 ±35 in-lb (79 ±4 N·m).

(b) Tighten the B-nut on the hydraulic tube [11] to 500 ±25 in-lb (56 ±3 N·m).

(c) Tighten the B-nuts on the hydraulic tubes hydraulic tube [12], hydraulic tube [15], hydraulic tube [16], hydraulic tube [17] and hydraulic tube [18] to 270 ±14 in-lb (31 ±2 N·m).

SUBTASK 32-42-02-420-005

(6) Remove the cap and connect the wire bundle to the applicable antiskid valve at the electrical connectors [19]:

(a) Left alternate antiskid module:

1) Wheel 1 & 5 connector, DV32115.

2) Wheel 9 connector, DV32119.

3) Wheel 10 connector, DV32120.

4) Wheel 2 & 6 connector, DV32126.

(b) Right alternate antiskid module:

1) Wheel 4 & 8 connector, DV32248.

2) Wheel 12 connector, DV32242.

3) Wheel 11 connector, DV32231.

4) Wheel 3 & 7 connector, DV32237.

SUBTASK 32-42-02-420-006

(7) Install the clamps [20] and screws [21] which attach the wire bundles to the valve assembly [4].

SUBTASK 32-42-02-860-005

(8) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

F. Alternate Antiskid Valve Module (4 - Valve) Installation Test

SUBTASK 32-42-02-870-001

(1) Bleed air from the brake lines (TASK 32-41-00-870-801).

SUBTASK 32-42-02-860-006

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-42-02-480-005

(3) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-02-860-008

(4) Make sure the parking brake is released.

SUBTASK 32-42-02-860-010

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(5) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-42-02-710-001

(6) Use a Maintenance Access Terminal (MAT) to do the LRU Replacement Test of the antiskid module (TASK 29-11-00-860-801).

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE
2) LINE MAINTENANCE
3) GROUND TESTS
4) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM
5) LRU REPLACEMENT TEST
6) ANTISKID VALVE
7) ALTERNATE VALVE
8) CONTINUE.

(b) Do the instructions that show on the MAT and then make these selections:

1) CONTINUE
2) START TEST.

(c) Examine each brake's piston to make sure that all brakes engaged and then released.

(d) When the test is completed, make sure that PASSED shows adjacent to TEST CONDITION on the MAT.

(e) If FAILED shows, refer to the applicable Maintenance Message Index in the FIM to find the fault isolation task for each maintenance message that shows on the MAT.

(f) To put the MAT back to its initial condition, make these selections:

1) LINE MAINTENANCE
2) EXIT MAINTENANCE.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-42-02-860-011

(1) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-42-02-860-012

(2) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

END OF TASK

TASK 32-42-02-000-802

4. Antiskid Valve Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. **Location Zones**

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

C. **Prepare for the Removal**

SUBTASK 32-42-02-480-009

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-02-480-010

(2) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-02-860-014

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-42-02-860-015

(4) Release the parking brake.

SUBTASK 32-42-02-860-016

(5) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-42-02-860-017

(6) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

D. **Antiskid Valve Removal**

SUBTASK 32-42-02-020-008

(1) Disconnect the electrical connector [19] from the antiskid valve.

SUBTASK 32-42-02-020-009

(2) Put a cap on the electrical connector [19].

SUBTASK 32-42-02-020-010

(3) Hold the antiskid valve [27] and remove the bolts [28].

SUBTASK 32-42-02-020-011

(4) Remove the antiskid valve [27] from the valve assembly [4].

SUBTASK 32-42-02-020-012

(5) Remove the retainers [23], retainers [25], packings [22], and packings [24] from the antiskid valve [27].

SUBTASK 32-42-02-480-011

(6) Put caps or plugs in the port for the antiskid valve [27].

——— END OF TASK ———

TASK 32-42-02-400-802

5. Antiskid Valve Installation

(Figure 401)

A. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
45-10-00-740-819	How to Do a Ground Test (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1896	Installation Tool, Packing Part #: T-63619-1 Supplier: 81982
SPL-1897	Tool - Installation, Packing Part #: T-63619-2 Supplier: 81982
SPL-1898	Tool - Installation, Antiskid Control Valve Part #: T65971 Supplier: 81982

C. Consumable Materials

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
22	Packing	32-42-02-01-175	ARO ALL
24	Packing	32-42-02-01-170	ARO ALL
27	Antiskid valve	32-42-02-01-160	ARO ALL

E. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

F. Antiskid Valve Installation

SUBTASK 32-42-02-640-001

(1) Lubricate the packing [22], packing [24], retainer [23], and retainer [25] with hydraulic fluid, D00153.

SUBTASK 32-42-02-420-009

(2) Do the steps that follow to install the retainers and packings on the antiskid valve [27].

(a) Use the tool packing installation tool, COM-1896, to install two packings [24] and four retainers [25] on the top two outer diameter grooves on the antiskid valve [27].

(b) Use the tool packing installation tool, SPL-1897, to install two packings [22] and four retainers [23] on the lower two outer diameter grooves on the antiskid valve [27].

SUBTASK 32-42-02-420-010

CAUTION BE CAREFUL TO KEEP CONTAMINATION OUT OF THE ANTISKID SHUTTLE VALVE MODULE. CONTAMINATION CAN CAUSE A MALFUNCTION OF THE ANTISKID SHUTTLE VALVE.

(3) Use tool antiskid control valve installation tool, SPL-1898, to install the antiskid valve [27] in the valve assembly [4].

SUBTASK 32-42-02-420-011

(4) Install the bolts [28] to connect the antiskid valve [27] to the valve assembly [4].

SUBTASK 32-42-02-420-012

(5) Tighten the bolts [28] to 100 in-lb (11.30 N·m) - 110 in-lb (12.43 N·m).

SUBTASK 32-42-02-420-013

(6) Do the steps that follow to test the alternate antiskid valve module:

(a) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Operate the brake pedals several times.

(c) Look for leaks around the antiskid valve [27].

(d) With the brakes applied, look for movement of the brake wear indicator pins to make sure all of the brakes operate.

(e) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-42-02-700-001

(7) Do the LRU Replacement Test (TASK 45-10-00-740-819).

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-42-02-860-018

(1) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

——— END OF TASK ———

TASK 32-42-02-000-803

6. Antiskid Hydraulic Fuse Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

C. Prepare for the Removal

SUBTASK 32-42-02-480-012

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-02-480-013

(2) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-02-860-019

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-42-02-860-020

(4) Release the parking brake.

SUBTASK 32-42-02-860-021

(5) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

D. Antiskid Hydraulic Fuse Removal

SUBTASK 32-42-02-020-013

(1) Disconnect the hydraulic line from the fuse on the antiskid valve assembly [4].

SUBTASK 32-42-02-480-014

(2) Install a plug in the hydraulic line and a cap on thehydraulic fuse assembly [45] .

SUBTASK 32-42-02-020-014

(3) Hold the antiskid hydraulic fuse assembly [45] and remove the bolts [48].

SUBTASK 32-42-02-020-015

(4) Remove the antiskid hydraulic fuse assembly [45] from the valve assembly [4].

SUBTASK 32-42-02-020-016

(5) Remove the retainers [43] and the packing [44] from the antiskid hydraulic fuse assembly [45].

SUBTASK 32-42-02-480-015

(6) Put caps or plugs in the port for the antiskid hydraulic fuse assembly [45].

SUBTASK 32-42-02-020-017

(7) If the hydraulic fuse assembly [45] you will install does not have a hydraulic union, do the steps that follow:

(a) Remove the union [47] from the hydraulic fuse assembly [45].

(b) Remove the packing [46] from the union [47].

(c) Put a plug in the port of the hydraulic fuse assembly [45].

——— END OF TASK ———

TASK 32-42-02-400-803

7. Antiskid Hydraulic Fuse Installation

(Figure 401)

A. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-41-00-870-801	Alternate Hydraulic Brake System - Bleeding (P/B 201)

B. Consumable Materials

Reference	Description	Specification
A00436	Sealant - Fuel Tank	BMS5-45 (Supersedes BMS5-26)
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
44	Packing	32-42-02-01-145	ARO ALL
45	Hydraulic fuse assembly	32-42-02-01-135	ARO ALL
46	Packing	32-42-02-01-040	ARO ALL

D. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

E. Antiskid Hydraulic Fuse Installation

SUBTASK 32-42-02-640-002

(1) Lubricate the packing [44] and the retainers [43] with hydraulic fluid, D00153.

SUBTASK 32-42-02-640-003

(2) If the hydraulic fuse assembly [45] does not have a union installed, do these steps:

(a) Lubricate the packing [46] with hydraulic fluid, D00153.

(b) Install the packing [46] on the union [47].

(c) Install the union [47] on the hydraulic fuse assembly [45].

SUBTASK 32-42-02-420-014

(3) Install the retainers [43] and packing [44] on the antiskid hydraulic fuse assembly [45].

SUBTASK 32-42-02-420-015

(4) Apply a 0.05 in. (1.27 mm) diameter bead of sealant, A00436 to the mating face of the hydraulic fuse assembly [45].

NOTE: Install the fuse while the sealant is still wet.

SUBTASK 32-42-02-420-016

(5) Install the antiskid hydraulic fuse assembly [45] in its location on the valve assembly [4].

SUBTASK 32-42-02-420-017

(6) Install the bolts [48] to connect the antiskid hydraulic fuse assembly [45] to the valve assembly [4].

SUBTASK 32-42-02-420-018

(7) Tighten the bolts [48] to 100.0 in-lb (11.3 N·m) - 110.0 in-lb (12.4 N·m).

SUBTASK 32-42-02-870-002

(8) Bleed air from the brake lines. Do this task: Alternate Hydraulic Brake System - Bleeding, TASK 32-41-00-870-801.

SUBTASK 32-42-02-420-019

(9) Do the steps that follow to test the alternate antiskid valve module:

(a) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Operate the brake pedals several times.

(c) Look for leaks around the hydraulic fuse assembly [45].

(d) With the brakes applied, look for movement of the brake wear indicator pins to make sure all of the brakes operate.

(e) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

TASK 32-42-02-000-804

8. Antiskid Filter Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

C. Prepare for the Removal

SUBTASK 32-42-02-480-016

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-02-480-017

(2) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-02-860-022

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-42-02-860-023

(4) Release the parking brake.

SUBTASK 32-42-02-860-024

(5) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

D. Antiskid Inlet Filter Removal

SUBTASK 32-42-02-020-018

(1) Do the steps that follow for the inlet filter [37]:

(a) Hold the filter cover [34] and remove the bolts [33].

(b) Remove the filter cover [34] from the valve assembly [4].

(c) Remove the inlet filter [37] from the valve assembly [4].

(d) Put caps or plugs in the port for the antiskid inlet filter [37].

(e) Remove the retainer [39] and the packing [38] from the antiskid inlet filter [37].

(f) Remove the retainers [35] and the packing [36] from the filter cover [34].

SUBTASK 32-42-02-020-019

(2) Do the steps that follow for the screen filter [40]:

(a) Disconnect the hydraulic line from the screen filter [40] on the antiskid valve module.

(b) Install a plug in the hydraulic line and a cap on the screen filter [40].

(c) Remove the threaded screen filter [40] from the valve assembly [4].

(d) Put a plug in the port for the screen filter [40].

(e) If the screen filter you will install does not have a hydraulic fitting, do the steps that follow:

1) Remove the union [41] from the screen filter [40].

2) Remove the packing [42] from the union [41].

END OF TASK

TASK 32-42-02-400-804

9. Antiskid Filter Installation

(Figure 401)

A. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1899	Tool - Installation, Screen Filter Part #: T66368 Supplier: 81982

C. Consumable Materials

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
36	Packing	32-42-02-01-115	ARO ALL
37	Inlet filter	32-42-02-01-110	ARO ALL
38	Packing	32-42-02-01-125	ARO ALL
		32-42-02-01-127	ARO ALL
40	Screen filter	32-42-02-01-190	ARO ALL
42	Packing	32-42-02-01-040	ARO ALL

E. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

F. Antiskid Filter Installation

SUBTASK 32-42-02-640-004

(1) Lubricate the packing [36], packing [38], retainers [35], and retainers [39] with hydraulic fluid, D00153.

SUBTASK 32-42-02-640-005

(2) If the screen filter [40] does not have a union installed, do these steps:

(a) Lubricate the packing [42] with hydraulic fluid, D00153.

(b) Install the packing [42] on the union [41].

(c) Install the union [41] on the screen filter [40].

SUBTASK 32-42-02-420-020

(3) Install the screen filter [40] on the valve assembly [4]:

(a) Lubricate the threads of the screen filter with hydraulic fluid, D00153.

(b) Install the screen filter [40] on the valve assembly [4].

(c) Use tool screen filter installation tool, SPL-1899, to tighten the screen filter [40] to 290 in-lb (32.77 N·m) - 310 in-lb (35.03 N·m).

SUBTASK 32-42-02-420-021

(4) Install the inlet filter [37]:

(a) Install the retainers [39] and the packing [38] on the lower end of the inlet filter [37].

(b) Install the retainers [35] and the packing [36] on the filter cover [34].

(c) Install the inlet filter [37] in the valve assembly [4].

(d) Install the valve assembly [4] on the valve assembly [4].

(e) Install the bolts [33] to connect the valve assembly [4] to the valve assembly [4].

(f) Tighten the bolts [33] to 100 in-lb (11.30 N·m) - 110 in-lb (12.43 N·m).

SUBTASK 32-42-02-080-002

(5) Remove the plug from the hydraulic tube [11].

SUBTASK 32-42-02-420-022

(6) Connect the hydraulic tube [11] to the screen filter [40].

(a) Tighten the B-nut on the hydraulic tube [11] to 500 ±25 in-lb (56 ±3 N·m).

SUBTASK 32-42-02-420-023

(7) Do the steps that follow to test the alternate antiskid valve module:

(a) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Operate the brake pedals several times.

(c) Look for leaks around the inlet filter [37] and the screen filter [40].

(d) With the brakes applied, look for movement of the brake wear indicator pins to make sure all of the brakes operate.

(e) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

TASK 32-42-02-000-805

10. Antiskid Shutoff Valve Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

C. Prepare for the Removal

SUBTASK 32-42-02-480-018

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-02-480-019

(2) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-02-860-025

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-42-02-860-026

(4) Release the parking brake.

SUBTASK 32-42-02-860-027

(5) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

D. Antiskid Inlet Filter Removal

SUBTASK 32-42-02-020-020

(1) Hold the shut-off valve [30] and remove the bolts [29].

SUBTASK 32-42-02-020-021

(2) Remove the shut-off valve [30] from the valve assembly [4].

SUBTASK 32-42-02-480-020

(3) Put caps or plugs in the port for the antiskid shut-off valve [30].

SUBTASK 32-42-02-020-022

(4) Remove the retainers [31] and the packings [32] from the antiskid shut-off valve [30].

——— END OF TASK ———

TASK 32-42-02-400-805

11. Antiskid Shutoff Valve Installation

(Figure 401)

A. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
45-10-00-740-819	How to Do a Ground Test (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1900	Installation/Removal Tool, Shutoff Valve Part #: T63577 Supplier: 81982

C. **Consumable Materials**

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

D. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
30	Shut-off valve	32-42-02-01-060	ARO ALL
32	Packing	32-42-02-01-090	ARO ALL

E. **Location Zones**

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

F. **Antiskid Shutoff Valve Installation**

SUBTASK 32-42-02-640-006

(1) Lubricate the packings [32] and the retainers [31] with hydraulic fluid, D00153.

SUBTASK 32-42-02-420-024

(2) Install the retainers [31] and packings [32] on the antiskid shut-off valve [30].

SUBTASK 32-42-02-420-025

CAUTION
BE CAREFUL TO KEEP CONTAMINATION OUT OF THE ANTISKID SHUTTLE VALVE MODULE. CONTAMINATION CAN CAUSE A MALFUNCTION OF THE ANTISKID SHUTTLE VALVE.

(3) Use tool shutoff valve installation/removal tool, COM-1900 to install the antiskid shut-off valve [30] in the valve assembly [4].

SUBTASK 32-42-02-420-026

(4) Install the bolts [29] to connect the antiskid shut-off valve [30] to the valve assembly [4].

SUBTASK 32-42-02-420-027

(5) Tighten the bolts [29] to 100 in-lb (11.30 N·m) - 110 in-lb (12.43 N·m).

SUBTASK 32-42-02-420-028

(6) Do the steps that follow to test the alternate antiskid valve module:
   (a) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.
   (b) Operate the brake pedals several times.
   (c) Look for leaks around the shut-off valve [30].
   (d) With the brakes applied, look for movement of the brake wear indicator pins to make sure all of the brakes operate.
   (e) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-42-02-700-002

(7) Do the LRU Replacement Test (TASK 45-10-00-740-819).

END OF TASK

NORMAL ANTISKID VALVE MODULE (6 - VALVE) - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the normal antiskid valve module (6 - valve)

(2) An installation of the normal antiskid valve module (6 - valve).

(3) A removal of an antiskid valve

(4) An installation of an antiskid valve

(5) A removal of an antiskid hydraulic fuse

(6) An installation of an antiskid hydraulic fuse

(7) A removal of the antiskid filters

(8) An installation of the antiskid filters

(9) A removal of the antiskid shutoff valve

(10) An installation of the antiskid shutoff valve

B. The normal antiskid valve module is installed on a bracket that is on the forward face of the upper stabilizer brace of the main landing gear beam.

TASK 32-42-03-000-801

2. Normal Antiskid Valve Module (6 - Valve) Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

C. Access Panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

D. Prepare for the Removal

SUBTASK 32-42-03-480-005

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-03-860-007

(2) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-42-03-480-001

(3) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-03-860-001

(4) Release the parking brake.

SUBTASK 32-42-03-860-002

(5) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-42-03-860-003

(6) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

SUBTASK 32-42-03-010-001

(7) To gain access to the appropriate valve module;

Open the applicable access panels:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

E. Normal Antiskid Valve Module (6 - Valve) Removal

SUBTASK 32-42-03-020-001

(1) Remove the screws [23] and the clamps [2] and disconnect the wire bundle from the normal antiskid valve module [4] at the applicable connector [3]:

(a) Left normal antiskid module:

1) Wheel 1 connector [3], DV32101.

2) Wheel 2 connector [3], DV32102.

3) Wheel 5 connector [3], DV32105.

4) Wheel 6 connector [3], DV32106

5) Wheel 9 connector [3], DV32109.

6) Wheel 10 connector [3], DV32110.

(b) Right normal antiskid module:

1) Wheel 3 connector [3], DV32203.

2) Wheel 4 connector [3], DV32204.

3) Wheel 7 connector [3], DV32207.

4) Wheel 8 connector [3], DV32208.

5) Wheel 11 connector [3], DV32211.

6) Wheel 12 connector [3], DV32212.

SUBTASK 32-42-03-480-002

(2) Put a cap on the applicable connectors [3].

SUBTASK 32-42-03-020-002

(3) Disconnect the hydraulic tube [1], hydraulic tube [9], hydraulic tube [10], hydraulic tube [13], hydraulic tube [14], hydraulic tube [15], hydraulic tube [16], hydraulic tube [17] and hydraulic tube [18] from the normal antiskid valve module [4].

SUBTASK 32-42-03-480-003

(4) Install plugs on the hydraulic tube [1], hydraulic tube [9], hydraulic tube [10], hydraulic tube [13], hydraulic tube [14], hydraulic tube [15], hydraulic tube [16], hydraulic tube [17] and hydraulic tube [18].

SUBTASK 32-42-03-020-003

(5) Hold the normal antiskid valve module [4] and remove the bolts [5] and washers [6] which attach the normal antiskid valve module [4] to the brackets.

SUBTASK 32-42-03-020-004

(6) Remove the normal antiskid valve module [4] from the airplane.

SUBTASK 32-42-03-020-005

(7) If the normal antiskid valve module [4] that you will install does not have hydraulic fittings installed, do these steps:

(a) Remove these parts from these ports in the normal antiskid valve module [4]:

1) SYS PRESS port: fitting [11] and packing [12].

2) MTR PRESS port: fitting [7] and packing [8].

3) RETURN port: fitting [21] and packing [22].

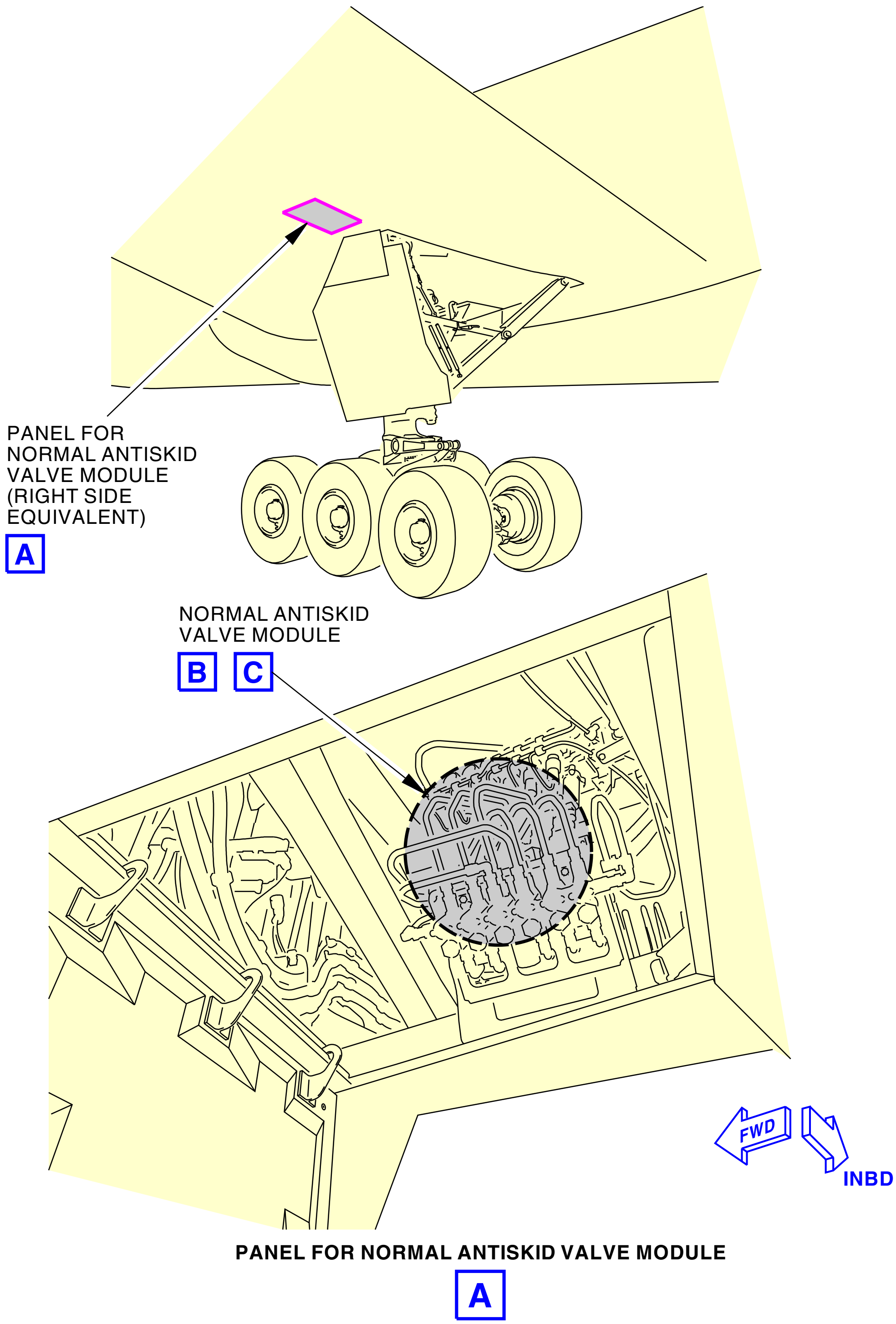
4) Brake Fuse Port (6 locations): fittings [19] and packings [20].

(b) Discard the packing [8], packing [12], packings [20], packing [22].

SUBTASK 32-42-03-480-004

(8) Install plugs in the ports of the normal antiskid valve module [4].

END OF TASK



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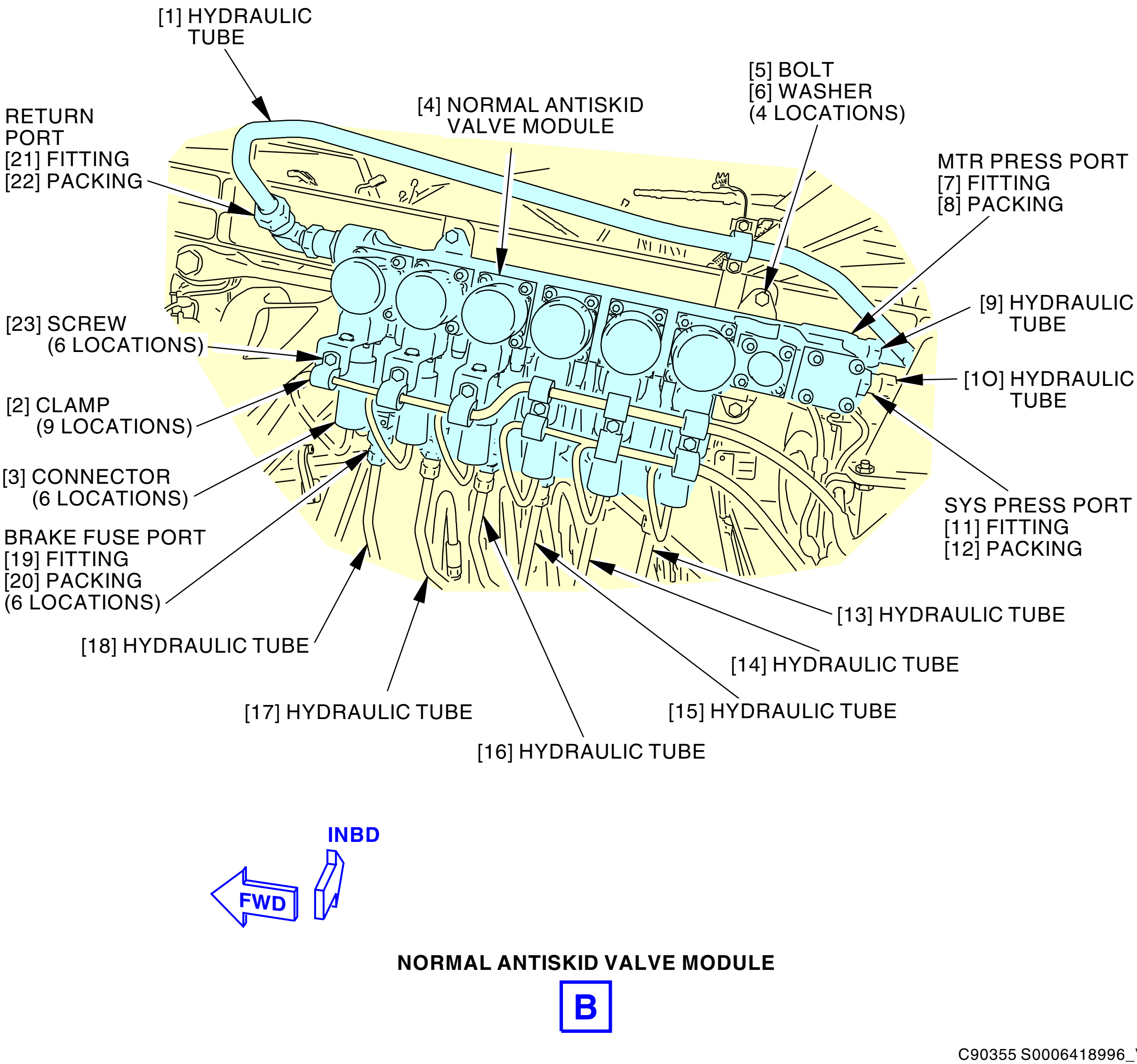
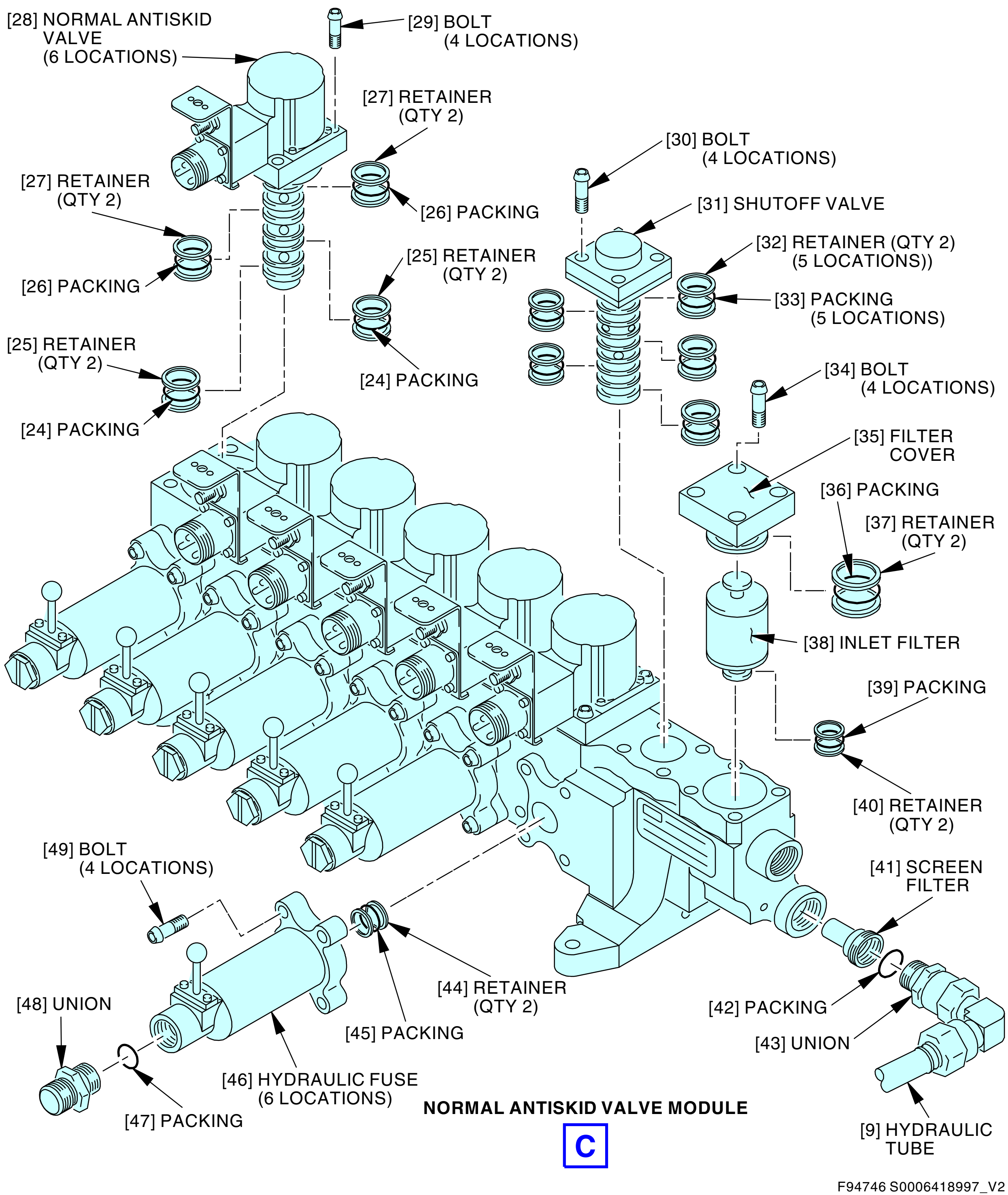
Normal Antiskid Valve Module (6-Valve) Installation
Figure 401/32-42-03-990-801 (Sheet 1 of 3)



Normal Antiskid Valve Module (6-Valve) Installation
Figure 401/32-42-03-990-801 (Sheet 2 of 3)



Normal Antiskid Valve Module (6-Valve) Installation
Figure 401/32-42-03-990-801 (Sheet 3 of 3)

TASK 32-42-03-400-801

3. Normal Antiskid Valve Module (6 - Valve) Installation

(Figure 401)

A. General

(1) A maintenance access terminal is necessary for this procedure. For instructions on how to use a maintenance access terminal, do this task: How to Use the Central Maintenance Computing System, TASK 45-10-00-740-808.

B. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
20-11-00-910-801	Standard Torque Values (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-41-00-870-802	Normal Hydraulic Brake System - Bleeding (P/B 201)
45-10-00-740-808	How to Use the Central Maintenance Computing System (P/B 201)

C. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
4	Normal antiskid valve module	32-42-03-01-010	ARO ALL
8	Packing	32-42-03-01-040	ARO ALL
		32-42-03-01-045	ARO ALL
12	Packing	32-42-03-01-040	ARO ALL
		32-42-03-01-045	ARO ALL
20	Packing	32-42-03-01-040	ARO ALL
22	Packing	32-42-03-01-050	ARO ALL

E. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

F. Access Panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

G. Normal Antiskid Valve Module (6 - Valve) Installation

SUBTASK 32-42-03-420-001

(1) If the normal antiskid valve module [4] that you will install does not have hydraulic fittings installed in the ports, do these steps:

(a) Use hydraulic fluid, D00153, to lubricate these parts for these ports in the normal antiskid valve module [4]:

1) Brake Fuse Port (6 locations): fittings [19] and packings [20].

2) RETURN port: fitting [21] and packing [22].

3) MTR PRESS port: fitting [7] and packing [8].

4) SYS PRESS port: fitting [11] and packing [12].

(b) Install the packings on the fittings and the fittings in the ports in the normal antiskid valve module [4]:

1) Brake Fuse Port (6 locations): fittings [19] and packings [20].

2) RETURN port: fitting [21] and packing [22].

3) MTR PRESS port: fitting [7] and packing [8].

4) SYS PRESS port: fitting [11] and packing [12].

SUBTASK 32-42-03-420-002

(2) Align the normal antiskid valve module [4] in its position on the airplane.

SUBTASK 32-42-03-420-027

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(3) Apply Mastinox 6856 K, C00913, or Cor-Ban 27L Compound, G50237, to the bolts [5].

SUBTASK 32-42-03-420-003

(4) Install the bolts [5] and washers [6] that attach the normal antiskid valve module [4] to the mounting brackets. Refer to Standard Torque Values, TASK 20-11-00-910-801.

SUBTASK 32-42-03-080-001

(5) Remove the plugs from the hydraulic tube [1], hydraulic tube [9], hydraulic tube [10], hydraulic tube [13], hydraulic tube [14], hydraulic tube [15], hydraulic tube [16], hydraulic tube [17] and hydraulic tube [18].

SUBTASK 32-42-03-420-004

(6) Connect the hydraulic tube [1], hydraulic tube [9], hydraulic tube [10], hydraulic tube [13], hydraulic tube [14], hydraulic tube [15], hydraulic tube [16], hydraulic tube [17] and hydraulic tube [18] to the normal antiskid valve module [4].

NOTE: Make sure that the elbow is connected to the hydraulic tube [1].

(a) Tighten the B-nut on the hydraulic tube [1] to 700 ±35 in-lb (79 ±4 N·m).

(b) Tighten the B-nut on the hydraulic tube [9] to 500 ±25 in-lb (56 ±3 N·m).

(c) Tighten the B-nuts on the hydraulic tube [10], hydraulic tube [13], hydraulic tube [14], hydraulic tube [15], hydraulic tube [16], hydraulic tube [17] and hydraulic tube [18] to 270 ±14 in-lb (31 ±2 N·m).

SUBTASK 32-42-03-420-005

(7) Remove the cap and connect the wire bundle to the applicable antiskid valve at the connector [3]:

(a) Left normal antiskid module:

1) Wheel 1 connector [3], DV32101.
2) Wheel 2 connector [3], DV32102.
3) Wheel 5 connector [3], DV32105.
4) Wheel 6 connector [3], DV32106
5) Wheel 9 connector [3], DV32109.
6) Wheel 10 connector [3], DV32110.

(b) Right normal antiskid module:

1) Wheel 3 connector [3], DV32203.
2) Wheel 4 connector [3], DV32204.
3) Wheel 7 connector [3], DV32207.
4) Wheel 8 connector [3], DV32208.
5) Wheel 11 connector [3], DV32211.
6) Wheel 12 connector [3], DV32212.

SUBTASK 32-42-03-420-006

(8) Install the clamps [2] and screws [23] which attach the wire bundles to the normal antiskid valve module [4].

SUBTASK 32-42-03-860-004

(9) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

SUBTASK 32-42-03-870-003

(10) Bleed air from the brake lines (TASK 32-41-00-870-802).

H. Normal Antiskid Valve Module (6 - Valve) Installation Test

SUBTASK 32-42-03-860-026

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-42-03-480-018

(2) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-03-870-002

(3) Make sure the parking brake is released.

SUBTASK 32-42-03-860-008

WARNING: KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(4) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-42-03-870-001

(5) Fully push the captain's brake pedals twelve times to bleed the brakes.

SUBTASK 32-42-03-860-009

(6) Open this circuit breaker and install safety tag:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	22	C32615	LDG GEAR PARKING BRAKE VALVE

SUBTASK 32-42-03-710-001

(7) Use a maintenance access terminal (MAT) to do the LRU Replacement Test of the normal antiskid valve module [4]:

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE
2) LINE MAINTENANCE
3) GROUND TESTS
4) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM
5) LRU REPLACEMENT TEST
6) ANTISKID VALVE
7) NORMAL VALVE
8) CONTINUE.

(b) Do the instructions that show on the MAT and then make these selections:

1) CONTINUE

2) START TEST.

(c) Examine each brake's piston to make sure that all brakes engaged and then released.

(d) When the test is completed, make sure that PASSED shows adjacent to TEST CONDITION on the MAT.

(e) If FAILED shows, refer to the applicable Maintenance Message Index in the FIM to find the fault isolation task for each maintenance message that shows on the MAT.

(f) To put the MAT back to its initial condition, make these selections:

1) LINE MAINTENANCE

2) EXIT MAINTENANCE.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 32-42-03-860-010

(1) Remove the safety tag and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	22	C32615	LDG GEAR PARKING BRAKE VALVE

SUBTASK 32-42-03-860-011

(2) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-42-03-410-001

(3) Close the applicable access panels:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

——— END OF TASK ———

TASK 32-42-03-000-802

4. Antiskid Valve Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

C. Access Panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel

(Continued)

Number	Name/Location
651DB	Inboard Fixed Trailing Edge Panel

D. Prepare for the Removal

SUBTASK 32-42-03-480-006

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-03-480-007

(2) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-03-860-012

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-42-03-860-013

(4) Release the parking brake.

SUBTASK 32-42-03-860-014

(5) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-42-03-860-015

(6) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

SUBTASK 32-42-03-010-002

(7) To get access to the applicable valve module;

Open the applicable access panels:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

E. Antiskid Valve Removal

SUBTASK 32-42-03-020-006

(1) Disconnect the electrical connector from the antiskid valve.

SUBTASK 32-42-03-020-007

(2) Put a cap on the electrical connector.

SUBTASK 32-42-03-020-008

(3) Hold the antiskid valve [28] and remove the bolts [29].

SUBTASK 32-42-03-020-009

(4) Remove the antiskid valve [28] from the normal antiskid valve module [4].

SUBTASK 32-42-03-020-010

(5) Remove the retainers [25], the retainers [27], and the packings [24], and the packings [26] from the antiskid valve [28].

SUBTASK 32-42-03-480-008

(6) Put caps or plugs in the port for the antiskid valve [28].

——— END OF TASK ———

TASK 32-42-03-400-802

5. Antiskid Valve Installation

(Figure 401)

A. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
45-10-00-740-819	How to Do a Ground Test (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1896	Installation Tool, Packing Part #: T-63619-1 Supplier: 81982
SPL-1897	Tool - Installation, Packing Part #: T-63619-2 Supplier: 81982
SPL-1898	Tool - Installation, Antiskid Control Valve Part #: T65971 Supplier: 81982

C. Consumable Materials

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
24	Packing	32-42-03-01-180	ARO ALL

(Continued)

AMM Item	Description	AIPC Reference	AIPC Effectivity
26	Packing	32-42-03-01-175	ARO ALL
28	Antiskid valve	32-42-03-01-165	ARO ALL

E. **Location Zones**

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

F. **Access Panels**

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

G. **Antiskid Valve Installation**

SUBTASK 32-42-03-640-001

(1) Lubricate the packings [24], the packings [26], the retainers [25], and the retainers [27] with hydraulic fluid, D00153.

SUBTASK 32-42-03-420-007

(2) Do the steps that follow to install the rings and packings on the antiskid valve [28].

(a) Use the packing installation tool, COM-1896, to install two packings [26] and four retainers [27] on the top two outer diameter grooves on the antiskid valve [28].

(b) Use the packing installation tool, SPL-1897, to install two packings [24] and four retainers [25] on the lower two outer diameter grooves on the antiskid valve [28].

SUBTASK 32-42-03-420-008

CAUTION

BE CAREFUL TO KEEP CONTAMINATION OUT OF THE ANTISKID SHUTTLE VALVE MODULE. CONTAMINATION CAN CAUSE A MALFUNCTION OF THE ANTISKID SHUTTLE VALVE.

(3) Use the antiskid control valve installation tool, SPL-1898, to install the antiskid valve [28] in the normal antiskid valve module [4].

SUBTASK 32-42-03-420-009

(4) Install the bolts [29] to connect the antiskid valve [28] to the antiskid valve [28].

SUBTASK 32-42-03-420-010

(5) Tighten the bolts [29] to 100 in-lb (11.3 N·m) - 110 in-lb (12.4 N·m).

SUBTASK 32-42-03-420-011

(6) Do the steps that follow to test the normal antiskid valve module:

(a) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Operate the brake pedals several times.

(c) Look for leaks around the antiskid valve [28].

(d) With the brakes applied, look for movement of the brake wear indicator pins to make sure all of the brakes operate.

(e) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-42-03-860-016

(1) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

SUBTASK 32-42-03-700-001

(2) Do the LRU Replacement Test TASK 45-10-00-740-819.

SUBTASK 32-42-03-010-003

(3) Close the applicable access panels:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

——— END OF TASK ———

TASK 32-42-03-000-803

6. Antiskid Hydraulic Fuse Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

C. Access Panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

D. Prepare for the Removal

SUBTASK 32-42-03-480-009

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-03-480-010

(2) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-03-860-017

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-42-03-860-018

(4) Release the parking brake.

SUBTASK 32-42-03-860-019

(5) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-42-03-010-004

(6) Open the applicable access panels to get access to the applicable valve module:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

E. Antiskid Hydraulic Fuse Removal

SUBTASK 32-42-03-020-011

(1) Disconnect the hydraulic line from the hydraulic fuse assembly [46] on the normal antiskid valve module [4].

SUBTASK 32-42-03-480-011

(2) Install a plug in the hydraulic line and a cap on the hydraulic fuse assembly [46].

SUBTASK 32-42-03-020-012

(3) Hold the antiskid hydraulic fuse assembly [46] and remove the bolts [49].

SUBTASK 32-42-03-020-013

(4) Remove the antiskid hydraulic fuse assembly [46] from the normal antiskid valve module [4].

SUBTASK 32-42-03-020-014

(5) Remove the retainers [44] and the packing [45] from the antiskid hydraulic fuse assembly [46].

SUBTASK 32-42-03-480-012

(6) Put caps or plugs in the port for the antiskid hydraulic fuse assembly [46].

SUBTASK 32-42-03-020-015

(7) If the hydraulic fuse assembly [46] you will install does not have a hydraulic union, do the steps that follow:

(a) Remove the union [48] from the hydraulic fuse assembly [46].

(b) Remove the packing [47] from the union [48].

(c) Put a plug in the port of the hydraulic fuse assembly [46].

——— END OF TASK ———

TASK 32-42-03-400-803

7. Antiskid Hydraulic fuse Installation

(Figure 401)

A. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-41-00-870-802	Normal Hydraulic Brake System - Bleeding (P/B 201)

B. Consumable Materials

Reference	Description	Specification
A00436	Sealant - Fuel Tank	BMS5-45 (Supersedes BMS5-26)
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
45	Packing	32-42-03-01-150	ARO ALL
46	Hydraulic fuse assembly	32-42-03-01-140	ARO ALL
47	Packing	32-42-03-01-040	ARO ALL

D. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

E. Access Panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

F. Antiskid Hydraulic Fuse Installation

SUBTASK 32-42-03-640-002

(1) Lubricate the packing [45] and the retainers [44] with hydraulic fluid, D00153.

SUBTASK 32-42-03-640-003

(2) If thehydraulic fuse assembly [46] does not have a union installed, do these steps:

(a) Lubricate the packing [47] with hydraulic fluid, D00153.

(b) Install the packing [47] on the union [48].

(c) Install the union [48] on the hydraulic fuse assembly [46].

SUBTASK 32-42-03-420-012

(3) Install the packing [45] and retainers [44] on the antiskid hydraulic fuse assembly [46].

SUBTASK 32-42-03-420-013

(4) Apply a 0.050 in. (1.270 mm) diameter bead of sealant, A00436, to the mating face of the hydraulic fuse assembly [46].

NOTE: Install the fuse while the sealant is still wet.

SUBTASK 32-42-03-420-014

(5) Install the antiskid hydraulic fuse assembly [46] in its location on the normal antiskid valve module [4].

SUBTASK 32-42-03-420-015

(6) Install the bolts [49] to connect the antiskid hydraulic fuse assembly [46] to the normal antiskid valve module [4].

SUBTASK 32-42-03-420-016

(7) Tighten the bolts [49] from 100 in-lb (11 N·m) to 110 in-lb (12 N·m).

SUBTASK 32-42-03-870-004

(8) Bleed air from the brake lines (TASK 32-41-00-870-802).

SUBTASK 32-42-03-420-017

(9) Do the steps that follow to test the normal antiskid valve module:

(a) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Operate the brake pedals several times.

(c) Look for leaks around the hydraulic fuse assembly [46].

(d) With the brakes applied, look for movement of the brake wear indicator pins to make sure all of the brakes operate.

(e) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-42-03-010-005

(1) Close the applicable access panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

——— END OF TASK ———

TASK 32-42-03-000-804

8. Antiskid Filter Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. **Location Zones**

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

C. **Access Panels**

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

D. **Prepare for the Removal**

SUBTASK 32-42-03-480-013

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-03-480-014

(2) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-03-860-020

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-42-03-860-021

(4) Release the parking brake.

SUBTASK 32-42-03-860-022

(5) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-42-03-010-006

(6) To get access to the applicable valve module;

Open the applicable access panels:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

E. **Antiskid Inlet Filter Removal**

SUBTASK 32-42-03-020-016

(1) Do the steps that follow for the inlet filter [38]:

(a) Hold the filter cover [35] and remove the bolts [34].

(b) Remove the filter cover [35] from the normal antiskid valve module [4].

(c) Remove the inlet filter [38] from the normal antiskid valve module [4].

(d) Put caps or plugs in the port for the antiskid inlet filter [38].

(e) Remove the retainers [40] and the packing [39] from the antiskid inlet filter [38].

(f) Remove the retainers [37] and the packing [36] from the filter cover [35].

SUBTASK 32-42-03-020-017

(2) Do the steps that follow for the screen filter [41]:

(a) Disconnect the hydraulic line from the screen filter [41] on the normal antiskid valve module [4].

(b) Install a plug in the hydraulic line and a cap on the screen filter [41].

(c) Remove the threaded screen filter [41] from the normal antiskid valve module [4].

(d) Put a plug in the port for the screen filter [41].

(e) If the screen filter you will install does not have a hydraulic fitting, do the steps that follow:

1) Remove the union [43] from the screen filter [41].

2) Remove the packing [42] from the union [43].

——— END OF TASK ———

TASK 32-42-03-400-804

9. Antiskid Filter Installation

(Figure 401)

A. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1899	Tool - Installation, Screen Filter Part #: T66368 Supplier: 81982

C. Consumable Materials

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
36	Packing	32-42-03-01-120	ARO ALL
38	Inlet filter	32-42-03-01-115	ARO ALL
39	Packing	32-42-03-01-130	ARO ALL
41	Screen filter	32-42-02-01-190	ARO ALL
		32-42-03-01-195	ARO ALL
42	Packing	32-42-03-01-040	ARO ALL

E. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing

(Continued)

Zone	Area
651	Rear Spar to Landing Gear Support Beam - Right Wing

F. **Access Panels**

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

G. **Antiskid Filter Installation**

SUBTASK 32-42-03-640-004

(1) Lubricate the packing [39], the packing [36], the retainers [40], and the retainers [37] with hydraulic fluid, D00153.

SUBTASK 32-42-03-640-005

(2) If the screen filter [41] does not have a union installed, do these steps:

(a) Lubricate the packing [42] with hydraulic fluid, D00153.

(b) Install the packing [42] on the union [43].

(c) Install the union [43] on the screen filter [41].

SUBTASK 32-42-03-420-018

(3) Install the screen filter [41] on the normal antiskid valve module [4]:

(a) Lubricate the threads of the screen filter with hydraulic fluid, D00153.

(b) Install the screen filter [41] on the normal antiskid valve module [4].

(c) Use the screen filter installation tool, SPL-1899, to tighten the screen filter [41] from 290 in-lb (32.8 N·m) to 310 in-lb (35.0 N·m).

SUBTASK 32-42-03-420-019

(4) Install the inlet filter [38]

(a) Install the retainers [40] and the packing [39] on the lower end of the inlet filter [38].

(b) Install the retainers [37] and the packing [36] on the filter cover [35].

(c) Install the inlet filter [38] in the normal antiskid valve module [4].

(d) Install the filter cover [35] on the normal antiskid valve module [4].

(e) Install the bolts [34] to connect the filter cover [35] to the normal antiskid valve module [4].

(f) Tighten the bolts [34] from 100 in-lb (11.3 N·m) to 110 in-lb (12.4 N·m).

SUBTASK 32-42-03-080-002

(5) Remove the plug from the hydraulic tube [9].

SUBTASK 32-42-03-420-020

(6) Connect the hydraulic tube [9] to the screen filter [41].

(a) Tighten the B-nut on the hydraulic tube [9] to 500 ±25 in-lb (56 ±3 N·m).

SUBTASK 32-42-03-420-021

(7) Do the steps that follow to test the normal antiskid valve module:

(a) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Operate the brake pedals several times.

(c) Look for leaks around the inlet filter [38] and the screen filter [41].

(d) With the brakes applied, look for movement of the brake wear indicator pins to make sure all of the brakes operate.

(e) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-42-03-010-007

(1) Close the applicable access panels:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

——— END OF TASK ———

TASK 32-42-03-000-805

10. Antiskid Shutoff Valve Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

C. Access Panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

D. Prepare for the Removal

SUBTASK 32-42-03-480-015

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-03-480-016

(2) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-03-860-023

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-42-03-860-024

(4) Release the parking brake.

SUBTASK 32-42-03-860-025

(5) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-42-03-010-008

(6) Open the applicable access panels to get access to the applicable valve module:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

E. Antiskid Inlet Filter Removal

SUBTASK 32-42-03-020-018

(1) Hold the shutoff valve [31] and remove the bolts [30].

SUBTASK 32-42-03-020-019

(2) Remove the shutoff valve [31] from the normal antiskid valve module [4].

SUBTASK 32-42-03-480-017

(3) Put caps or plugs in the port for the antiskid shutoff valve [31].

SUBTASK 32-42-03-020-020

(4) Remove the retainers [32] and the packings [33] from the antiskid shutoff valve [31].

——— END OF TASK ———

TASK 32-42-03-400-805

11. Antiskid Shutoff Valve Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1900	Installation/Removal Tool, Shutoff Valve Part #: T63577 Supplier: 81982

C. Consumable Materials

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

D. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
31	Shutoff valve	32-42-03-01-060	ARO ALL
33	Packing	32-42-03-01-095	ARO ALL

E. **Location Zones**

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

F. **Access Panels**

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

G. **Antiskid Shutoff Valve Installation**

SUBTASK 32-42-03-640-006

(1) Lubricate the packings [33] and the retainers [32] with hydraulic fluid, D00153.

SUBTASK 32-42-03-420-022

(2) Install the retainers [32] and packings [33] on the antiskid shutoff valve [31].

SUBTASK 32-42-03-420-023

CAUTION

BE CAREFUL TO KEEP CONTAMINATION OUT OF THE ANTISKID SHUTTLE VALVE MODULE. CONTAMINATION CAN CAUSE A MALFUNCTION OF THE ANTISKID SHUTTLE VALVE.

(3) Use the shutoff valve installation/removal tool, COM-1900 to install the antiskid shutoff valve [31] in the normal antiskid valve module [4].

SUBTASK 32-42-03-420-024

(4) Install the bolts [30] to connect the antiskid shutoff valve [31] to the normal antiskid valve module [4].

SUBTASK 32-42-03-420-025

(5) Tighten the bolts [30] from 100 in-lb (11.3 N·m) to 110 in-lb (12.4 N·m).

SUBTASK 32-42-03-420-026

(6) Do the steps that follow to test the normal antiskid valve module:

(a) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Operate the brake pedals several times.

(c) Look for leaks around the shutoff valve [31].

(d) With the brakes applied, look for movement of the brake wear indicator pins to make sure all of the brakes operate.

(e) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-42-03-010-009

(1) Close the applicable access panels:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

——— END OF TASK ———

ANTISKID TRANSDUCER DRIVE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the antiskid transducer drive

(2) An installation of the antiskid transducer drive.

TASK 32-42-04-000-801

2. Antiskid Transducer Drive Removal

(Figure 401)

A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-45-08 P/B 401	Hubcap Removal/Installation

B. Consumable Materials

Reference	Description	Specification
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

C. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for the Removal

SUBTASK 32-42-04-480-001

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

E. Antiskid Transducer Drive Removal

SUBTASK 32-42-04-000-001

(1) Remove the hubcap assembly [1] (PAGEBLOCK 32-45-08/401).

SUBTASK 32-42-04-000-002

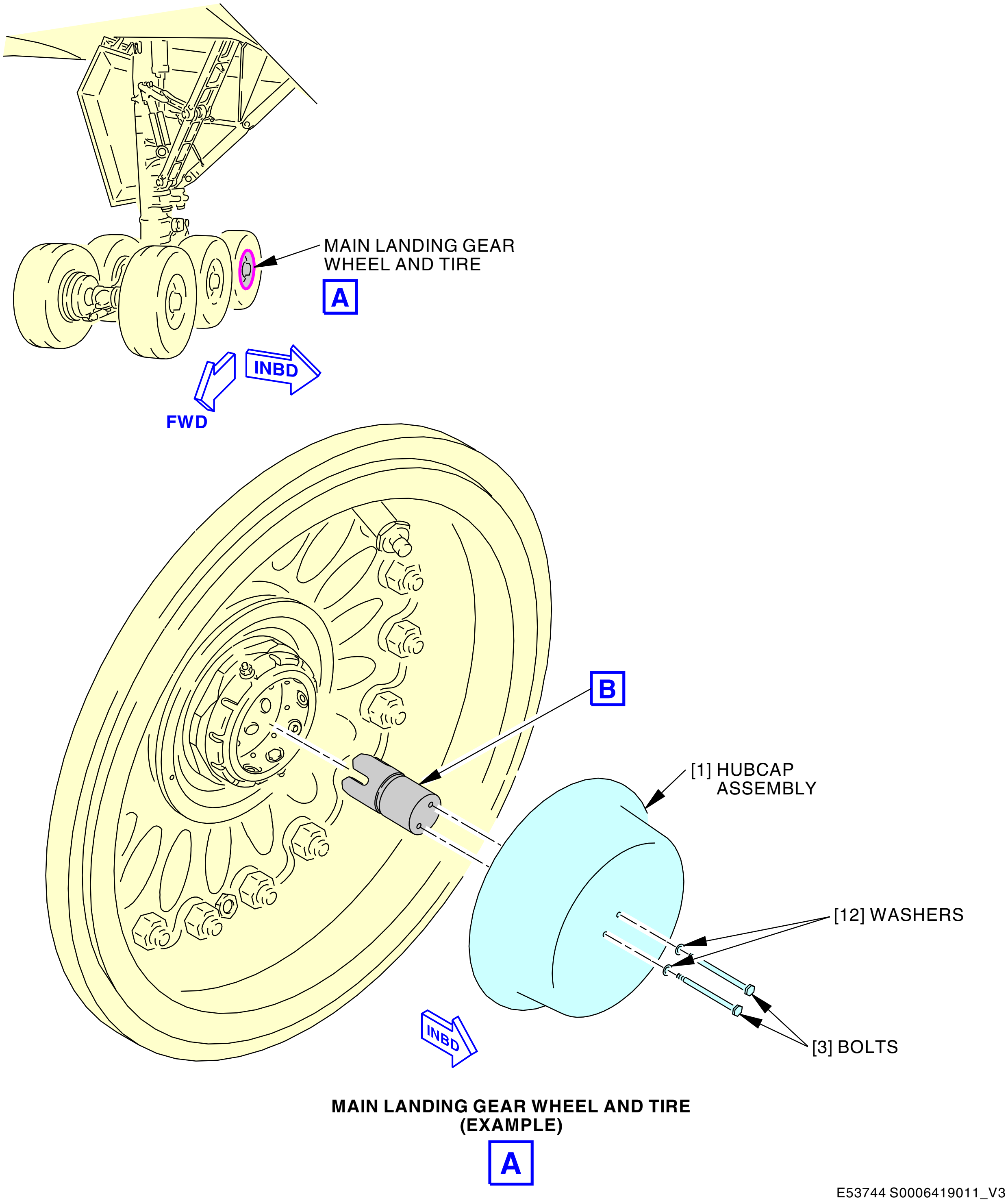
(2) Remove the MS20995C32 lockwire, G01048 from the bolts [3].

SUBTASK 32-42-04-020-007

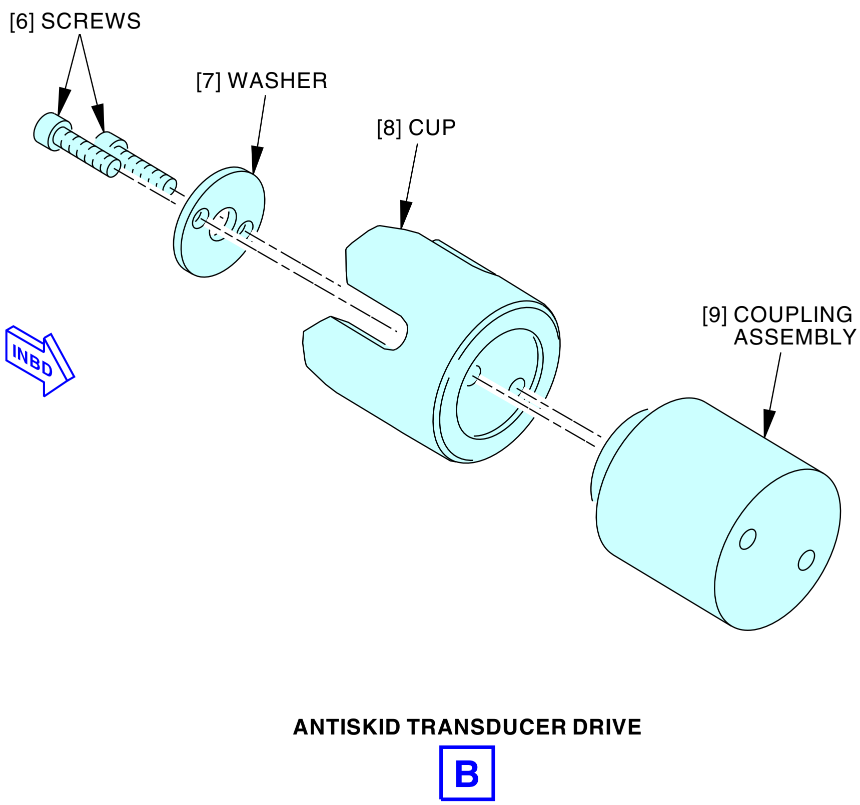
(3) Remove the bolts [3] and washers [12] which hold the coupling assembly [9] to the hubcap assembly [1].

(4) Remove the screws [6] and washer [7] from the coupling assembly [9].

END OF TASK



Antiskid Transducer Drive Installation
Figure 401/32-42-04-990-801 (Sheet 1 of 2)



Antiskid Transducer Drive Installation
Figure 401/32-42-04-990-801 (Sheet 2 of 2)

TASK 32-42-04-400-801

3. Antiskid Transducer Drive Installation

(Figure 401)

A. References

Reference	Title
32-45-08 P/B 401	Hubcap Removal/Installation

B. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

C. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Antiskid Transducer Drive Installation

SUBTASK 32-42-04-420-001

(1) Assemble antiskid transducer drive:

(a) Install the cup [8] and washer [7] on the coupling assembly [9].

(b) Install the screws [6] that hold the cup [8] and washer [7] to the coupling assembly [9].

1) Tighten the screws [6] from 15 in-lb (1.7 N·m) to 20 in-lb (2.3 N·m).

NOTE: The antiskid transducer drive include next components: cup [8] and coupling assembly [9] hold together with screw [6] installed through the washer [7].

SUBTASK 32-42-04-420-003

(2) Install assembled antiskid drive to the hubcap assembly [1]:

(a) Apply the sealant, A00247 to the bolts [3] (per BAC5000 wet installation using Method 2).

(b) Install the bolts [3] and washers [12] which hold the assembled antiskid transducer drive to the hubcap assembly [1].

SUBTASK 32-42-04-420-006

(3) Tighten the bolts [3] from 30 in-lb (3.4 N·m) to 35 in-lb (4.0 N·m).

SUBTASK 32-42-04-420-007

(4) Install a MS20995C32 lockwire, G01048 on the bolt [3].

SUBTASK 32-42-04-420-010

(5) Do this task: Hubcap Removal/Installation, PAGEBLOCK 32-45-08/401.

END OF TASK

IN-AXLE ASSEMBLY - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the in-axle assembly

(2) An installation of the in-axle assembly

(3) A removal of the antiskid transducer

(4) An installation of the antiskid transducer

(5) An in-axle assembly component operational test.

TASK 32-42-05-020-801

2. In-Axle Assembly Removal

(Figure 401)

A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-45-08-020-801	Main Landing Gear Hubcap - Removal (P/B 401)

B. Location Zones

Zone	Area
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Prepare for the Removal

SUBTASK 32-42-05-480-002

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-05-860-017

(2) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
M	19	C32617	LG TIRE PRESSURE INDICATOR
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

NOTE: It is not necessary to open the LG ANTISKID circuit breakers when working on the nose landing gear.

D. In-Axle Assembly Removal

SUBTASK 32-42-05-020-020

(1) Do this task: Main Landing Gear Hubcap - Removal, TASK 32-45-08-020-801.

SUBTASK 32-42-05-020-011

(2) Do these steps to remove the in-axle assembly [6].

NOTE: The main landing gear in-axle assembly contains these parts: the in-axle transformer [50], the antiskid transducer [14] and the in-axle adapter [13].

NOTE: The nose landing gear in-axle assembly contains these parts: the in-axle transformer [50], and the in-axle adapter [13].

(a) Remove the bolt [9], the washer [10] and the nut [11].

(b) Remove the in-axle assembly [6] from the axle.

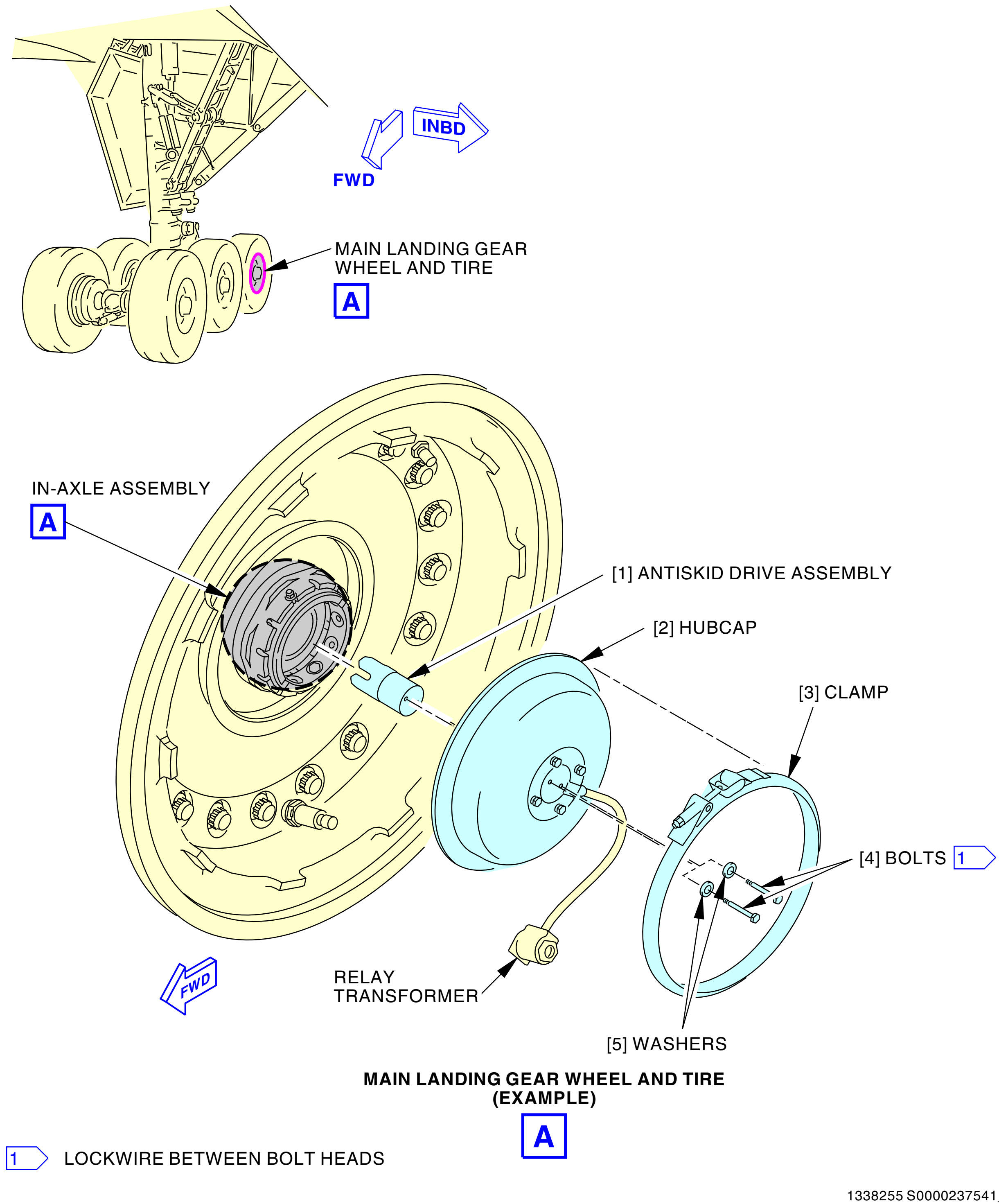
(c) Disconnect the electrical connector [8] and electrical connector [7] from the back of the in-axle assembly [6].

NOTE: The electrical connector [7] is not installed on the nose landing gear.

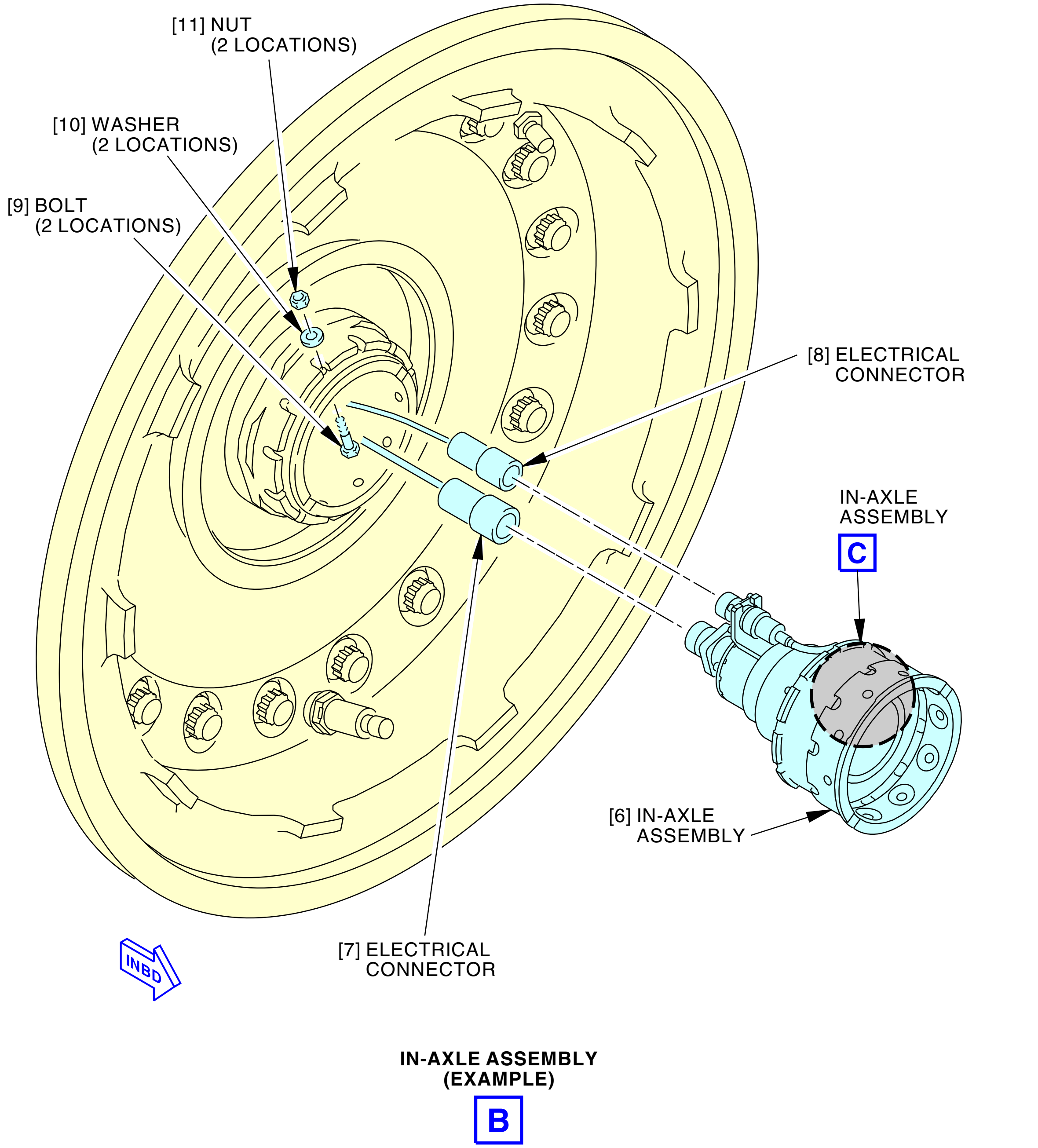
SUBTASK 32-42-05-020-024

(3) If it is necessary, do this task: In-Axle Transformer and Antiskid Transducer Removal, TASK 32-42-05-000-807.

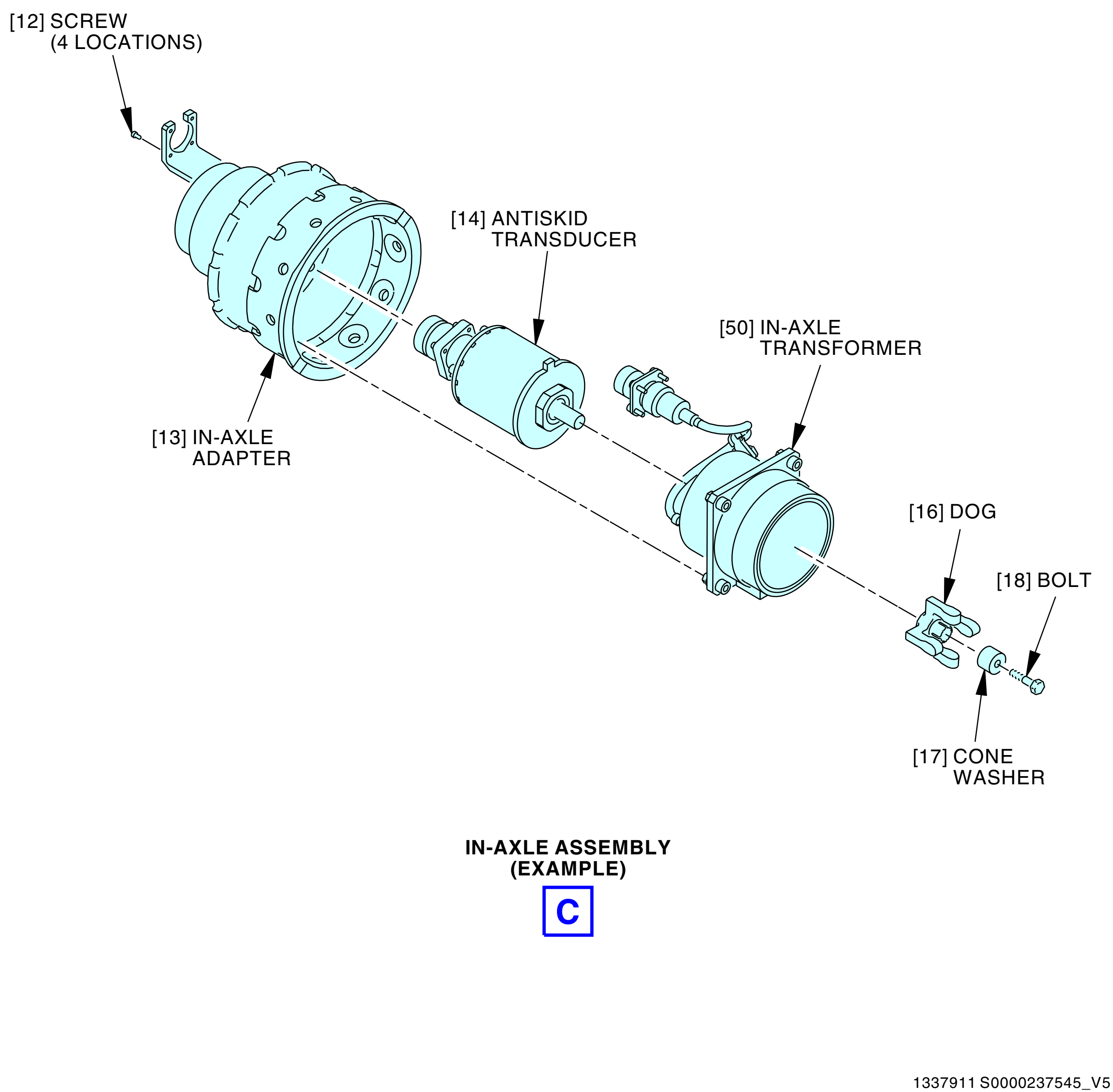
——— END OF TASK ———



In-Axle Assembly Installation
Figure 401/32-42-05-990-801 (Sheet 1 of 3)



In-Axle Assembly Installation
Figure 401/32-42-05-990-801 (Sheet 2 of 3)



In-Axle Assembly Installation
Figure 401/32-42-05-990-801 (Sheet 3 of 3)

TASK 32-42-05-000-807

3. In-Axle Transformer and Antiskid Transducer Removal

(Figure 401)

A. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

B. In-Axle Transformer and Antiskid Transducer Removal.

SUBTASK 32-42-05-020-022

(1) Do this task: In-Axle Assembly Removal, TASK 32-42-05-020-801.

SUBTASK 32-42-05-000-001

(2) Do these steps to remove the in-axle transducer [14] from the in-axle adapter [13]:

(a) Remove the screws [12] from the in-axle adapter [13].

(b) Remove the 4 bolts, the nuts and the washers that attach the in-axle transformer [50] to the in-axle adapter [13].

(c) Remove the bolt [18], the cone washer [17], and the dog [16] from the antiskid transducer [14].

(d) Remove the antiskid transducer [14] from the in-axle transformer [50].

END OF TASK

TASK 32-42-05-400-807

4. In-Axle Transformer and Antiskid Transducer Installation

(Figure 401)

A. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

B. In-axle Transformer and Antiskid Transducer Installation

SUBTASK 32-42-05-400-001

(1) Do these steps to install the antiskid transducer [14] into the in-axle adapter [13]:

(a) Insert the antiskid transducer [14] on the in-axle transformer [50].

(b) Install the bolt [18], the cone washer [17], and the dog [16] on the antiskid transducer [14].

(c) Install the 4 bolts, the nuts and the washers on the in-axle transformer [50] and the in-axle adapter [13].

(d) Install the screws [12] on the in-axle adapter [13].

SUBTASK 32-42-05-420-022

(2) Do this task: In-Axle Assembly Installation, TASK 32-42-05-400-801.

END OF TASK

TASK 32-42-05-400-801

5. In-Axle Assembly Installation

(Figure 401)

A. General

(1) The in-axle assembly is installed in this procedure.

B. References

Reference	Title
20-11-00 P/B 201	STANDARD TORQUE VALUES - MAINTENANCE PRACTICES
32-45-08-420-802	Nose Gear Hubcap - Installation (P/B 401)

C. Consumable Materials

Reference	Description	Specification
G50262	Wiper - Cleaning	BMS15-5

D. Location Zones

Zone	Area
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for the Installation

SUBTASK 32-42-05-160-001

(1) Use a wiper, G50262 to remove unwanted material from the outer surface of the in-axle assembly [6] and the inner surface of the axle.

F. In-Axle Assembly Installation

SUBTASK 32-42-05-420-001

(1) Do these steps to install the in-axle assembly [6]:

(a) Connect the electrical connector [8] and electrical connector [7] to the back of the in-axle assembly [6].

NOTE: The electrical connector [7] is not installed on the nose landing gear in-axle assembly.

CAUTION

DO NOT PULL OR TWIST ON THE WIRE HARNESS. YOU CAN CAUSE DAMAGE TO THE WIRE BUNDLE OR THE MATING COMPONENTS.

(b) Install the electrical connector [7] in the axle.

(c) Install the bolt [9], the washer [10], and the nut [11].

(d) Check the self locking nut, STANDARD TORQUE VALUES - MAINTENANCE PRACTICES, PAGEBLOCK 20-11-00/201.

SUBTASK 32-42-05-860-003

(2) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
M	19	C32617	LG TIRE PRESSURE INDICATOR
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

SUBTASK 32-42-05-420-026

(3) For the nose landing gear hubcap assembly [2], do this task: Nose Gear Hubcap - Installation, TASK 32-45-08-420-802.

SUBTASK 32-42-05-480-004

(4) Do this task: In-Axle Assembly Component Operational Test, TASK 32-42-05-480-801.

——— END OF TASK ———

TASK 32-42-05-480-801

6. In-Axle Assembly Component Operational Test

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
32-42-00-700-801	Antiskid/Autobrake System - Functional Test (P/B 501)
32-45-08-420-801	Main Landing Gear Hubcap - Installation (P/B 401)
45-10-00-740-808	How to Use the Central Maintenance Computing System (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1831	Adapter - Spin Up, Wheel Speed Transducer, Anti-Skid System Part #: A32075-10 Supplier: 81205 Opt Part #: A32075-1 Supplier: 81205 Opt Part #: A32075-9 Supplier: 81205

C. Antiskid Transducer Installation Test

SUBTASK 32-42-05-800-001

(1) A maintenance access terminal (MAT) is necessary for this procedure. For instructions on how to use a maintenance access terminal, do this task: How to Use the Central Maintenance Computing System, TASK 45-10-00-740-808.

SUBTASK 32-42-05-860-018

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-42-05-710-003

(3) Use a MAT to access the LRU Replacement Test of the Wheel Speed Transducer:

(a) Make these selections on the MAT:

1) ONBOARD MAINTENANCE

2) LINE MAINTENANCE
3) GROUND TESTS
4) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM
5) LRU REPLACEMENT TEST
6) WHEEL SPEED TRANSDUCER
7) CONTINUE.

(b) Do the instructions that show on the MAT and then make these selections:
1) CONTINUE
2) START TEST.

(c) When the test is completed, make sure that PASSED shows adjacent to TEST CONDITION on the MAT.

(d) If FAILED shows, refer to the applicable Maintenance Message Index in the FIM to find the fault isolation task for each maintenance message that shows on the MAT.

(e) To put the MAT back to its initial condition, make these selections:
1) LINE MAINTENANCE
2) EXIT MAINTENANCE.

SUBTASK 32-42-05-720-001

(4) Do the following wheelspeed transducer spin procedure (TASK 32-42-00-700-801):
(a) SUBTASK 32-42-00-020-002.
(b) SUBTASK 32-42-00-720-015.
(c) SUBTASK 32-42-00-720-011.

NOTE: The spin up wheel speed transducer anti-skid system adapter, SPL-1831, and a variable speed drill are used in SUBTASK 32-42-00-720-011.

(d) SUBTASK 32-42-00-720-013.

SUBTASK 32-42-05-420-018

(5) For the main landing gear hubcap assembly [2], do this task: Main Landing Gear Hubcap - Installation, TASK 32-45-08-420-801.

D. Tire Pressure Sensor Installation Test

SUBTASK 32-42-05-860-019

(1) Push the GEAR button on the multifunction display, (MFD), select panel.

NOTE: The MFD select panel is above the control lever for the landing gear in the flight compartment.

(a) Make sure the 12 main landing gear tire pressures show 185 psig (1276 kPa) - 250 psig (1724 kPa).

SUBTASK 32-42-05-860-020

(2) Push the STAT button on the multifunction display select panel (MFD).

SUBTASK 32-42-05-860-021

(3) Make sure that TIRE PRESS does not show on the MFD Landing Gear Status display.

END OF TASK

ANTISKID SHUTTLE VALVE MODULE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the antiskid shuttle valve module

(2) An installation of the antiskid shuttle valve module

(3) A removal of the antiskid shuttle valve

(4) An installation of the antiskid shuttle valve

(5) A removal of the outlet filter for the antiskid shuttle valve module

(6) An installation of the outlet filter for the antiskid shuttle valve module.

B. You do not need to remove the antiskid shuttle valve module or disconnect hydraulic lines to remove an antiskid shuttle valve or outlet filter.

C. The antiskid shuttle valve module is referred to as the valve module [14] in this procedure.

TASK 32-42-06-000-801

2. Antiskid Shuttle Valve Module Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

C. Access Panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

D. Prepare for the Removal

SUBTASK 32-42-06-480-006

> **WARNING** MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-06-860-001

(2) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-42-06-480-001

(3) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-06-860-002

(4) Release the parking brake.

SUBTASK 32-42-06-860-003

(5) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-42-06-010-001

(6) To gain access to the appropriate valve module [14];

Open the applicable access panels:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

E. Antiskid Shuttle Valve Module Removal

SUBTASK 32-42-06-020-011

(1) Attach tags to the hydraulic tubes [1] (16 locations) to make installation of the lines on the valve module [14] easier.

SUBTASK 32-42-06-020-001

(2) Disconnect the hydraulic tubes [1] (16 locations) from the valve module [14].

SUBTASK 32-42-06-480-002

(3) Install plugs on the hydraulic tubes [1].

SUBTASK 32-42-06-020-002

(4) Hold the valve module [14] and remove the bolt [2] and the washer [3] which hold the valve module [14] to the mounting bracket.

SUBTASK 32-42-06-020-003

(5) Remove the valve module [14] from the airplane.

SUBTASK 32-42-06-020-004

(6) If the replacement valve module [14] has union [12] installed, do these steps:

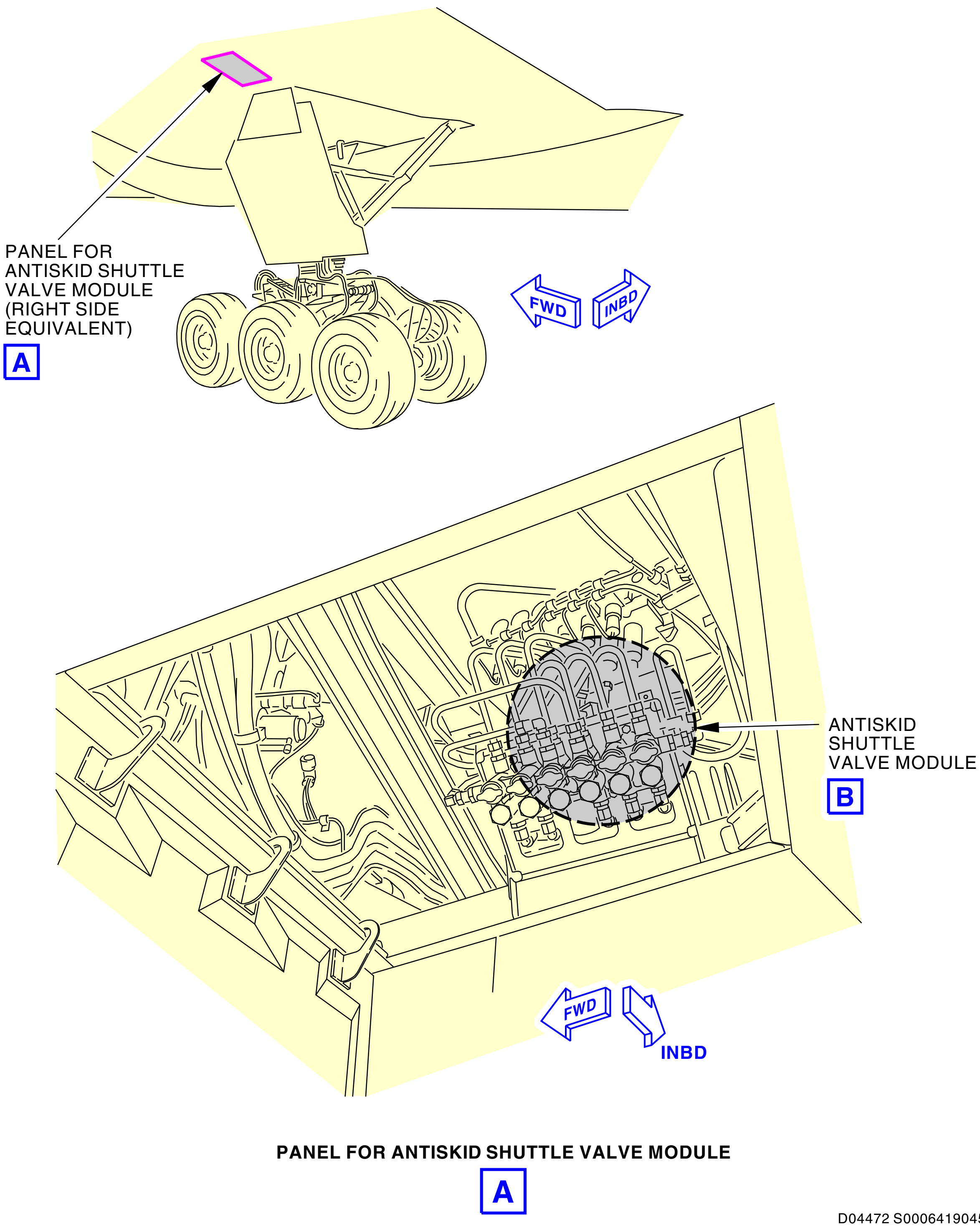
(a) Remove the union [12] and packing [13] from the ports in the valve module [14].

(b) Discard the packing [13].

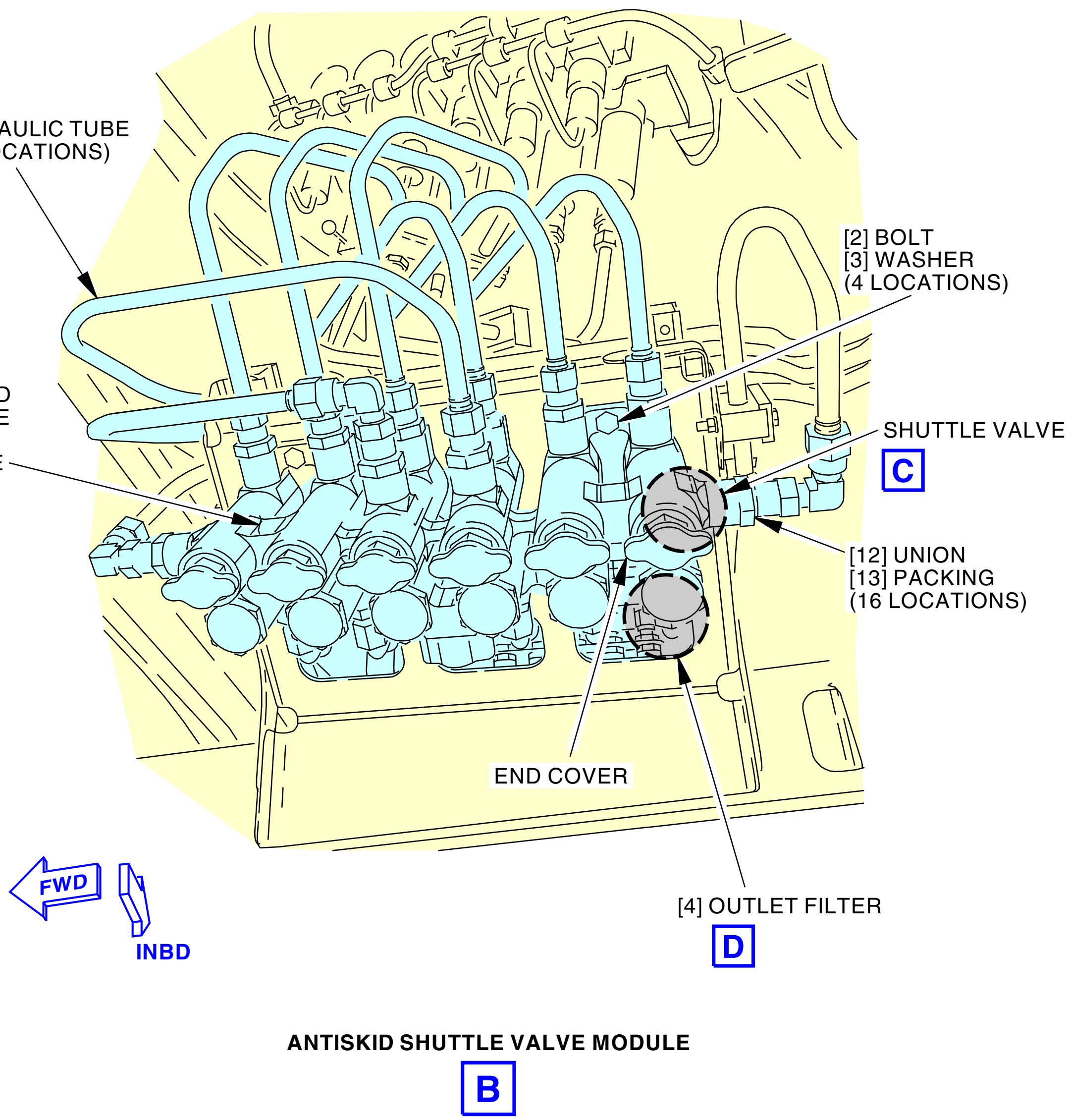
SUBTASK 32-42-06-480-003

(7) Put caps or plugs in the ports of the valve module [14].

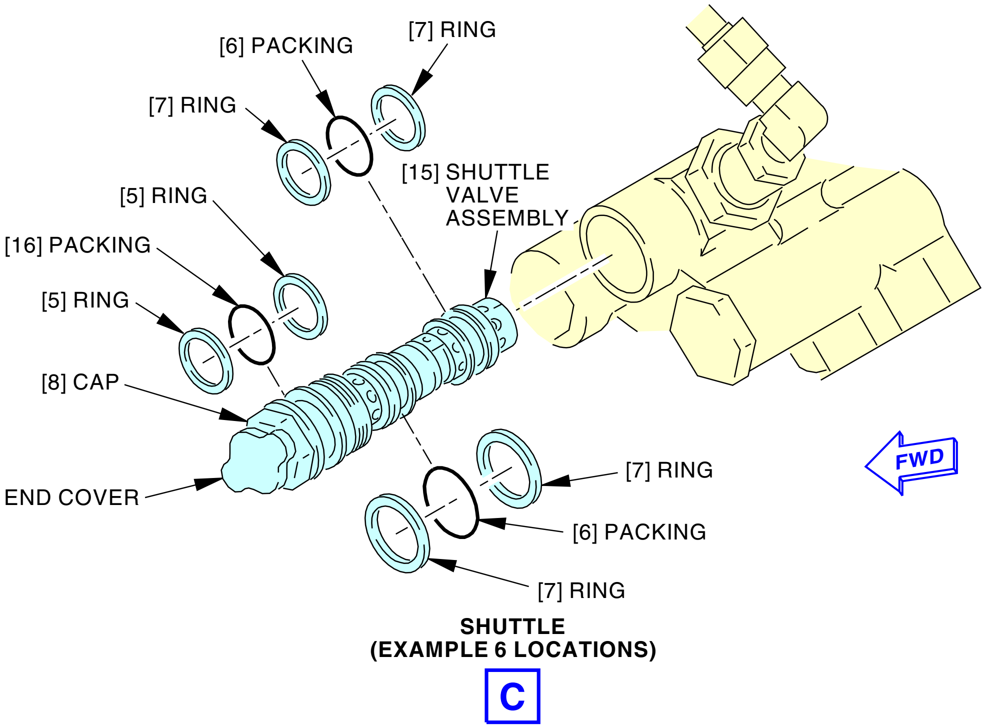
——— END OF TASK ———

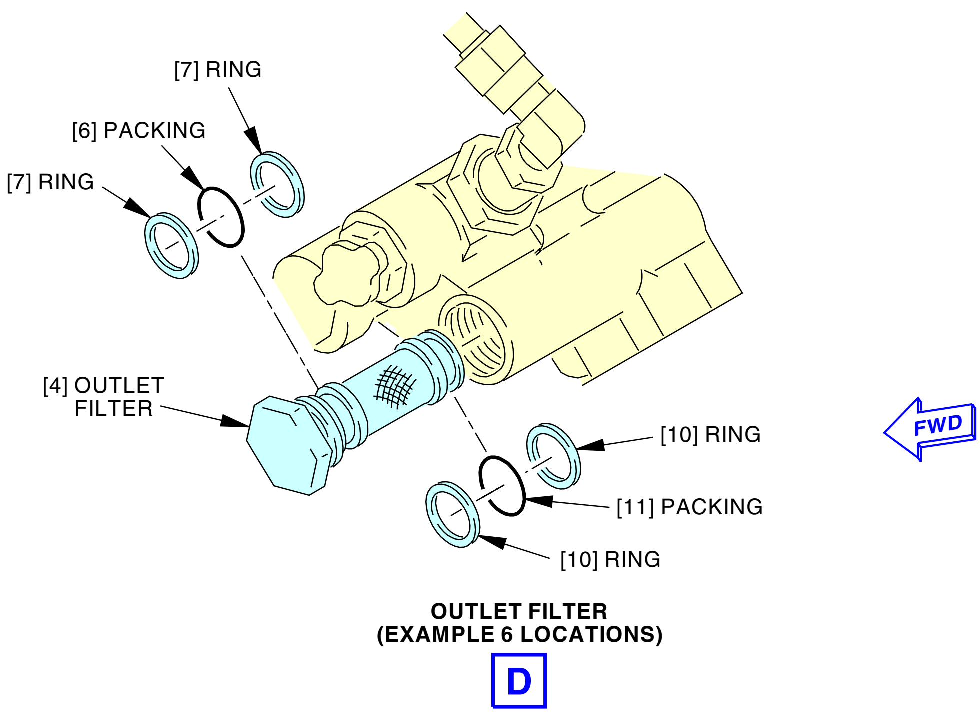


Antiskid Shuttle Valve Module Installation
Figure 401/32-42-06-990-801 (Sheet 1 of 3)



Antiskid Shuttle Valve Module Installation
Figure 401/32-42-06-990-801 (Sheet 2 of 3)





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Antiskid Shuttle Valve Module Installation
Figure 401/32-42-06-990-801 (Sheet 3 of 3)

TASK 32-42-06-400-801

3. Antiskid Shuttle Valve Module Installation

(Figure 401)

A. References

Reference	Title
20-11-00-910-801	Standard Torque Values (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-41-00-870-801	Alternate Hydraulic Brake System - Bleeding (P/B 201)
32-41-00-870-802	Normal Hydraulic Brake System - Bleeding (P/B 201)

B. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
14	Valve module	32-42-06-02-010	ARO ALL

D. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

E. Access Panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

F. Antiskid Shuttle Valve Module Installation

SUBTASK 32-42-06-080-001

(1) Remove the caps or plugs from the ports in the valve module [14].

SUBTASK 32-42-06-420-001

(2) If the replacement valve module [14] has union [12] installed in the ports, do these steps:

(a) Lubricate the union [12] and the packing [13] for the ports in the valve module [14] with hydraulic fluid, D00153.

(b) Install the union [12] and packing [13] in the ports in the valve module [14].

(c) Tighten the union [12] to 270 in-lb (31 N·m) - 300 in-lb (34 N·m).

SUBTASK 32-42-06-420-013

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(3) Apply Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237 to the bolt [2].

SUBTASK 32-42-06-420-014

(4) Hold the valve module [14] to the mounting bracket.

SUBTASK 32-42-06-420-003

(5) Install the bolt [2] and the washer [3] which hold the valve module [14] to the mounting bracket (TASK 20-11-00-910-801).

SUBTASK 32-42-06-080-002

(6) Remove the plugs from the hydraulic tubes [1].

SUBTASK 32-42-06-420-004

(7) Connect the hydraulic tubes [1] to the valve module [14].

NOTE: Make sure that the hydraulic elbows are connected to the hydraulic tubes.

(a) Tighten the B-nuts on the hydraulic tubes [1] to 270 ±14 in-lb (31 ±2 N·m).

(b) Remove all tags that were put on the hydraulic tubes [1].

G. Antiskid Shuttle Valve Module Installation Test

SUBTASK 32-42-06-860-004

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-42-06-710-001

(2) Do a normal brake application check:

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801

(b) Bleed air from the brake lines. Do this task: Normal Hydraulic Brake System - Bleeding, TASK 32-41-00-870-802.

(c) Fully push and hold the captain's brake pedals.

NOTE: The parking brake can be set to hold the pedals.

(d) Examine each brake's pistons to make sure that all brakes are engaged.

(e) After 5 minutes, make sure there is no leakage from the valve module or fittings.

(f) Release the brake pedals (or parking brake).

(g) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-42-06-710-002

(3) Do the alternate brake application check:

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Bleed air from the brake lines. Do this task: Alternate Hydraulic Brake System - Bleeding, TASK 32-41-00-870-801.

(c) Fully push and hold the captain's brake pedals.

NOTE: The parking brake can be set to hold the pedals.

(d) Examine each brake's pistons to make sure that all brakes are engaged.

(e) After 5 minutes, make sure there is no leakage from the valve module or fittings.

(f) Release the brake pedals (or parking brake).

(g) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-42-06-010-002

(1) Close the applicable access panels:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

END OF TASK

TASK 32-42-06-000-802

4. Antiskid Shuttle Valve Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

C. Access Panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

D. Prepare for the Removal

SUBTASK 32-42-06-480-007

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-06-860-006

(2) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807

SUBTASK 32-42-06-480-004

(3) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-06-860-007

(4) Release the parking brake.

SUBTASK 32-42-06-860-008

(5) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-42-06-010-003

(6) To gain access to the appropriate valve module;

Open the applicable access panels:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

E. Antiskid Shuttle Valve Removal

SUBTASK 32-42-06-020-006

CAUTION: BE CAREFUL TO KEEP CONTAMINATION OUT OF THE ANTI-SKID SHUTTLE VALVE AND MODULE. CONTAMINATION CAN CAUSE A MALFUNCTION OF THE BRAKE SYSTEM.

(1) Loosen the cap [8] to remove the antiskid shuttle valve assembly [15] from the antiskid shuttle valve module [14].

SUBTASK 32-42-06-020-007

(2) Remove the ring [5], the ring [7] and the packings [6], the packing [16] from the antiskid shuttle valve assembly [15].

SUBTASK 32-42-06-940-001

(3) Discard the ring [5], the ring [7] and the packings [6], the packing [16].

END OF TASK

TASK 32-42-06-400-802

5. Antiskid Shuttle Valve Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-41-00-870-801	Alternate Hydraulic Brake System - Bleeding (P/B 201)
32-41-00-870-802	Normal Hydraulic Brake System - Bleeding (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
6	Packing	32-42-03-02-040	ARO ALL
15	Valve assembly	32-42-03-02-070	ARO ALL
16	Packing	32-42-03-02-110	ARO ALL

D. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

E. Access Panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

F. Antiskid Shuttle Valve Installation

SUBTASK 32-42-06-640-001

(1) Lubricate the packings [6], the packing [16] and the ring [5], the ring [7] with hydraulic fluid, D00153.

SUBTASK 32-42-06-420-005

(2) Install the packings [6], the packing [16] and the ring [5], the ring [7] on the antiskid shuttle valve assembly [15].

SUBTASK 32-42-06-420-015

(3) Apply hydraulic fluid, D00153 to the cap [8] for the shuttle valve assembly [15].

SUBTASK 32-42-06-420-006

CAUTION: BE CAREFUL TO KEEP CONTAMINATION OUT OF THE ANTISKID SHUTTLE VALVE MODULE. CONTAMINATION CAN CAUSE A MALFUNCTION OF THE ANTISKID SHUTTLE VALVE.

(4) Install the antiskid shuttle valve assembly [15] into the antiskid shuttle valve module [14].

SUBTASK 32-42-06-420-016

(5) Tighten the cap [8] for the shuttle valve assembly [15] to 90.0 in-lb (10.2 N·m) - 110.0 in-lb (12.4 N·m).

SUBTASK 32-42-06-420-008

(6) Install MS20995C32 lockwire, G01048, between the cap [8].

G. Antiskid Shuttle Valve Installation Test

SUBTASK 32-42-06-860-009

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-42-06-710-003

(2) Do a normal brake application check:

WARNING: KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Bleed air from the brake lines. Do this task: Normal Hydraulic Brake System - Bleeding, TASK 32-41-00-870-802.

(c) Fully push and hold the captain's brake pedals.

NOTE: The parking brake can be set to hold the pedals.

(d) Examine each brake's pistons to make sure that all brakes are engaged.

(e) After 5 minutes, make sure there is no leakage from the valve module or fittings.

(f) Release the brake pedals (or parking brake).

(g) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808

SUBTASK 32-42-06-710-004

(3) Do the alternate brake application check:

WARNING: KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Bleed air from the brake lines. Do this task: Alternate Hydraulic Brake System - Bleeding, TASK 32-41-00-870-801.

(c) Fully push and hold the captain's brake pedals.

NOTE: The parking brake can be set to hold the pedals.

(d) Examine each brake's pistons to make sure that all brakes are engaged.

(e) After 5 minutes, make sure there is no leakage from the valve module or fittings.

(f) Release the brake pedals (or parking brake).

(g) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-42-06-010-004

(1) Close the applicable access panels:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

END OF TASK

TASK 32-42-06-000-803

6. Outlet Filter - Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

C. Access Panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

D. Prepare for the Removal

SUBTASK 32-42-06-480-008

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-06-860-011

(2) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-42-06-480-005

(3) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-06-860-012

(4) Release the parking brake.

SUBTASK 32-42-06-860-013

(5) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-42-06-010-005

(6) To gain access to the appropriate valve module;

Open the applicable access panels :

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

E. Outlet Filter Removal

SUBTASK 32-42-06-020-009

CAUTION	BE CAREFUL TO KEEP CONTAMINATION OUT OF THE ANTI-SKID SHUTTLE VALVE AND MODULE. CONTAMINATION CAN CAUSE A MALFUNCTION OF THE BRAKE SYSTEM.

(1) Loosen the outlet filter [4] to remove it from the antiskid shuttle valve module [14].

SUBTASK 32-42-06-020-010

(2) Remove the rings [7], the rings [10] and the packing [6], the packing [11] from the outlet filter [4].

SUBTASK 32-42-06-940-002

(3) Discard the rings [7], the rings [10] and the packing [6], the packing [11].

END OF TASK

TASK 32-42-06-400-803

7. Outlet Filter - Installation

(Figure 401)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-41-00-870-801	Alternate Hydraulic Brake System - Bleeding (P/B 201)
32-41-00-870-802	Normal Hydraulic Brake System - Bleeding (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
4	Filter	32-42-03-02-020	ARO ALL
6	Packing	32-42-03-02-040	ARO ALL
7	Ring	32-42-03-02-030	ARO ALL
10	Ring	32-42-03-02-050	ARO ALL
11	Packing	32-42-03-02-060	ARO ALL

D. Location Zones

Zone	Area
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

E. Access Panels

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

F. Outlet Filter Installation

SUBTASK 32-42-06-640-002

(1) Lubricate the packing [6], the packing [11] and rings [7], the rings [10] with hydraulic fluid, D00153.

SUBTASK 32-42-06-420-009

(2) Install the packing [6], the packing [11] and rings [7], the rings [10] on the outlet filter [4].

SUBTASK 32-42-06-420-010

CAUTION	BE CAREFUL TO KEEP CONTAMINATION OUT OF THE ANTI-SKID SHUTTLE VALVE AND MODULE. CONTAMINATION CAN CAUSE A MALFUNCTION OF THE BRAKE SYSTEM.

(3) Install the outlet filter [4] into the antiskid shuttle valve module [14].

SUBTASK 32-42-06-420-018

(4) Tighten the outlet filter [4] to 90 in-lb (10 N·m) - 110 in-lb (12 N·m).

SUBTASK 32-42-06-420-012

(5) Install MS20995C32 lockwire, G01048, between the outlet filters [4].

G. Outlet Filter Installation Test

SUBTASK 32-42-06-860-014

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-42-06-710-005

(2) Do a normal brake application check:

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Bleed air from the brake lines. Do this task: Normal Hydraulic Brake System - Bleeding, TASK 32-41-00-870-802.

(c) Fully push and hold the captain's brake pedals.

NOTE: The parking brake can be set to hold the pedals.

(d) Examine each brake's pistons to make sure that all brakes are engaged.

(e) After 5 minutes, make sure there is no leakage from the valve module or fittings.

(f) Release the brake pedals (or parking brake).

(g) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-42-06-710-006

(3) Do the alternate brake application check:

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Bleed air from the brake lines. Do this task: Alternate Hydraulic Brake System - Bleeding, TASK 32-41-00-870-801.

(c) Fully push and hold the captain's brake pedals.

NOTE: The parking brake can be set to hold the pedals.

(d) Examine each brake's pistons to make sure that all brakes are engaged.

(e) After 5 minutes, make sure there is no leakage from the valve module or fittings.

(f) Release the brake pedals (or parking brake).

(g) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-42-06-010-006

(1) Close the applicable access panels:

Number	Name/Location
551DB	Inboard Fixed Trailing Edge Panel
651DB	Inboard Fixed Trailing Edge Panel

——— END OF TASK ———

AUTOBRAKE SELECTOR SWITCH - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the autobrake selector switch

(2) An installation of the autobrake selector switch.

TASK 32-42-07-000-801

2. Autobrake Selector Switch Removal

(Figure 401)

A. References

Reference	Title
32-31-01-020-801	Landing Gear Control Lever Module Removal (P/B 401)

B. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

C. Prepare for the Removal

SUBTASK 32-42-07-860-001

(1) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
M	20	C32613	LG AUTOBRAKE/BITE/R-COMM CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
N	1	C32614	LG AUTOBRAKE/BITE/R-COMM CB 2

SUBTASK 32-42-07-020-001

(2) Do this task: Landing Gear Control Lever Module Removal, TASK 32-31-01-020-801.

NOTE: Only do the steps that are necessary to access the autobrake selector switch [4].

D. Autobrake Selector Switch Removal

SUBTASK 32-42-07-020-002

(1) Disconnect the electrical connector [5] from the autobrake selector switch [4].

SUBTASK 32-42-07-020-003

(2) Remove the nut [3] and the washer [7] which holds the autobrake selector switch [4] to the landing gear control lever module [1].

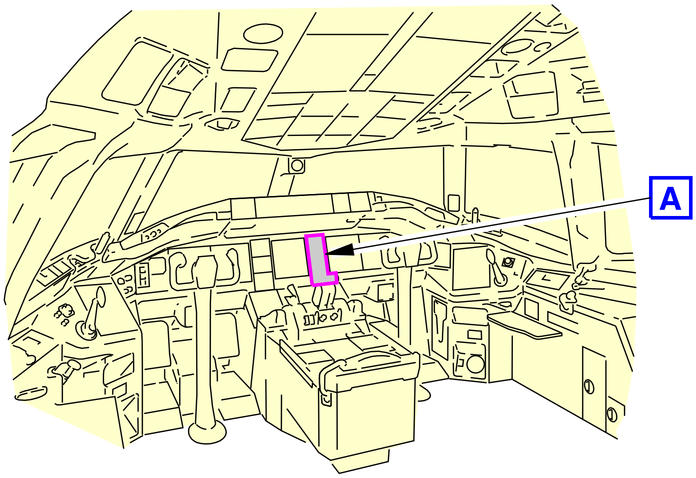
SUBTASK 32-42-07-020-004

(3) Remove the screws [2] which hold the autobrake selector switch [4] and the guard [6] to the landing gear control lever module [1].

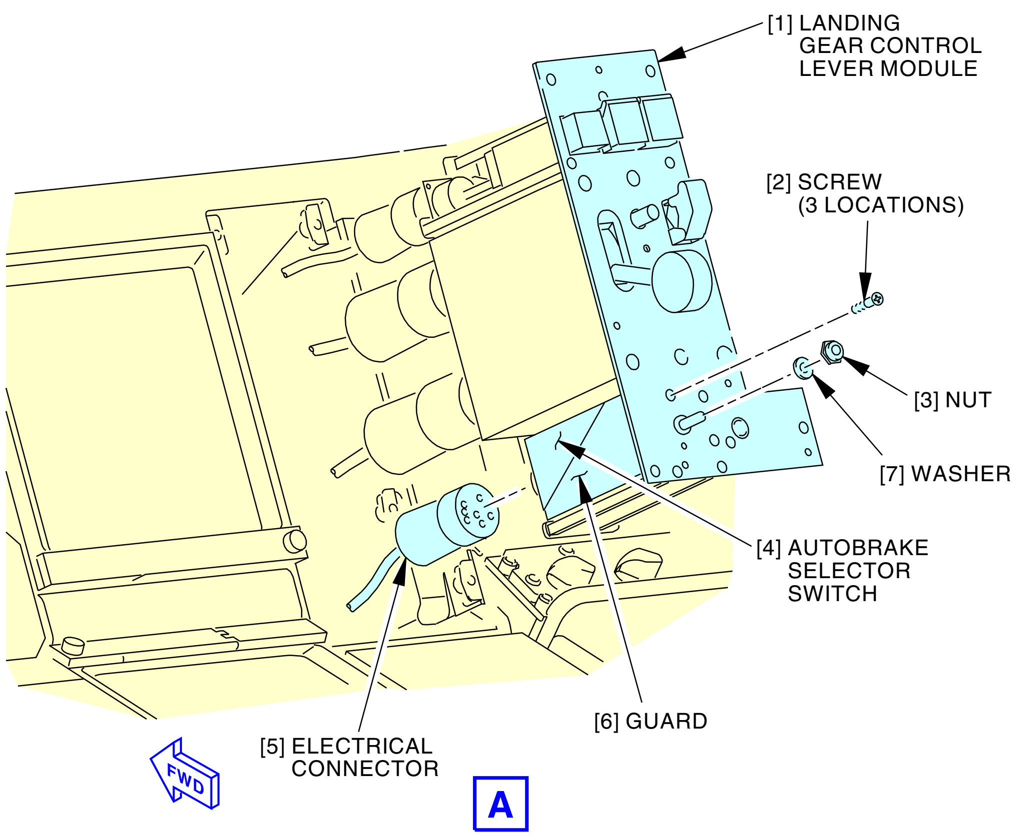
SUBTASK 32-42-07-020-005

(4) Remove the autobrake selector switch [4] from the airplane.

END OF TASK



FLIGHT COMPARTMENT



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Autobrake Selector Switch Installation
Figure 401/32-42-07-990-801

TASK 32-42-07-400-801

3. Autobrake Selector Switch Installation

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-31-01-420-801	Landing Gear Control Lever Module Installation (P/B 401)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
4	Autobrake selector switch	32-42-07-01-020	ARO ALL

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Autobrake Selector Switch Installation

SUBTASK 32-42-07-420-001

(1) Install the autobrake selector switch [4] and the guard [6] on the landing gear control lever module [1].

SUBTASK 32-42-07-420-002

(2) Install the screws [2] which hold the autobrake selector switch [4] and the guard [6] to the landing gear control lever module [1].

SUBTASK 32-42-07-420-003

(3) Install the nut [3] and the washer [7] which holds the autobrake selector switch [4] to the landing gear control lever module [1].

SUBTASK 32-42-07-420-004

(4) Connect the electrical connector [5] to the autobrake selector switch [4].

SUBTASK 32-42-07-420-005

(5) Do this task: Landing Gear Control Lever Module Installation, TASK 32-31-01-420-801.

SUBTASK 32-42-07-860-002

(6) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
M	20	C32613	LG AUTOBRAKE/BITE/R-COMM CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
N	1	C32614	LG AUTOBRAKE/BITE/R-COMM CB 2

E. Autobrake Selector Switch Installation Test

SUBTASK 32-42-07-860-003

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-42-07-480-001

(2) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-07-860-004

(3) Release the parking brake.

SUBTASK 32-42-07-860-005

WARNING

KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-42-07-710-005

(5) Make sure the ADIRU is ON and aligned.

(a) If the battery switch is in the OFF position and the ground service relay is in the OFF position, the ADIRU ON BAT light and the ground crew call horn will come on, this will indicate the only power source for the ADIRU is HOT BATTERY BUS.

SUBTASK 32-42-07-710-001

(6) Make sure that the AUTOBRAKE status message does not show on EICAS.

SUBTASK 32-42-07-710-002

(7) Make sure that the AUTOBRAKE SOL VALVE status message does not show on EICAS.

SUBTASK 32-42-07-710-003

(8) Make sure that the ANTISKID advisory message does not show on EICAS.

SUBTASK 32-42-07-860-006

(9) Make sure the thrust levers are in the IDLE position.

SUBTASK 32-42-07-710-004

(10) Move the autobrake selector switch [4] to the positions in (Table 401), and make sure the indications on EICAS are correct:

Table 401/32-42-07-993-802 Autobrake Indication Test

Autobrake Selector Switch Position	EICAS Indication
1	AUTOBRAKE 1
2	AUTOBRAKE 2
3	AUTOBRAKE 3
4	AUTOBRAKE 4
MAX AUTO	AUTOBRAKE MAX
RTO	AUTOBRAKE RTO
DISARM	AUTOBRAKE advisory message

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-42-07-860-007

(1) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

AUTOBRAKE VALVE MODULE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the autobrake valve module.

(2) An installation of the autobrake valve module.

(3) A removal of the valve module line replaceable units (the servovalve assembly, the solenoid valve, and the pressure switches).

(4) An installation of the valve module line replaceable units (the servovalve assembly, the solenoid valve, and the pressure switches).

B. The autobrake valve module is installed on the forward lower center panel of the right wheel well.

TASK 32-42-09-000-801

2. Autobrake Valve Module Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
144	Main Landing Gear Wheel Well, Right

C. Prepare for the Removal

SUBTASK 32-42-09-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-09-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-42-09-860-002

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-42-09-480-002

(4) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-09-860-003

(5) Release the parking brake.

SUBTASK 32-42-09-860-004

(6) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-42-09-860-008

(7) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
M	20	C32613	LG AUTOBRAKE/BITE/R-COMM CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
N	1	C32614	LG AUTOBRAKE/BITE/R-COMM CB 2

D. Autobrake Valve Module Removal

SUBTASK 32-42-09-020-001

(1) Do these steps to remove the autobrake valve module:

(a) Disconnect the electrical connector [1], electrical connector [11], electrical connector [12] and electrical connector [16] from the autobrake valve module [6].

(b) Disconnect the hydraulic tube [4], hydraulic tube [5] and hydraulic tube [15] from the autobrake valve module [6].

(c) Install plugs in the hydraulic tube [4], hydraulic tube [5] and hydraulic tube [15].

(d) Remove the bolt [9] and washer [10] that attach the autobrake valve module [6] to the mounting bracket.

(e) Remove the autobrake valve module [6] from the airplane.

SUBTASK 32-42-09-020-002

(2) If the replacement autobrake valve module [6] does not have hydraulic fittings installed, do these steps:

(a) Remove the fittings and packings from these ports in the autobrake valve module [6]:

1) BRAKE port: union [2] and packing [3]

2) NORMAL PRESS port: union [7] and packing [8]

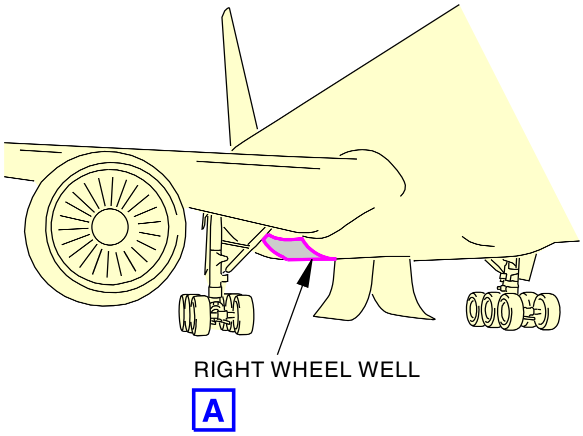
3) RETURN port: union [13] and packing [14]

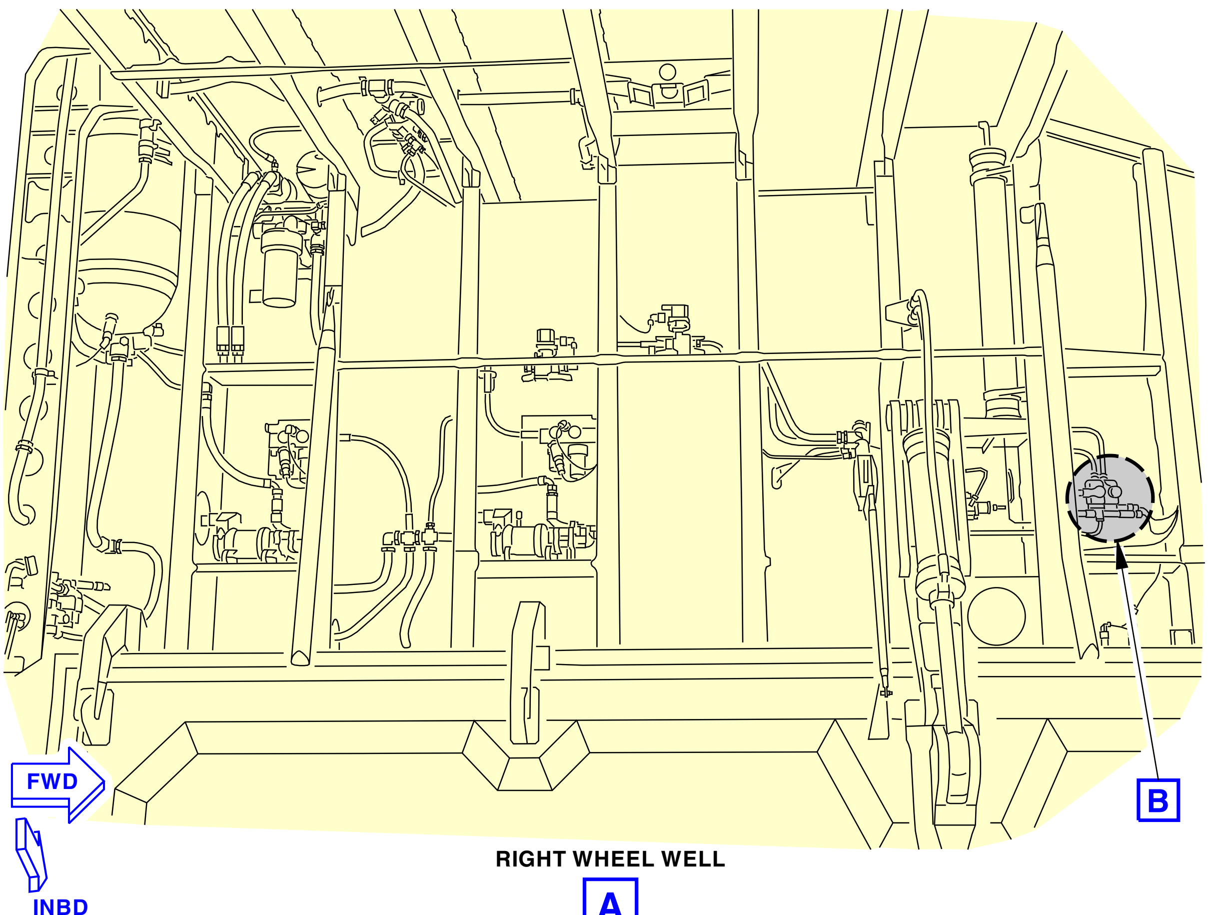
(b) Discard the packing [3], the packing [8], and the packing [14].

SUBTASK 32-42-09-480-003

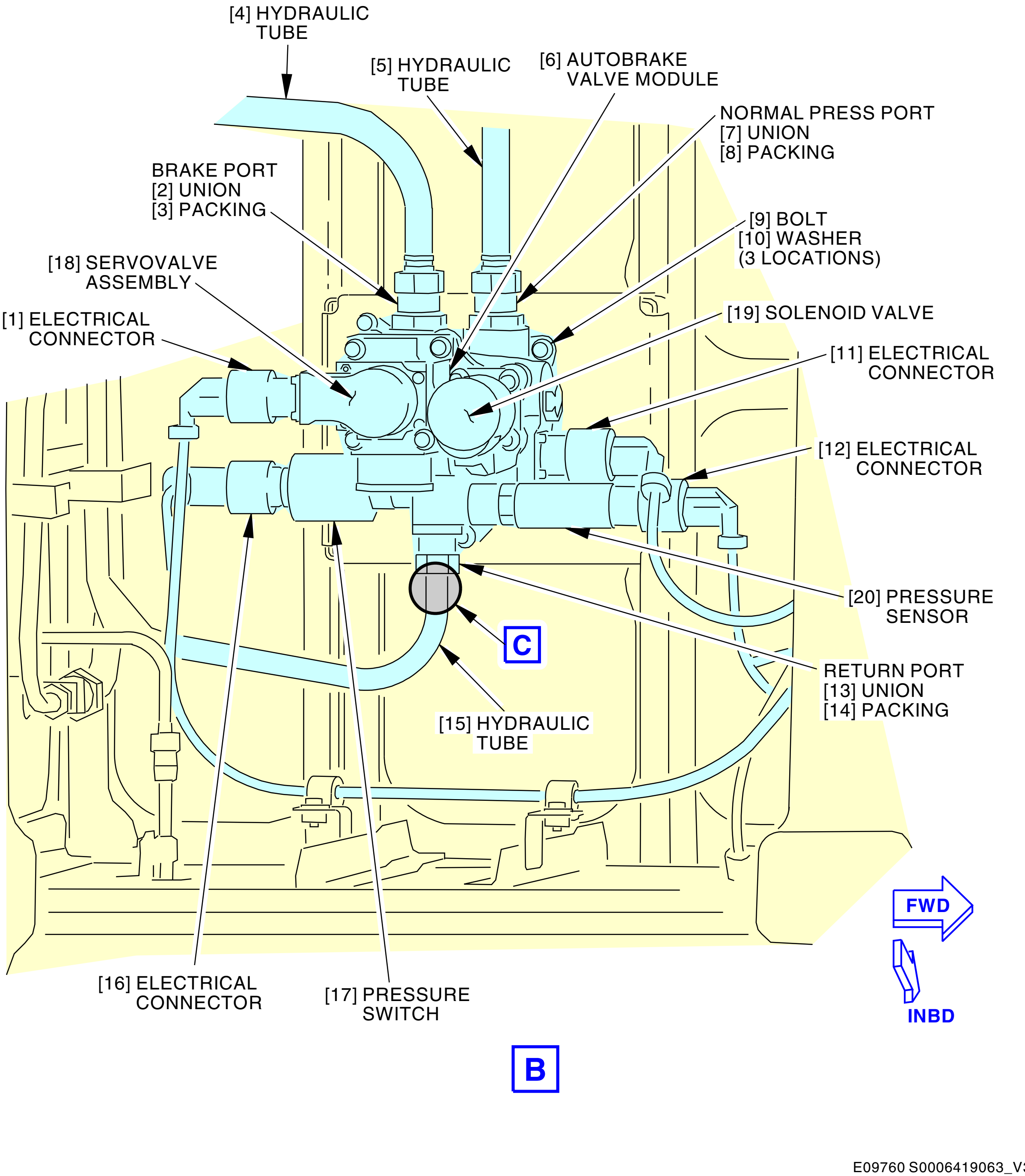
(3) Install caps or plugs on the ports of the autobrake valve module [6].

END OF TASK

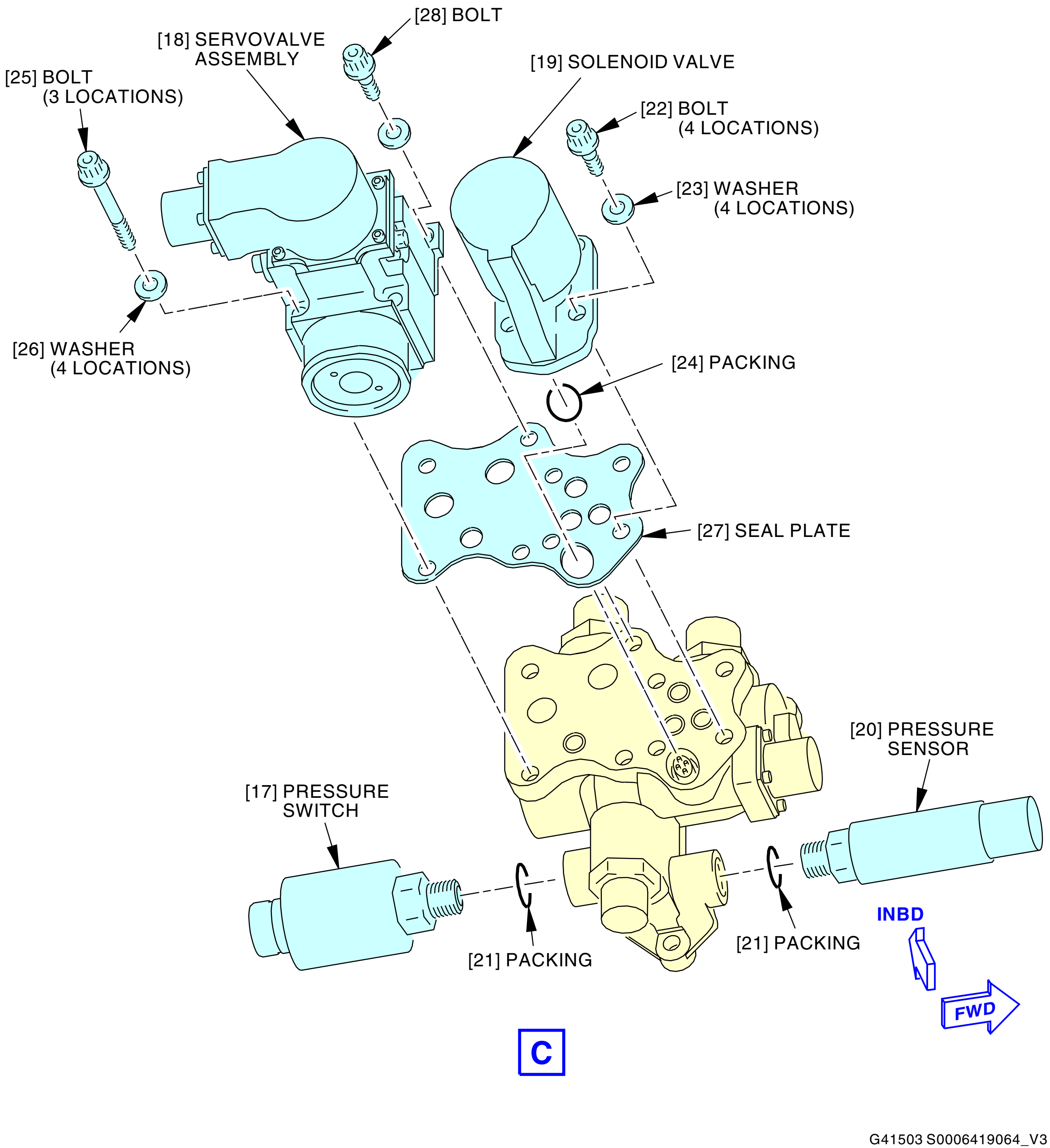




Autobrake Valve Module Installation
Figure 401/32-42-09-990-801 (Sheet 1 of 3)



Autobrake Valve Module Installation
Figure 401/32-42-09-990-801 (Sheet 2 of 3)



Autobrake Valve Module Installation
Figure 401/32-42-09-990-801 (Sheet 3 of 3)

TASK 32-42-09-400-801

3. Autobrake Valve Module Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
20-11-00-910-801	Standard Torque Values (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-41-00-870-802	Normal Hydraulic Brake System - Bleeding (P/B 201)

B. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Packing	32-42-09-01-025	ARO ALL
6	Autobrake valve module	32-42-09-01-060	ARO ALL
8	Packing	32-42-09-01-025	ARO ALL
14	Packing	32-42-09-01-035	ARO ALL

D. Location Zones

Zone	Area
144	Main Landing Gear Wheel Well, Right

E. Autobrake Valve Module Installation

SUBTASK 32-42-09-080-001

(1) Remove the caps or plugs from the ports of the autobrake valve module [6].

SUBTASK 32-42-09-420-001

(2) If the replacement autobrake valve module [6] does not have hydraulic fittings installed, do these steps:

(a) Lubricate the hydraulic fittings and packings for these ports in the autobrake valve module [6] with hydraulic fluid, D00153:

1) BRAKE port: union [2] and packing [3]

2) NORMAL PRESS port: union [7] and packing [8]

3) RETURN port: union [13] and packing [14]

(b) Install the packings on the fittings and the fittings in these ports in the autobrake valve module [6]:

1) BRAKE port: union [2] and packing [3]

2) NORMAL PRESS port: union [7] and packing [8]

3) RETURN port: union [13] and packing [14]

SUBTASK 32-42-09-420-002

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(3) Do these steps to install the autobrake valve module [6]:

(a) Make sure the autobrake valve module [6] and the mounting bracket are clean.

(b) Align the autobrake valve module [6] in its position on the airplane.

(c) Apply Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237 to the bolt [9].

(d) Install the bolt [9] and washer [10] that attach the autobrake valve module [6] to the mounting bracket. Refer to Standard Torque Values, TASK 20-11-00-910-801.

(e) Remove the plugs from the hydraulic tube [4], hydraulic tube [5] and hydraulic tube [15].

(f) Connect the hydraulic tube [4], hydraulic tube [5] and hydraulic tube [15] to the autobrake valve module [6].

(g) Connect the electrical connector [1], electrical connector [11], electrical connector [12] and

SUBTASK 32-42-09-860-009

(4) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
M	20	C32613	LG AUTOBRAKE/BITE/R-COMM CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
N	1	C32614	LG AUTOBRAKE/BITE/R-COMM CB 2

SUBTASK 32-42-09-710-001

(5) For the normal brake system, do this task: Normal Hydraulic Brake System - Bleeding, TASK 32-41-00-870-802.

F. Autobrake Valve Module Installation Test

SUBTASK 32-42-09-860-005

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(1) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801

SUBTASK 32-42-09-860-010

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-42-09-790-001

(3) Do these steps to do an operational check of the autobrake valve module [6]:

(a) Fully push the captain's brake pedals and hold them.

NOTE: You can set the parking brake to hold the brake pedals.

(b) To show the LANDING GEAR BRKS/STRNG maintenance page, do this task: Showing a Maintenance Page, TASK 31-61-00-800-804.

(c) Make these selections on the MAT:

1) ONBOARD MAINTENANCE
2) LINE MAINTENANCE
3) GROUND TESTS
4) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM
5) SYSTEM TEST
6) AUTOBRAKE APPLICATION

(d) Release the captain's brake pedals.

(e) Do these steps at the same time:

1) Make sure the AUTOBRAKE brake metered pressure shows 2800 psig (19,305 kPa) - 3200 psig (22,063 kPa) on the LANDING GEAR BRKS/STRNG maintenance page and then returns to approximately 0 psig (0 kPa).

2) Examine each brake's piston to make sure that all brakes engaged and then released.

(f) Make sure there is no leakage from the autobrake valve module [6] or fittings.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-42-09-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-42-09-860-006

(2) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

TASK 32-42-09-000-802

4. Autobrake Valve Module Line Replaceable Units Removal

(Figure 401)

A. General

(1) The procedure that follows removes these components of the autobrake pressure control module:

(a) Solenoid Valve

(b) Servovalve

(c) Pressure Switch

B. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
144	Main Landing Gear Wheel Well, Right

D. Prepare for the Removal

SUBTASK 32-42-09-480-004

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-09-010-002

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-42-09-860-011

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-42-09-480-005

(4) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-09-860-012

(5) Release the parking brake.

SUBTASK 32-42-09-840-001

(6) Operate the brake pedals until the gage at the brake accumulator shows no change in the pressure.

NOTE: You will have to operate the brake pedals approximately 12 times to fully release the pressure from the accumulator.

SUBTASK 32-42-09-860-013

(7) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
M	20	C32613	LG AUTOBRAKE/BITE/R-COMM CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
N	1	C32614	LG AUTOBRAKE/BITE/R-COMM CB 2

E. Solenoid Valve Removal

SUBTASK 32-42-09-020-004

(1) Remove the bolts [22] and the washers [23] that connect the solenoid valve [19] to the autobrake valve module [6].

SUBTASK 32-42-09-480-006

CAUTION: WHEN YOU REMOVE THE SERVOVALVE AND THE GASKET, MAKE SURE THAT CONTAMINATION CAN NOT GO INTO THE MODULE'S OPEN PORTS. DAMAGE TO THE VALVE CAN OCCUR IF YOU LET CONTAMINATION GO INTO THE PORTS.

CAUTION: WHEN YOU REMOVE THE SOLENOID VALVE AND THE GASKET, MAKE SURE THAT CONTAMINATION CAN NOT GO INTO THE MODULE'S OPEN PORTS. DAMAGE TO THE VALVE CAN OCCUR IF LET CONTAMINATION GO INTO THE PORTS.

(2) Remove the solenoid valve [19] from the autobrake valve module [6].

SUBTASK 32-42-09-480-007

(3) Install a plugs in all of the ports for the solenoid valve [19].

NOTE: The seal plate that is below the solenoid valve [19] does not need to be replaced unless there is damage.

(a) If there is wear or damage to the seal plate [27], you must remove the servovalve assembly [18] to be able to remove the seal plate.

(b) If you need to remove the seal plate [27], do the Servovalve Assembly Removal in this task.

(c) Remove the seal plate [27] from the autobrake valve module [6].

SUBTASK 32-42-09-480-008

(4) Remove the packing [24] from the electrical connector of the solenoid valve [19].

F. Servovalve Assembly Removal

SUBTASK 32-42-09-020-005

(1) Disconnect the electrical connector [1] from the servovalve assembly [18].

SUBTASK 32-42-09-020-006

(2) Remove the bolts [25], bolt [28] and the washers [26] that connect the servovalve assembly [18] to the autobrake valve module [6].

SUBTASK 32-42-09-480-009

CAUTION	WHEN YOU REMOVE THE SERVOVALVE AND THE GASKET, MAKE SURE THAT CONTAMINATION CAN NOT GO INTO THE MODULE'S OPEN PORTS. DAMAGE TO THE VALVE CAN OCCUR IF YOU LET CONTAMINATION GO INTO THE PORTS.

(3) Remove the servovalve assembly [18] from the autobrake valve module [6].

SUBTASK 32-42-09-480-010

(4) Install plugs in all of the ports for the servovalve assembly [18].

NOTE: The seal plate [27] that is below the servovalve assembly [18] does not need to be replaced unless there is damage.

(a) If there is wear or damage to the seal plate [27], you must remove the solenoid valve [19] to be able to remove the seal plate.

(b) If you need to remove the seal plate [27], do the Solenoid Valve Assembly Removal in this task.

(c) Remove the seal plate [27] from the autobrake valve module [6].

G. Pressure Switch or Pressure Sensor Removal

NOTE: These steps apply to the pressure switch and the pressure sensor of the valve module.

SUBTASK 32-42-09-020-007

(1) Disconnect the electrical connector [16] from the pressure switch [17] or electrical connector [12] from the pressure sensor [20].

SUBTASK 32-42-09-480-011

(2) Remove the pressure switch [17] or pressure sensor [20] from the autobrake valve module [6].

SUBTASK 32-42-09-480-012

(3) Remove the packing [21] from the pressure switch [17] or pressure sensor [20].

SUBTASK 32-42-09-480-013

(4) Install a plug in the port for the pressure switch [17] or pressure sensor [20].

END OF TASK

TASK 32-42-09-000-803

5. Autobrake Valve Module Line Replaceable Units Installation

(Figure 401)

A. General

(1) The procedure that follows installs these components of the autobrake pressure control module:

(a) Solenoid Valve

(b) Servovalve Assembly

(c) Pressure Switch

B. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-41-00-870-802	Normal Hydraulic Brake System - Bleeding (P/B 201)

C. Consumable Materials

Reference	Description	Specification
A00436	Sealant - Fuel Tank	BMS5-45 (Supersedes BMS5-26)
C00259	Coating - Chemical And Solvent Resistant Finish, Corrosion Inhibiting Primer	BMS10-11 Type I
D00054	Fluid - Hydraulic Assembly Lubricant - MCS 352B (Formerly Monsanto MCS 352B)	
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
20	Pressure sensor	32-42-09-01-105	ARO ALL
21	Packing	32-42-09-01-115	ARO ALL
24	Packing	32-42-09-01-095	ARO ALL

E. Location Zones

Zone	Area
144	Main Landing Gear Wheel Well, Right

F. Solenoid Valve Installation

SUBTASK 32-42-09-420-003

(1) Make sure the seal plate [27] is clean and in good condition.

SUBTASK 32-42-09-480-014

(2) Remove the plugs from the ports for thesolenoid valve [19].

SUBTASK 32-42-09-420-004

(3) Lubricate the packing [24] with hydraulic fluid, D00153 or MCS 352B fluid, D00054.

SUBTASK 32-42-09-480-015

(4) Install the packing [24] on the electrical connector on the bottom of the solenoid valve [19].

SUBTASK 32-42-09-480-016

(5) Apply primer, C00259 to the bolts [22].

SUBTASK 32-42-09-020-008

CAUTION	WHEN YOU REMOVE THE SOLENOID VALVE FROM THE MODULE, MAKE SURE THE VALVE IS KEPT IN A VERTICAL POSITION. IF THE VALVE IS NOT KEPT IN A VERTICAL POSITION, DAMAGE TO THE CONNECTOR PINS CAN OCCUR.

(6) Put the solenoid valve [19] in its position on the autobrake valve module [6].

SUBTASK 32-42-09-420-005

(7) Install the bolts [22] and the washers [23] to connect the solenoid valve [19] to the autobrake valve module [6].

SUBTASK 32-42-09-420-006

(8) Tighten the bolts [22] from 75 in-lb (8.5 N·m) to 95 in-lb (10.7 N·m) in a crisscross sequence.

SUBTASK 32-42-09-420-007

(9) Apply a bead of sealant, A00436 around the base of the bolts [22] and the washers [23].

G. Servovalve Assembly Installation

SUBTASK 32-42-09-420-008

(1) Make sure the seal plate [27] is clean and in good condition.

SUBTASK 32-42-09-480-017

(2) Remove the plugs from the ports for the servovalve assembly [18].

SUBTASK 32-42-09-480-018

(3) Apply primer, C00259 to the bolts [25] and bolt [28].

SUBTASK 32-42-09-020-009

(4) Put the servovalve assembly [18] in its position on the autobrake valve module [6].

SUBTASK 32-42-09-420-009

(5) Install the bolts [25], bolt [28] and the washers [26] to connect the servovalve assembly [18] to the autobrake valve module [6].

SUBTASK 32-42-09-420-010

(6) Tighten the bolts [25] and bolt [28] from 75 in-lb (8.5 N·m) to 95 in-lb (10.7 N·m) in a crisscross sequence.

SUBTASK 32-42-09-420-011

(7) Apply a bead of sealant, A00436 around the base of the bolts [22], bolt [28] and the washers [26].

SUBTASK 32-42-09-020-010

(8) Connect the electrical connector [1] to the servovalve assembly [18].

H. Pressure Switch or Pressure Sensor Installation

NOTE: These steps apply to the pressure switch and the pressure sensor of the valve module.

SUBTASK 32-42-09-420-012

(1) Lubricate the packing [21] with hydraulic fluid, D00153 or MCS 352B fluid, D00054.

SUBTASK 32-42-09-420-013

(2) Install the packing [21] on the pressure switch [17] and the pressure sensor [20].

SUBTASK 32-42-09-480-019

(3) Install the pressure switch [17] and the pressure sensor [20] in their location on the autobrake valve module [6].

NOTE: The pressure switch [17] is on the same side of the module as the servovalve assembly [18], and the pressure sensor [20] is on the same side as the solenoid valve [19].

SUBTASK 32-42-09-420-014

(4) Tighten the pressure switch [17] and pressure sensor [20] from 70 in-lb (7.9 N·m) to 80 in-lb (9.0 N·m).

SUBTASK 32-42-09-420-015

(5) Install MS20995C32 lockwire, G01048 on the pressure switch [17] and the pressure sensor [20].

SUBTASK 32-42-09-420-016

(6) Connect the electrical connector [16] to the pressure switch [17] and the electrical connector [12] to the pressure sensor [20].

I. Put the Airplane Back to its Usual Condition

SUBTASK 32-42-09-860-014

(1) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
M	20	C32613	LG AUTOBRAKE/BITE/R-COMM CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
N	1	C32614	LG AUTOBRAKE/BITE/R-COMM CB 2

SUBTASK 32-42-09-710-002

(2) For the normal brake system, do this task: Normal Hydraulic Brake System - Bleeding, TASK 32-41-00-870-802.

SUBTASK 32-42-09-710-003

(3) Do the Autobrake Valve Module Installation Test, in the autobrake valve module installation task in this procedure, (TASK 32-42-09-400-801).

SUBTASK 32-42-09-410-002

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-42-09-860-015

(5) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

AUTOBRAKE SHUTTLE VALVE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the autobrake shuttle valve

(2) An installation of the autobrake shuttle valve.

B. There are two autobrake shuttle valves.

(1) The valve for the left hand main gear brake's hydraulic system is installed on the forward bulkhead in the left wheel well.

(2) The valve for the right hand main gear brake's hydraulic system is installed on the forward bulkhead in the right wheel well.

C. The autobrake shuttle valve [7] in the parts table is referred to as the autobrake shuttle valve [7] in this procedure.

TASK 32-42-10-000-801

2. Autobrake Shuttle Valve Removal

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

C. Prepare for the Removal

SUBTASK 32-42-10-860-001

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-42-10-480-003

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-10-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-42-10-860-002

(4) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-42-10-480-001

(5) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-10-860-003

(6) Release the parking brake.

SUBTASK 32-42-10-860-004

(7) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

D. Autobrake Shuttle Valve Removal

SUBTASK 32-42-10-020-001

(1) Do these steps to remove the autobrake shuttle valve [7]:

(a) Disconnect the electrical connector [6] from the autobrake shuttle valve [7].

(b) Remove the pressure transducer [5] from the autobrake shuttle valve [7].

(c) Disconnect the hydraulic tube [8], hydraulic tube [11], hydraulic tube [14] from the autobrake shuttle valve [7].

(d) Install caps or plugs on the hydraulic tube [8], hydraulic tube [11], hydraulic tube [14].

(e) Remove the bolt [1] and washer [2] that attach the autobrake shuttle valve [7] to the mounting bracket.

(f) Remove the autobrake shuttle valve [7] from the airplane.

SUBTASK 32-42-10-020-002

(2) If the replacement autobrake shuttle valve [7] does not have hydraulic reducers installed, do these steps:

(a) Remove the reducers and the packings from these ports in the autobrake shuttle valve [7]:

1) NORM port: reducer [12] and packing [13]

2) AUTO port: reducer [3] and packing [4]

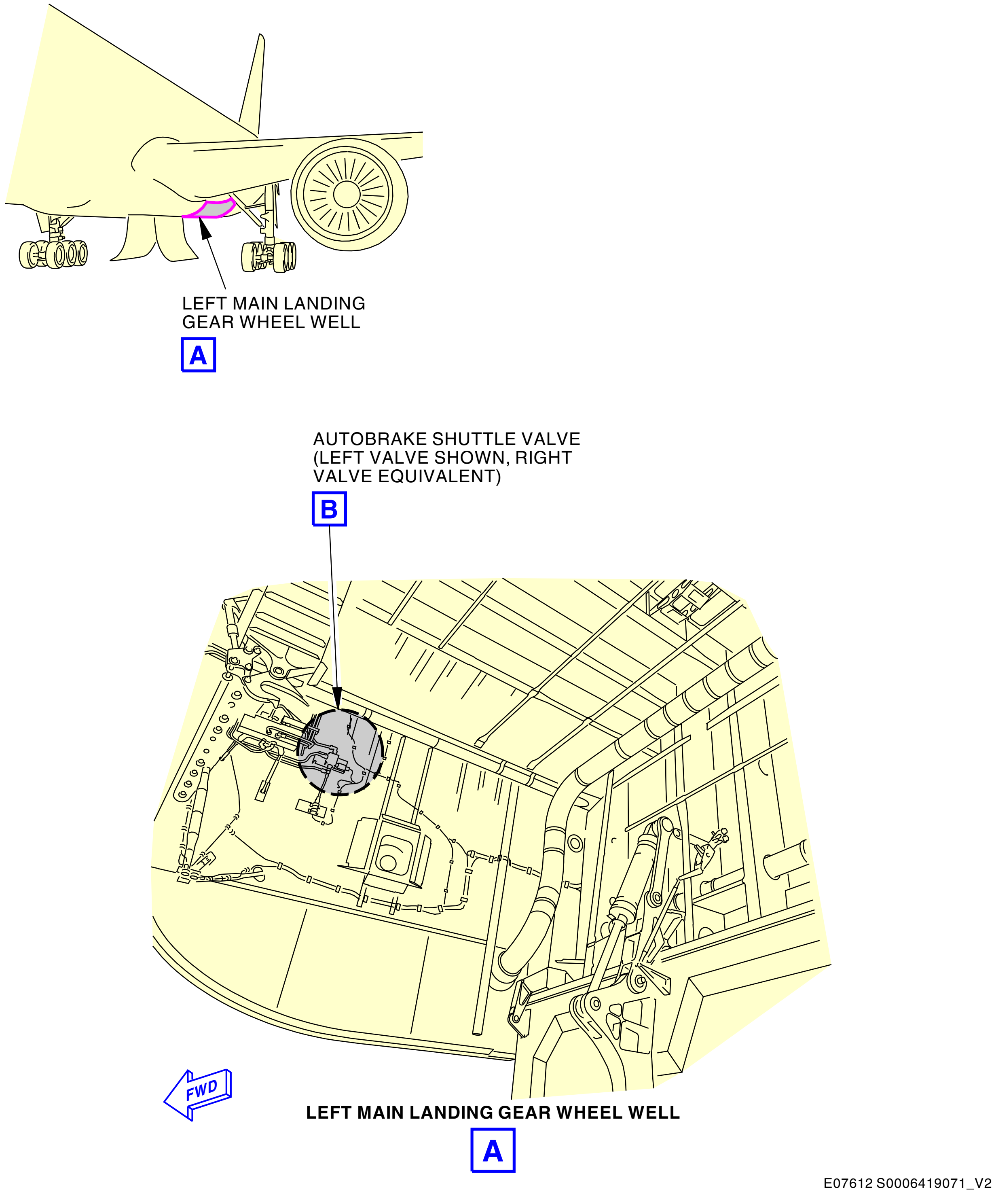
3) BRK port: reducer [9] and packing [10]

(b) Discard the packing [4], the packing [10], and the packing [13].

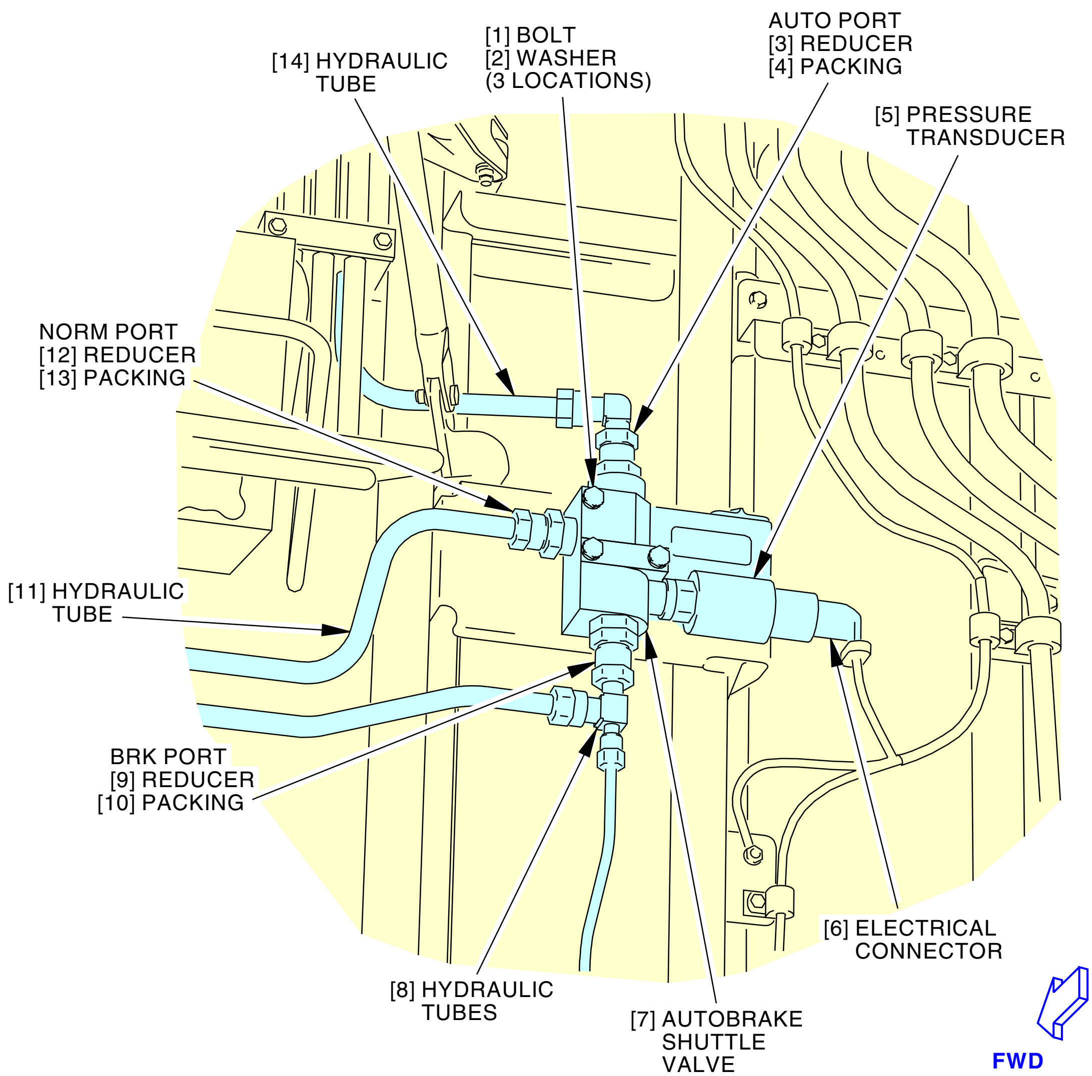
SUBTASK 32-42-10-480-002

(3) Install caps or plugs on the ports of the autobrake shuttle valve [7].

END OF TASK



Autobrake Shuttle Valve Installation
Figure 401/32-42-10-990-801 (Sheet 1 of 2)



AUTOBRAKE SHUTTLE VALVE

B

E07638 S0006419072_V3

Autobrake Shuttle Valve Installation
Figure 401/32-42-10-990-801 (Sheet 2 of 2)

TASK 32-42-10-400-801

3. Autobrake Shuttle Valve Installation

(Figure 401)

A. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Reducer	32-42-10-01-025	ARO ALL
4	Packing	32-42-10-01-030	ARO ALL
5	Transducer	32-42-10-01-110	ARO ALL
7	Autobrake shuttle valve	32-42-10-01-010	ARO ALL
9	Reducer	32-42-10-01-025	ARO ALL
10	Packing	32-42-10-01-030	ARO ALL
12	Reducer	32-42-10-01-025	ARO ALL
13	Packing	32-42-10-01-030	ARO ALL

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

E. Autobrake Shuttle Valve Installation

SUBTASK 32-42-10-020-003

(1) If the replacement autobrake shuttle valve [7] does not have hydraulic reducers installed, do these steps:

(a) Lubricate the hydraulic reducers and packings for these ports in the autobrake shuttle valve [7] with hydraulic fluid, D00153:

1) NORM port: reducer [12] and packing [13]

2) AUTO port: reducer [3] and packing [4]

3) BRK port: reducer [9] and packing [10]

(b) Install the reducers and packings on these ports in the autobrake shuttle valve [7]:

1) NORM port: reducer [12] and packing [13]

2) AUTO port: reducer [3] and packing [4]

3) BRK port: reducer [9] and packing [10]

SUBTASK 32-42-10-420-001

(2) Install the autobrake shuttle valve [7]:

(a) Install the autobrake shuttle valve [7] on the airplane.

(b) Install the bolt [1] and washer [2] that attach the autobrake shuttle valve [7] to the mounting bracket.

(c) Remove the caps or plugs from the hydraulic tube [8], hydraulic tube [11], hydraulic tube [14].

(d) Connect the hydraulic tube [8], hydraulic tube [11], hydraulic tube [14] to the autobrake shuttle valve [7].

1) Tighten the B-nuts on the hydraulic tube [8], hydraulic tube [11], hydraulic tube [14] to 500 ±25 in-lb (56 ±3 N·m).

(e) Install the pressure transducer [5] in the autobrake shuttle valve [7].

(f) Connect the electrical connector [6] to the autobrake shuttle valve [7].

F. Autobrake Shuttle Valve Installation Test

SUBTASK 32-42-10-860-005

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801

SUBTASK 32-42-10-790-001

(2) Do these steps to do a leak check of the autobrake shuttle valve [7]:

(a) Fully push and hold the captain's brake pedals.

NOTE: The parking brake can be set to hold the pedals.

(b) Examine each brake's wear indicator to make sure that all brakes are engaged.

(c) Make sure there is no leakage from the autobrake shuttle valve [7], transducer [5] or reducers.

(d) Release the captain's brake pedals.

(e) Show the LANDING GEAR BRKS/STRNG maintenance page (TASK 29-11-00-860-801).

(f) Make these selections on the MAT:

1) ONBOARD MAINTENANCE

2) LINE MAINTENANCE

3) GROUND TESTS

4) 32 LANDING GEAR

5) SYSTEM TEST

6) AUTOBRAKE APPLICATION

(g) Do these steps at the same time:

1) Make sure the AUTOBRAKE brake metered pressure shows 2800 psig (19,305 kPa) - 3200 psig (22,063 kPa) on the LANDING GEAR BRKS/STRNG maintenance page and then returns to approximately 0 psig (0 kPa).

2) Examine each brake's wear indicator to make sure that all brakes engage and then release.

(h) Make sure there is no leakage from the autobrake shuttle valve [7] or reducers.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-42-10-860-006

(1) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-42-10-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

BRAKE METERED PRESSURE TRANSDUCERS - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the brake metered pressure transducers

(2) An installation of the brake metered pressure transducers.

B. There are five brake metered pressure transducers installed on the airplane.

(1) Normal brake system: 2, installed on the autobrake shuttle valves on the forward bulkheads of the left and right wheel wells.

(2) Alternate brake system: 2, installed on hydraulic tee fittings on the landing gear beams in left and right wheel wells.

(3) Autobrake system: 1, installed on the autobrake valve on the forward lower center panel of the right wheel well.

C. This procedure shows the metered pressure transducers for the left main landing gear. This procedure also applies to the metered pressure transducers for the right main landing gear.

TASK 32-42-11-000-801

2. Brake Metered Pressure Transducers Removal

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

C. Prepare for the Removal

SUBTASK 32-42-11-480-001

> **WARNING**
> MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-42-11-860-002

(2) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-42-11-480-002

(3) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-42-11-860-003

(4) Release the parking brake.

SUBTASK 32-42-11-860-004

(5) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

D. Brake Metered Pressure Transducers Removal

SUBTASK 32-42-11-480-003

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-42-11-020-001

(2) Do these steps to remove a brake metered pressure transducer for the normal brake system (Figure 401):

(a) Open these circuit breakers and install safety tags:

Right Power Management Panel, P210

Row	Col	Number	Name
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1

(b) Disconnect the electrical connector [2] from the brake metered pressure transducer [1].

(c) Disconnect the brake metered pressure transducer [1] from the autobrake shuttle valve.

(d) Remove and discard the packing [3].

(e) Install a plug in the transducer port of the manifold.

(f) Install a cap on the transducer's port.

SUBTASK 32-42-11-020-002

(3) Do these steps to remove a brake metered pressure transducer [11] for the alternate brake system (Figure 402):

(a) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1

Standby Power Management Panel, P310

Row	Col	Number	Name
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

(b) Disconnect the electrical connector [12] from the brake metered pressure transducer [11].

(c) Disconnect the brake metered pressure transducer [11] from the hydraulic tee fitting [13].

(d) Install a plug in the hydraulic tee fitting [13].

(e) Install a cap on the transducer's port.

SUBTASK 32-42-11-020-003

(4) Do these steps to remove the brake metered pressure transducer [22] for the autobrake system (Figure 403):

(a) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
M	20	C32613	LG AUTOBRAKE/BITE/R-COMM CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
N	1	C32614	LG AUTOBRAKE/BITE/R-COMM CB 2

(b) Disconnect the electrical connector [21] from the brake metered pressure transducer [22].

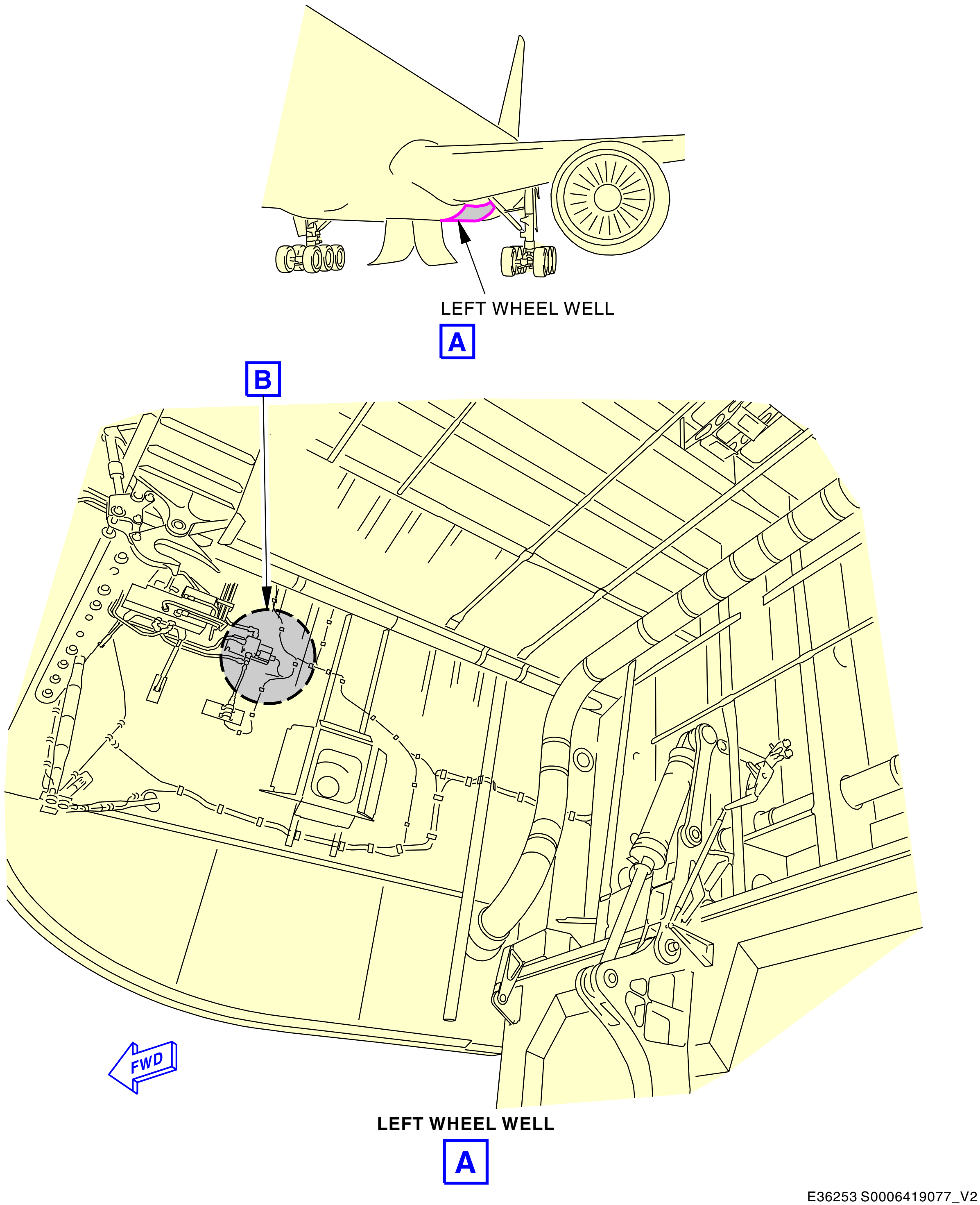
(c) Disconnect the brake metered pressure transducer [22] from the autobrake valve.

(d) Remove and discard the packing [23].

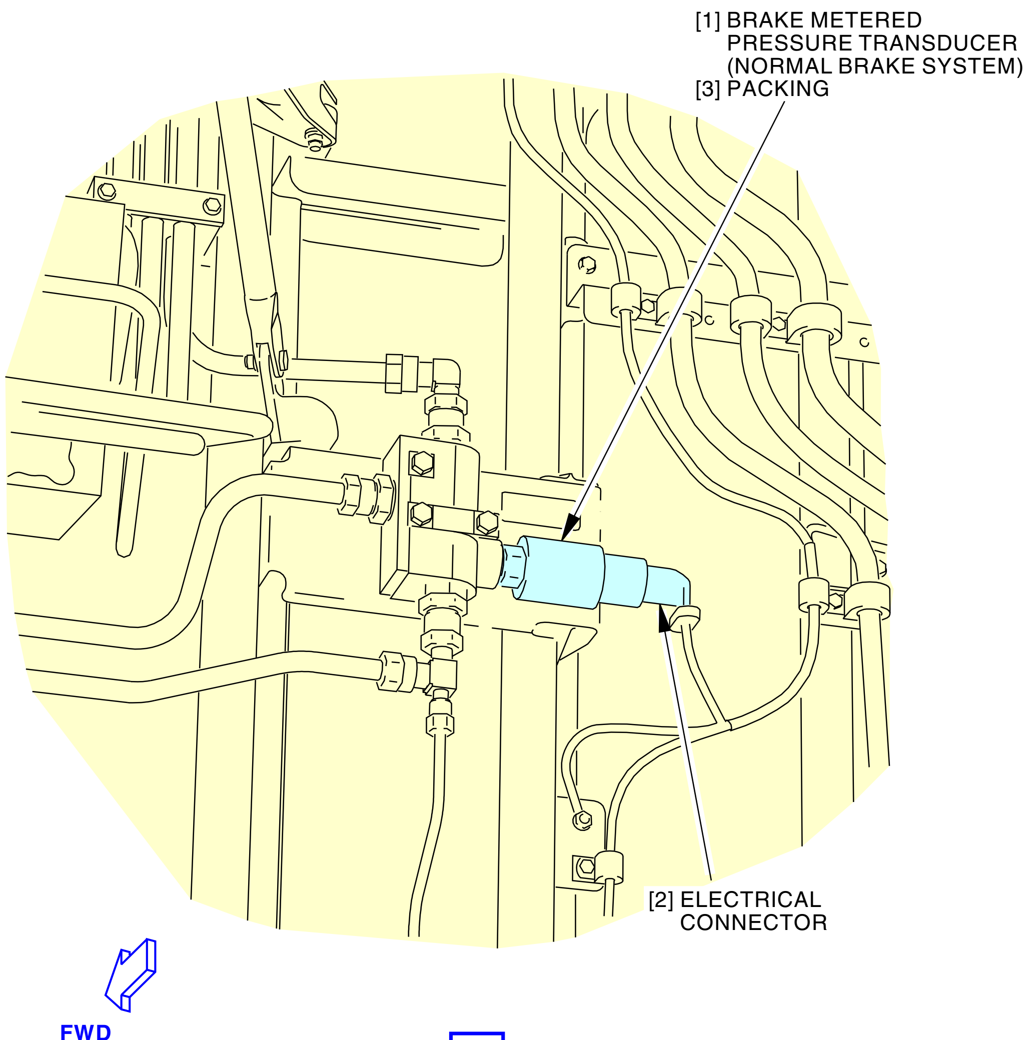
(e) Install a plug in the transducer port of the autobrake valve.

(f) Install a cap on the transducer's port.

END OF TASK



Brake Metered Pressure Transducer (Normal Brake System) Installation
Figure 401/32-42-11-990-801 (Sheet 1 of 2)



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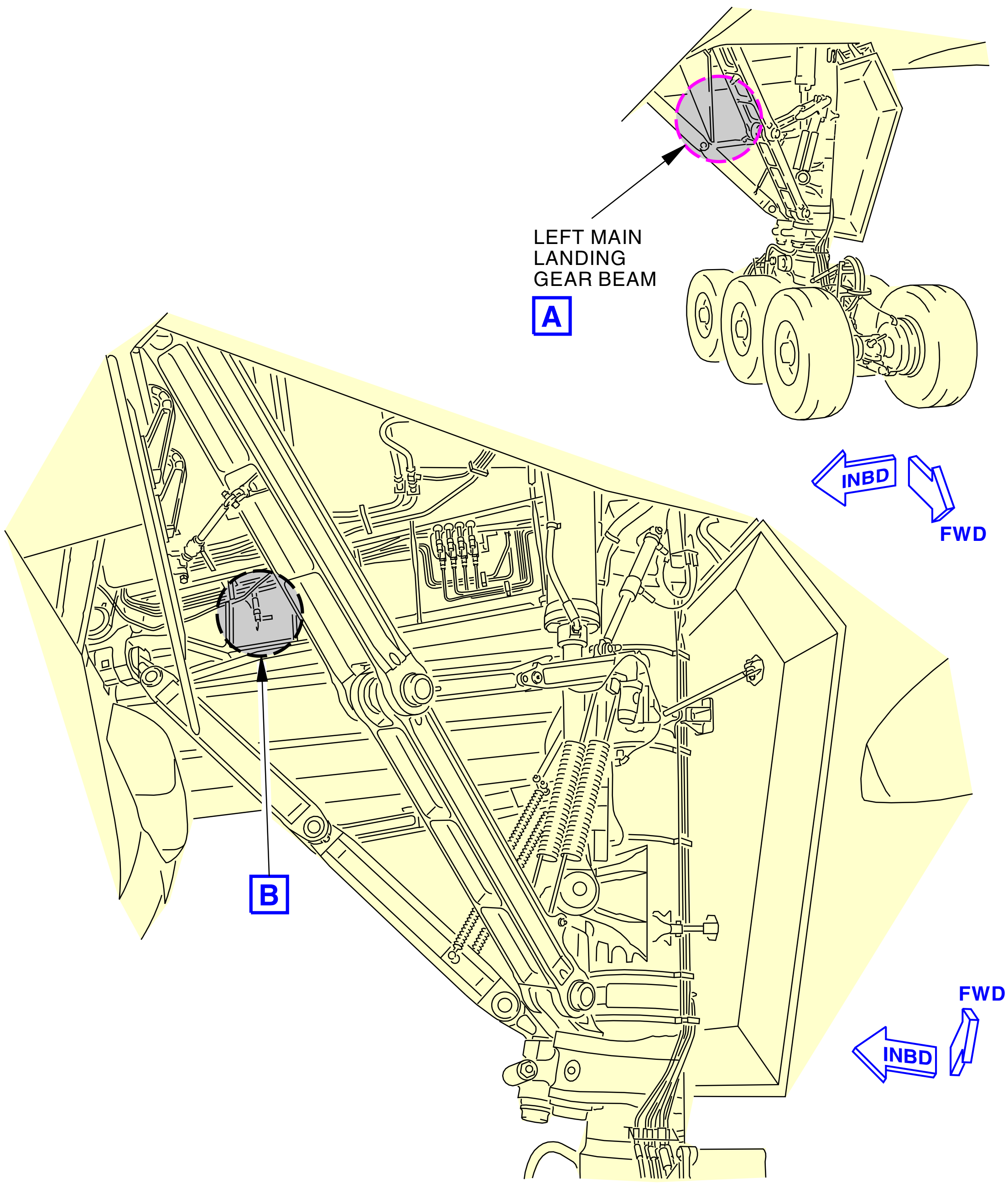
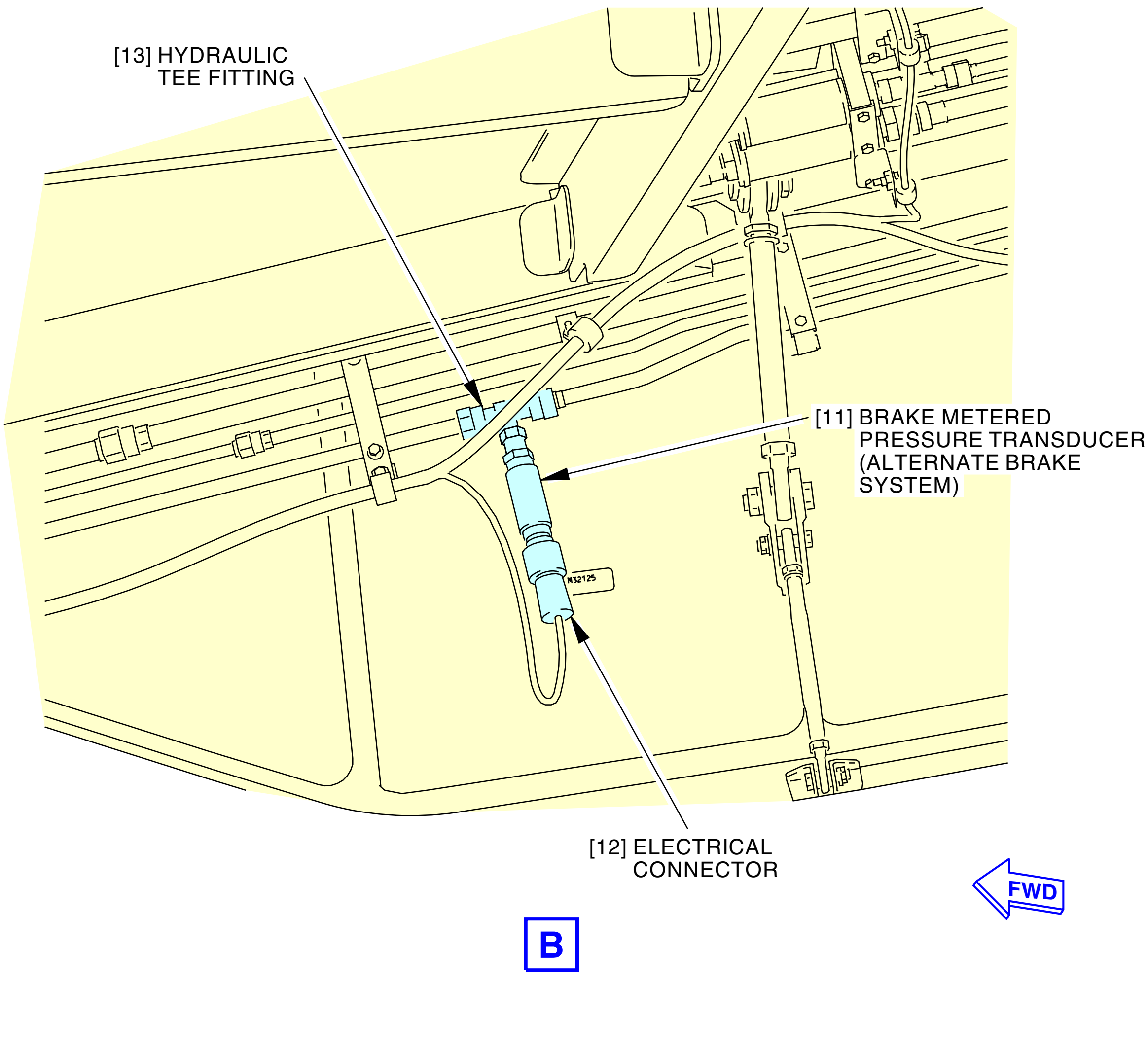
Brake Metered Pressure Transducer (Normal Brake System) Installation
Figure 401/32-42-11-990-801 (Sheet 2 of 2)



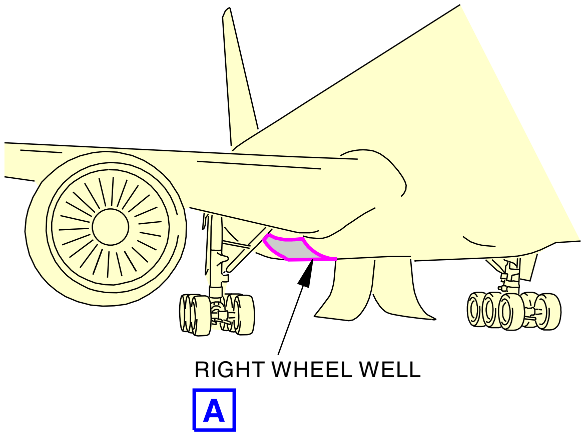
LEFT MAIN LANDING GEAR BEAM
A

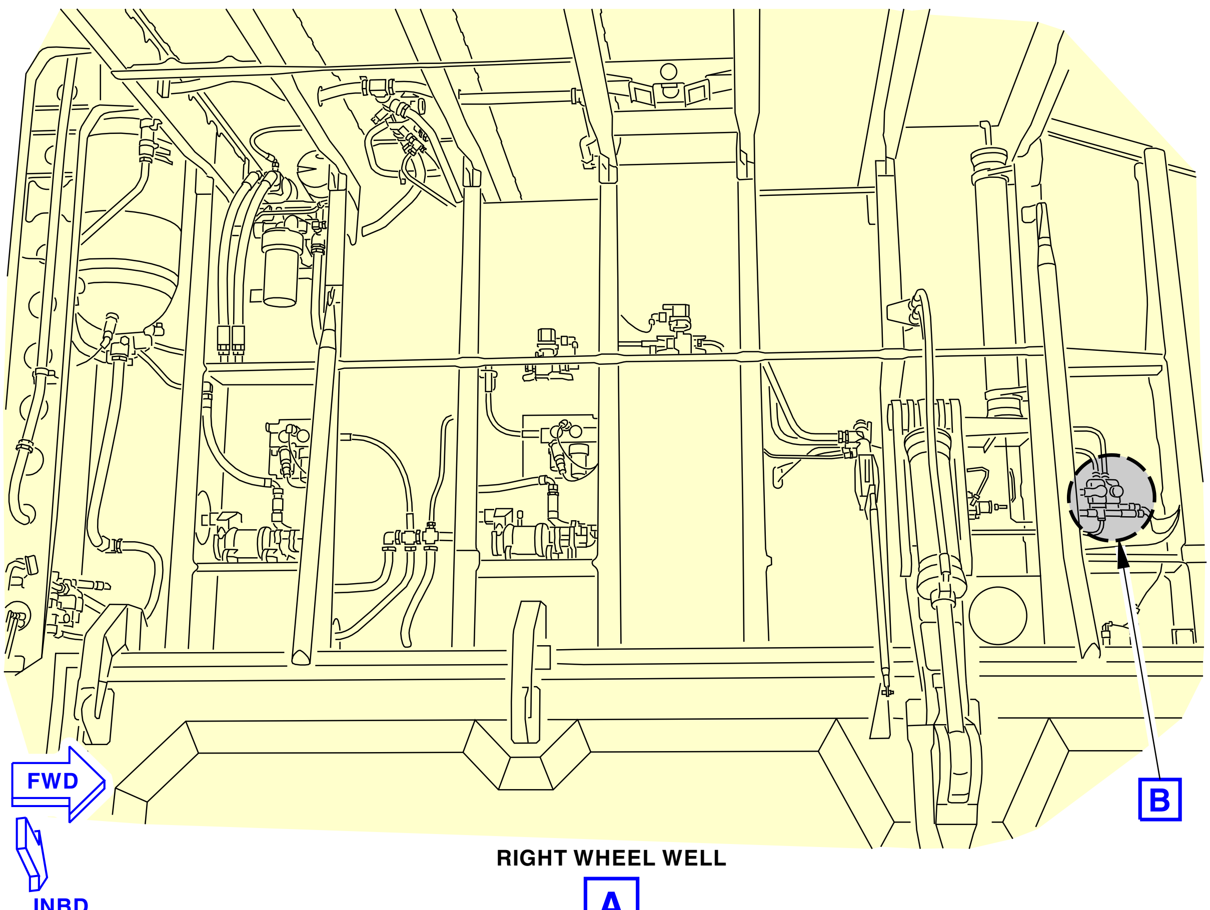
E36252 S0006419079_V2

Brake Metered Pressure Transducer (Alternate Brake System) Installation
Figure 402/32-42-11-990-802 (Sheet 1 of 2)

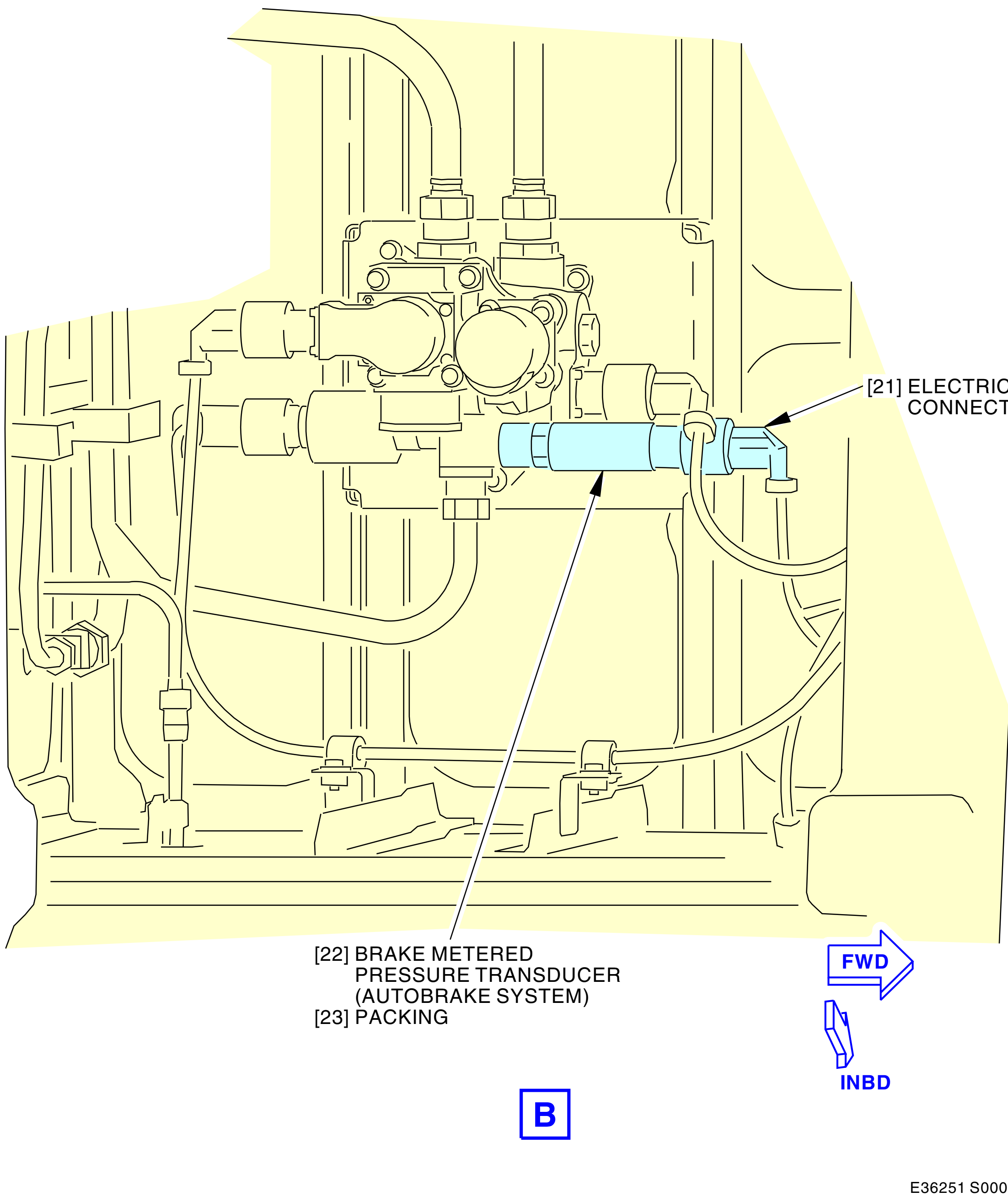


Brake Metered Pressure Transducer (Alternate Brake System) Installation
Figure 402/32-42-11-990-802 (Sheet 2 of 2)





Brake Metered Pressure Transducer (Autobrake System) Installation
Figure 403/32-42-11-990-803 (Sheet 1 of 2)



Brake Metered Pressure Transducer (Autobrake System) Installation
Figure 403/32-42-11-990-803 (Sheet 2 of 2)

TASK 32-42-11-400-801

3. Brake Metered Pressure Transducers Installation

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Brake metered pressure transducer	32-41-09-01-080	ARO ALL
		32-42-09-01-105	ARO ALL
3	Packing	32-42-10-01-045	ARO ALL
11	Brake metered pressure transducer	29-31-01-01-065	ARO 001-017
		29-31-01-01-070	ARO ALL
		29-31-01-01B-010	ARO 016-999
		29-31-01-01B-015	ARO ALL
22	Brake metered pressure transducer	32-41-09-01-080	ARO ALL
		32-42-09-01-105	ARO ALL
23	Packing	32-42-09-01-115	ARO ALL

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
551	Rear Spar to Landing Gear Support Beam - Left Wing
651	Rear Spar to Landing Gear Support Beam - Right Wing

E. Brake Metered Pressure Transducers Installation

SUBTASK 32-42-11-420-001

(1) Do these steps to install the brake metered pressure transducer [1] for the normal brake system (Figure 401):

(a) Lubricate a new packing [3] with hydraulic fluid, D00153.

(b) Remove the cap from the port of the brake metered pressure transducer [1].

(c) Install the packing [3] on the brake metered pressure transducer [1].

(d) Remove the plug from the port of the autobrake shuttle valve.

(e) Connect the brake metered pressure transducer [1] to the autobrake shuttle valve and torque to a maximum of 270 ±27 in-lb (31 ±4 N·m).

(f) Connect the electrical connector [2] to the brake metered pressure transducer [1].

(g) Remove the safety tags and close these circuit breakers:

Right Power Management Panel, P210

Row	Col	Number	Name
M	1	C32611	LG ANTISKID 1,5,9/3,7,11 CB 2

Standby Power Management Panel, P310

Row	Col	Number	Name
H	1	C32609	LG ANTISKID 1,5,9/3,7,11 CB 1

SUBTASK 32-42-11-420-002

(2) Do these steps to install the brake metered pressure transducer [11] for the alternate brake system (Figure 402):

(a) Connect the brake metered pressure transducer [11] to the hydraulic tee fitting [13] and torque to a maximum of 270 ±27 in-lb (31 ±4 N·m).

(b) Connect the electrical connector [12] to the brake metered pressure transducer [11].

(c) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
M	21	C32610	LG ANTISKID 2,6,10/4,8,12 CB 1

Standby Power Management Panel, P310

Row	Col	Number	Name
H	2	C32612	LG ANTISKID 2,6,10/4,8,12 CB 2

SUBTASK 32-42-11-420-003

(3) Do these steps to install the brake metered pressure transducer [22] for the autobrake system (Figure 403):

(a) Lubricate a new packing [23] with hydraulic fluid, D00153.

(b) Remove the cap from the port of the brake metered pressure transducer [22].

(c) Install the packing [23] on the brake metered pressure transducer [22].

(d) Remove the plug from the port of the autobrake valve.

(e) Connect the brake metered pressure transducer [22] to the autobrake valve and torque to a maximum of 270 ±27 in-lb (31 ±4 N·m).

(f) Connect the electrical connector [21] to the brake metered pressure brake metered pressure transducer [22].

(g) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
M	20	C32613	LG AUTOBRAKE/BITE/R-COMM CB 1

Right Power Management Panel, P210

Row	Col	Number	Name
N	1	C32614	LG AUTOBRAKE/BITE/R-COMM CB 2

F. **Brake Metered Pressure Transducers Installation Test**

SUBTASK 32-42-11-860-007

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-42-11-710-001

(2) Do these steps if you removed the brake metered pressure transducer [1] for the normal brake system:

(a) To show the LANDING GEAR BRKS/STRNG maintenance page, do this task: Showing a Maintenance Page, TASK 31-61-00-800-804.

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(b) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801

(c) Fully push the captain's brake pedals.

(d) Make sure the NORM brake metered pressure shows 2800 psig (19,305 kPa) - 3200 psig (22,063 kPa) on the LANDING GEAR BRKS/STRNG maintenance page.

(e) Release the captain's brake pedals.

(f) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-42-11-710-002

(3) Do these steps if you removed the brake metered pressure transducer [11] for the alternate brake system:

(a) To show the LANDING GEAR BRKS/STRNG maintenance page, do this task: Showing a Maintenance Page, TASK 31-61-00-800-804.

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(b) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801

(c) Fully push the captain's brake pedals.

(d) Make sure the ALTN brake metered pressure shows 2800 psig (19,305 kPa) - 3200 psig (22,063 kPa) on the LANDING GEAR BRKS/STRNG maintenance page.

(e) Release the captain's brake pedals.

(f) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-42-11-710-003

(4) Do these steps if you removed the brake metered pressure transducer [22] for the autobrake system:

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801

(b) To the LANDING GEAR BRKS/STRNG maintenance page, do this task: Showing a Maintenance Page, TASK 31-61-00-800-804.

(c) Make these selections on the MAT:

1) ONBOARD MAINTENANCE

2) LINE MAINTENANCE

3) GROUND TESTS

4) 32 ANTISKID/AUTOBRAKE CONTROL SYSTEM

5) SYSTEM TEST

6) AUTOBRAKE APPLICATION.

(d) Make sure the AUTOBRAKE brake metered pressure shows 2800 psig (19,305 kPa) - 3200 psig (22,063 kPa) on the LANDING GEAR BRKS/STRNG maintenance page and then returns to approximately 0 psig (0 kPa).

(e) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-42-11-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the landing gear doors are open, do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

PARKING BRAKE SYSTEM - ADJUSTMENT/TEST

1. **General**

   A. This procedure contains scheduled maintenance task data.

   B. This procedure has these tasks:

      (1) An adjustment of the parking brake system

      (2) An operational test of the parking brake system

      (3) A parking brake hold check.

TASK 32-44-00-820-801

2. **Parking Brake System Adjustment**

   (Figure 501)

   A. General

   (1) This procedure provides instruction to adjust the parking brake system. You must adjust the Captain's rudder pedals and then the First Officer's rudder pedals to completely adjust the system.

   B. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)

   C. Tools/Equipment

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

   D. Location Zones

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
211	Flight Compartment, Left

   E. Access Panels

Number	Name/Location
112AL	Forward Access Door

   F. Prepare for the Adjustment

   SUBTASK 32-44-00-860-002

   (1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

   SUBTASK 32-44-00-480-001

   (2) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

   SUBTASK 32-44-00-860-001

   (3) Release the parking brake.

SUBTASK 32-44-00-860-014

(4) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-44-00-860-015

(5) To get access to the parking brake system;

Open this access panel:

Number	Name/Location
112AL	Forward Access Door

SUBTASK 32-44-00-480-002

(6) Install the rig pins R1 and R2, from rigging pin set, SPL-2532, through the captain's or the first officer's rudder pedal arms and into the structure (Figure 501).

NOTE: The placard on the inside of the box for the rigging pin kit identifies the different rigging pins.

(a) If it is necessary, turn the adjustment crank for the rudder pedal to align the rigging pin holes.

G. Parking Brake System - Adjustment

SUBTASK 32-44-00-820-001

(1) Adjust the pawls of the parking brake.

(a) Push the two brake pedals fully to the pedal stops, and hold them in this position.

(b) Push the pawls down until the top half of the pawl is 0.22 - 0.28 inches (5.58 - 7.11 mm) from the lockpin and hold them in this position.

(c) Adjust the pawls until you get a sweep clearance of 0.01 - 0.05 inches (0.25 - 1.27 mm).

(d) Release the pawls.

(e) Release the brake pedals.

SUBTASK 32-44-00-820-002

(2) Adjust the pawl stop.

(a) Install rigging pin LGB1 or LGB2, from the rigging pin set, SPL-2532, into the forward brake control bellcrank to hold the brakes in the off position.

(b) Shim the pawl stop until the bottom of the pawl is 0.365 - 0.437 inches (9.27 - 11.09 mm) from the lockpin.

SUBTASK 32-44-00-820-005

(3) Adjust the parking brake lever (Figure 501).

(a) Make sure that the rig pin is installed in the brake control bellcrank.

(b) Loosen the jam nuts on the adjustable length rod for the parking brake in the control stand.

(c) Adjust the length of the rod until you have a clearance of 0.005-0.040 inches (0.13 - 1.01 mm) between the top surface of the control stand and the lever.

(d) Tighten the jam nuts on the rod.

(e) Install a lockwire on the jam nuts.

(f) Make sure the parking brake lever and linkage move smoothly.

(g) Remove the rig pin from the brake control bellcrank.

SUBTASK 32-44-00-820-003

(4) Adjust the parking brake latch switch (2 locations) (Figure 501).

(a) Make sure the rig pins for the bellcrank have been removed.

(b) Make sure the switch operates when the top half of the pawl is 0.08 - 0.16 inch (2.03 - 4.06 mm) for the latch switch assembly 253W3126-2, or 0.22 - 0.28 inch (5.58 - 7.11 mm) for the latch switch assembly 253W3126-3, from the lockpin (2 locations).

(c) Set the parking brake.

NOTE: Wait for at least 5 seconds before continuing to ensure sufficient time has elapsed for the ANTISKID message to show up.

1) Make sure the PARKING BRAKE SET memo message shows on EICAS.

2) Make sure the ANTISKID advisory/status messages do not show on EICAS.

3) Accomplish Analog Discrete Signal Input Monitoring (Subtask 45-10-00-860-048) for Parking Brake Handle signals with Table Index numbers 309 through 320. Verify that the signals for Table Index numbers 309 through 320 show OPEN with the parking brake set.

NOTE: Table index 309 - 312 represent PARKING BRAKE LEVER SW1 input (Switch S32009, Contact B). Table Index 313 - 316 represent PARKING BRAKE LEVER SW2 input (Switch S32008, Contact A).

Table index 317 - 320 represent PARKING BRAKE LEVER SW3 input (Switch S32008, Contact B).

(d) Release the parking brake.

NOTE: Wait at least 5 seconds before continuing to ensure sufficient time has elapsed for the ANTISKID message to disappear.

1) Make sure the PARKING BRAKE SET memo message does not show on EICAS.

2) Make sure the ANTISKID advisory/status messages do not show on EICAS.

3) Accomplish Analog Discrete Signal Input Monitoring (Subtask 45-10-00-860-048) for Parking Brake Handle signals with Table Index numbers 309 through 320. Verify that the signals for Table Index numbers 309 through 320 show GROUND with the parking brake released.

NOTE: Table Index 309 - 312 represent PARKING BRAKE LEVER SW1 input (Switch S32009, Contact B). Table Index 313 - 316 represent PARKING BRAKE LEVER SW2 input (Switch S32008, Contact A). Table Index 317 - 320 represent PARKING BRAKE LEVER SW3 input (Switch S32008, Contact B).

(e) Repeat the above steps (c) and (d) 3 or 4 times and verify that the results are the same each time.

(f) If the switch does not operate in the correct range, do these steps:

1) Loosen the screws which hold the mounting bracket (2 locations) for the parking brake latch switch to the airplane.

2) Turn the mounting bracket (2 locations) for the parking brake latch switch so that the parking brake latch switch operates when the top half of the pawl is 0.08 - 0.16 inches (2.03 - 4.06 mm) for the 253W3126-2 latch switch assembly, or 0.22 - 0.28 inch (5.58 - 7.11 mm) for the 253W3126-3 latch switch assembly, from the lockpin.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-44-00-080-001

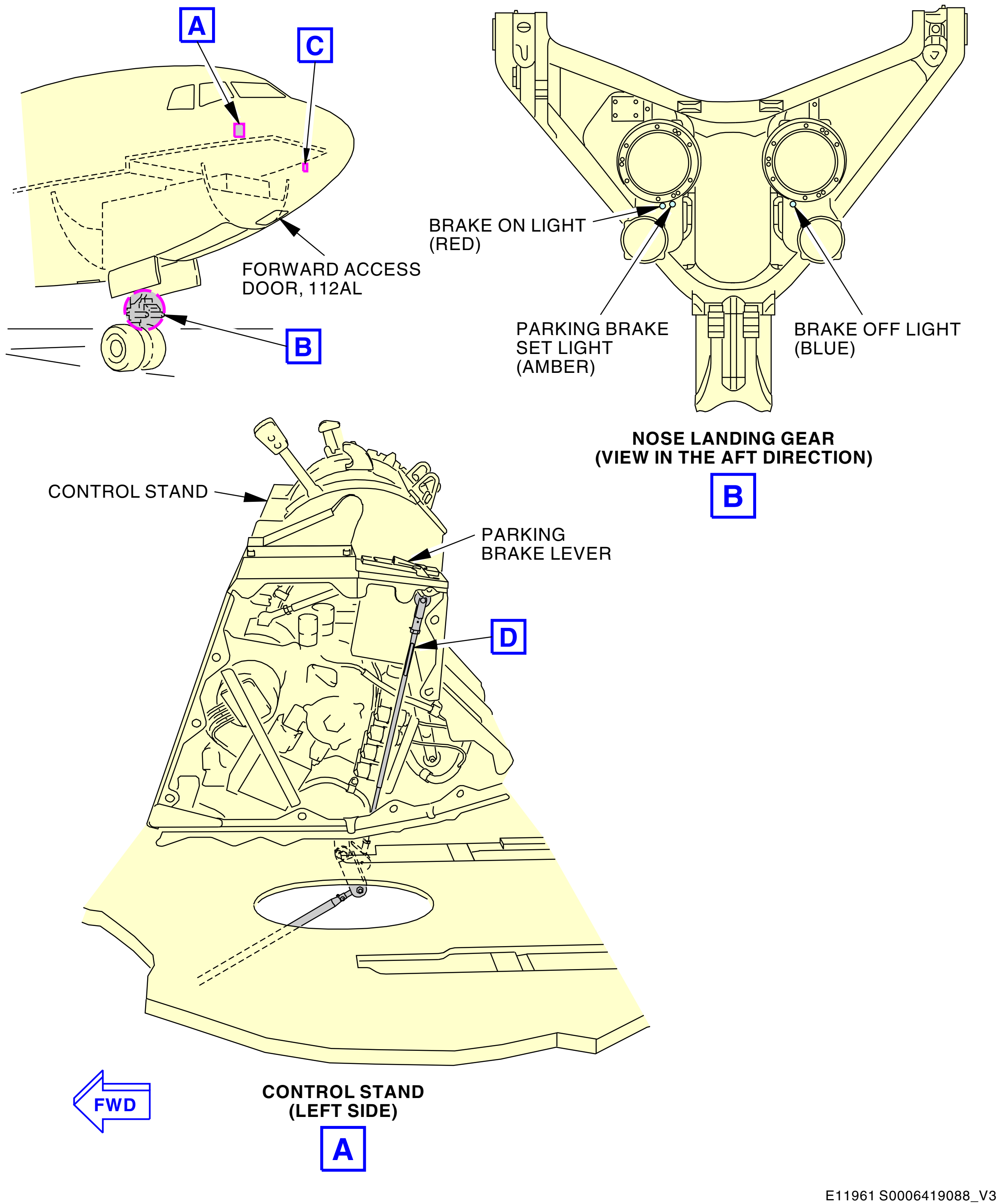
(1) Remove the rig pins from the rudder pedal arms.

SUBTASK 32-44-00-860-016

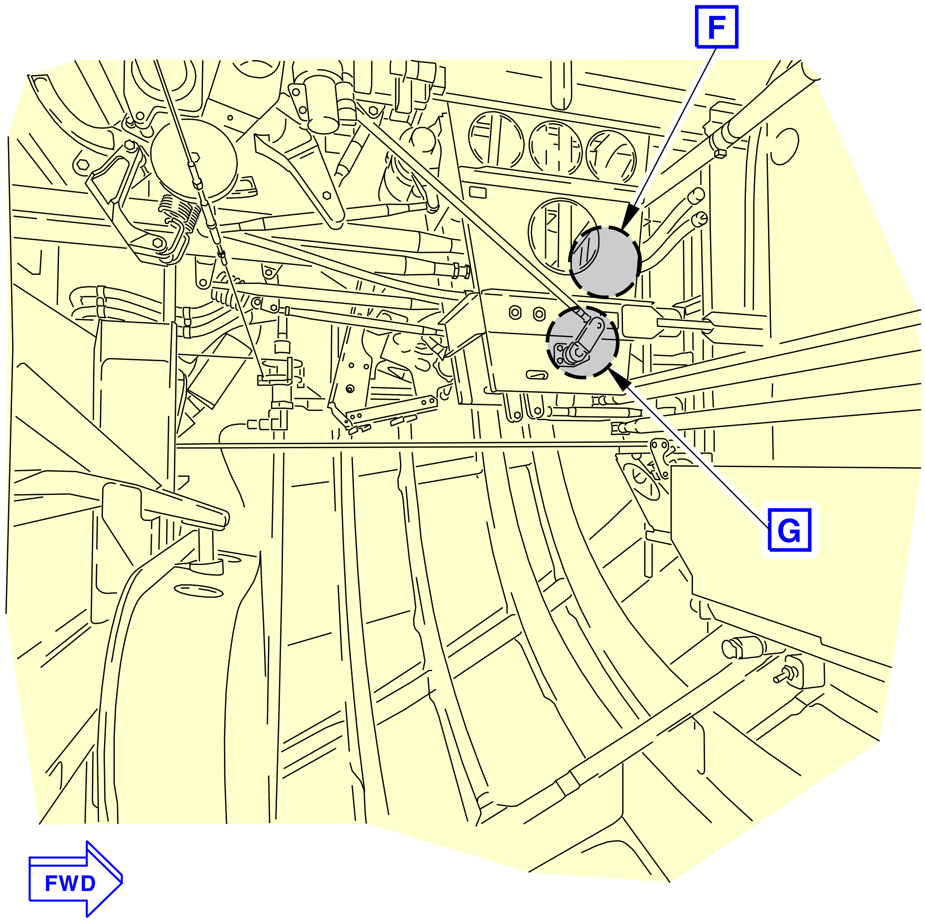
(2) Close this access panel:

Number	Name/Location
112AL	Forward Access Door

——— END OF TASK ———



Parking Brake System Adjustment
Figure 501/32-44-00-990-801 (Sheet 1 of 7)



AREA FORWARD OF THE NOSE LANDING GEAR WHEEL WELL
(LEFT SIDE IS SHOWN, RIGHT SIDE IS EQUIVALENT)

C

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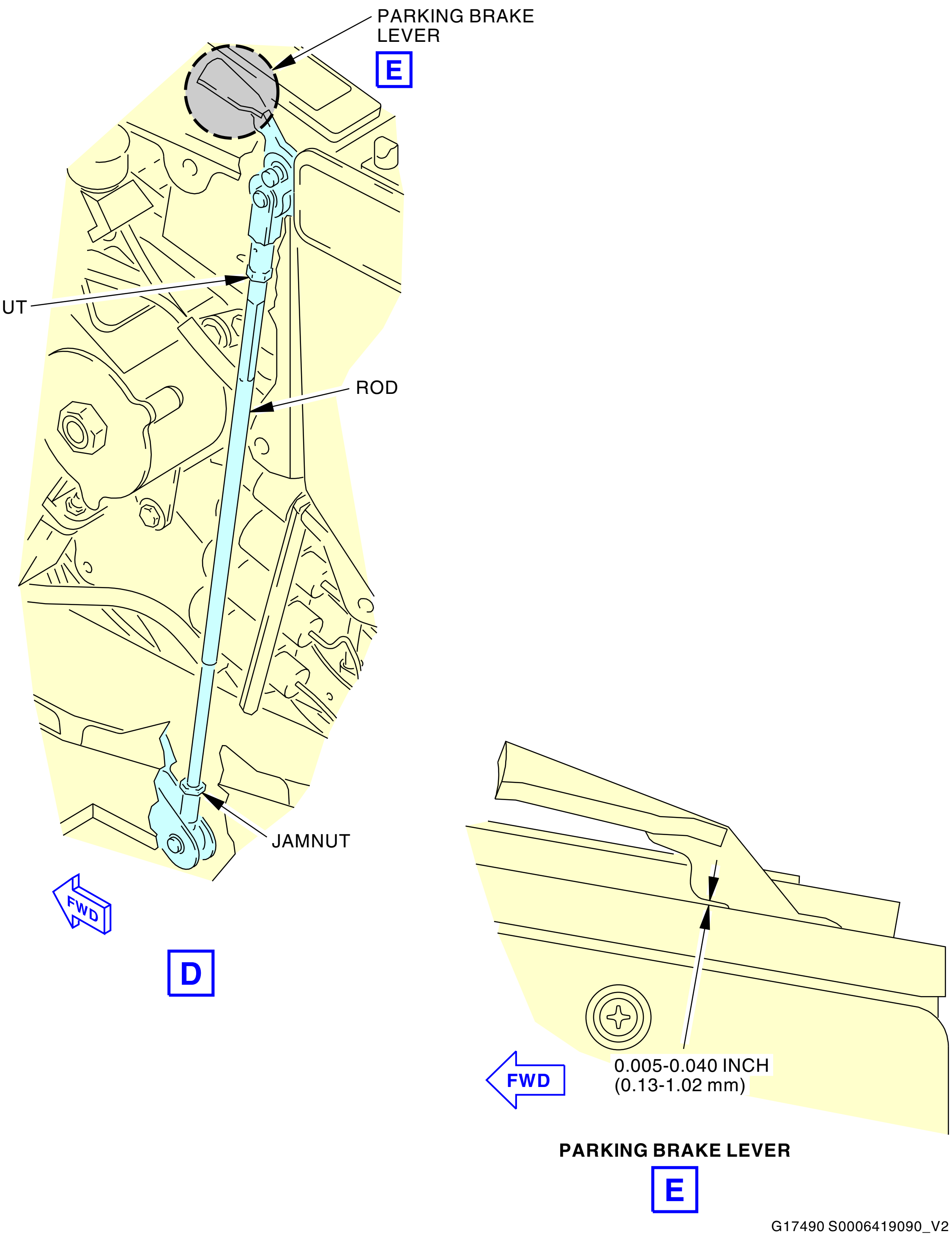
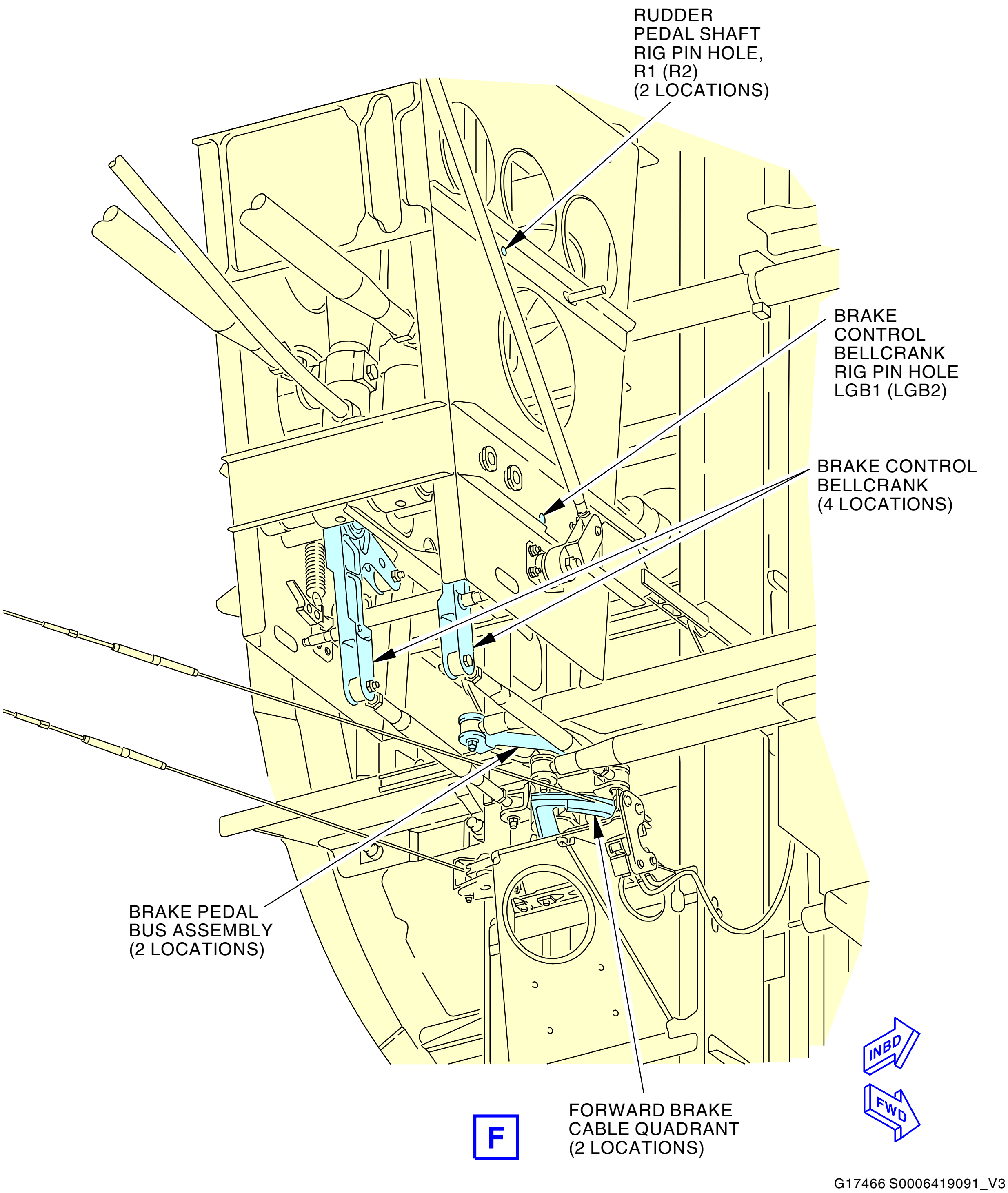
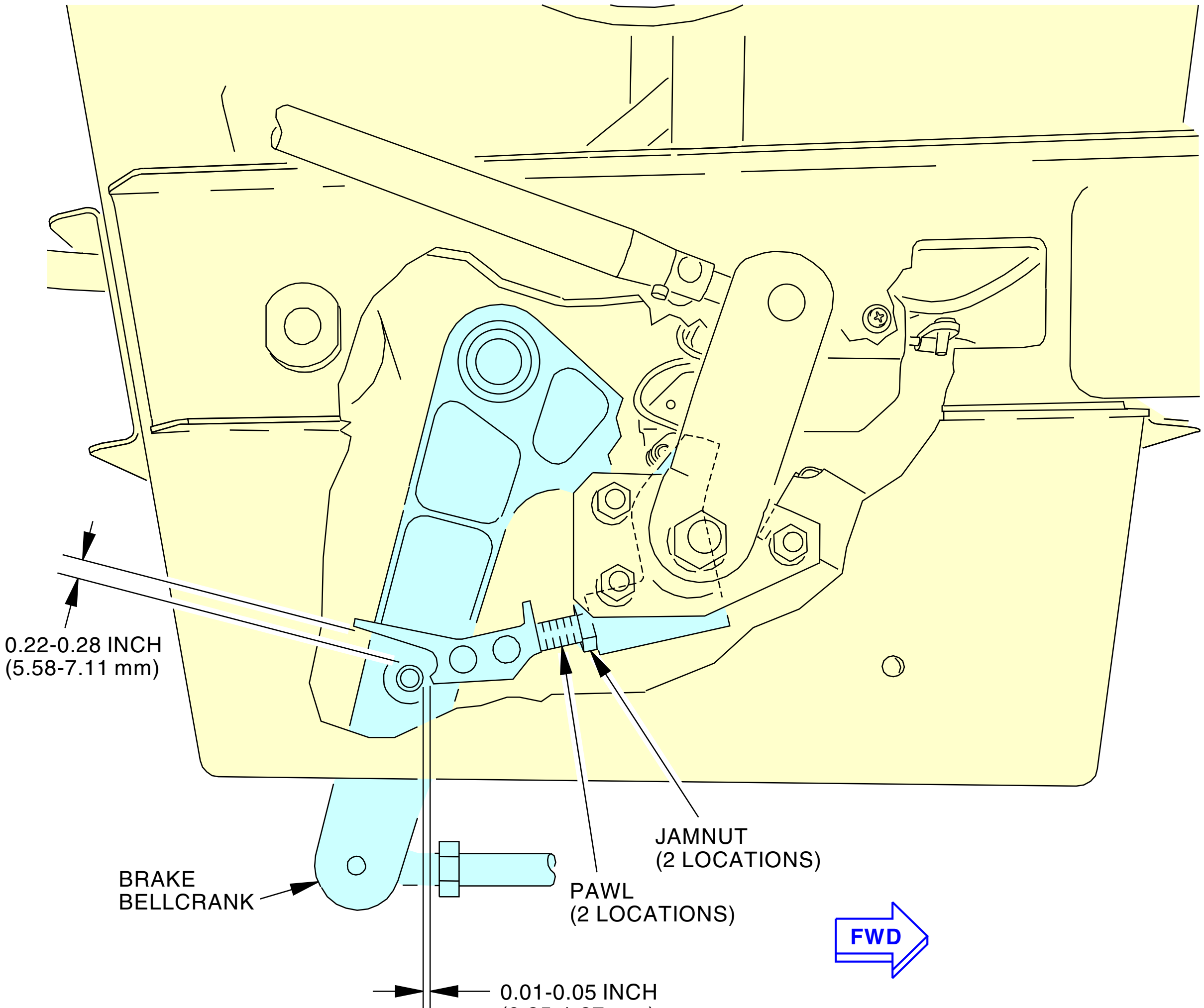
Parking Brake System Adjustment
Figure 501/32-44-00-990-801 (Sheet 2 of 7)



Parking Brake System Adjustment
Figure 501/32-44-00-990-801 (Sheet 3 of 7)



Parking Brake System Adjustment
Figure 501/32-44-00-990-801 (Sheet 4 of 7)



BRAKE PEDALS PUSHED FULLY TO THE STOPS
PARKING BRAKE IS PARTIALLY RELEASED
(PAWL ADJUSTMENT)

G

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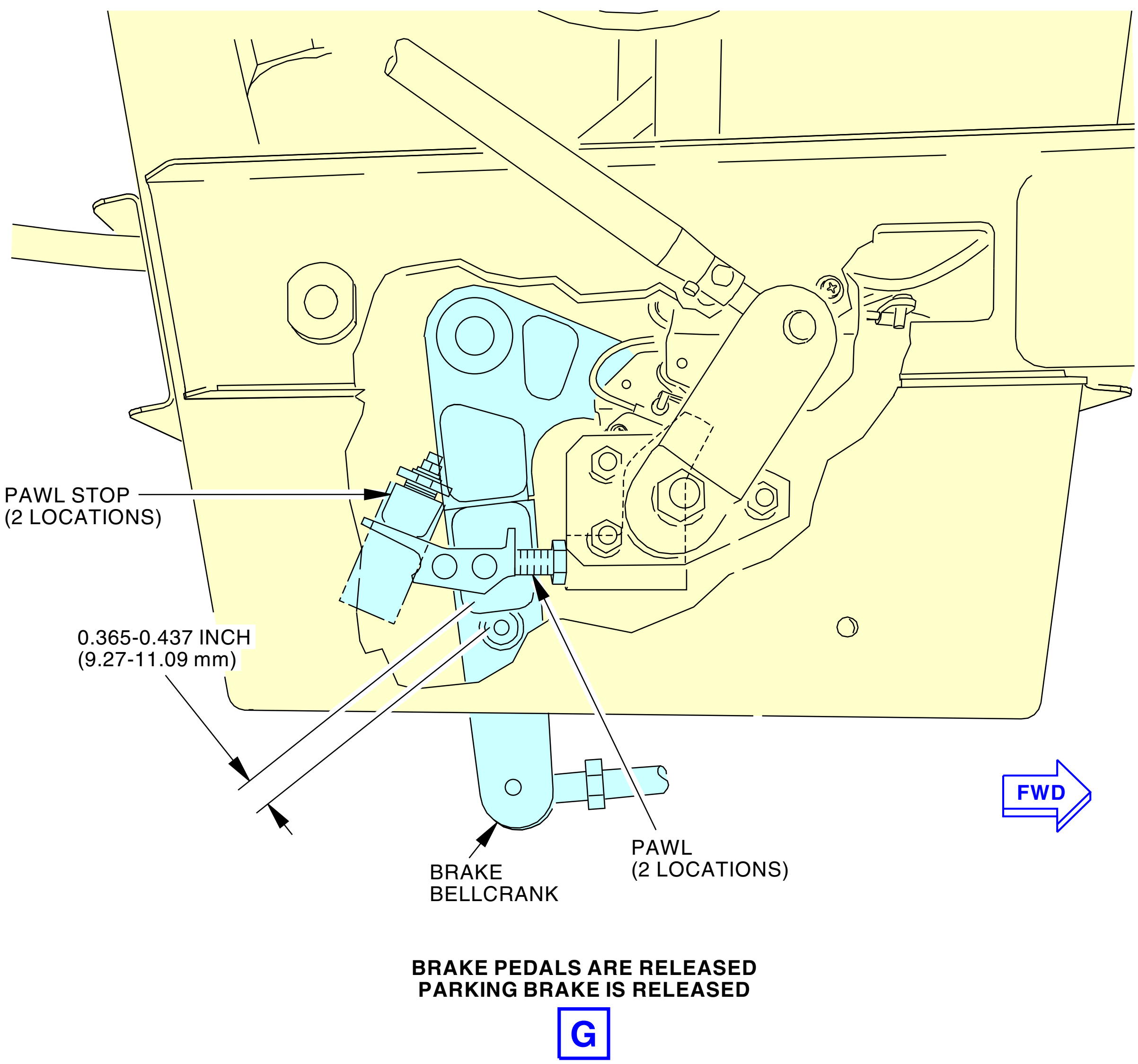
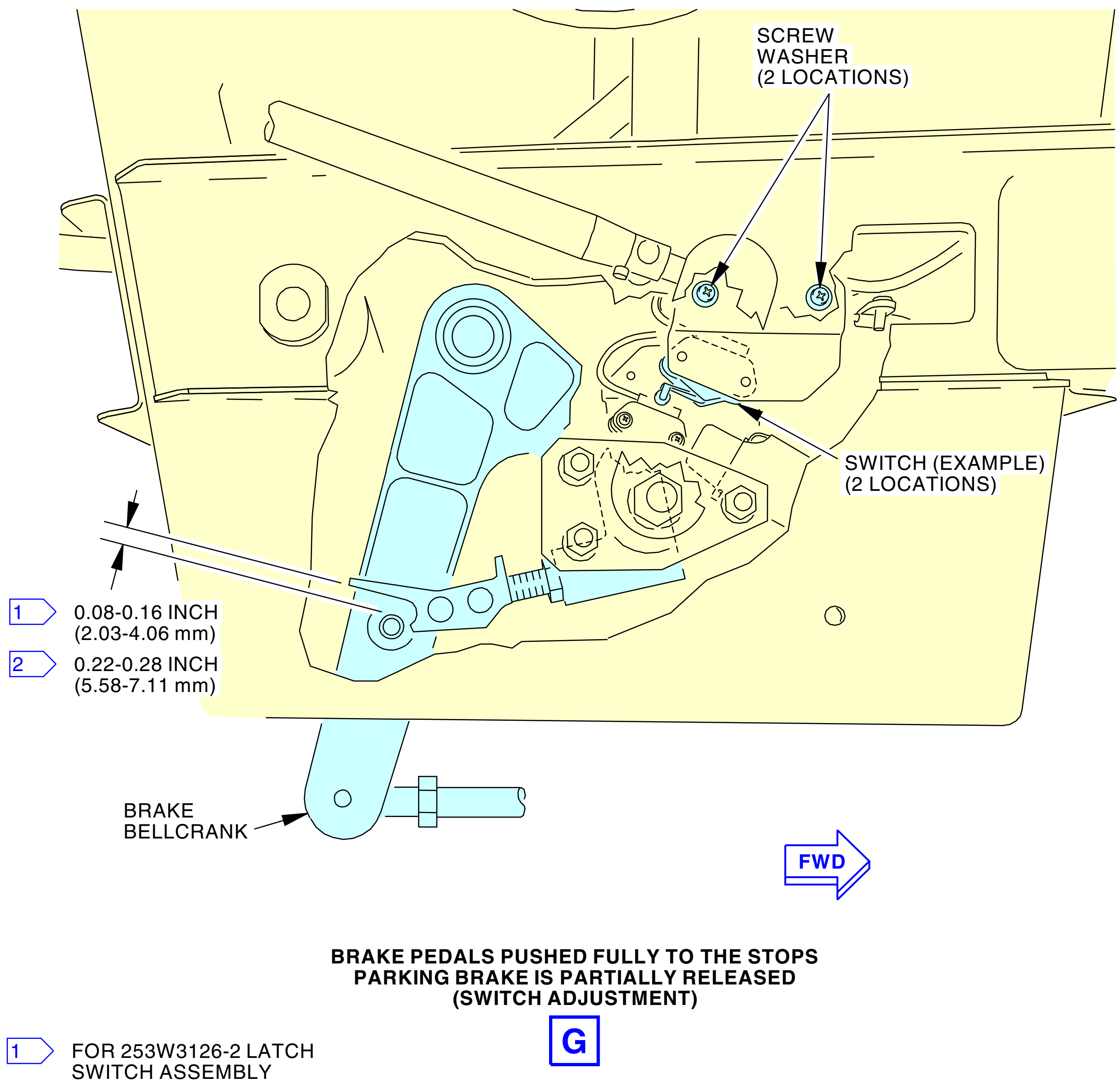
Parking Brake System Adjustment
Figure 501/32-44-00-990-801 (Sheet 5 of 7)



Parking Brake System Adjustment
Figure 501/32-44-00-990-801 (Sheet 6 of 7)



1 FOR 253W3126-2 LATCH SWITCH ASSEMBLY

2 FOR 253W3126-3 LATCH SWITCH ASSEMBLY

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Parking Brake System Adjustment
Figure 501/32-44-00-990-801 (Sheet 7 of 7)

TASK 32-44-00-710-801

3. **Parking Brake System - Operational Test**

(Figure 501)

A. **References**

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

C. **Location Zones**

Zone	Area
211	Flight Compartment, Left
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. **Access Panels**

Number	Name/Location
112AL	Forward Access Door

E. **Prepare for the Test**

SUBTASK 32-44-00-860-003

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-44-00-480-003

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-44-00-860-004

(3) For the right and center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-44-00-480-004

(4) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-44-00-860-005

(5) Release the parking brake.

SUBTASK 32-44-00-860-006

(6) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-44-00-860-017

(7) To get access to the parking brake system;

Open this access panel:

Number	Name/Location
112AL	Forward Access Door

SUBTASK 32-44-00-480-007

(8) Install the rig pins R1 and R2, from rigging pin set, SPL-2532, through the captain's or the first officer's rudder pedal arms and into the structure (Figure 501).

NOTE: The placard on the inside of the box for the rigging pin kit identifies the different rigging pins.

(a) If it is necessary, turn the adjustment crank for the rudder pedal to align the rigging pin holes.

F. Procedure

SUBTASK 32-44-00-860-007

WARNING

KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-44-00-720-001

(2) Make sure that the pressure shown on the BRAKE ACCUM PRESS gage is approximately the same as the right hydraulic system pressure.

NOTE: The BRAKE ACCUM PRESS gage is in the flight compartment on the main instrument panel for the captain (P1).

SUBTASK 32-44-00-710-001

(3) Do these steps for the captain's brake pedals:

(a) Push the two brake pedals fully to their stops.

(b) Pull the parking brake lever on the control stand.

(c) Release the brake pedals.

(d) Make sure the parking brake engages.

(e) Do a check of the status lights on the nose landing gear:

1) PARKING BRAKE SET is on.

2) BRAKE ON is on.

3) BRAKE OFF is not on.

(f) Make sure that the PARKING BRAKE SET memo message shows on EICAS.

(g) Release the parking brake.

(h) Release the two brake pedals.

(i) Make sure that the PARKING BRAKE SET memo message does not show on EICAS.

(j) Do a check of the status lights on the nose landing gear:

1) PARKING BRAKE SET is not on.

2) BRAKE ON is not on.

3) BRAKE OFF is on.

(k) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

(l) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

(m) Push the two brake pedals fully to their stops.

(n) Pull the parking brake lever on the control stand.

(o) Release the brake pedals.

(p) Make sure the parking brake engages.

(q) Do a check of the status lights on the nose landing gear (Figure 501):

1) PARKING BRAKE SET is on.

2) BRAKE ON is not on.

3) BRAKE OFF is not on.

(r) Make sure that the PARKING BRAKE SET memo message shows on EICAS.

(s) Release the parking brake.

WARNING: KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(t) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(u) Push the left brake pedal fully to the stop.

(v) Pull the parking brake lever on the control stand.

(w) Make sure the parking brake will not engage.

(x) Do a check of the status lights on the nose landing gear (Figure 501):

1) PARKING BRAKE SET is not on.

2) BRAKE ON is not on.

3) BRAKE OFF is not on.

(y) Release the left brake pedal.

(z) Push the right brake pedal fully to the stop.

(aa) Pull the parking brake lever on the control stand.

(ab) Make sure the parking brake will not engage.

(ac) Do a check of the status lights on the nose landing gear:

1) PARKING BRAKE SET is not on.

2) BRAKE ON is not on.

3) BRAKE OFF is not on.

(ad) Release the right brake pedal.

SUBTASK 32-44-00-710-002

(4) Do these steps for the first officer's brake pedals:

(a) Push the two brake pedals fully to their stops.

(b) Pull the parking brake lever on the control stand.

(c) Make sure the parking brake engages.

(d) Release the brake pedals.

(e) Release the parking brake.

(f) Push the left brake pedal fully to the stop.

(g) Pull the parking brake lever on the control stand.

(h) Make sure the parking brake will not engage.

(i) Release the left brake pedal.

(j) Push the right brake pedal fully to the stop.

(k) Pull the parking brake lever on the control stand.

(l) Make sure the parking brake will not engage.

(m) Release the right brake pedal.

SUBTASK 32-44-00-080-002

(5) Remove the rig pins, R1 and R2, from the rudder pedal arms.

SUBTASK 32-44-00-860-018

(6) Close this access panel:

Number	Name/Location
112AL	Forward Access Door

SUBTASK 32-44-00-720-002

(7) Do this task: Parking Brake Hold Check, TASK 32-44-00-790-801.

——— END OF TASK ———

TASK 32-44-00-790-801

4. Parking Brake Hold Check

(Figure 501)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
211	Flight Compartment, Left

(Continued)

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Prepare for the Procedure

SUBTASK 32-44-00-480-006

> **WARNING**
> MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

D. Procedure

SUBTASK 32-44-00-860-008

> **WARNING**
> KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-44-00-860-011

(2) Set the parking brake.

SUBTASK 32-44-00-720-005

(3) Make sure that the pressure shown on the BRAKE ACCUM PRESS gage is approximately the same as the right hydraulic system pressure.

NOTE: The BRAKE ACCUM PRESS gage is in the flight compartment on the main instrument panel for the captain (P1).

SUBTASK 32-44-00-720-006

(4) Wait at least 10 minutes.

NOTE: This is necessary for the hydraulic brake system and the brake accumulator gas charge to reach a constant temperature.

SUBTASK 32-44-00-860-009

(5) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

NOTE: It is not necessary to remove the hydraulic system pressure for this procedure.

SUBTASK 32-44-00-710-003

(6) Examine each brake's pistons to make sure that all brakes are engaged.

SUBTASK 32-44-00-710-004

(7) Make sure the PARKING BRAKE SET memo messages shows on EICAS.

SUBTASK 32-44-00-720-003

(8) Write down the pressure shown on the BRAKE ACCUM PRESS gage. The normal brake accumulator pressure is 3,000 +/-100 psig.

NOTE: The BRAKE ACCUM PRESS gage is in the flight compartment on the main instrument panel for the captain (P1).

SUBTASK 32-44-00-720-004

(9) Keep the right and center hydraulic systems without power until you complete this task.

SUBTASK 32-44-00-710-005

(10) After 30 minutes, make sure the pressure shown on the BRAKE ACCUM PRESS gage did not decrease more than 300 psig from 3000 +/-100 psig.

(a) If the brake accumulator leakage is not satisfactory, see the following possible causes:

1) Check the parking brake adjustment.

2) Check the brake accumulator for defects.

3) Check the antiskid shuttle valve module for defects.

4) Check the brake accumulator charging valve module for defects.

5) Check the two check valves upstream of the brake accumulator for defects.

6) Check the autobrake valve module for defects.

7) Check the parking brake valve for defects

END OF TASK

PARKING BRAKE LEVER - REMOVAL/INSTALLATION

1. **General**
   A. This procedure has these tasks:
      (1) A removal of the parking brake lever
      (2) An installation of the parking brake lever.

TASK 32-44-01-000-801

2. **Parking Brake Lever Removal**
   (Figure 401)

   A. **Location Zones**

Zone	Area
211	Flight Compartment, Left

   B. **Prepare for the Removal**

   SUBTASK 32-44-01-010-001

   (1) Remove the access panel from the left side of the control stand.

   C. **Parking Brake Lever Removal**

   SUBTASK 32-44-01-020-001

   (1) Remove the nut [6], the washers [7], and the bolt [8] which hold the parking brake lever assembly [1] to the rod [4].

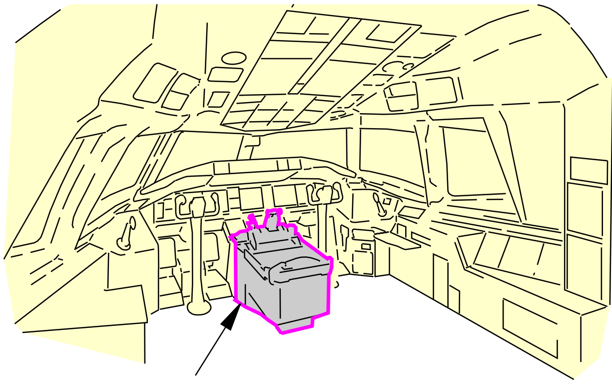
   SUBTASK 32-44-01-020-002

   (2) Remove the screw [2] and the bushing [3] which hold the parking brake lever assembly [1] to the control stand.

   SUBTASK 32-44-01-020-003

   (3) Remove the parking brake lever assembly [1].

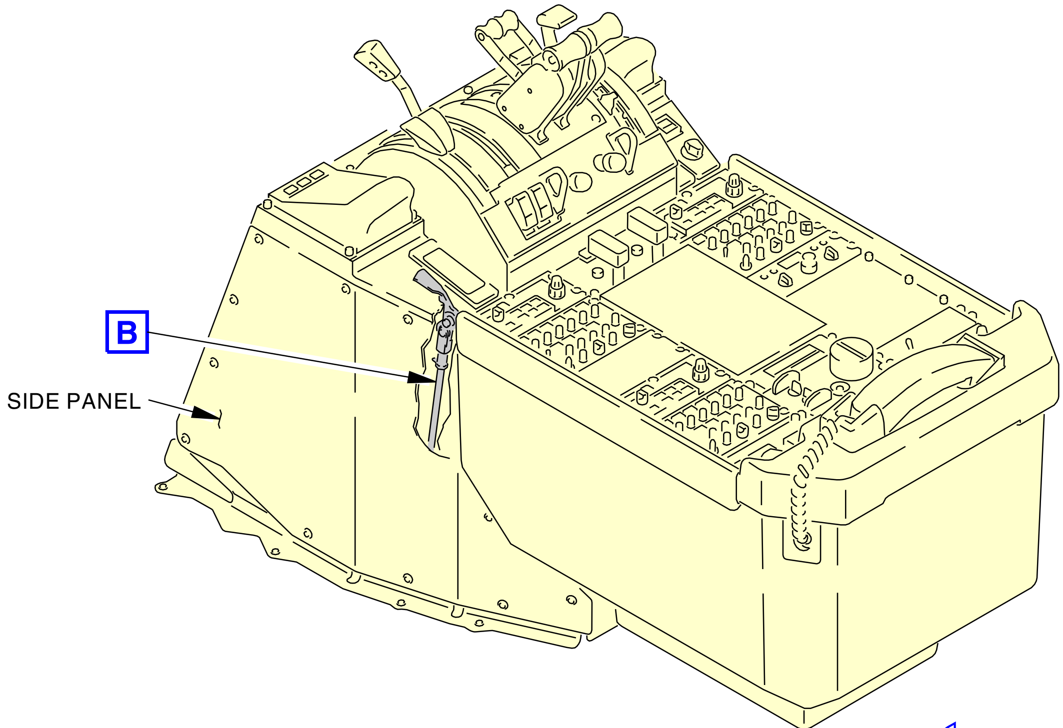
——— END OF TASK ———



CONTROL STAND

A

FLIGHT COMPARTMENT



CONTROL STAND

A

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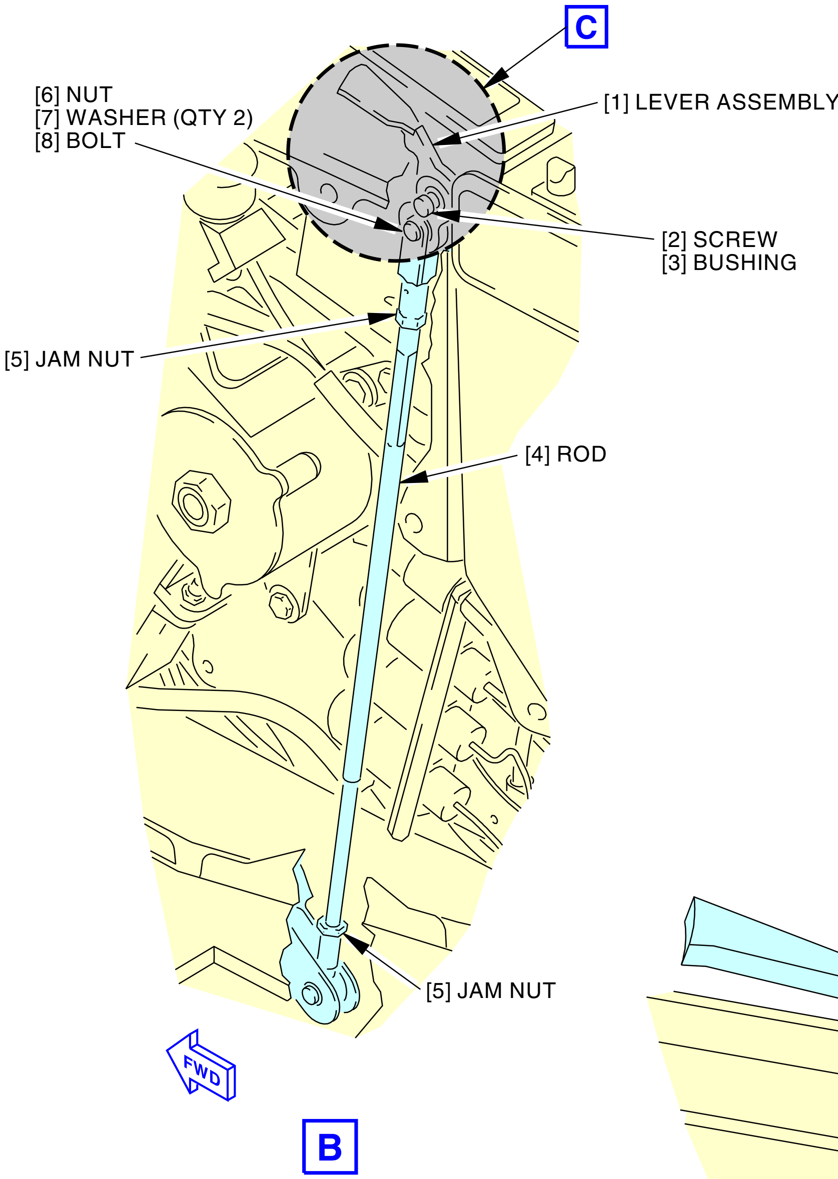
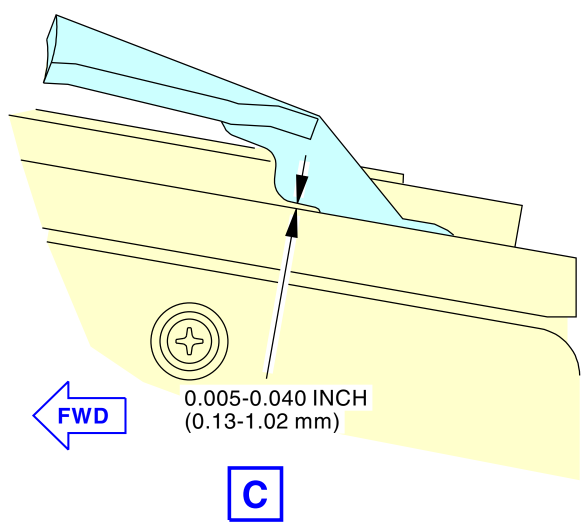
Parking Brake Lever Installation
Figure 401/32-44-01-990-801 (Sheet 1 of 2)





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Parking Brake Lever Installation
Figure 401/32-44-01-990-801 (Sheet 2 of 2)

TASK 32-44-01-400-801

3. Parking Brake Lever Installation

(Figure 401)

A. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Lever assembly	32-44-01-04-100	ARO ALL

B. Location Zones

Zone	Area
211	Flight Compartment, Left

C. Parking Brake Lever Installation

SUBTASK 32-44-01-420-001

(1) Install the parking brake lever assembly [1] on the control stand.

SUBTASK 32-44-01-420-002

(2) Install the screw [2] and the bushing [3] which hold the parking brake lever assembly [1] to the control stand.

SUBTASK 32-44-01-420-004

(3) Install the washer [7] on the bolt [8].

SUBTASK 32-44-01-420-005

(4) Install the bolt [8] with washer [7] to hold the parking brake lever assembly [1] to the rod [4].

SUBTASK 32-44-01-420-006

(5) Install the other washer [7] on the bolt [8].

SUBTASK 32-44-01-420-003

(6) Install the nut [6] on the bolt [8] to hold the parking brake lever assembly [1] to the rod [4].

SUBTASK 32-44-01-820-001

(7) Adjust the parking brake lever assembly [1].

(a) Make sure the parking brake is not set.

(b) Loosen the two jam nuts [5] on the rod [4].

(c) Adjust the length of the rod [4] until you have a clearance of 0.005 in. (0.13 mm) - 0.04 in. (1.02 mm) between the top surface of the control stand and the parking brake lever assembly [1].

(d) Tighten the two jam nuts [5] on the rod [4].

(e) Install a lockwire on the jam nuts [5].

(f) Make sure the parking brake lever assembly [1] moves smoothly.

(g) Install the access panel on the left side of the control stand.

END OF TASK

PARKING BRAKE LATCH MECHANISM - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the parking brake latch mechanism

(2) An installation of the parking brake latch mechanism.

B. In this procedure the parking brake latch mechanism is referred to as the parking brake latch [1].

TASK 32-44-02-000-801

2. Parking Brake Latch Mechanism Removal

(Figure 401)

A. Location Zones

Zone	Area
211	Flight Compartment, Left

B. Parking Brake Latch Mechanism Removal

SUBTASK 32-44-02-020-001

(1) Do these steps to remove the arm [6]:

(a) Remove the nut [5], washer [4], and bolt [3] which holds the rod [2] to the arm [6].

(b) Remove the nut [7], washer [8], and bushing [14] which holds the arm [6] to the parking brake latch [1].

(c) Remove the arm [6] from the parking brake latch [1].

SUBTASK 32-44-02-020-004

(2) Disconnect the return spring [16] from the pawl.

SUBTASK 32-44-02-020-002

(3) Do these steps to remove the inboard housing [9] from the parking brake latch [1]:

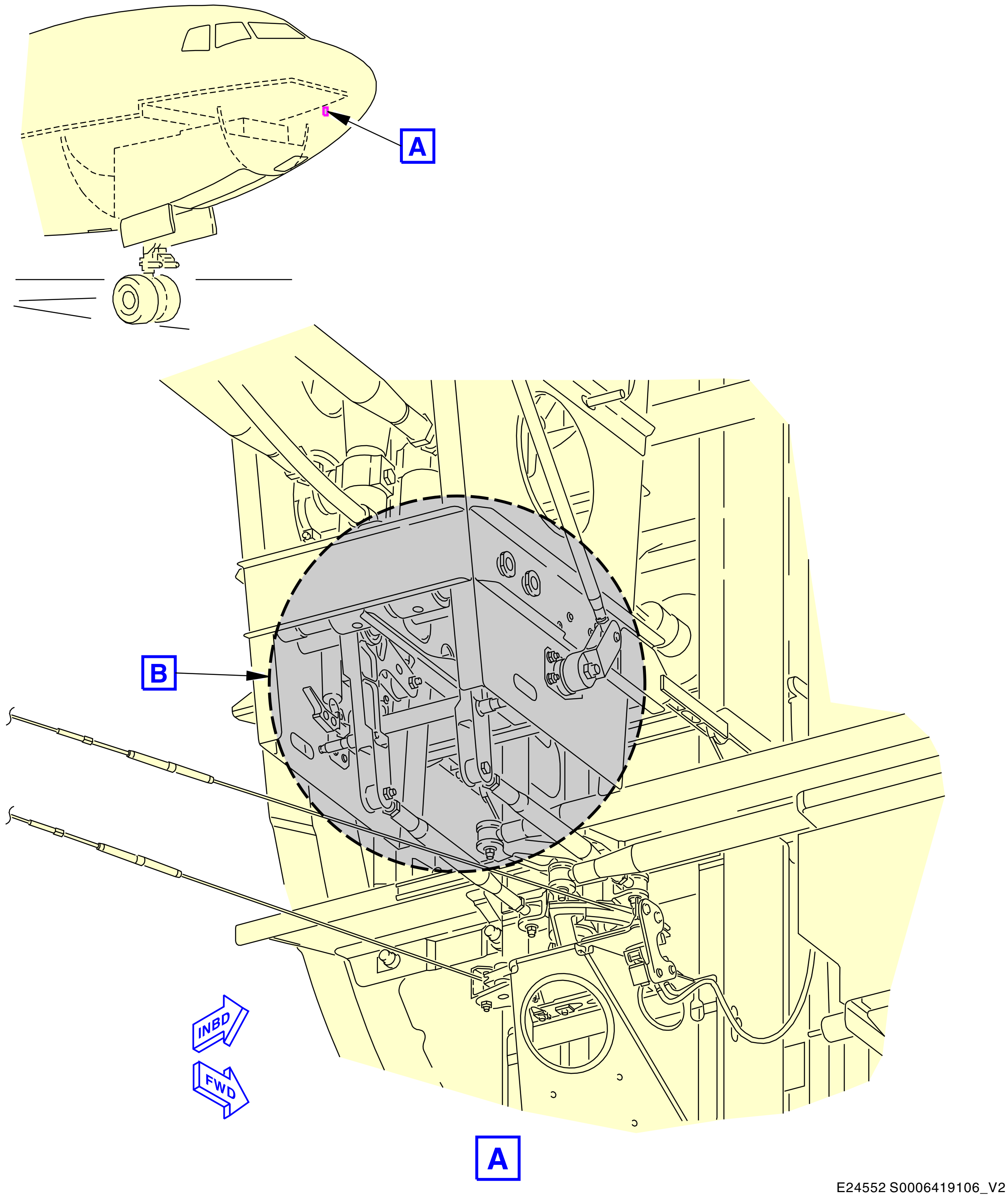
(a) Remove the nuts [10], washers [11], and bolts [12] which hold the inboard housing [9] to the airplane.

(b) Remove the inboard housing [9] and bearing [15] from the parking brake latch [1].

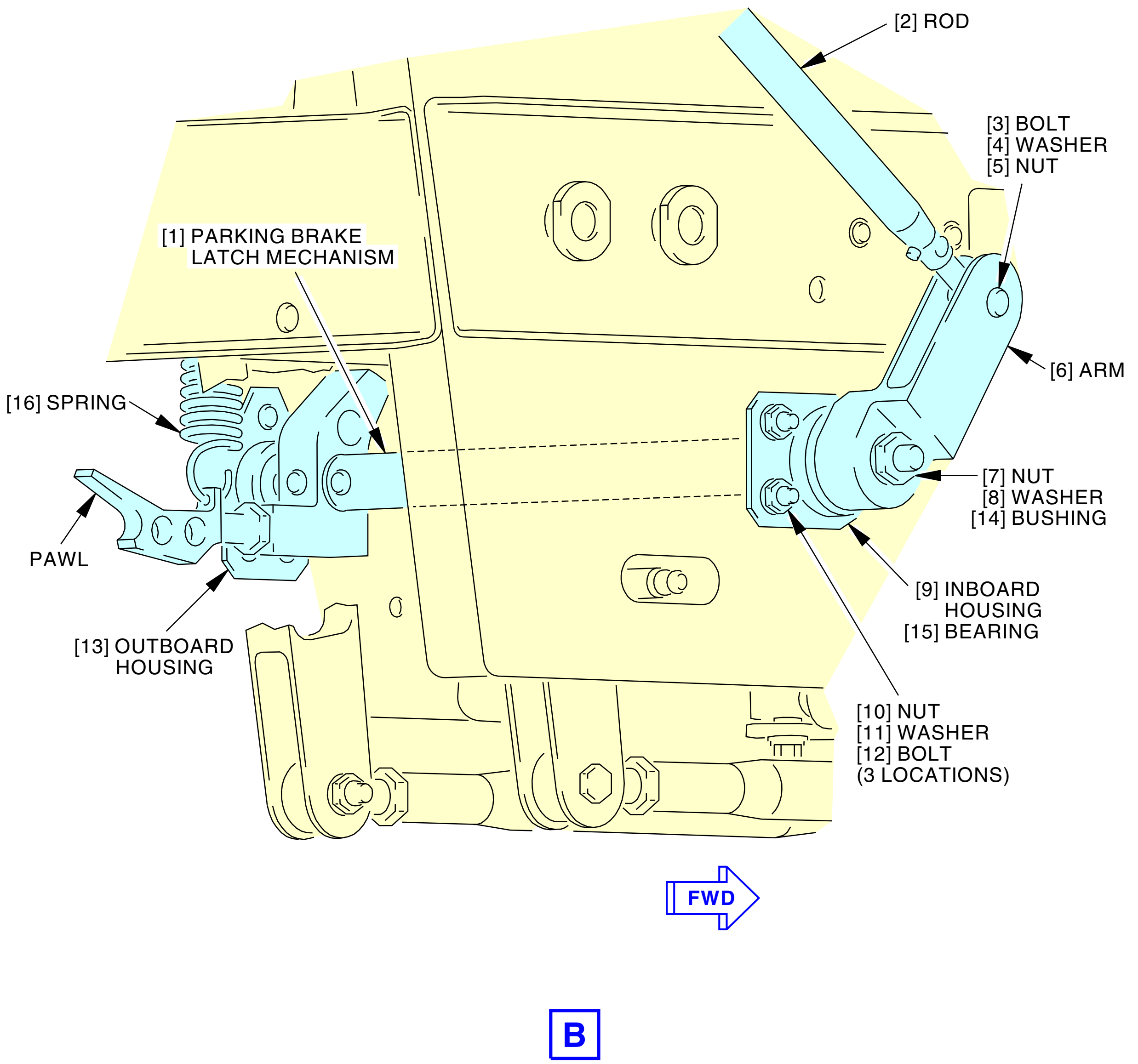
SUBTASK 32-44-02-020-003

(4) Remove the parking brake latch [1] from the outboard housing [13].

——— END OF TASK ———



Parking Brake Latch Mechanism Installation
Figure 401/32-44-02-990-801 (Sheet 1 of 2)



Parking Brake Latch Mechanism Installation
Figure 401/32-44-02-990-801 (Sheet 2 of 2)

TASK 32-44-02-400-801

3. Parking Brake Latch Mechanism Installation

(Figure 401)

A. References

Reference	Title
32-44-00-820-801	Parking Brake System Adjustment (P/B 501)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Parking brake latch	32-44-02-01-255	ARO ALL
6	Arm	32-44-02-01-080	ARO ALL
9	Inboard housing	32-44-02-01-115	ARO ALL
15	Bearing	32-44-02-01-110	ARO ALL

C. Location Zones

Zone	Area
211	Flight Compartment, Left

D. Parking Brake Latch Mechanism Installation

SUBTASK 32-44-02-420-001

(1) Install the parking brake latch [1] in the outboard housing [13].

SUBTASK 32-44-02-420-002

(2) Do these steps to install the inboard housing [9] for the parking brake latch [1]:

(a) Install the bearing [15] and inboard housing [9] over the parking brake latch [1].

(b) Install the bolts [12], washers [11], and nuts [10] which hold the inboard inboard housing [9] to the airplane.

SUBTASK 32-44-02-020-005

(3) Connect the return spring [16] to the pawl.

SUBTASK 32-44-02-420-003

(4) Do these steps to install the arm [6]:

(a) Install the arm [6] on the spline-end of the parking brake latch [1] at an angle of 52-60 degrees to the horizontal.

(b) Install the bushing [14], washer [8], and nut [7] which holds the arm [6] to the parking brake latch [1].

(c) Install the bolt [3], washer [4], and nut [5] which hold the rod [2] to the arm [6].

SUBTASK 32-44-02-820-001

(5) Do this task: Parking Brake System Adjustment, TASK 32-44-00-820-801.

——— END OF TASK ———

PARKING BRAKE VALVE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the parking brake valve

(2) An installation of the parking brake valve.

B. The parking brake valve is installed on a bracket on the forward lower flange of the main landing gear beam.

C. In this procedure the parking brake valve [1] is referred to as the valve assembly [1].

TASK 32-44-04-000-801

2. Parking Brake Valve Removal

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
651	Rear Spar to Landing Gear Support Beam - Right Wing

C. Access Panels

Number	Name/Location
651DB	Inboard Fixed Trailing Edge Panel

D. Prepare for the Removal

SUBTASK 32-44-04-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-44-04-860-002

(2) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-44-04-480-002

(3) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-44-04-860-003

(4) Release the parking brake.

SUBTASK 32-44-04-860-004

(5) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-44-04-860-005

(6) Open this circuit breaker and install safety tag:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	22	C32615	LDG GEAR PARKING BRAKE VALVE

SUBTASK 32-44-04-010-001

(7) To gain access to the parking brake valve;

Open this access panel:

Number	Name/Location
651DB	Inboard Fixed Trailing Edge Panel

E. Parking Brake Valve Removal

(Figure 401)

SUBTASK 32-44-04-020-001

(1) Disconnect the electrical connector [2] from the parking brake valve assembly [1].

SUBTASK 32-44-04-020-002

(2) Disconnect the 2 hydraulic lines [3], [6] from the parking brake valve assembly [1].

SUBTASK 32-44-04-480-003

(3) Install plugs on the 2 hydraulic lines [3], [6].

SUBTASK 32-44-04-020-003

(4) Hold the parking brake valve [1] and remove the bolts [4] and washers [5] which attach the parking brake valve assembly [1] to the mounting bracket on the airplane.

SUBTASK 32-44-04-020-005

(5) Remove the parking brake valve [1] from the airplane.

SUBTASK 32-44-04-020-004

(6) If the replacement parking brake valve assembly [1] does not have hydraulic fittings installed, do these steps:

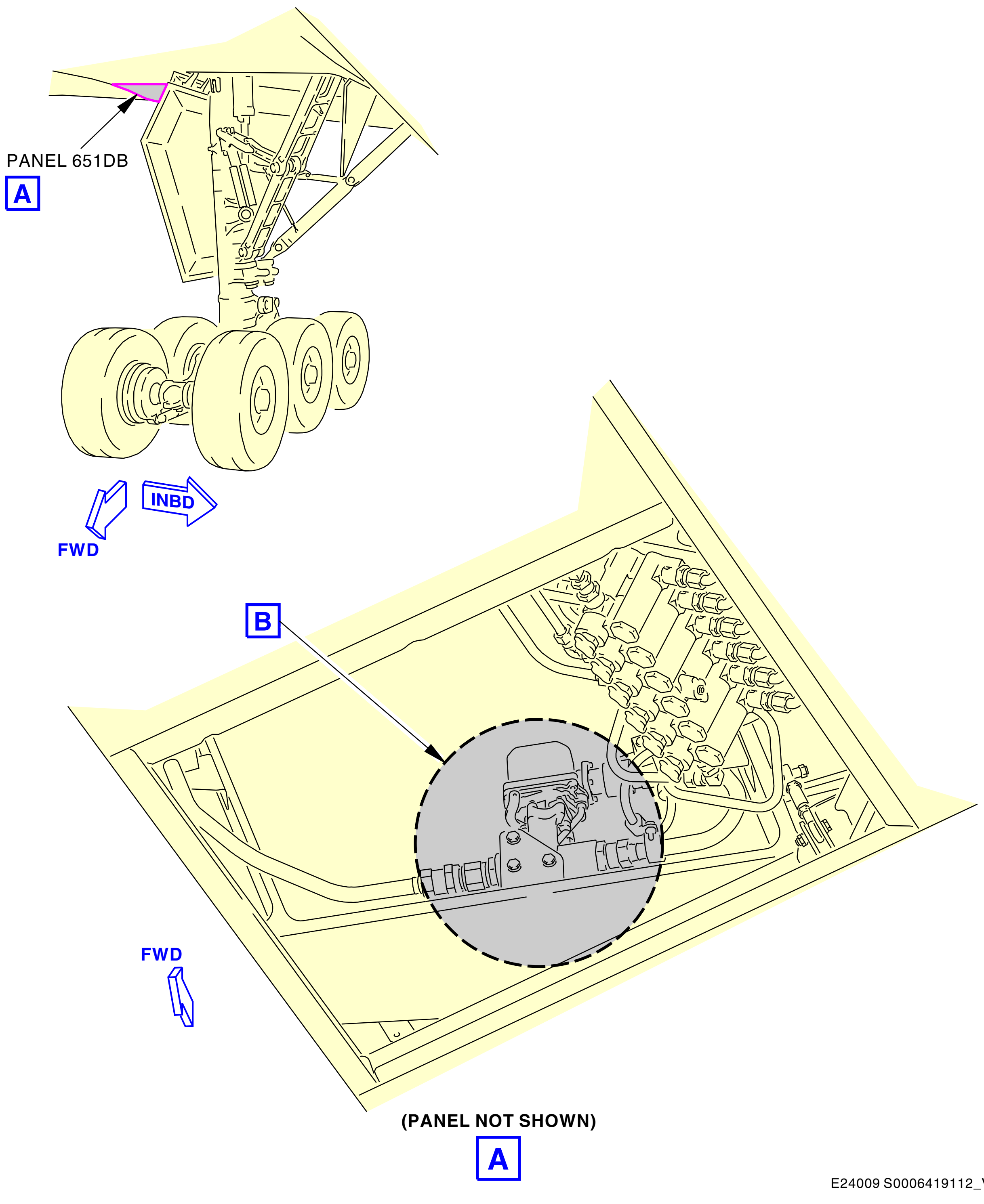
(a) Remove the hydraulic union [7], packing [8] and check valve [9].

(b) Discard the packing [8].

SUBTASK 32-44-04-480-004

(7) Install plugs in the ports of the parking brake valve assembly [1].

END OF TASK



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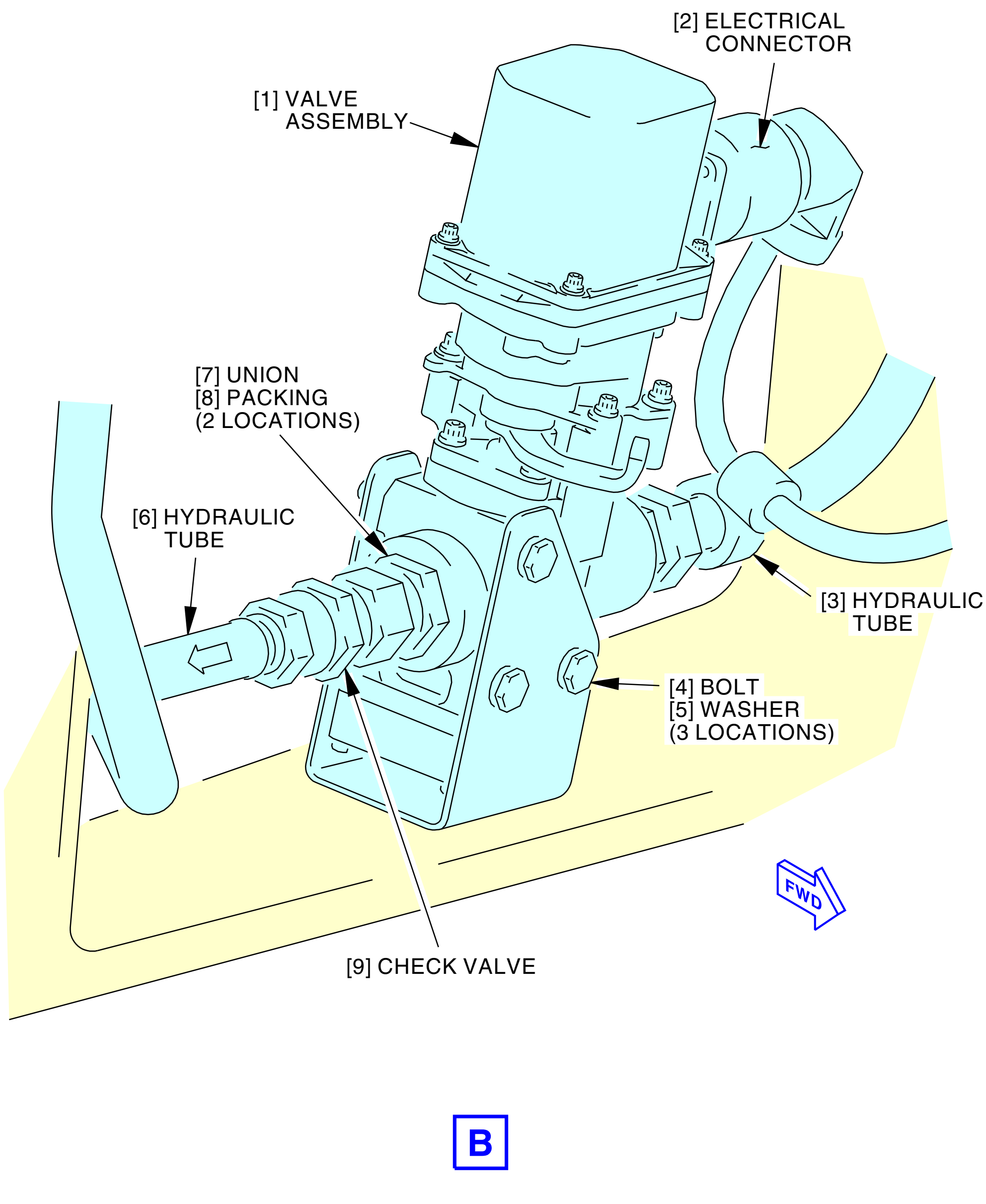
Parking Brake Valve Installation
Figure 401/32-44-04-990-801 (Sheet 1 of 2)



Parking Brake Valve Installation
Figure 401/32-44-04-990-801 (Sheet 2 of 2)

TASK 32-44-04-400-801

3. Parking Brake Valve Installation

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
20-11-00-910-801	Standard Torque Values (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)

B. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Valve assembly	Not Specified	
8	Packing	Not Specified	

D. Location Zones

Zone	Area
651	Rear Spar to Landing Gear Support Beam - Right Wing

E. Access Panels

Number	Name/Location
651DB	Inboard Fixed Trailing Edge Panel

F. Parking Brake Valve Installation

(Figure 401)

SUBTASK 32-44-04-080-001

(1) Remove the plugs from the ports of the parking brake valve assembly [1].

SUBTASK 32-44-04-420-001

(2) If the replacement parking brake valve assembly [1] does not have hydraulic fittings installed, do these steps:

(a) Lubricate the hydraulic union [7] and packing [8] for the parking brake valve assembly [1] with hydraulic fluid, D00153.

(b) Install the hydraulic union [7], packing [8] and check valve [9] on the parking brake valve assembly [1].

SUBTASK 32-44-04-420-002

(3) Hold the parking brake valve assembly [1] in its position on the mounting bracket on the airplane.

SUBTASK 32-44-04-420-006

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(4) Apply Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237 to the bolts [4].

SUBTASK 32-44-04-420-003

(5) Install the bolts [4] and washers [5] that attach the parking brake valve assembly [1] to the mounting bracket. Refer to Standard Torque Values, TASK 20-11-00-910-801.

SUBTASK 32-44-04-080-002

(6) Remove the plugs from the hydraulic tube [3] and hydraulic tube [6].

SUBTASK 32-44-04-420-004

(7) Connect the hydraulic tube [3] and hydraulic tube [6] to the parking brake valve assembly [1].

SUBTASK 32-44-04-420-005

(8) Connect the electrical connector [2] to the parking brake valve assembly [1].

SUBTASK 32-44-04-860-006

(9) Remove the safety tag and close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	22	C32615	LDG GEAR PARKING BRAKE VALVE

G. Parking Brake Valve Installation Test

SUBTASK 32-44-04-860-009

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-44-04-790-001

(2) Do these steps to do a leak check of the parking brake valve:

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801

(b) Fully push the captain's brake pedals twelve times.

(c) Look for leaks around the parking brake valve.

SUBTASK 32-44-04-710-001

(3) Do these steps to do a check of the parking brake valve installation:

(a) Set the parking brake.

(b) Make sure the PARKING BRAKE SET memo message shows on EICAS.

(c) Release the parking brake.

(d) Make sure the ANTISKID status message does not show on EICAS.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-44-04-860-007

(1) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-44-04-010-002

(2) Close this access panel:

Number	Name/Location
651DB	Inboard Fixed Trailing Edge Panel

——— END OF TASK ———

PARKING BRAKE LATCH SWITCH - REMOVAL/INSTALLATION

1. **General**
   A. This procedure has these tasks:
      (1) A removal of the parking brake latch switch assembly.
      (2) An installation of the parking brake latch switch assembly.

TASK 32-44-08-000-801

2. **Parking Brake Latch Switch Assembly Removal**
   (Figure 401)

   A. Location Zones

Zone	Area
211	Flight Compartment, Left

   B. Prepare for the Removal

   SUBTASK 32-44-08-860-001

   (1) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	22	C32615	LDG GEAR PARKING BRAKE VALVE

Standby Power Management Panel, P310

Row	Col	Number	Name
F	1	C32631	LG BRAKE STATUS IND

   C. Parking Brake Latch Switch Assembly Removal

   SUBTASK 32-44-08-020-006

   (1) Remove the twelve screws which connect the wire harness to the parking brake latch switch assemblies [1].

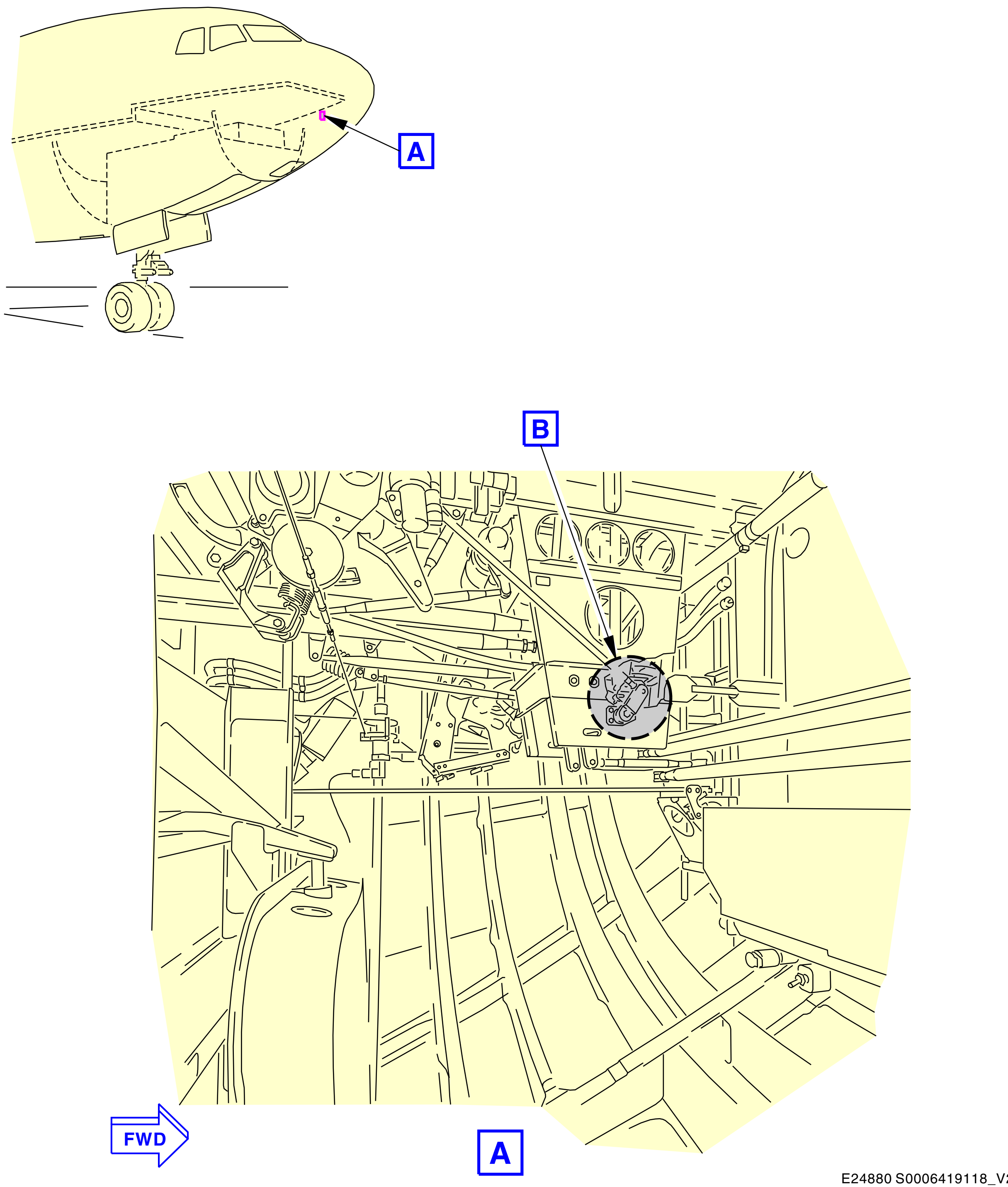
   SUBTASK 32-44-08-020-007

   (2) Remove the four bolts [3], which hold both of the parking brake latch switch assemblies [1] and spacer assemblies [6].

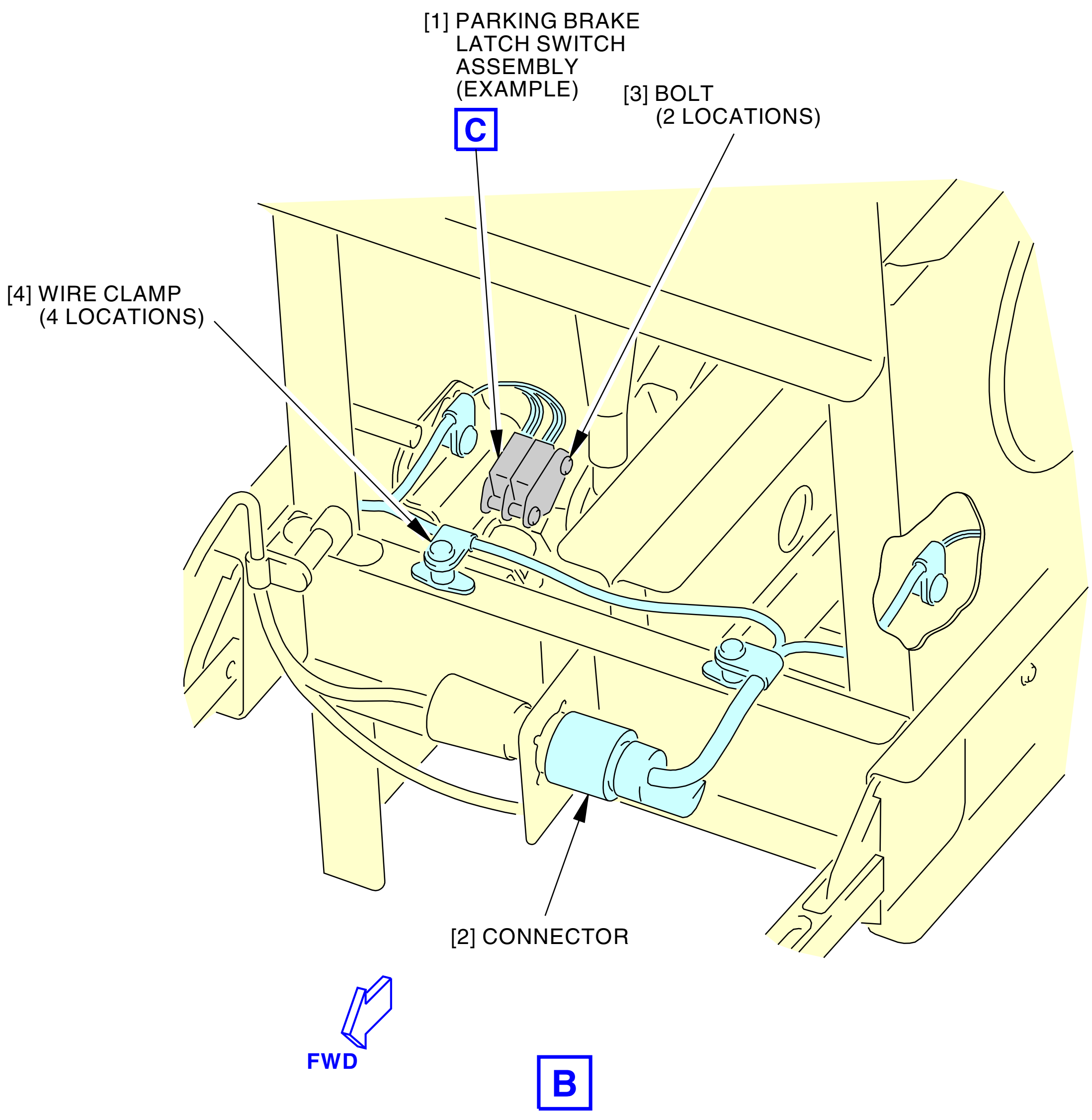
   SUBTASK 32-44-08-020-008

   (3) Remove both the parking brake latch switch assemblies [1] and spacer assemblies [6].

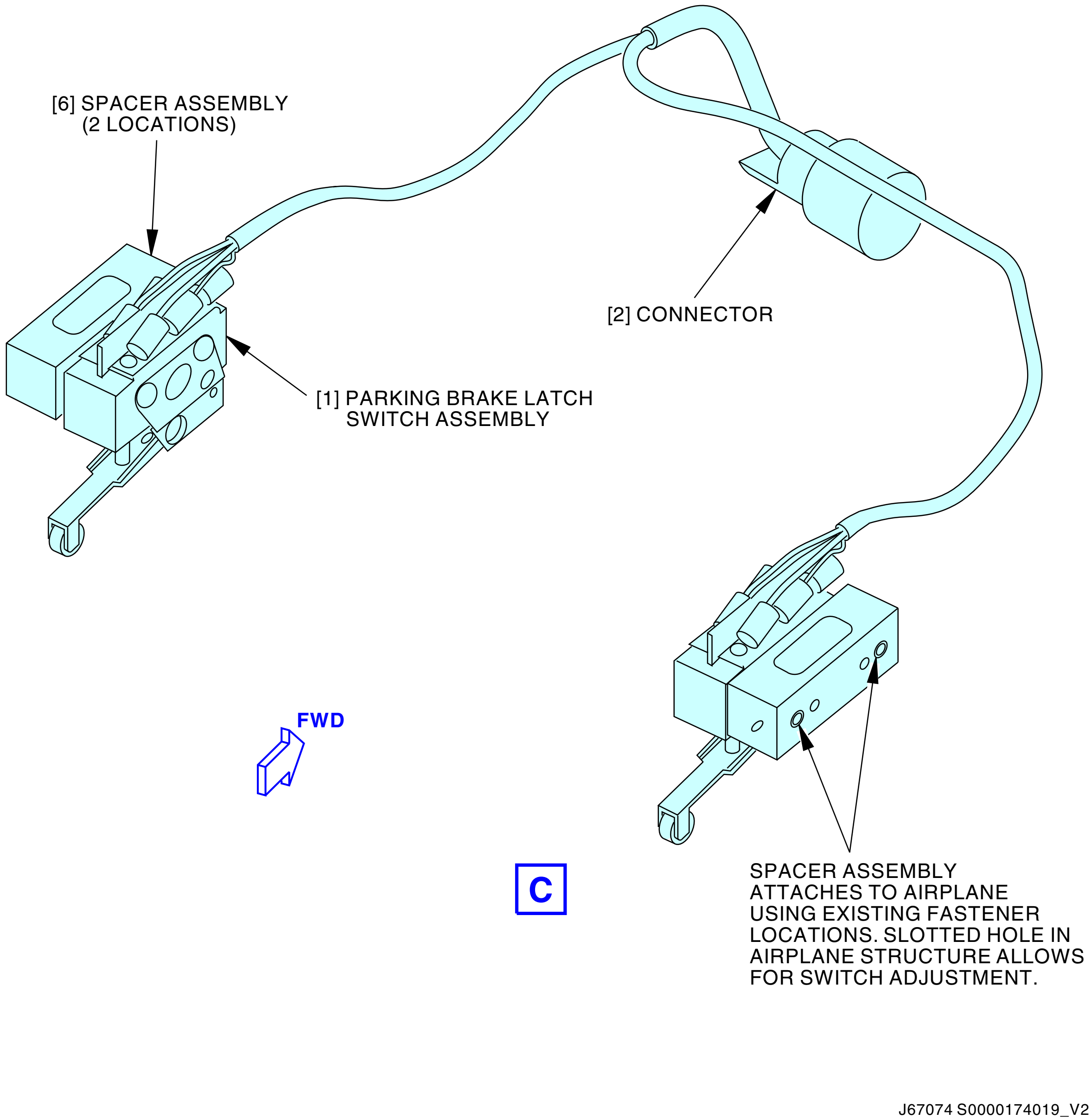
END OF TASK



Parking Brake Latch Switch Installation
Figure 401/32-44-08-990-801 (Sheet 1 of 3)



Parking Brake Latch Switch Installation
Figure 401/32-44-08-990-801 (Sheet 2 of 3)



Parking Brake Latch Switch Installation
Figure 401/32-44-08-990-801 (Sheet 3 of 3)

TASK 32-44-08-400-801

3. Parking Brake Latch Switch Installation

(Figure 401)

A. References

Reference	Title
32-44-00-820-801	Parking Brake System Adjustment (P/B 501)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Parking brake latch switch assembly	32-44-08-01-350	ARO ALL

C. Location Zones

Zone	Area
211	Flight Compartment, Left

D. Parking Brake Latch Switch Installation

SUBTASK 32-44-08-420-005

(1) Hold the parking brake latch switch assemblies [1] in its position on the airplane.

SUBTASK 32-44-08-420-006

(2) Install the four bolts [3] which hold each of the parking brake latch switch assemblies [1] to the spacer assemblies [6].

SUBTASK 32-44-08-420-009

(3) Install the twelve screws which connect the wire harness to the parking brake latch switch assemblies [1].

SUBTASK 32-44-08-420-007

(4) Install the four wire clamps [4] which hold the wire bundle to the aircraft structure.

SUBTASK 32-44-08-420-008

(5) Connect the wire connector [2] plug, D4101P, to the wire connector jack, D4101J.

SUBTASK 32-44-08-860-002

(6) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	22	C32615	LDG GEAR PARKING BRAKE VALVE

Standby Power Management Panel, P310

Row	Col	Number	Name
F	1	C32631	LG BRAKE STATUS IND

E. Parking Brake Latch Switch Adjustment

SUBTASK 32-44-08-820-001

(1) Adjust the parking brake latch switch assemblies [1] (TASK 32-44-00-820-801).

——— END OF TASK ———

BRAKE METERED PRESSURE SWITCH - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has these tasks:

      (1) A removal of the brake metered pressure switches.

      (2) An installation of the brake metered pressure switches.

   B. There are two brake metered pressure switches.

      (1) The switch for left main gear brake.

      (2) The switch for right main gear brake.

   C. In this procedure the two brake metered pressure switches are referred to as the switches [5] and [8].

TASK 32-44-10-000-801

2. **Brake Metered Pressure Switch Removal**

   (Figure 401)

   A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

   C. Prepare for the Removal

   SUBTASK 32-44-10-480-001

   WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

   (1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

   SUBTASK 32-44-10-860-002

   WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

   (2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

   SUBTASK 32-44-10-860-003

   (3) For the right and center hydraulic systems, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-44-10-480-002

(4) Make sure the tires have chocks installed around them(CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-44-10-860-004

(5) Release the parking brake.

SUBTASK 32-44-10-860-005

(6) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

SUBTASK 32-44-10-860-006

(7) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

Row	Col	Number	Name
F	1	C32631	LG BRAKE STATUS IND

D. Brake Metered Pressure Switch Removal

SUBTASK 32-44-10-020-001

(1) Do these steps to remove the brake metered pressure switch [5] from the left hand brake system:

(a) Loosen the adapter [1] that connects to the brake metered pressure switch [5].

(b) Remove the screws [2] and washers [3] which hold the clamp [4] to the airplane.

(c) Remove the clamp [4].

(d) Disconnect the adapter [1] from the brake metered pressure switch [5].

(e) Remove the packing [10].

(f) Install a plug on the adapter [1].

(g) Remove the electrical connector [6] from the pressure switch [8].

(h) Remove the brake metered pressure switch [5] from the airplane.

SUBTASK 32-44-10-020-002

(2) Do these steps to remove pressure switch [8] from the right hand brake system:

(a) Remove the electrical connector [9] from the pressure switch [8].

(b) Loosen the adapter [11] that connects to the pressure switch [8]

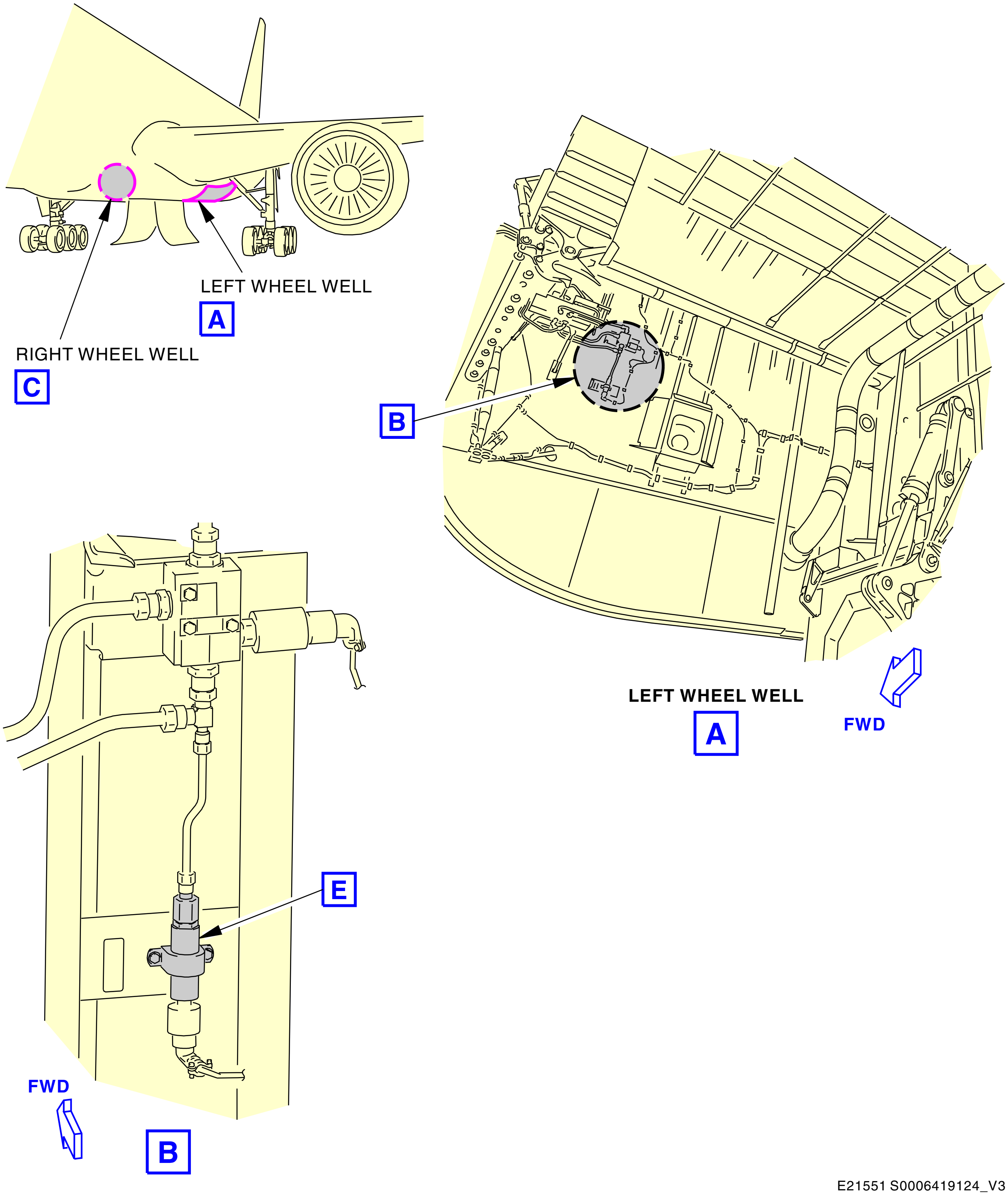
(c) Remove the pressure switch [8] from the adapter [11].

(d) Remove the packing [12].

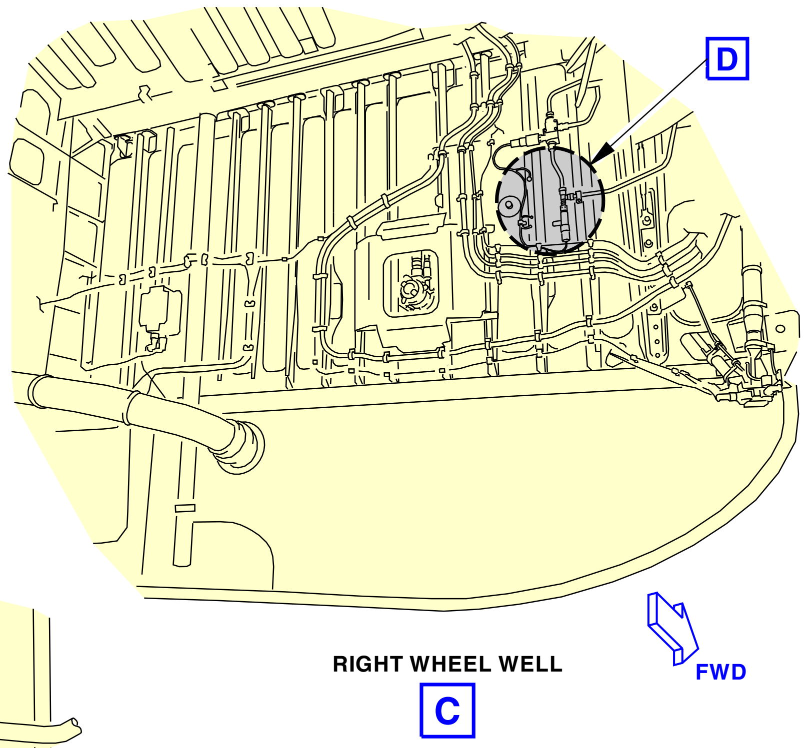
(e) Remove the adapter [11] from the tee [7].

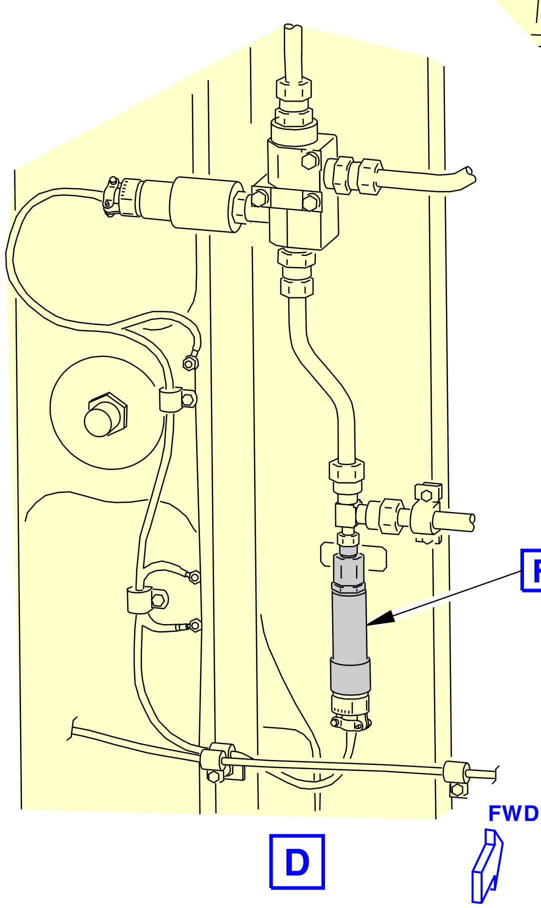
(f) Install a plug on the tee [7].

END OF TASK



Brake Metered Pressure Switch Installation
Figure 401/32-44-10-990-801 (Sheet 1 of 3)





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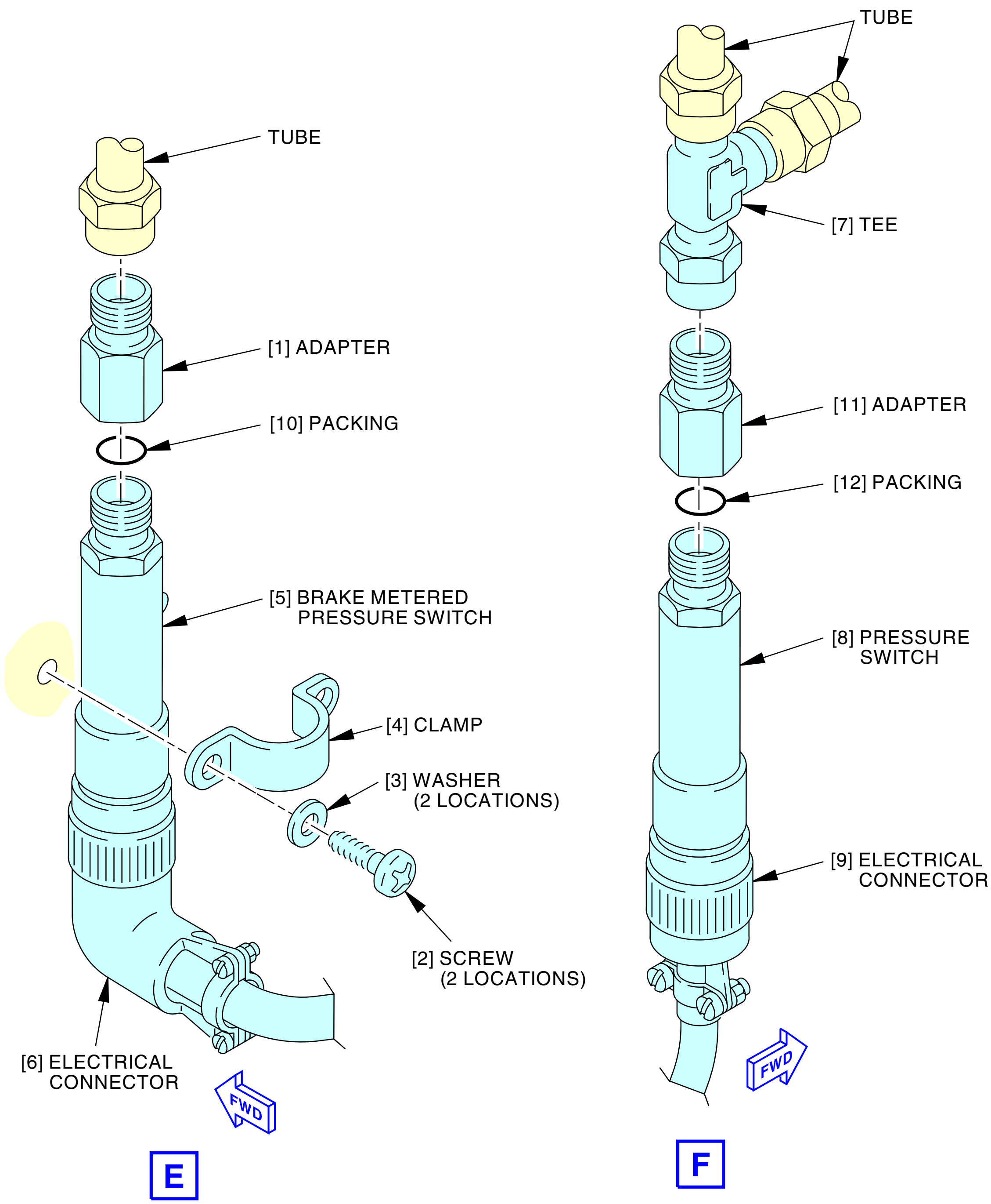
Brake Metered Pressure Switch Installation
Figure 401/32-44-10-990-801 (Sheet 2 of 3)



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Brake Metered Pressure Switch Installation
Figure 401/32-44-10-990-801 (Sheet 3 of 3)

TASK 32-44-10-400-801

3. **Brake Metered Pressure Switch Installation**

(Figure 401)

A. **References**

Reference	Title
20-11-00-910-801	Standard Torque Values (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

B. **Consumable Materials**

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
5	Brake metered pressure switch	32-44-10-05A-575	ARO ALL
8	Pressure switch	32-44-10-05A-050	ARO ALL

D. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

E. **Brake Metered Pressure Switch Installation**

SUBTASK 32-44-10-860-014

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-44-10-420-001

WARNING

DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING

USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(2) Do these steps to install the brake metered pressure switch [5] to the left hand brake system:

(a) Remove the plug or cap from the adapter [1].

(b) Install the packing [10] in the adapter [1].

(c) Hold the brake metered pressure switch [5] in its position on the airplane.

(d) Connect the adapter [1] to the brake metered pressure switch [5].

(e) Install the clamp [4].

(f) Apply a thin layer of Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237 to the screws [2].

(g) Install the screws [2] and washers [3] to attach the clamp [4] and the brake metered pressure switch [5] to the bracket. Refer to Standard Torque Values, TASK 20-11-00-910-801.

(h) Install the electrical connector [6] to the brake metered pressure switch [5].

SUBTASK 32-44-10-420-002

(3) Do these steps to install pressure switch [8] to the right hand brake system:

(a) Remove the plug from the tee [7].

(b) Install the adapter [11] in the tee [7].

(c) Install the packing [12] in the adapter [11].

(d) Install the pressure switch [8] to the adapter [11] .

(e) Install the electrical connector [9] to the pressure switch [8].

SUBTASK 32-44-10-860-007

(4) Remove the safety tag and close this circuit breaker:

Standby Power Management Panel, P310

Row	Col	Number	Name
F	1	C32631	LG BRAKE STATUS IND

F. Brake Metered Pressure Switch Installation Test

SUBTASK 32-44-10-860-008

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801

SUBTASK 32-44-10-860-009

(2) Set the parking brake.

SUBTASK 32-44-10-710-001

(3) Do a check of the status lights on the nose landing gear:

(a) Make sure the BRAKE ON light is on.

SUBTASK 32-44-10-860-010

(4) Release the parking brake.

SUBTASK 32-44-10-710-002

(5) Do a check of the status lights on the nose landing gear:

(a) Make sure the BRAKE ON light is off.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-44-10-860-011

WARNING

OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-44-10-860-012

(2) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

BRAKE PEDAL POSITION SWITCH - REMOVAL/INSTALLATION

1. General
   A. This procedure has these tasks:
      (1) A removal of the brake pedal position switch
      (2) An installation of the brake pedal position switch.
   B. In this procedure the brake pedal position switch is referred to as the switch [5].

TASK 32-44-11-000-801

2. Brake Pedal Position Switch Removal
   (Figure 401)

   A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

   C. Location Zones

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well

   D. Access Panels

Number	Name/Location
112AL	Forward Access Door

   E. Prepare for the Removal

SUBTASK 32-44-11-860-001

(1) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

Row	Col	Number	Name
F	1	C32631	LG BRAKE STATUS IND

SUBTASK 32-44-11-480-001

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-44-11-010-001

(3) Open this access panel:

Number	Name/Location
112AL	Forward Access Door

SUBTASK 32-44-11-480-002

(4) Install rigging pin LGB1 (left side) or rigging pin LGB2 (right side) in the rigging pin hole [6] for the forward brake cable quadrant [7].

NOTE: The placard on the inside of the box for the rigging pin kit identifies the different rigging pins.

(a) The rigging pins are from rigging pin set, SPL-2532.

F. Brake Pedal Position Switch Removal

SUBTASK 32-44-11-020-001

(1) Disconnect the two wires [4] from the switch [5].

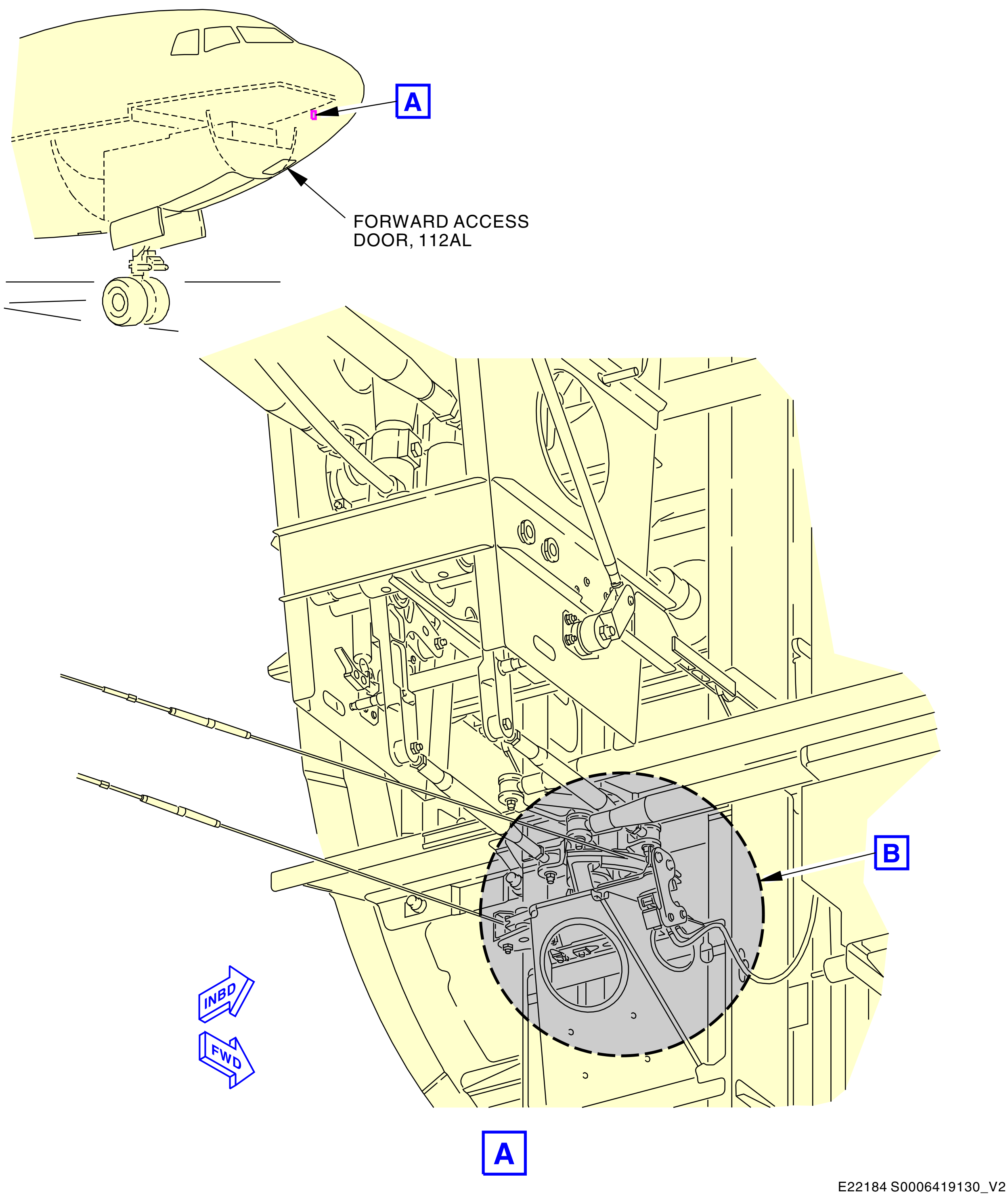
SUBTASK 32-44-11-020-002

(2) Remove the bolts [1], washers [2], and nuts [3] which hold the switch [5] to the mounting bracket.

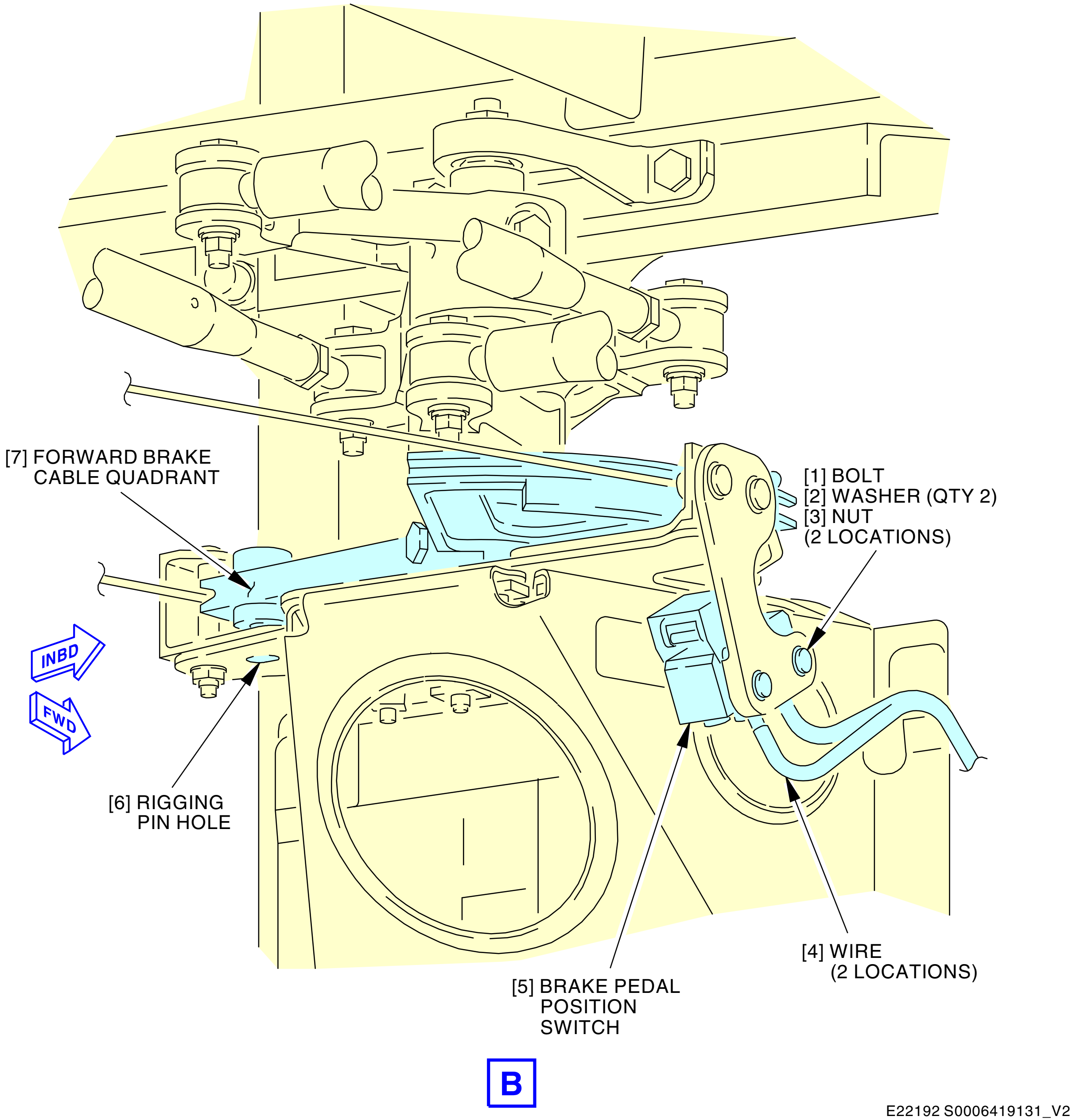
SUBTASK 32-44-11-020-003

(3) Remove the switch [5].

END OF TASK



Brake Pedal Position Switch Installation
Figure 401/32-44-11-990-801 (Sheet 1 of 2)



Brake Pedal Position Switch Installation
Figure 401/32-44-11-990-801 (Sheet 2 of 2)

TASK 32-44-11-400-801

3. Brake Pedal Position Switch Installation

(Figure 401)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
5	Switch	32-41-01-10-135	ARO ALL

C. Location Zones

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well

D. Access Panels

Number	Name/Location
112AL	Forward Access Door

E. Brake Pedal Position Switch Installation

SUBTASK 32-44-11-420-001

(1) Hold the switch [5] in its position on the airplane.

SUBTASK 32-44-11-420-002

(2) Install the bolts [1], washers [2], and nuts [3] which hold the switch [5] to the mounting bracket.

SUBTASK 32-44-11-420-003

(3) Connect the two wires [4] to the switch [5].

SUBTASK 32-44-11-860-002

(4) Remove the safety tag and close this circuit breaker:

Standby Power Management Panel, P310

Row	Col	Number	Name
F	1	C32631	LG BRAKE STATUS IND

F. Brake Pedal Position Switch Adjustment

SUBTASK 32-44-11-480-003

(1) Remove the rigging pin LGB1 (or LGB2) from the rigging pin hole [6].

SUBTASK 32-44-11-820-001

(2) Adjust the tab on the switch actuator until the switch operates when the forward brake cable quadrant [7] is moved 0.146 in. (3.708 mm) - 0.292 in. (7.417 mm) from the zero position.

NOTE: The zero position is the position of the forward brake cable quadrant with the rigging pin installed.

NOTE: You measure the displacement along the outer circumference of the forward brake cable quadrant.

SUBTASK 32-44-11-710-001

(3) Turn the forward brake cable quadrant [7] 0.731 in. (18.567 mm) from the zero position.

SUBTASK 32-44-11-710-002

(4) Make sure the switch [5] is not damaged.

G. Brake Pedal Position Switch Installation Test

SUBTASK 32-44-11-860-003

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-44-11-710-003

(2) Do a check of the status lights on the nose landing gear:

(a) Make sure the BRAKE OFF light on the nose landing gear is on.

(b) Push the brake pedals fully to their stops.

(c) Pull the parking brake lever on the control stand.

(d) Make sure the parking brake engages.

(e) Make sure the BRAKE OFF light on the nose landing gear is off.

(f) Release the parking brake.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-44-11-010-002

(1) Close this access panel:

Number	Name/Location
112AL	Forward Access Door

——— END OF TASK ———

MAIN LANDING GEAR WHEEL AND TIRE ASSEMBLY - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the main landing gear wheel and tire assembly

(2) An installation of the main landing gear wheel and tire assembly.

NOTE: The wheel assembly must be removed to get to the Brake Bleeder Valve.

NOTE: If you have more than one flat tire on a main landing gear, and you can not lift the axle with the usual jack, use the procedure Main Landing Gear Axle Lifting for Deflated Tires - Emergency Jacking, TASK 07-11-03-580-802.

NOTE: Modification can result in axles having undersized threads and special undersized axle nuts. These are matched set parts and can be painted yellow to indicate they have been modified. You cannot replace a modified axle nut with a standard axle nut or separate a matched set.

(3) A removal of a brake bleeder valve.

(4) An installation of a brake bleeder valve.

TASK 32-45-01-000-801

2. Main Landing Gear Wheel and Tire Assembly Removal

(Figure 401 or Figure 402 or Figure 403)

A. References

Reference	Title
07-11-03-580-801	Lift the Airplane with Axle Jacks (P/B 201)
07-11-03-580-802	Main Landing Gear Axle Lifting for Deflated Tires - Emergency Jacking (P/B 201)
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-45-03-700-801	Wheels Fast Check (Wheel Installed on the Airplane) (P/B 601)
32-45-04-700-801	Tires Inspection (P/B 601)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1524	Deflator - Tire, Valve Core Removal and Installation (Large Bore) Part #: 320008A-SO Supplier: SFN11 Part #: 968RB-1 Supplier: $1315 Opt Part #: 320008A Supplier: SFN11

(Continued)

Reference	Description
COM-1818	Dolly - Wheel/Brake Change Part #: 175M Supplier: 94861 Part #: 175S-2 Supplier: 94861 Part #: 9092-016 Supplier: 00994 Part #: IA3201A-500 Supplier: 3D5B2 Part #: MH12-004 Supplier: D2029 Part #: MH12-005 Supplier: D2029 Opt Part #: 175 Supplier: 94861 Opt Part #: 8436-012 Supplier: 00994 Opt Part #: 9092-010 Supplier: 00994 Opt Part #: 9092-015 Supplier: 00994 Opt Part #: MH12-003 Supplier: D2029 Opt Part #: PF32-002-1 Supplier: 3D5B2
SPL-1815	Wrench Eqpt - wheel retention nut Part #: J32032-22 Supplier: 81205 Opt Part #: MIT65B01202-1 Supplier: 81205
SPL-1854	Equipment - Protector, Main Landing Gear Part #: J32031-12 Supplier: 81205

C. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for the Removal

SUBTASK 32-45-01-480-002

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-45-01-480-003

WARNING: MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-45-01-480-001

(3) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-45-01-860-002

(4) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

Row	Col	Number	Name
M	19	C32617	LG TIRE PRESSURE INDICATOR

SUBTASK 32-45-01-580-001

(5) Do one of the steps that follow to lift the axle with jacks:

(a) If you will remove a wheel installed on the forward or aft axle of a truck, do this task: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801

for the applicable axle only.

(b) If you will remove a wheel installed on the center axle of a truck, do this task: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801

for forward and aft axles.

(c) If you are changing wheel and tire assemblies on a main landing gear with multiple flat tires, you might not be able to lift the axle with normal jacks, do this task: Main Landing Gear Axle Lifting for Deflated Tires - Emergency Jacking, TASK 07-11-03-580-802.

SUBTASK 32-45-01-860-005

(6) Set the parking brake to keep the brake rotor disks aligned.

SUBTASK 32-45-01-860-006

(7) Make sure the PARKING BRAKE SET indication shows on the EICAS display.

SUBTASK 32-45-01-840-001

WARNING: BEFORE YOU REMOVE THE WHEEL AND TIRE ASSEMBLY YOU MUST DEFLATE THE TIRE OR INSPECT THE WHEEL AND TIRE TO MAKE SURE THEY ARE SAFE. A DEFECTIVE WHEEL AND TIRE ASSEMBLY CAN EXPLODE DURING OR AFTER REMOVAL IF YOU DO NOT DEFLATE THE TIRE. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(8) Do one of the steps that follow:

(a) Inspect the wheel and tire assembly [1]:

1) Do this task: Wheels Fast Check (Wheel Installed on the Airplane), TASK 32-45-03-700-801.

2) Do this task: Tires Inspection, TASK 32-45-04-700-801.

WARNING: MAKE SURE ALL PERSONS ARE CLEAR OF THE INFLATION VALVE PATH. IF THE VALVE BLOWS OFF WHILE YOU REMOVE IT, INJURY TO PERSONS CAN OCCUR.

(b) Deflate the tire with the large bore tire deflator, COM-1524.

CAUTION: IF THE WHEEL AND TIRE ARE NOT DAMAGED, MAKE SURE TO LEAVE ABOUT 50 PSI OR 25% OF THE SERVICE PRESSURE IN THE TIRE. THIS WILL PREVENT DAMAGE TO THE TIRE WHEN THE WHEEL AND TIRE ARE TRANSPORTED.

1) Make sure that there is about 50 psi or 25% of the service pressure in the tire.

(c) If you cannot use the usual procedure to deflate the tire because the valve core is damaged, do these steps:

1) Turn the valve assembly slowly in a counterclockwise direction until there is gas leakage through the boss.

2) At the same time, push lightly on the valve assembly.

3) After all of the gas has been released, remove the valve assembly from the tire.

E. Main Landing Gear Wheel and Tire Assembly Removal

SUBTASK 32-45-01-020-007

(1) Do these steps to remove the tire and brake monitoring system (TBMS) hubcap assembly [26] from the wheel.

(a) Remove the lockwire from the nut on the relay transformer.

(b) Remove the nut and washer from the tire pressure sensor/fill valve.

(c) Remove the relay transformer [28] from the tire pressure sensor/fill valve.

(d) Remove the clamp [27] from the hubcap.

(e) Remove the hubcap assembly [26] from the wheel and tire assembly [1].

SUBTASK 32-45-01-020-003

WARNING: DO NOT PUT FINGERS IN THE LIGHTENING HOLES OF THE WHEEL RETAINING NUT SOCKET TOOL WHEN YOU REMOVE OR INSTALL THE WHEEL RETAINING NUT. THIS CAN CAUSE INJURIES TO PERSONS.

CAUTION: DO NOT PUT FORCE ON THE HEAT SHIELDS OF THE BRAKE OR WHEEL ASSEMBLIES WHEN YOU MOVE THE WHEEL AND TIRE ASSEMBLY. IT IS NOT EASY TO REPAIR BENT HEAT SHIELDS. A BENT HEAT SHIELD CAN CAUSE DAMAGE TO THE WHEEL WHEN THE WHEEL MOVES.

(2) Do these steps to remove the wheel and tire assembly [1]:

(a) Remove the nut [25], washer [24], and bolt [23].

(b) Remove the nut [3] with the wheel retaining nut wrench adapter, SPL-1815.

(c) Remove the washer [2].

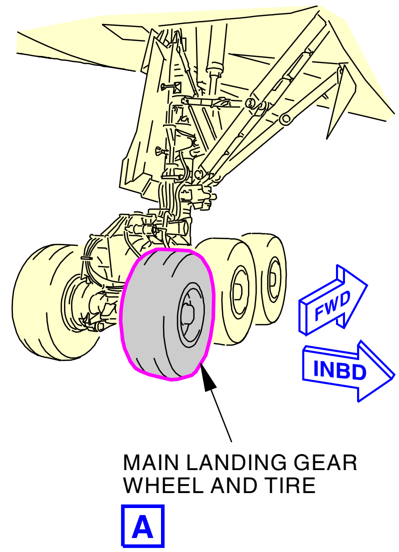
(d) Install the thread protector assembly, of the main landing gear protector equipment, SPL-1854, on the axle threads.

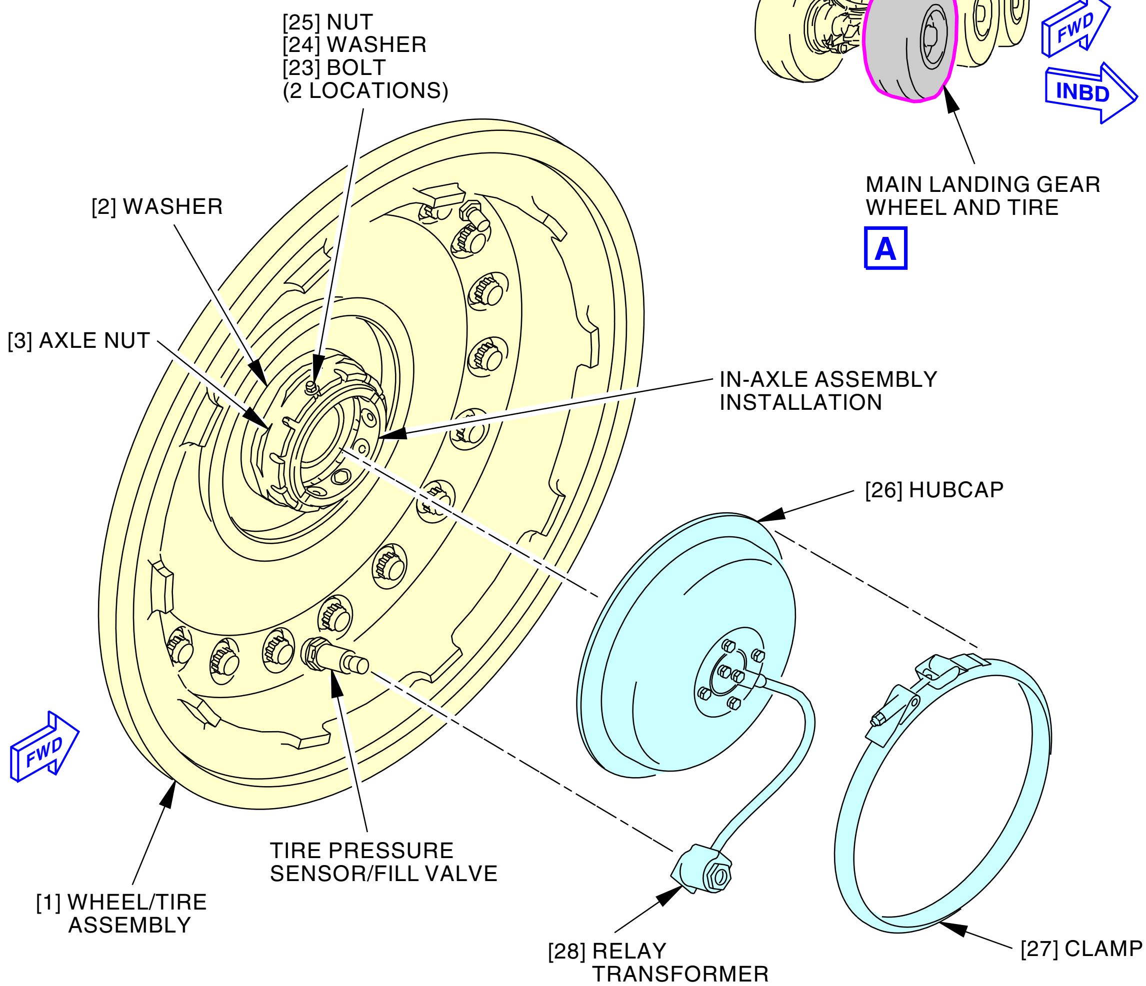
(e) Use the wheel/brake changer dolly, COM-1818, to lift and remove the wheel and tire assembly [1].

(f) Mark the reason for the tire removal on the tire to aid the inspectors when they examine the tire.

(g) Install the axle protector assembly, of the main landing gear protector equipment, SPL-1854, on the axle.

END OF TASK

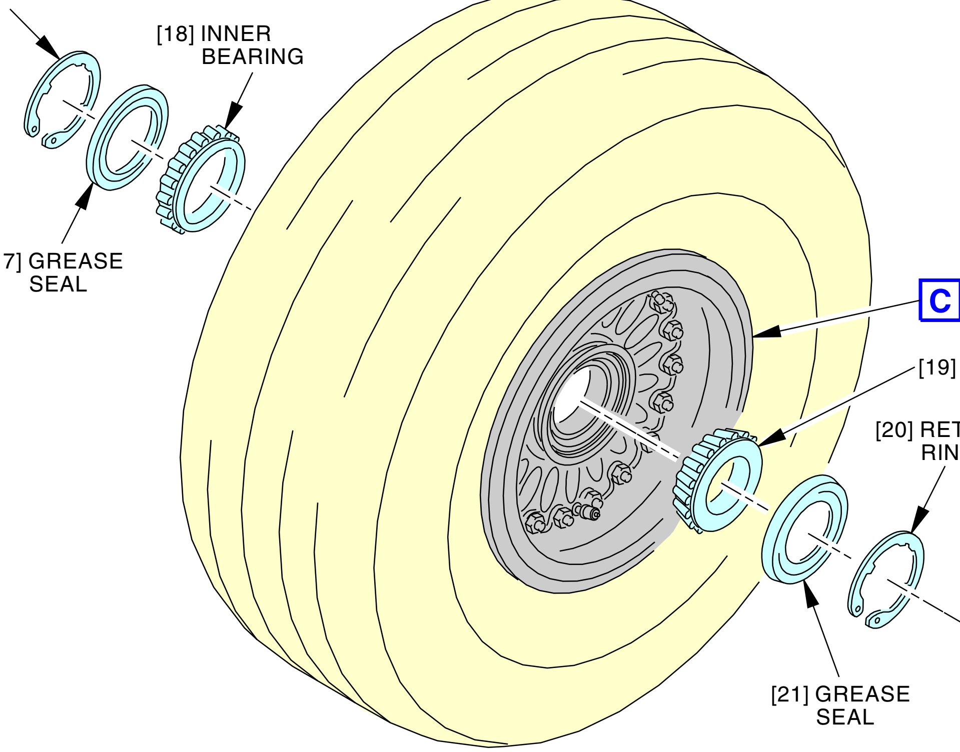




MAIN LANDING GEAR WHEEL AND TIRE
(EXAMPLE)
A

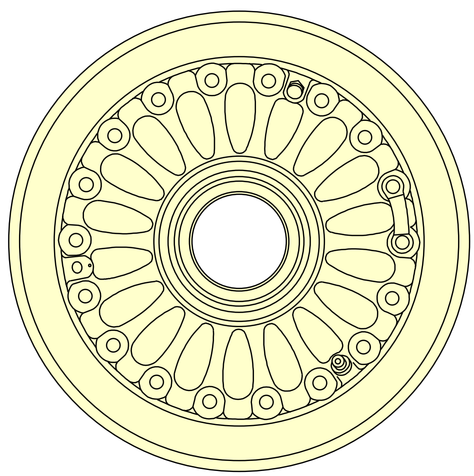
1343054 S0000238342_V5

Main Landing Gear Wheel and Tire Assembly Installation
Figure 401/32-45-01-990-801 (Sheet 1 of 2)



MAIN LANDING GEAR WHEEL ASSEMBLY

B

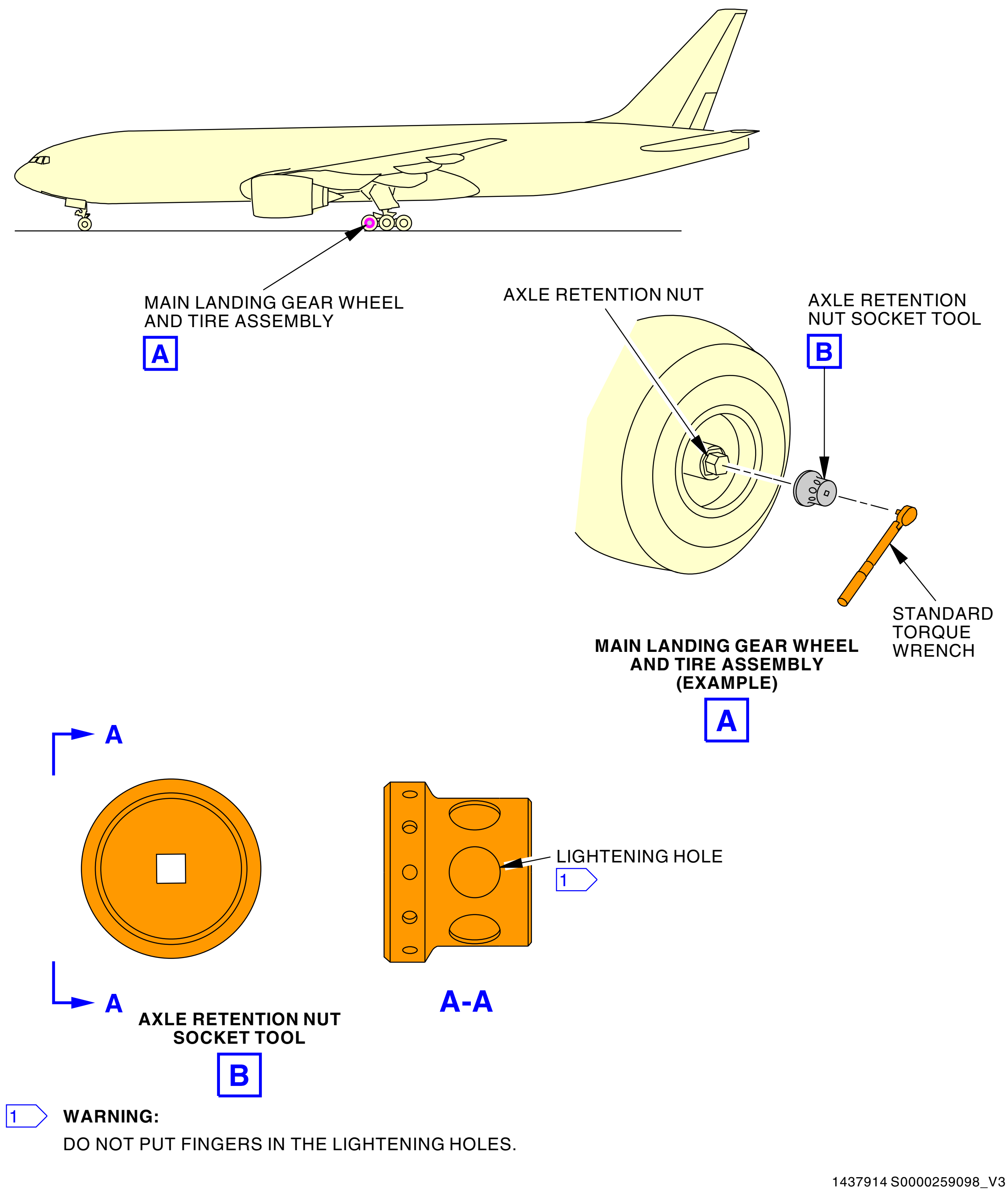


MAIN LANDING GEAR WHEEL

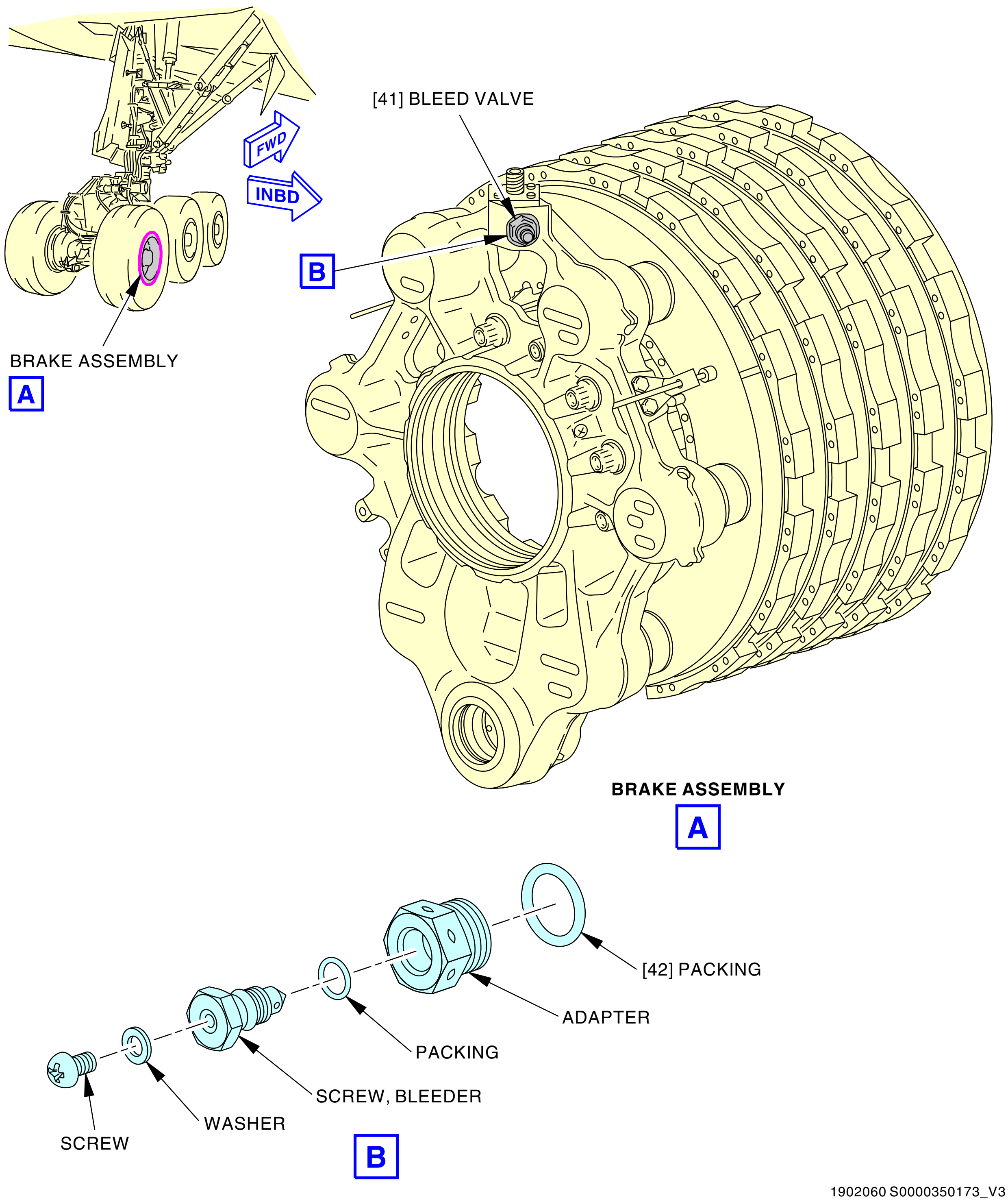
C

E90000 S0006419141_V3

Main Landing Gear Wheel and Tire Assembly Installation
Figure 401/32-45-01-990-801 (Sheet 2 of 2)



Wheel Retention Nut Socket Tool
Figure 402/32-45-01-990-802



Brake Bleeder Valve
Figure 403/32-45-01-990-803

TASK 32-45-01-000-802

3. Brake Bleeder Valve Removal

A. Prepare for the removal.

SUBTASK 32-45-01-010-001

(1) Remove the cover from the brake assembly.

(2) Apply wrench to the bleed valve [41].

(3) Remove the bleed valve [41].

(4) Remove the packing [42].

——— END OF TASK ———

TASK 32-45-01-400-802

4. Brake Bleeder Valve Installation.

A. Prepare to install the valve.

SUBTASK 32-45-01-600-001

(1) Apply a light coat of hydraulic oil to a new packing [42].

(2) Place the packing on the bleed valve [41].

(3) Install the bleed valve [41] and torque it to 18 in-lb (2 N·m).

(4) Install the cover over the brake assembly.

——— END OF TASK ———

TASK 32-45-01-400-801

5. Main Landing Gear Wheel and Tire Assembly Installation

(Figure 401 or Figure 402 or Figure 403)

A. References

Reference	Title
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
12-15-03-780-801	Landing Gear Tire Pressure Check (P/B 301)
20-11-00 P/B 201	STANDARD TORQUE VALUES - MAINTENANCE PRACTICES
24-22-00-860-805	Supply Electrical Power (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-45-03-700-802	Wheels Inspection (Wheel Removed from the Airplane) (P/B 601)
32-45-04-700-801	Tires Inspection (P/B 601)
32-45-07-700-803	Main Landing Gear Brake Inspection (Wheel Removed from the Airplane) (P/B 601)
32-49-05 P/B 401	TIRE AND BRAKE MONITORING SYSTEM (TBMS) TIRE PRESSURE SENSOR/FILL VALVE - REMOVAL/INSTALLATION

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1818	Dolly - Wheel/Brake Change Part #: 175M Supplier: 94861 Part #: 175S-2 Supplier: 94861 Part #: 9092-016 Supplier: 00994 Part #: IA3201A-500 Supplier: 3D5B2 Part #: MH12-004 Supplier: D2029 Part #: MH12-005 Supplier: D2029 Opt Part #: 175 Supplier: 94861 Opt Part #: 8436-012 Supplier: 00994 Opt Part #: 9092-010 Supplier: 00994 Opt Part #: 9092-015 Supplier: 00994 Opt Part #: MH12-003 Supplier: D2029 Opt Part #: PF32-002-1 Supplier: 3D5B2
SPL-1815	Wrench Eqpt - wheel retention nut Part #: J32032-22 Supplier: 81205 Opt Part #: MIT65B01202-1 Supplier: 81205
SPL-1854	Equipment - Protector, Main Landing Gear Part #: J32031-12 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
D00233	Grease - Aircraft, General Purpose, Wide Temperature - Mobil 28	MIL-PRF-81322
D00378	Grease - Aircraft, General Purpose, Wide Temperature - Aeroshell 22	MIL-PRF-81322
D50005	Grease - Wheel Bearing - Mobil Aviation Grease SHC 100	

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Wheel and tire assembly	32-45-01-15-005	ARO ALL

E. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Main Gear Wheel and Tire Installation

SUBTASK 32-45-01-840-002

(1) Do these steps to prepare for installation:

(a) Remove the axle protector assembly, of the main landing gear protector equipment, SPL-1854, from the axle.

CAUTION

DO NOT USE CLEANING FLUIDS OR SOLVENTS TO REMOVE UNWANTED GREASE FROM THE AXLES. SOLVENTS CAN CAUSE DAMAGE TO CARBON BRAKES AND TITANIUM TRUCK BEAMS.

(b) Remove all the old grease from the axle.

(c) Remove all the old grease from the inner diameter of the brake.

(d) Do this task: Main Landing Gear Brake Inspection (Wheel Removed from the Airplane), TASK 32-45-07-700-803.

(e) Examine the antiskid transducer drive components in the axle and the hubcap assembly [26] for damage.

(f) Examine the in-axle assembly and tire pressure sensor/fill valve for damage.

(g) If the wheel is not new, inspect the bearings, the seals, and other parts of the wheel assembly, do this task: Wheels Inspection (Wheel Removed from the Airplane), TASK 32-45-03-700-802.

(h) If the tire is not new, do this task: Tires Inspection, TASK 32-45-04-700-801.

(i) Do these steps if the wheel assembly (the bearings, the seals, and other parts) need to be installed:

1) Apply Aeroshell 22 grease, D00378, Mobil Aviation Grease SHC 100 grease, D50005, or Mobil 28 grease, D00233, to the inner bearing [18], outer bearing [19], and the grease seal [17], grease seal [21].

2) Apply Aeroshell 22 grease, D00378, Mobil Aviation Grease SHC 100 grease, D50005, or Mobil 28 grease, D00233, to the inner bearing [18], outer bearing [19], and the grease seal [17], grease seal [21].

CAUTION MAKE SURE THE CORRECT BEARING IS INSTALLED IN THE OUTSIDE OF THE WHEEL. INSTALLATION OF THE INNER BEARING IN THE OUTER BEARING WHEEL LOCATION CAN CAUSE WHEEL DAMAGE.

3) Install the bearings as follows:

a) Install the inner bearing [18] in the inner side of the wheel and the outer bearing [19] in the outer side of the wheel.

CAUTION MAKE SURE THAT YOU INSTALL THE CORRECT GREASE SEAL IN THE OUTER SIDE OF THE WHEEL. IF YOU INSTALL THE INNER GREASE SEAL IN THE OUTER GREASE SEAL LOCATION, YOU CAN CAUSE SEAL DAMAGE.

b) Install the grease seal [17] in the inner side of the wheel and the grease seal [21] in the outer side of the wheel.

4) Install the retaining ring [29] and retaining ring [20] on the two sides on the wheel.

SUBTASK 32-45-01-420-001

CAUTION DO NOT APPLY FORCE ON THE WHEEL HEAT SHIELDS WHEN YOU DO WORK AROUND THE WHEEL AND TIRE ASSEMBLY. A BENT HEAT SHIELD CAN CAUSE DAMAGE TO THE WHEEL OR THE BRAKE ASSEMBLY WHEN THE WHEEL MOVES.

(2) Do these steps to install the wheel and tire assembly [1]:

CAUTION: DO NOT APPLY GREASE TO THE AREA BETWEEN AXLE BEARINGS. HIGH TEMPERATURES CAN OCCUR IN THIS AREA DURING A LANDING, DAMAGE TO THE WHEELS, TIRES AND BRAKES CAN OCCUR.

(a) Apply a thin layer of Aeroshell 22 grease, D00378, Mobil Aviation Grease SHC 100 grease, D50005, or Mobil 28 grease, D00233 the inner diameter surface of the two bearings where they will touch the axle.

CAUTION: DO NOT APPLY GREASE TO THE AREA BETWEEN AXLE BEARINGS. HIGH TEMPERATURES CAN OCCUR IN THIS AREA DURING A LANDING, DAMAGE TO THE WHEELS, TIRES AND BRAKES CAN OCCUR.

(b) Apply a thin layer of Aeroshell 22 grease, D00378, Mobil Aviation Grease SHC 100 grease, D50005, or Mobil 28 grease, D00233, to the faces of the washer [2] and the nut [3], and to the axle threads.

(c) Apply a thin layer of Aeroshell 22 grease, D00378, Mobil Aviation Grease SHC 100 grease, D50005, or Mobil 28 grease, D00233, on the axle where the axle will touch the wheel bearings.

(d) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

(e) Release the parking brake.

CAUTION: MAKE SURE THAT THE BRAKE ROTORS ARE ALIGNED. IF THE DRIVE KEYS ON THE WHEEL HIT THE ROTORS DURING INSTALLATION, DAMAGE TO THE ROTORS CAN OCCUR.

(f) Align the brake disks.

(g) Make sure the thread protector assembly, of the main landing gear protector equipment, SPL-1854, is installed.

(h) Use the wheel/brake changer dolly, COM-1818 to install the wheel and tire assembly [1], and slide the wheel and tire assembly [1] into position on the axle.

(i) Remove the thread protector assembly, of the main landing gear protector equipment, SPL-1854, from the axle threads.

(j) Do these steps:

1) Install the washer [2].

2) Install the nut [3].

WARNING: DO NOT PUT FINGERS IN THE LIGHTENING HOLES OF THE WHEEL RETAINING NUT SOCKET TOOL WHEN YOU REMOVE OR INSTALL THE WHEEL RETAINING NUT. THIS CAN CAUSE INJURIES TO PERSONS.

3) Do these steps to tighten the nut [3] with the wheel retaining nut wrench adapter, SPL-1815:

a) While you turn the wheel, tighten the nut [3] to 500 ft-lb (678 N·m)-550 ft-lb (746 N·m).

b) Stop the wheel.

c) Loosen the nut [3] to approximately 10 ft-lb (14 N·m)-100 ft-lb (136 N·m).

NOTE: The torque 10 ft-lb (14 N·m)-100 ft-lb (136 N·m) of is a guideline. The intent is to keep the bearing seated. If nut is loosened to zero torque, repeat the previous steps to reseat the wheel.

d) While you turn the wheel, tighten the nut [3] to 200 ft-lb (271 N·m).

e) If the holes for bolt [6] for TPIS, or the holes for bolt [23] for TBMS, do not align, continue to tighten the nut [3], up to 6 degrees more, to align the holes.

(k) Do these steps to install the bolt [23]:

NOTE: The bolt [23] must go through the in axle assembly, the axle, and the slot in the nut [3].

1) Install the bolt [23] with the head to the inner side of the in axle assembly.

2) Install the washer [24] and the nut [25].

3) Tighten the bolt [23] to 75 in-lb (8 N·m)-85 in-lb (10 N·m) plus run-on torque.

NOTE: Check the self locking nut (STANDARD TORQUE VALUES - MAINTENANCE PRACTICES, PAGEBLOCK 20-11-00/201).

SUBTASK 32-45-01-200-001

(3) Inspect the tire pressure sensor/fill valve.

(a) Replace the tire pressure sensor/fill valve if the two staked halves of the tire pressure sensor/fill valve are loose or misaligned, do this task: TIRE AND BRAKE MONITORING SYSTEM (TBMS) TIRE PRESSURE SENSOR/FILL VALVE - REMOVAL/INSTALLATION, PAGEBLOCK 32-49-05/401.

SUBTASK 32-45-01-420-004

(4) Do these steps to install the TBMS hubcap assembly [26] on the wheel:

(a) Install the hubcap assembly [26] in its position on the wheel and align the index pin with the hole in the wheel.

(b) Tighten the clamp [27] to 60 in-lb (7 N·m)-75 in-lb (8 N·m).

(c) Install the relay transformer [28] onto the tire pressure sensor/fill valve.

NOTE: Align the relay transformer on the tire pressure sensor/fill valve to make sure the cable run is as smooth as possible.

(d) Install the washer and the nut on the tire pressure sensor fill valve. Tighten the nut to 87 in-lb (10 N·m)-93 in-lb (11 N·m).

(e) Install the lockwire on the nut.

SUBTASK 32-45-01-860-004

(5) Remove the safety tag and close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
M	19	C32617	LG TIRE PRESSURE INDICATOR

G. Main Gear Wheel and Tire Installation Test

SUBTASK 32-45-01-730-001

(1) Do this task: Landing Gear Tire Pressure Check, TASK 12-15-03-780-801.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-45-01-580-004

(1) Do this task: Lower the Airplane Off of the Jacks, TASK 07-11-01-580-805

SUBTASK 32-45-01-480-004

WARNING	MAKE SURE THAT THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER, THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT

(2) Do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

END OF TASK

NOSE LANDING GEAR WHEEL AND TIRE ASSEMBLY - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

> **WARNING**
> WHEEL AND TIRE ASSEMBLY WEIGHS APPROXIMATELY 250 LBS. HANDLE WITH PROPER EQUIPMENT AND AT LEAST 2 PERSON TO PREVENT PERSONNEL INJURY OR EQUIPMENT DAMAGE.

(1) A removal of the nose landing gear wheel and tire assembly

(2) An installation of the nose landing gear wheel and tire assembly.

B. If you are changing wheel and tire assemblies on the nose landing gear with two flat tires, you might not be able to lift the axle with normal jacks, do this task: Nose Landing Gear Axle Lifting for Deflated Tires - Emergency Jacking, TASK 07-11-03-580-803.

C. When you replace a nose wheel and tire assembly, you can replace the wheel and tire assembly on the other side. Differences in the diameter between new and worn tires can contribute to nose landing gear vibration. You can decrease this if you install tires that have equal pressures, nearly the same inflated diameters, and matching supplier part numbers.

TASK 32-45-02-000-801

2. Nose Landing Gear Wheel and Tire Assembly Removal

(Figure 401 or Figure 402)

A. References

Reference	Title
07-11-03-580-801	Lift the Airplane with Axle Jacks (P/B 201)
07-11-03-580-803	Nose Landing Gear Axle Lifting for Deflated Tires - Emergency Jacking (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-45-03-700-801	Wheels Fast Check (Wheel Installed on the Airplane) (P/B 601)
32-45-04-700-801	Tires Inspection (P/B 601)
32-45-08-020-802	Nose Landing Gear Hubcap - Removal (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1524	Deflator - Tire, Valve Core Removal and Installation (Large Bore) Part #: 320008A-SO Supplier: SFN11 Part #: 968RB-1 Supplier: $1315 Opt Part #: 320008A Supplier: SFN11

(Continued)

Reference	Description
COM-1818	Dolly - Wheel/Brake Change Part #: 175M Supplier: 94861 Part #: 175S-2 Supplier: 94861 Part #: 9092-016 Supplier: 00994 Part #: IA3201A-500 Supplier: 3D5B2 Part #: MH12-004 Supplier: D2029 Part #: MH12-005 Supplier: D2029 Opt Part #: 175 Supplier: 94861 Opt Part #: 8436-012 Supplier: 00994 Opt Part #: 9092-010 Supplier: 00994 Opt Part #: 9092-015 Supplier: 00994 Opt Part #: MH12-003 Supplier: D2029 Opt Part #: PF32-002-1 Supplier: 3D5B2
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1824	Wrench - Axle Nut, NLG Part #: A32045-114 Supplier: 81205 Opt Part #: A32045-112 Supplier: 81205
SPL-9151	PROTECTOR EQUIPMENT - AXLE AND THREAD, NLG Part #: J32007-1 Supplier: 81205

C. Location Zones

Zone	Area
711	Nose Landing Gear

D. Prepare for the Removal

SUBTASK 32-45-02-480-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-45-02-480-002

(2) Install the NLG towing lever pin, SPL-1499.

NOTE: This will lock the nose wheel steering so that the nose wheels can not turn when you remove and install the nose wheel and tire assembly.

SUBTASK 32-45-02-580-002

WARNING REMOVE ONLY ONE OF THE WHEEL AND TIRE ASSEMBLIES FROM THE NOSE GEAR AT A TIME. IF YOU REMOVE THE TWO WHEEL AND TIRE ASSEMBLIES AT THE SAME TIME, STRUCTURAL DAMAGE AND INJURIES TO PERSONNEL CAN OCCUR.

(3) For the nose gear, do this task: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801.

(a) If you are changing the two wheel and tire assemblies nose landing gear because they are both flat, you might not be able to lift the axle with normal jacks, do this task: Nose Landing Gear Axle Lifting for Deflated Tires - Emergency Jacking, TASK 07-11-03-580-803.

SUBTASK 32-45-02-840-002

WARNING: DEFLATE THE TIRE AS REQUIRED BEFORE YOU REMOVE THE WHEEL AND TIRE ASSEMBLY. AIR PRESSURE CAN CAUSE AN EXPLOSION OF THE DAMAGED WHEEL AND TIRE COMPONENTS. INJURIES TO PERSONNEL OR DAMAGE TO EQUIPMENT CAN OCCUR.

(4) Do one of the steps that follow:

(a) Inspect the wheel and tire assembly [2]:

1) Do this task: Wheels Fast Check (Wheel Installed on the Airplane), TASK 32-45-03-700-801.

2) Do this task: Tires Inspection, TASK 32-45-04-700-801.

WARNING: MAKE SURE THAT ALL PERSONNEL ARE CLEAR OF THE INFLATION VALVE ASSEMBLY PATH WHILE YOU REMOVE IT. IF THE INFLATION VALVE ASSEMBLY EJECTS WHILE YOU REMOVE IT, INJURY TO PERSONNEL CAN OCCUR.

(b) Deflate the tire with the large bore tire deflator, COM-1524.

CAUTION: IF THE WHEEL AND TIRE ARE NOT DAMAGED, MAKE SURE TO LEAVE ABOUT 50 PSI OR 25% OF THE SERVICE PRESSURE IN THE TIRE. THIS WILL PREVENT DAMAGE TO THE TIRE WHEN THE WHEEL AND TIRE ARE TRANSPORTED.

1) Make sure that there is about 50 psi or 25% of the service pressure in the tire.

(c) If you cannot use the usual procedure to deflate the tire because the valve core is damaged, do these steps:

1) Turn the valve assembly slowly in a counterclockwise direction until there is gas leakage through the boss.

2) At the same time, push lightly on the valve assembly.

3) After all of the gas has been released, remove the valve assembly from the tire.

E. Nose Gear Wheel and Tire Removal

SUBTASK 32-45-02-420-004

(1) Do this task: Nose Landing Gear Hubcap - Removal, TASK 32-45-08-020-802.

SUBTASK 32-45-02-020-003

WARNING: REMOVE ONLY ONE OF THE WHEEL AND TIRE ASSEMBLIES FROM THE NOSE GEAR AT A TIME. IF YOU REMOVE THE TWO WHEEL AND TIRE ASSEMBLIES AT THE SAME TIME, STRUCTURAL DAMAGE AND INJURIES TO PERSONNEL CAN OCCUR.

(WARNING PRECEDES)

WARNING	DO NOT PUT FINGERS IN THE LIGHTENING HOLES OF THE WHEEL RETAINING NUT SOCKET TOOL WHEN YOU REMOVE OR INSTALL THE WHEEL RETAINING NUT. THIS CAN CAUSE INJURIES TO PERSONS.

(2) Do these steps to remove the wheel and tire assembly [2]:

(a) Remove the nut [14], washer [15], and bolt [8].

(b) Use the NLG axle nut wrench, SPL-1824, to remove the nut [5].

(c) Remove the washer [4].

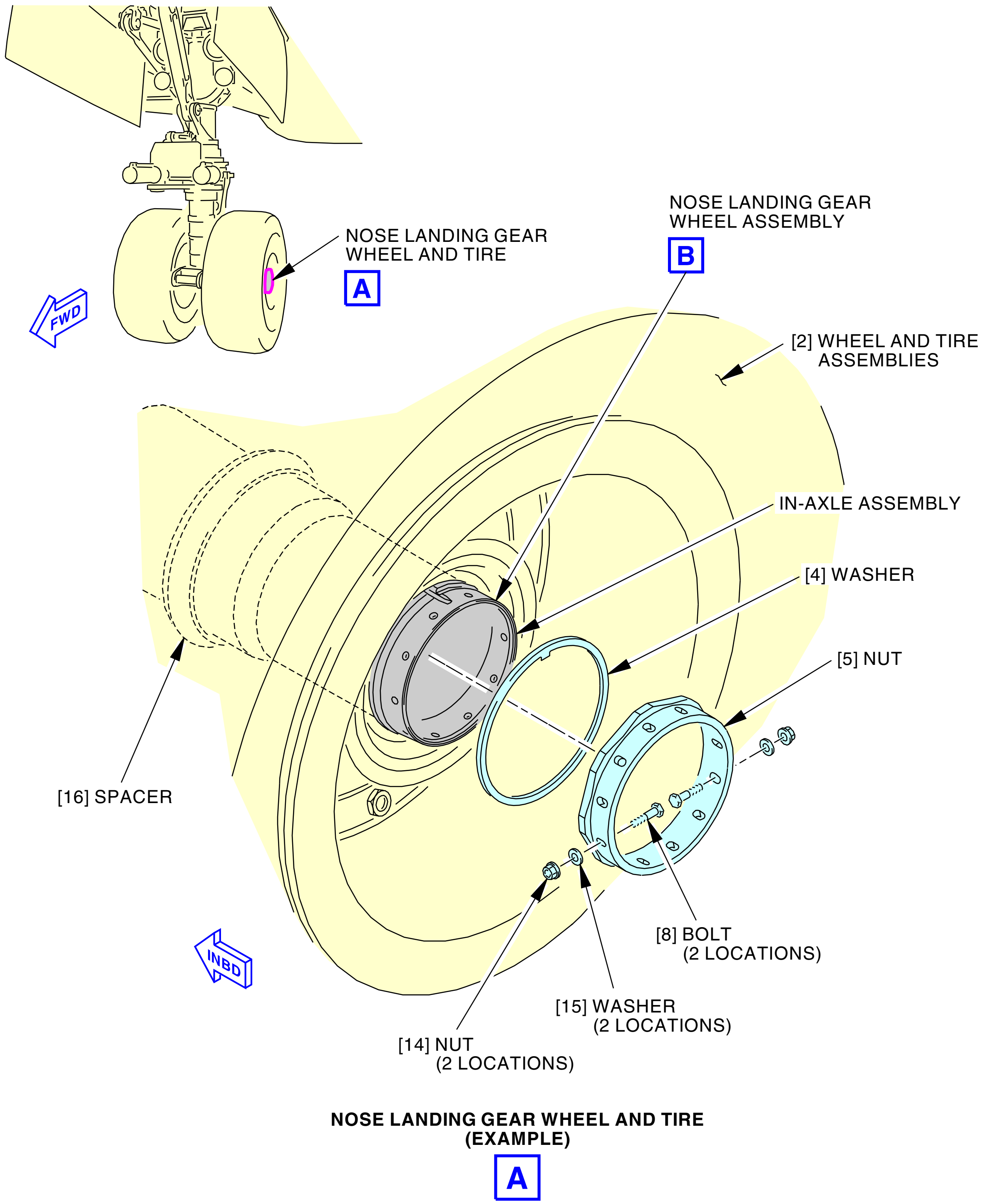
(d) Install the thread protector assembly of the axle and thread protector, SPL-9151, on the axle threads.

(e) Use the wheel/brake changer dolly, COM-1818, to lift and remove the wheel and tire assembly [2].

(f) Mark the reason for the tire removal on the tire to aid the inspectors when they examine the tire.

(g) Install the axle protector assembly of the axle and thread protector, SPL-9151, on the axle.

END OF TASK



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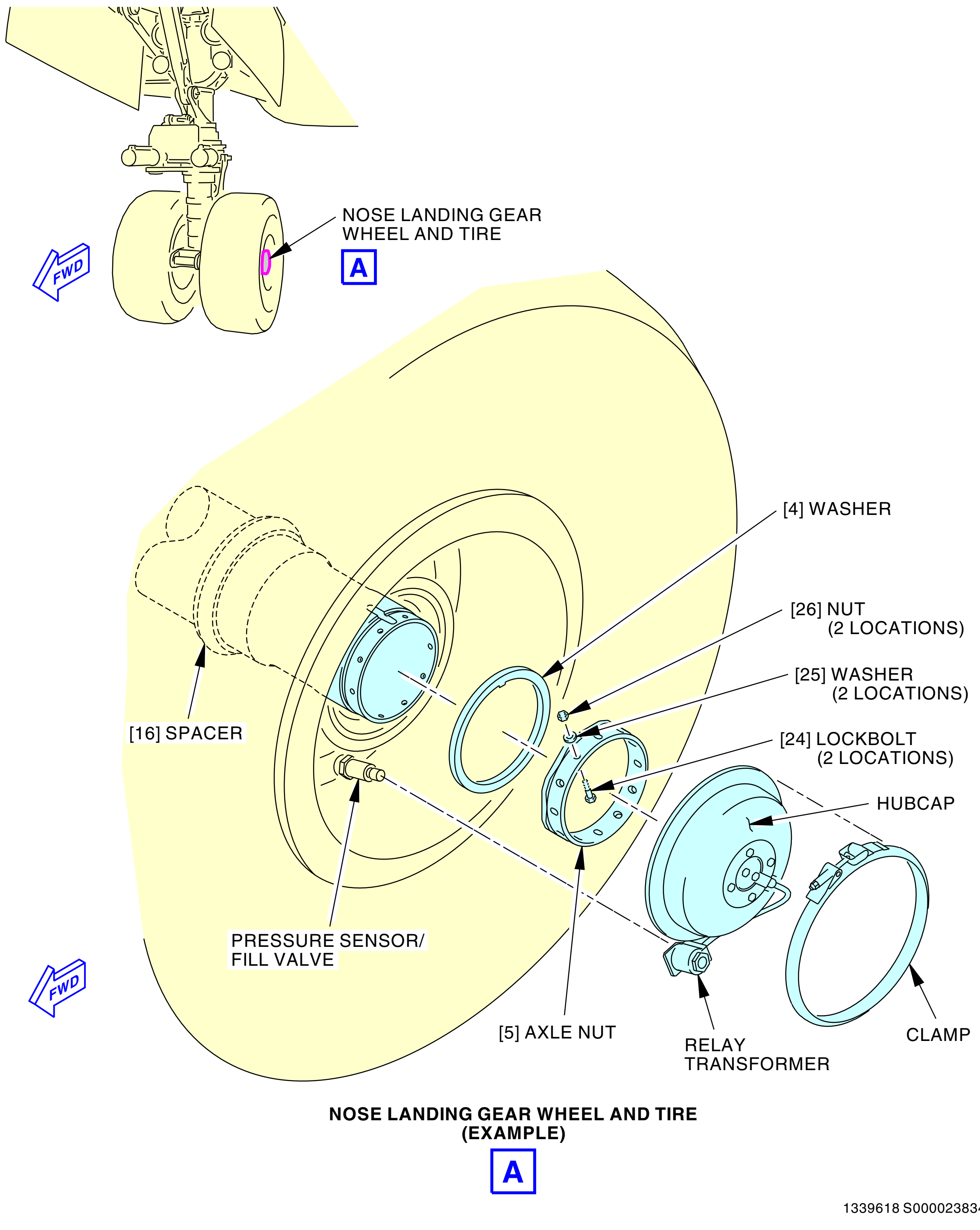
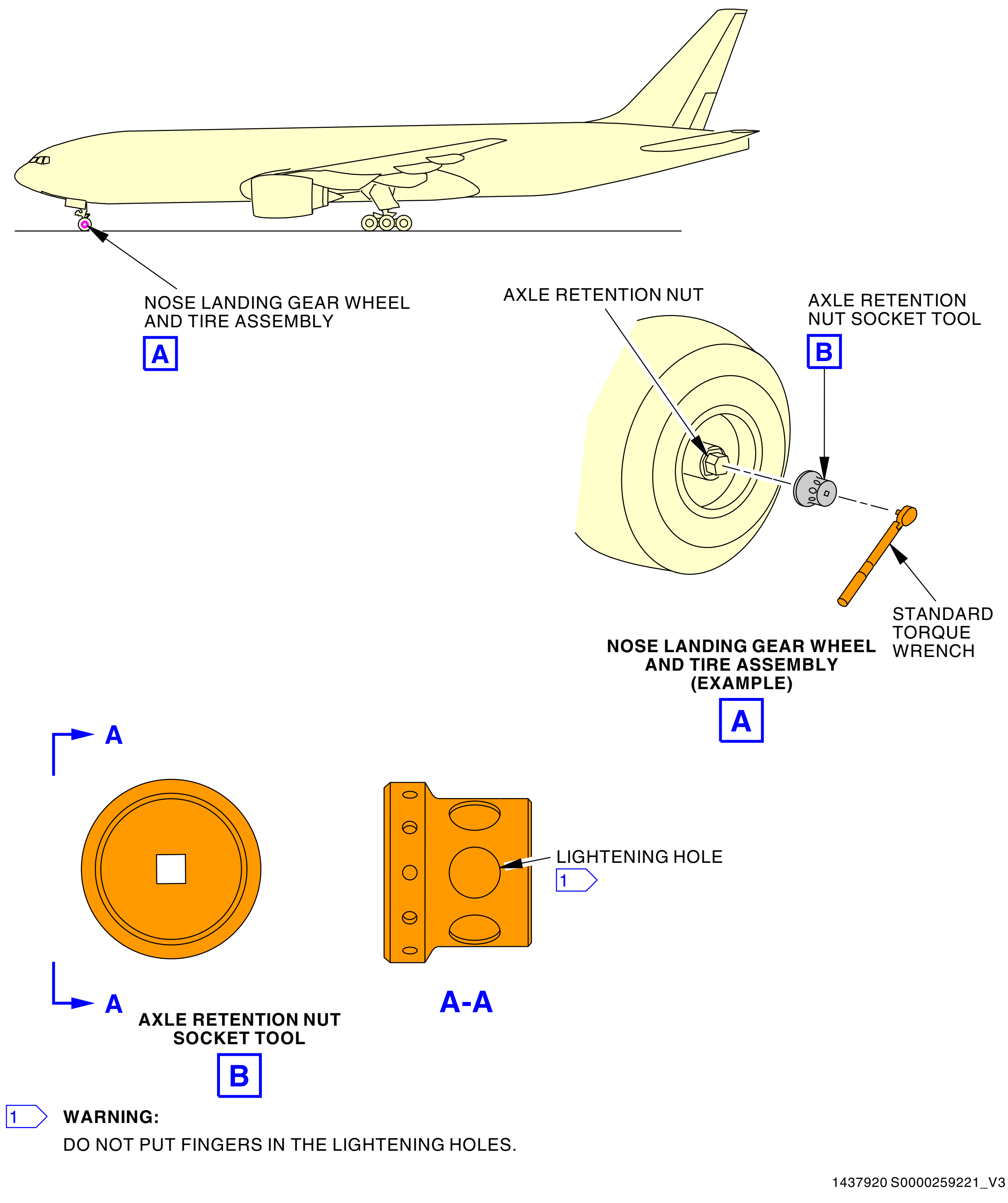
Nose Landing Gear Wheel and Tire Assembly Installation
Figure 401/32-45-02-990-802 (Sheet 1 of 2)



Nose Landing Gear Wheel and Tire Assembly Installation
Figure 401/32-45-02-990-802 (Sheet 2 of 2)



Axle Retention Nut Socket Tool
Figure 402/32-45-02-990-803

TASK 32-45-02-400-801

3. **Nose Landing Gear Wheel and Tire Assembly Installation**

(Figure 401 or Figure 402)

A. **References**

Reference	Title
07-11-03-580-801	Lift the Airplane with Axle Jacks (P/B 201)
12-15-03-610-802	Tire Pressure Indication System Check (P/B 301)
12-15-03-780-801	Landing Gear Tire Pressure Check (P/B 301)
20-11-00 P/B 201	STANDARD TORQUE VALUES - MAINTENANCE PRACTICES
24-22-00-860-805	Supply Electrical Power (P/B 201)
32-45-03-700-802	Wheels Inspection (Wheel Removed from the Airplane) (P/B 601)
32-45-04-700-801	Tires Inspection (P/B 601)
32-45-08 P/B 401	Hubcap Removal/Installation

B. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1818	Dolly - Wheel/Brake Change Part #: 175M Supplier: 94861 Part #: 175S-2 Supplier: 94861 Part #: 9092-016 Supplier: 00994 Part #: IA3201A-500 Supplier: 3D5B2 Part #: MH12-004 Supplier: D2029 Part #: MH12-005 Supplier: D2029 Opt Part #: 175 Supplier: 94861 Opt Part #: 8436-012 Supplier: 00994 Opt Part #: 9092-010 Supplier: 00994 Opt Part #: 9092-015 Supplier: 00994 Opt Part #: MH12-003 Supplier: D2029 Opt Part #: PF32-002-1 Supplier: 3D5B2
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1824	Wrench - Axle Nut, NLG Part #: A32045-114 Supplier: 81205 Opt Part #: A32045-112 Supplier: 81205
SPL-9151	PROTECTOR EQUIPMENT - AXLE AND THREAD, NLG Part #: J32007-1 Supplier: 81205

C. **Consumable Materials**

Reference	Description	Specification
D00233	Grease - Aircraft, General Purpose, Wide Temperature - Mobil 28	MIL-PRF-81322
D00378	Grease - Aircraft, General Purpose, Wide Temperature - Aeroshell 22	MIL-PRF-81322

(Continued)

Reference	Description	Specification
D50005	Grease - Wheel Bearing - Mobil Aviation Grease SHC 100	

D. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Wheel and tire assembly	32-45-02-15-005	ARO ALL

E. **Location Zones**

Zone	Area
711	Nose Landing Gear

F. **Nose Landing Gear Wheel and Tire Installation**

SUBTASK 32-45-02-840-001

(1) Do these steps to prepare for installation:

(a) Remove the axle protector assembly of the axle and thread protector, SPL-9151, from the axle.

(b) Remove all the old grease from the axle.

(c) If the wheel is not new, do this task: Wheels Inspection (Wheel Removed from the Airplane), TASK 32-45-03-700-802.

(d) If the tire is not new, do this task: Tires Inspection, TASK 32-45-04-700-801.

(e) Do these steps if the wheel assembly (the bearings, the seals, and other parts) need to be installed:

1) Inspect the bearings, the seals, and other parts of the wheel assembly, do this task: Wheels Inspection (Wheel Removed from the Airplane), TASK 32-45-03-700-802

2) Apply Aeroshell 22 grease, D00378, Mobil Aviation Grease SHC 100 grease, D50005, or Mobil 28 grease, D00233 to the inner bearing [19], outer bearing [20], grease seal [18], and grease seal [21].

CAUTION MAKE SURE THE CORRECT BEARING IS INSTALLED IN THE OUTSIDE OF THE WHEEL. INSTALLATION OF THE INNER BEARING IN THE OUTER BEARING WHEEL LOCATION CAN CAUSE WHEEL DAMAGE.

3) Install the bearings as follows:

a) Install the inner bearing [19] in the inner side of the wheel and the outer bearing [20] in the outer side of the wheel.

CAUTION MAKE SURE THAT YOU INSTALL THE CORRECT GREASE SEAL IN THE OUTER SIDE OF THE WHEEL. IF YOU INSTALL THE INNER GREASE SEAL IN THE OUTER GREASE SEAL LOCATION, YOU CAN CAUSE SEAL DAMAGE.

b) Install the inner grease seal [18] in the inner side of the wheel and the outer grease seal [21] in the outer side of the wheel.

4) Install the retaining ring [17] and ring [22] on the two sides on the wheel.

SUBTASK 32-45-02-420-001

(2) Do these steps to install the wheel and tire assembly [2]:

CAUTION

MAKE SURE THAT THE SPACER IS CORRECTLY INSTALLED ON THE AXLE. THE SPACER CAN MOVE WHEN THE WHEEL AND TIRE ASSEMBLY IS REMOVED. IF IT IS NOT IN ITS CORRECT POSITION, THE WHEEL AND TIRE ASSEMBLY WILL NOT INSTALL CORRECTLY. THIS CAN CAUSE DAMAGE TO EQUIPMENT.

(a) Make sure the axle spacer [16] is correctly installed on the axle.

NOTE: The axle spacer [16] is inboard of the wheel on the axle. The inner bearing will touch the spacer when the wheel is installed.

(b) Apply a thin layer ofAeroshell 22 grease, D00378, Mobil Aviation Grease SHC 100 grease, D50005, or Mobil 28 grease, D00233 on the inner diameter surface of the two bearings where they will touch the axles.

(c) Apply a thin layer of Aeroshell 22 grease, D00378, Mobil Aviation Grease SHC 100 grease, D50005, or Mobil 28 grease, D00233, to the faces of the nut [5], washer [4], and the axle threads.

(d) Apply a thin layer of Aeroshell 22 grease, D00378, Mobil Aviation Grease SHC 100 grease, D50005, or Mobil 28 grease, D00233, on the axle where the axle will touch the wheel bearings and to the faces of the axle spacer [16].

(e) Make sure the thread protector assembly of the axle and thread protector, SPL-9151, is installed on the axle threads.

(f) Use the wheel/brake changer dolly, COM-1818, to lift and install the wheel and tire assembly [2].

(g) Remove the thread protector assembly of the axle and thread protector, SPL-9151 from the axle.

(h) Do these steps to install the nut [5]:

1) Install the washer [4] on the axle.

2) Install the nut [5] with your hand and tighten it until the nut [5] is against the washer [4].

NOTE: Make sure the washer [4] stays in its position on the axle as you install the nut [5].

NOTE: If the washer [4] moves out of its position on the axle, you will not be able to fully install the nut [5].

3) If the washer [4] continuously moves into the thread relief while you tighten the nut [5], you can do the steps that follow to fully install the wheel on the axle.

a) Remove the nut [5] and the washer [4] from the axle.

b) Install the nut [5] on the axle.

c) Tighten the nut [5] until the wheel and tire assembly [2] is fully installed on the axle.

NOTE: Make sure you do not tighten the nut [5] onto the part of the axle that does not have threads.

d) Remove the nut [5] from the axle.

e) Install the washer [4] on the axle.

f) Install the nut [5] with your hand and tighten it until the nut [5] is against the washer [4].

NOTE: Make sure the washer [4] stays in its position on the axle as you install the nut [5].

WARNING: DO NOT PUT FINGERS IN THE LIGHTENING HOLES OF THE WHEEL RETAINING NUT SOCKET TOOL WHEN YOU REMOVE OR INSTALL THE WHEEL RETAINING NUT. THIS CAN CAUSE INJURIES TO PERSONS.

4) Do these steps to tighten the nut [5] with the NLG axle nut wrench, SPL-1824:

NOTE: When the nut [5] is installed, it is designed to be flush with the axle or overhang the axle by one or two threads. This protects the axle (and inner cylinder) from damage.

NOTE: After you tighten the nut [5], if you can install the bolt [8] as instructed then you have successfully installed the nut [5].

a) While you turn the wheel, tighten the nut [5] to 500 ft-lb (678 N·m)-550 ft-lb (746 N·m).

b) Stop the wheel and tire assembly [2].

c) Loosen the nut [5] to approximately 10 ft-lb (14 N·m)-100 ft-lb (136 N·m).

NOTE: The torque 10 ft-lb (14 N·m)-100 ft-lb (136 N·m) of is a guideline. The intent is to keep the bearing seated. If nut is loosened to zero torque, repeat the previous steps to reseat the wheel.

d) While you turn the wheel and tire assembly [2], tighten the nut [5] to 200 ft-lb (271 N·m).

e) If the holes for the bolt [8] do not align, continue to tighten the nut [5], up to 6 degrees more, to align the holes.

(i) Do these steps to install the bolt [8]:

NOTE: The bolt [8] must go through the in-axle assembly, the axle, the slot, and the nut [5].

1) Install the bolt [8] with the head to inner side of the in-axle assembly.

2) Install the washer [15] and nut [14].

3) Tighten the bolt [8] to 75 in-lb (8 N·m)-85 in-lb (10 N·m) plus run-on torque.

NOTE: Check the self locking nut (STANDARD TORQUE VALUES - MAINTENANCE PRACTICES, PAGEBLOCK 20-11-00/201).

SUBTASK 32-45-02-420-005

(3) Do this task: Hubcap Removal/Installation, PAGEBLOCK 32-45-08/401

SUBTASK 32-45-02-580-001

WARNING: MAKE SURE THE AREA AROUND THE TIRES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE AREA AROUND THE TIRES IS NOT CLEAR, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(4) Lower the nose gear and remove the jacks (TASK 07-11-03-580-801).

G. Nose Landing Gear Wheel and Tire Installation Test

SUBTASK 32-45-02-860-003

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-45-02-710-001

(2) Do these steps to do a test of the tire pressure indication system:

(a) Push the GEAR button on the multi-function display (MFD) select panel.

NOTE: The MFD is above the control lever for the landing gear in the flight compartment.

(b) Make sure that the correct tire pressures are shown for each of the 12 main landing gear tires and the 2 nose landing gear tires on the Landing Gear synoptic page.

NOTE: You can get the correct tire pressures from the landing gear tire servicing procedure (TASK 12-15-03-780-801).

(c) Push the STAT button on the MFD select panel.

(d) Make sure that TIRE PRESS SYS does not show on the MFD Landing Gear Status display.

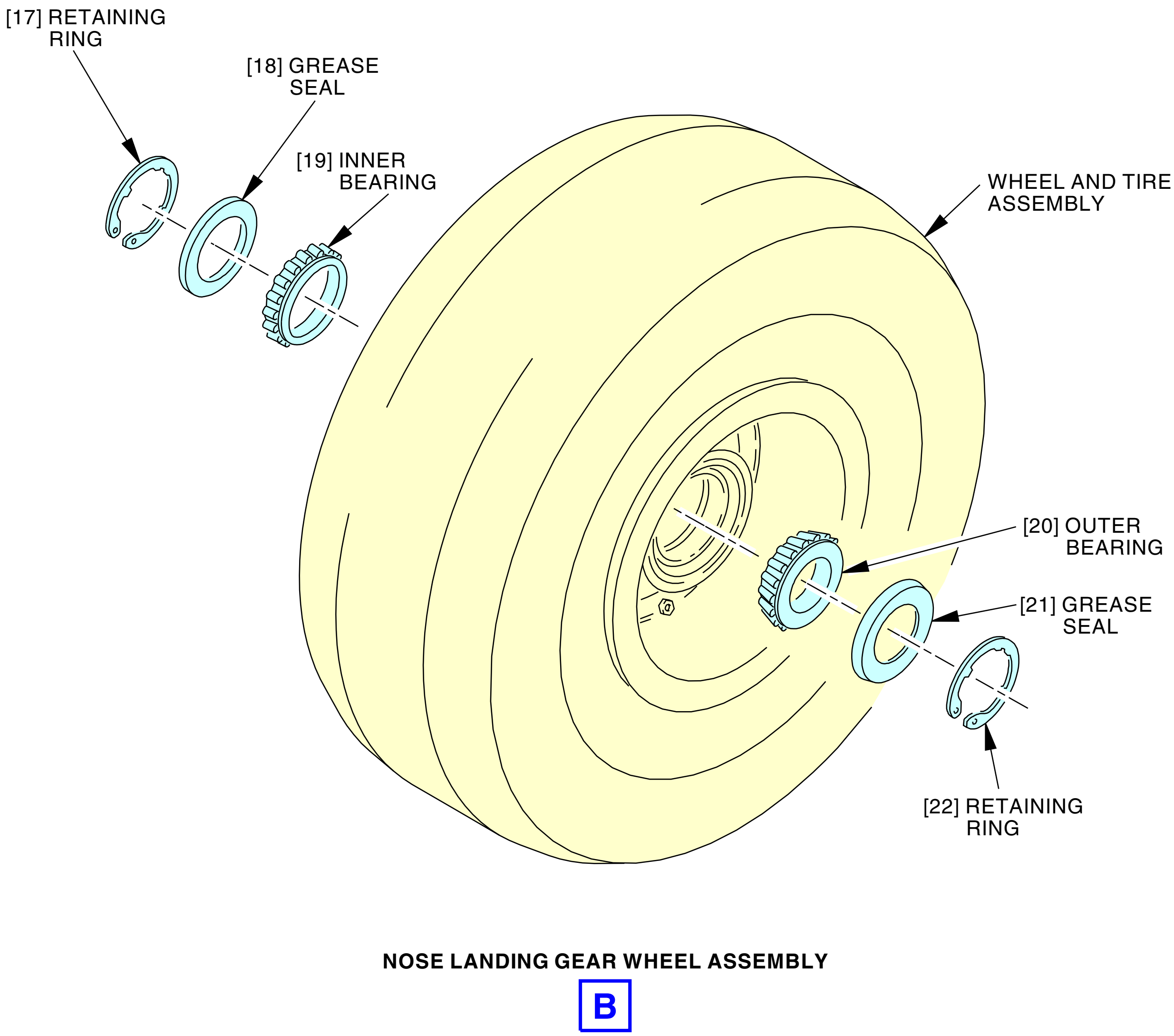
1) If the TIRE PRESS SYS message does not show and the tire pressures shown are not the correct tire pressures, do this task: Landing Gear Tire Pressure Check, TASK 12-15-03-780-801.

(e) Cross check the system with a tire pressure gage, do this task: Tire Pressure Indication System Check, TASK 12-15-03-610-802.

SUBTASK 32-45-02-080-001

(3) Remove the NLG towing lever pin, SPL-1499.

——— END OF TASK ———



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Nose Landing Gear Wheel and Tire Assembly Installation
Figure 403/32-45-02-990-801

WHEELS - INSPECTION/CHECK

1. **General**
   A. This procedure contains scheduled maintenance task data.
   B. This procedure has these tasks:
      (1) A fast check of the wheels
      (2) An inspection of the wheels.

TASK 32-45-03-700-801

2. **Wheels Fast Check (Wheel Installed on the Airplane)**

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-45-01-000-801	Main Landing Gear Wheel and Tire Assembly Removal (P/B 401)
32-45-01-400-801	Main Landing Gear Wheel and Tire Assembly Installation (P/B 401)
32-45-02-000-801	Nose Landing Gear Wheel and Tire Assembly Removal (P/B 401)
32-45-02-400-801	Nose Landing Gear Wheel and Tire Assembly Installation (P/B 401)
32-45-07-000-801	Main Landing Gear Brake Removal (P/B 401)
32-45-07-400-801	Main Landing Gear Brake Installation (P/B 401)

B. Tools/Equipment

Reference	Description
STD-600	Mirror - Inspection

C. Location Zones

Zone	Area
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Procedure

SUBTASK 32-45-03-480-001

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-45-03-480-002

WARNING	MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-45-03-210-009

(3) Use a inspection mirror, STD-600 to inspect the inboard side of the wheels for damage.

SUBTASK 32-45-03-210-001

(4) Examine the wheels for these forms of damage:

(a) breaks

(b) corrosion

(c) cracks

(d) distortion

(e) flaked or blistered paint

(f) heat shield damage

(g) loose, damaged, or missing tiebolts and tiebolt nuts

(h) nicks or gouges

(i) overheat damage

(j) scratches along the rim of a wheel that show that the wheel rolled without a tire.

(k) worn plating

(l) other damage.

SUBTASK 32-45-03-900-001

(5) If you found damage on a wheel of the nose landing gear, then replace that wheel.

(a) Do this task: Nose Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-02-000-801

(b) Do this task: Nose Landing Gear Wheel and Tire Assembly Installation, TASK 32-45-02-400-801

SUBTASK 32-45-03-900-002

(6) If you found damage on a wheel of the main landing gear, then replace that wheel.

(a) Do this task: Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-01-000-801

(b) Do this task: Main Landing Gear Wheel and Tire Assembly Installation, TASK 32-45-01-400-801

SUBTASK 32-45-03-210-011

(7) If you removed a wheel on the main landing gear, examine the brake for that wheel for damage.

SUBTASK 32-45-03-900-003

(8) If you found damage on a brake of the main landing gear, then replace that brake.

(a) Do this task: Main Landing Gear Brake Removal, TASK 32-45-07-000-801

(b) Do this task: Main Landing Gear Brake Installation, TASK 32-45-07-400-801

SUBTASK 32-45-03-480-003

WARNING

MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER, THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(9) Do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

END OF TASK

TASK 32-45-03-700-802

3. **Wheels Inspection (Wheel Removed from the Airplane)**
(Figure 601, Figure 602)

A. **Location Zones**

Zone	Area
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

B. **Procedure**

SUBTASK 32-45-03-210-003

(1) Examine the wheel for:

(a) breaks

(b) corrosion

(c) cracks

(d) distortion

(e) flaked or blistered paint

(f) heat shield damage

(g) loose, damaged, or missing tiebolts and tiebolt nuts

(h) nicks or gouges

(i) overheat damage

(j) scratches along the rim of a wheel that show the wheel rolled without a tire

(k) worn plating

(l) other damage.

SUBTASK 32-45-03-210-004

(2) Examine the grease seals for:

(a) nicks

(b) gouges

(c) overheat damage.

SUBTASK 32-45-03-210-005

(3) Examine the bearing and bearing surfaces for:

(a) distortion

(b) flat spots

(c) sufficient lubrication

(d) wear.

SUBTASK 32-45-03-210-006

(4) Examine the brake keyway inserts for wear.

SUBTASK 32-45-03-210-007

(5) Examine the wheel heat shield for:

(a) cracks

(b) wear

(c) other damage.

SUBTASK 32-45-03-210-008

(6) Make sure the wheel balance weights are tightly installed.

SUBTASK 32-45-03-220-001

(7) If a wheel has a blown thermal fuse, do these steps:

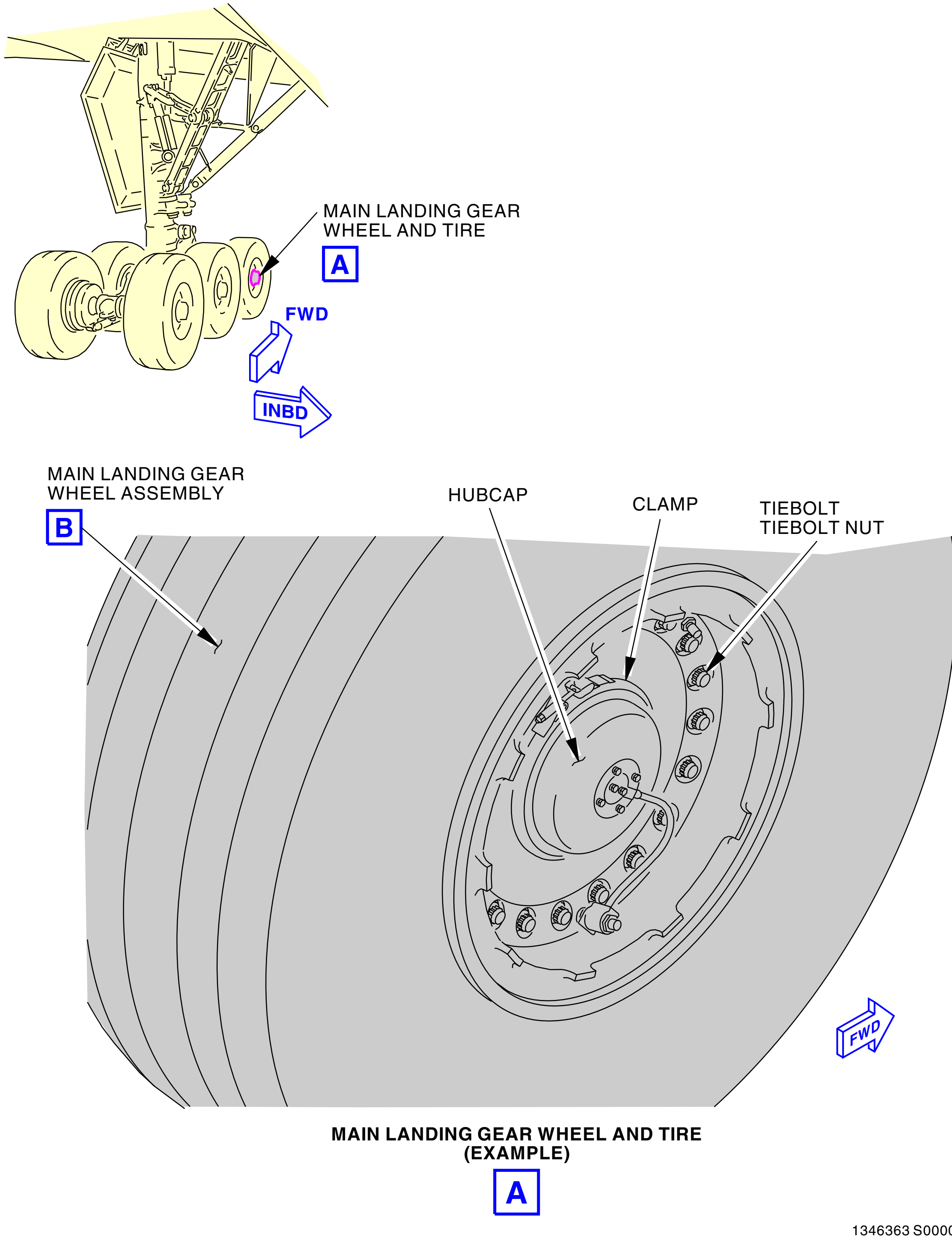
(a) Put a tag on the wheel for a blown fuse.

(b) Measure the largest and smallest external diameter for each wheel half.

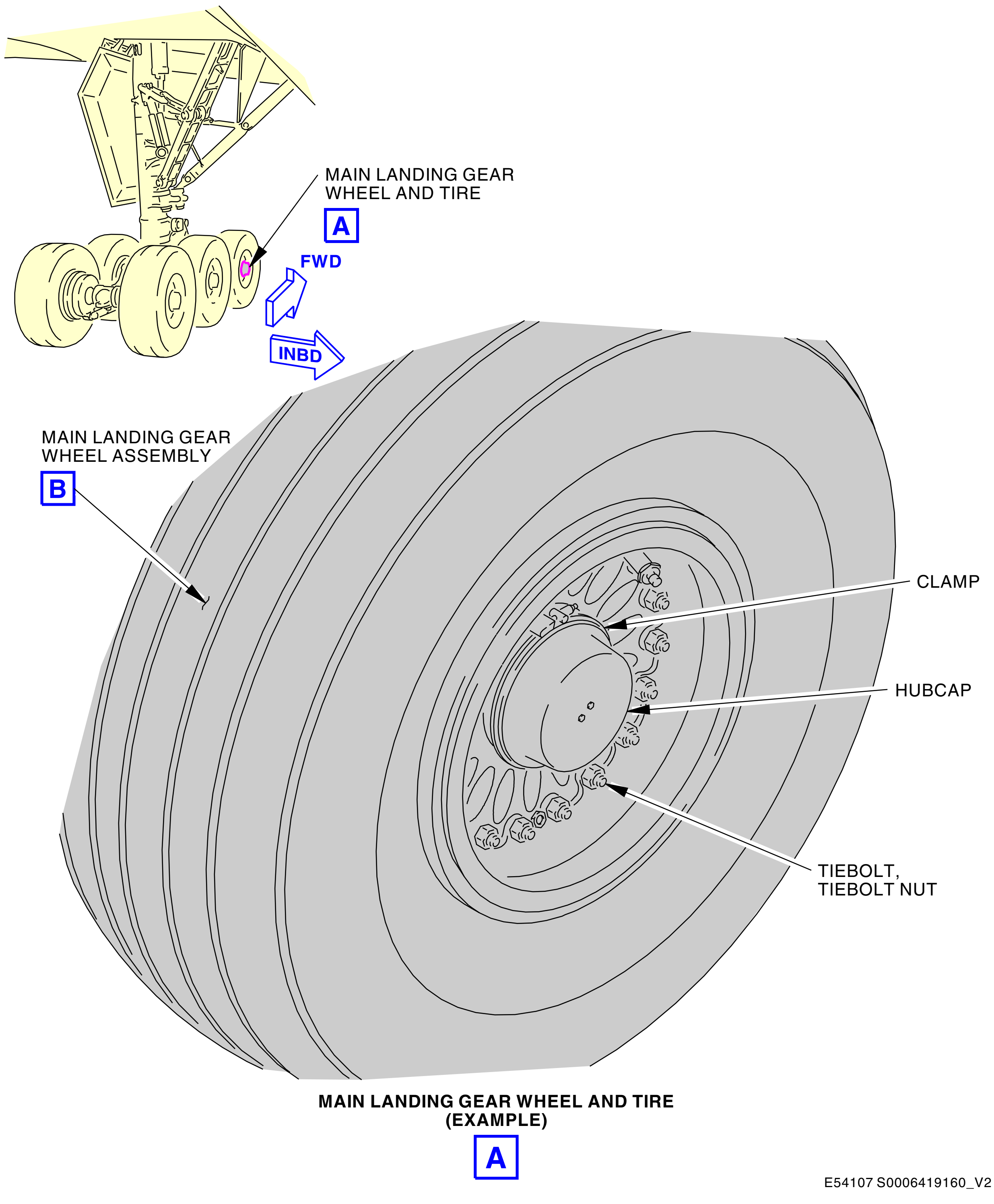
(c) Make sure the difference between the largest and smallest external diameter is not more than 0.020 inches (0.508 mm).

(d) Tighten the thermal fuse retainer to the specified torque given in the component maintenance manual.

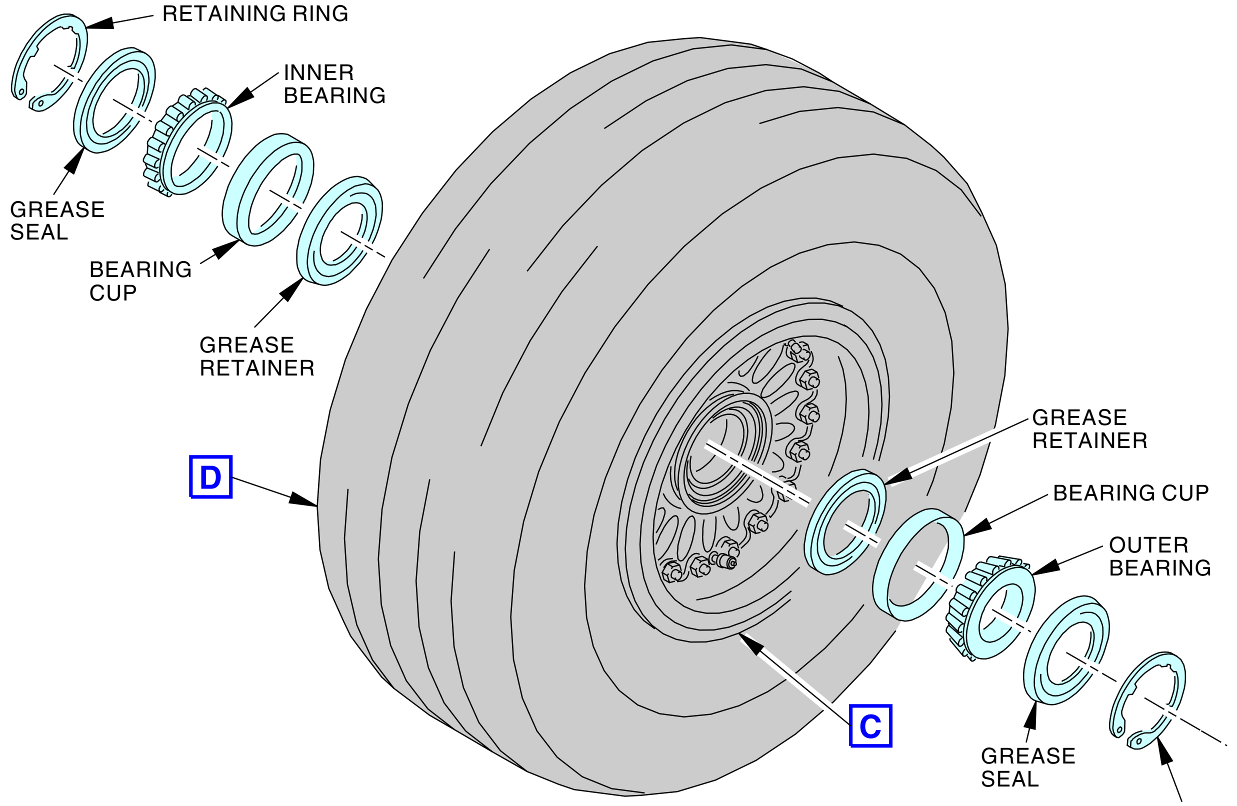
END OF TASK



Main Landing Gear Wheel Assembly Inspection
Figure 601/32-45-03-990-801 (Sheet 1 of 4)

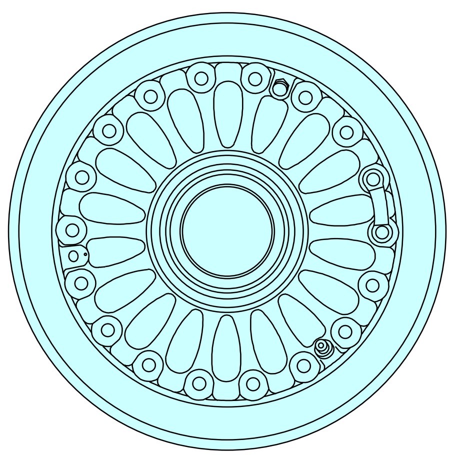


Main Landing Gear Wheel Assembly Inspection
Figure 601/32-45-03-990-801 (Sheet 2 of 4)



MAIN LANDING GEAR WHEEL ASSEMBLY

B



MAIN LANDING GEAR WHEEL
(FRONT VIEW)

C

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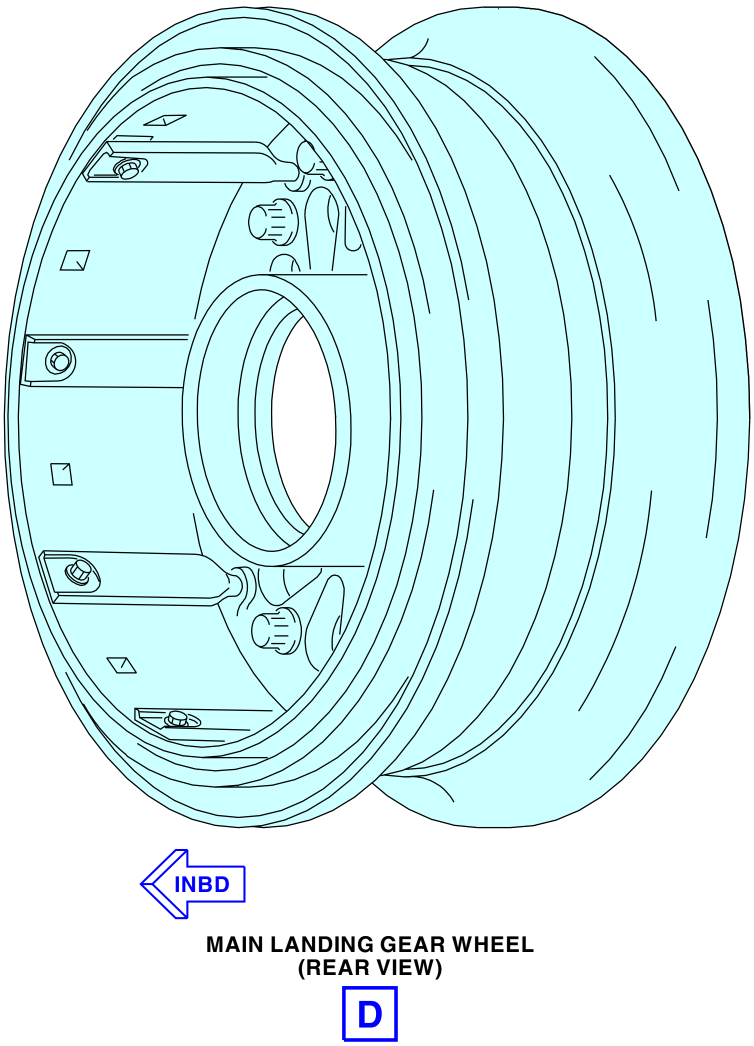
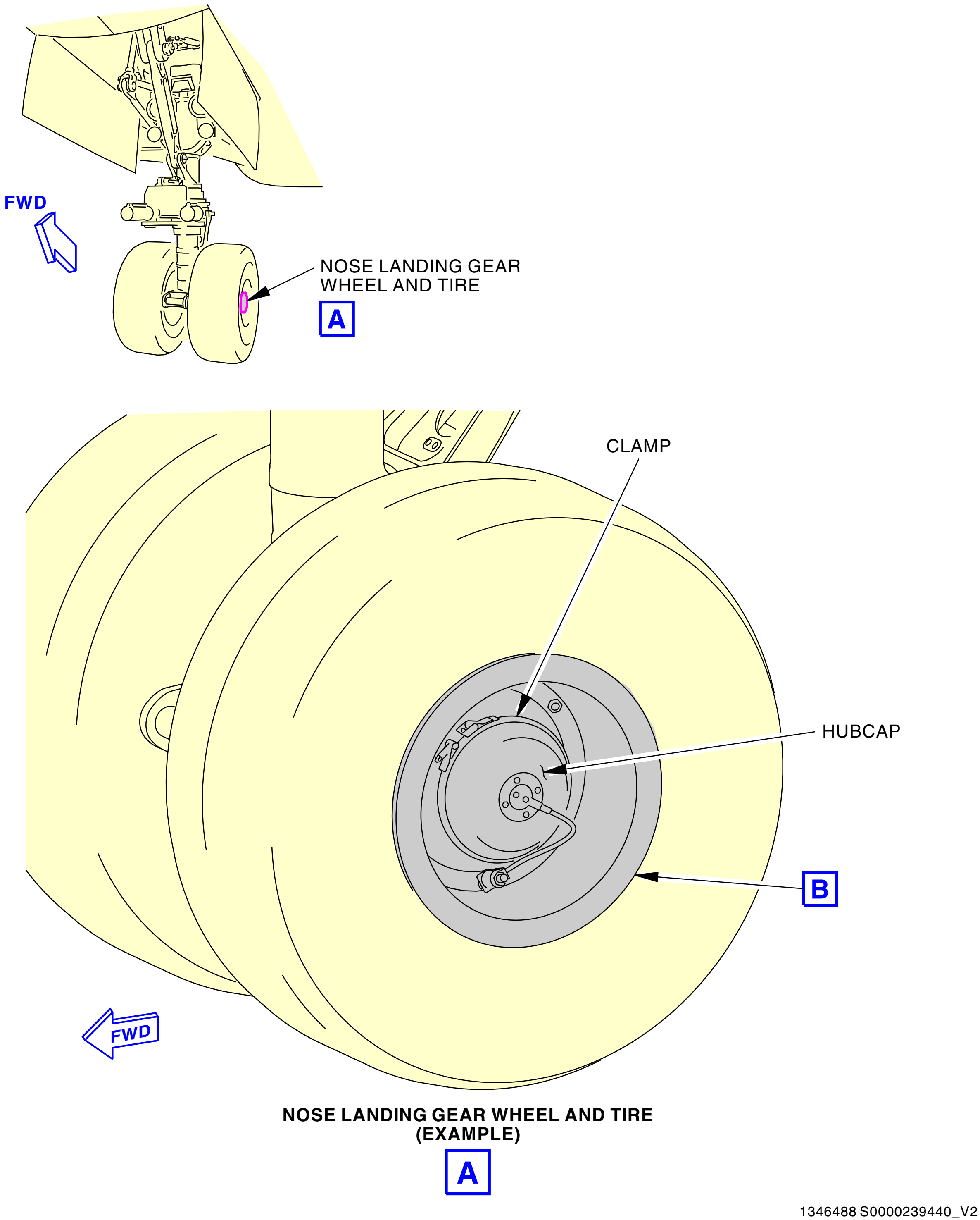
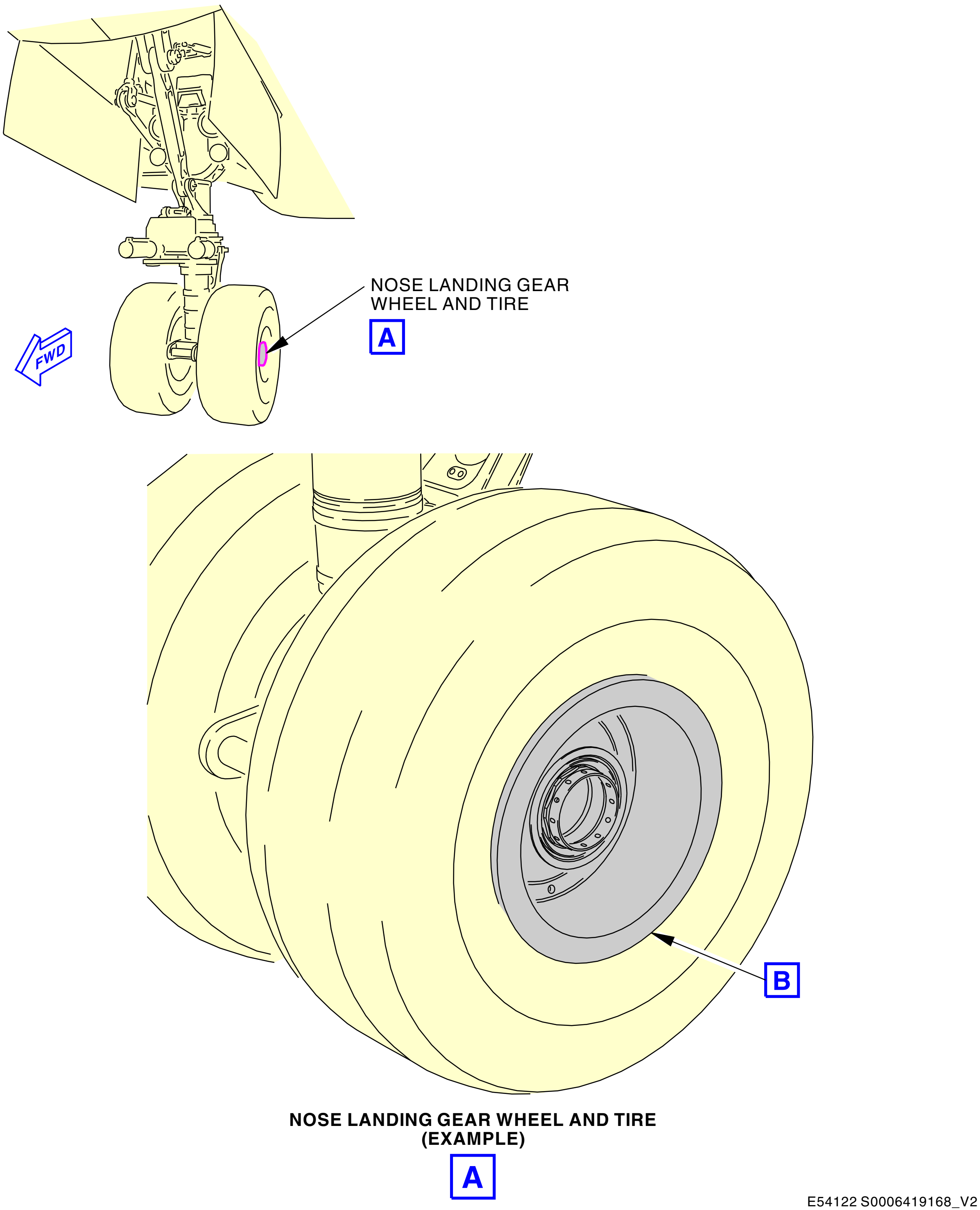
Main Landing Gear Wheel Assembly Inspection
Figure 601/32-45-03-990-801 (Sheet 3 of 4)



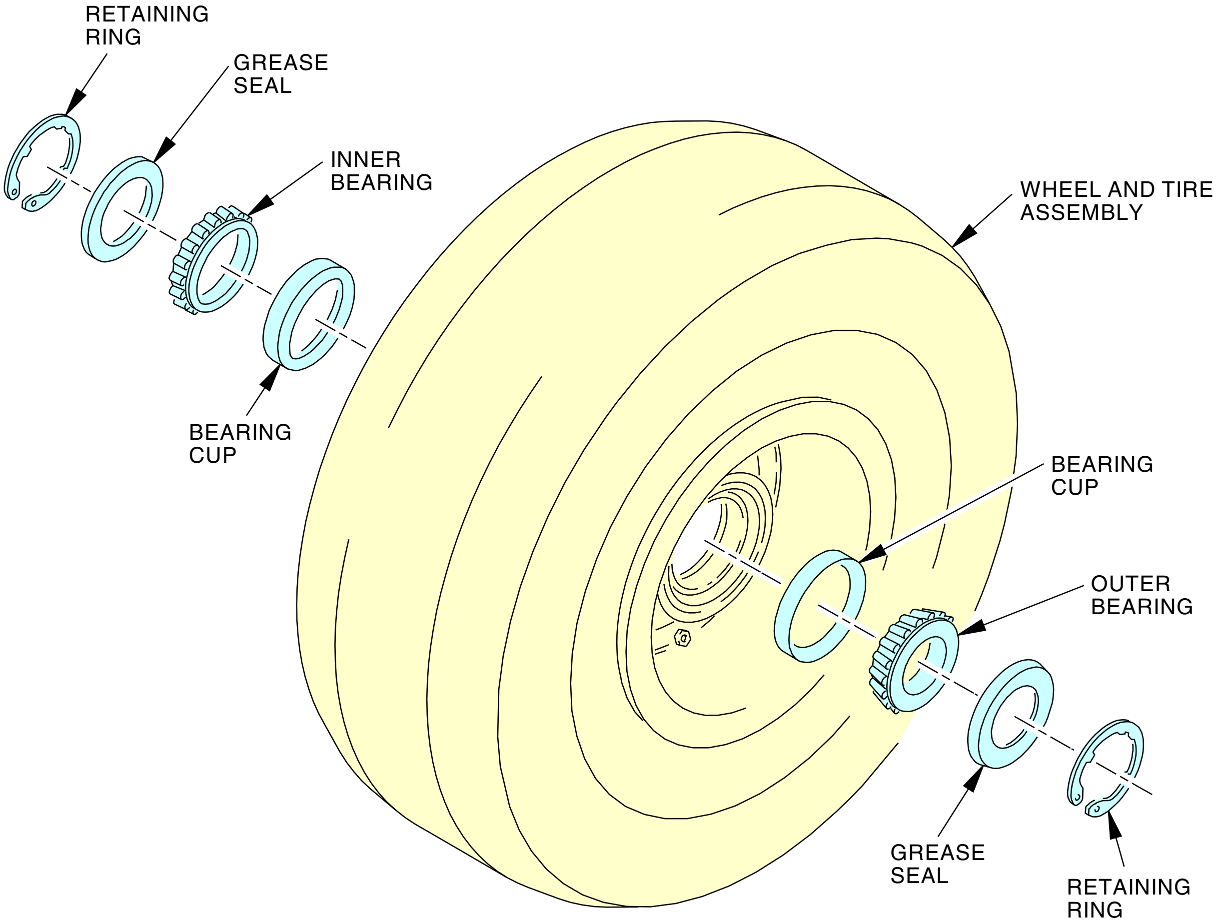
Main Landing Gear Wheel Assembly Inspection
Figure 601/32-45-03-990-801 (Sheet 4 of 4)



Nose Landing Gear Wheel Assembly Inspection
Figure 602/32-45-03-990-802 (Sheet 1 of 3)



Nose Landing Gear Wheel Assembly Inspection
Figure 602/32-45-03-990-802 (Sheet 2 of 3)



NOSE LANDING GEAR WHEEL ASSEMBLY

B

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Nose Landing Gear Wheel Assembly Inspection
Figure 602/32-45-03-990-802 (Sheet 3 of 3)

TIRES - INSPECTION/CHECK

1. General

A. This procedure contains scheduled maintenance task data.

B. This procedure has this task:

(1) An inspection of the tires.

TASK 32-45-04-700-801

2. Tires Inspection

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
05-51-14-210-801	High Energy Stop (P/B 201)
12-15-03-780-801	Landing Gear Tire Pressure Check (P/B 301)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-45-01-000-801	Main Landing Gear Wheel and Tire Assembly Removal (P/B 401)
32-45-01-400-801	Main Landing Gear Wheel and Tire Assembly Installation (P/B 401)
32-45-02-000-801	Nose Landing Gear Wheel and Tire Assembly Removal (P/B 401)
32-45-02-400-801	Nose Landing Gear Wheel and Tire Assembly Installation (P/B 401)

B. Location Zones

Zone	Area
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Procedure

SUBTASK 32-45-04-480-001

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-45-04-480-002

WARNING	MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-45-04-220-001

(3) Do this task: Landing Gear Tire Pressure Check, TASK 12-15-03-780-801.

(a) If the tire pressure is less than the correct pressure by more than 20%, and the wheel has turned with the airplane weight on it after the pressure had decreased, then do these steps:

1) For a tire on the nose landing gear, replace the wheel and tire assembly and the wheel and tire assembly installed on the opposite side of that axle. These are the tasks:

- Nose Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-02-000-801
- Nose Landing Gear Wheel and Tire Assembly Installation, TASK 32-45-02-400-801

2) For a tire on the forward or aft axle of the main landing gear, replace the wheel and tire assembly and the wheel and tire assembly on the opposite side of that axle. These are the tasks:

- Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-01-000-801
- Main Landing Gear Wheel and Tire Assembly Installation, TASK 32-45-01-400-801

3) For a tire on the center axle of the main landing gear, replace the wheel and tire assembly. These are the tasks:

- Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-01-000-801
- Main Landing Gear Wheel and Tire Assembly Installation, TASK 32-45-01-400-801

NOTE: No tire replacement is necessary for the wheel and tire assembly on the opposite side of the center axle.

SUBTASK 32-45-04-210-001

WARNING	DO NOT PUSH ON A DAMAGED TIRE WITH TOOLS. DAMAGE TO EQUIPMENT AND INJURY TO PERSONNEL CAN OCCUR.

(4) Do the steps that follow and examine the tires (Figure 601):

(a) Examine the tires for air leaks, abrasions, unusual worn areas, cuts, and flat spots.

(b) Examine the tires for the presence of contaminants.

1) Keep the tires clean of contaminants such as oils, fuels, hydraulic fluids, aircraft cleaning agents and greases.

a) Cover the tire if these or other potentially harmful chemicals spill or drip on the tire.

2) Wipe off the tire with a soapy solution if the tire becomes contaminated.

3) If the surface of the tire appears soft, spongy, or there are bulges in the tire, remove the tire from service as soon as practical.

(c) Remove tires that have the conditions that follow:

1) Cuts or weather cracks in the grooves, the tread, shoulders or sidewalls that exceed the limits shown in Figure 602.

2) Blisters, bulges, or other signs of ply separation in the tread, shoulder or the sidewall area.

3) Tires with a flat spot which shows the tread or cut protector (radial).

4) Other types of damage that can cause tire problems.

(d) Examine the tires for worn areas:

1) Measure the depth of the tire tread groove at three points that are equally spaced apart.

2) If the average depth of any groove is 1/32 in. (0.79 mm) or less, the tire must be replaced at the next convenient maintenance opportunity.

3) If the tread belt ply (radial) shows at any location, the tire is not serviceable and must be replaced.

4) If the tread is worn so that the cut protector (radial) shows at any location, the tire must be replaced at the next convenient maintenance opportunity.

a) If the cut protector (radial) shows, replace the tire as soon as possible.

NOTE: If necessary, the tire may be used for a small number of landings until it is replaced. However, you may not be able to retread the tire if you leave the tire in service too long with this condition.

(e) Examine the thermal fuse in the wheel/tire assembly if the tire pressure is low or the tire is flat.

1) If inspection shows that a pressure loss was due to the melting or partial melting (extrusion) of the wheel thermal fuse, remove the tire from service.

a) Check all other main gear tire- wheels for evidence of melted, extruded, or leaking thermal fuses, especially at the tire-wheel positions with hot brakes.

2) If a tire has been rolled flat, or if the tire-wheel has been removed due to an overheated wheel thermal fuse, tag the removal reason to the wheel and inspect the wheel in accordance with the wheel vendor's service instructions.

3) If the fuse plug is melted or partially melted, do the high energy stop/heat damage conditional inspection: High Energy Stop, TASK 05-51-14-210-801.

(f) If inspection shows that a pressure loss was due to the melting or partial melting (extrusion) of the wheel thermal fuse, remove the tire from service.

1) Check all other main gear tire-wheels for evidence of melted, extruded, or leaking thermal fuses, especially at the tire-wheel positions with hot brakes.

(g) If inspection shows that a wheel thermal fuse is partially melted (extruded) but not leaking, check the tire-wheel for leakage prior to each flight until the tire-wheel is removed from service.

(h) If a tire has been rolled flat, or if the tire-wheel has been removed due to an overheated wheel thermal fuse, tag the removal reason to the wheel and inspect the wheel in accordance with the wheel vendor's service instructions.

D. Tire Tread Conditions and Service

SUBTASK 32-45-04-210-002

> **WARNING**
> DO NOT PUSH ON A DAMAGED TIRE WITH TOOLS. DAMAGE TO EQUIPMENT AND INJURY TO PERSONNEL CAN OCCUR.

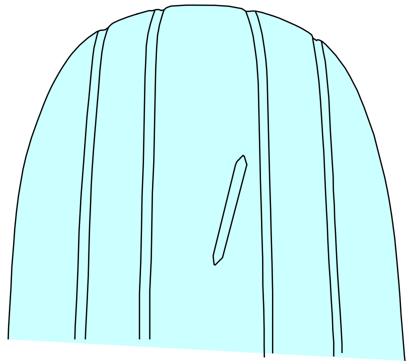
(1) Check the tire as shown in Figure 602.

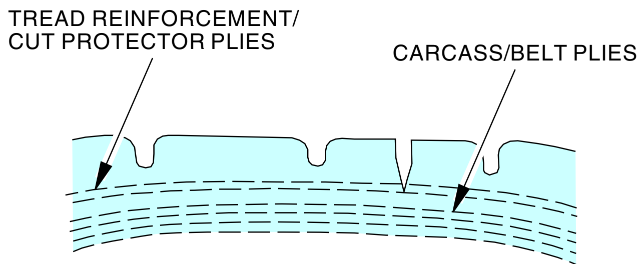
SUBTASK 32-45-04-480-003

> **WARNING**
> MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

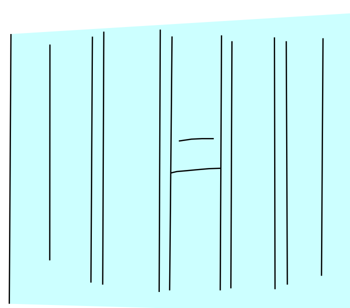
END OF TASK





CIRCUMFERENTIAL CUTS

CIRCUMFERENTIAL CUTS THAT PENETRATE ANY OF THE FABRIC PLIES ARE NOT SERVICEABLE.



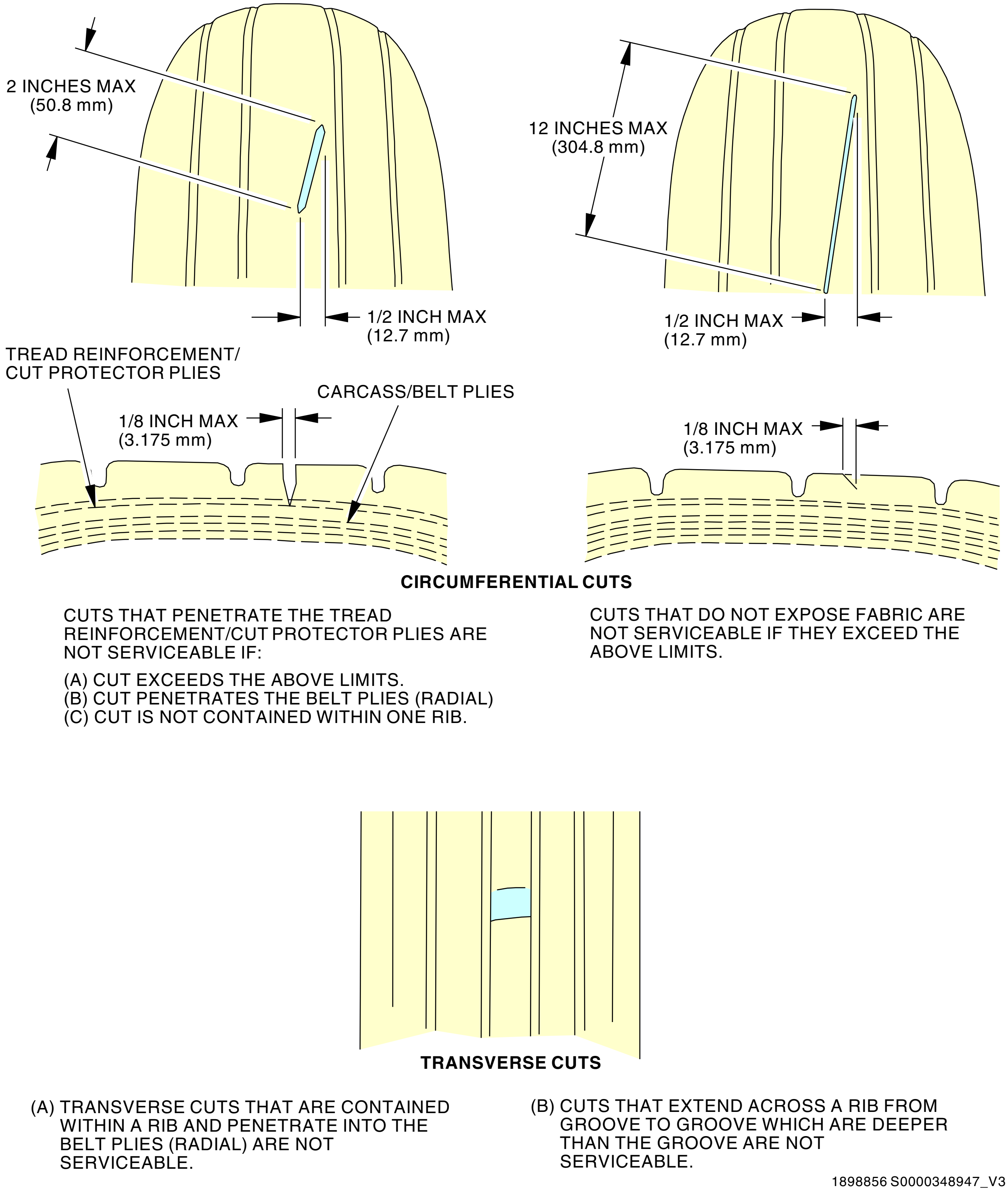
TRANSVERSE CUTS

(A) TRANSVERSE CUTS THAT ARE CONTAINED WITHIN A RIB AND PENETRATE INTO THE CARCASS PLIES (BIAS) OR BELT PLIES (RADIAL) ARE NOT SERVICEABLE.

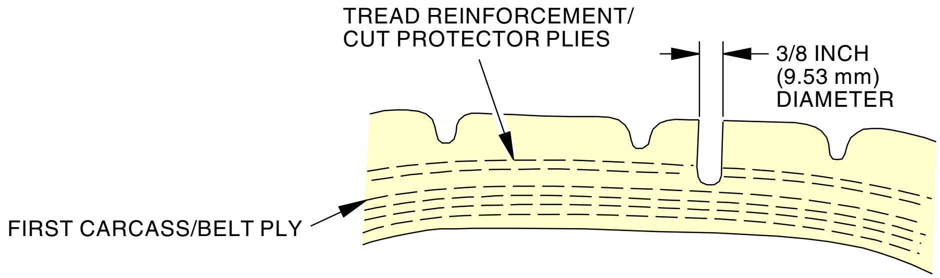
(B) CUTS THAT EXTEND ACROSS A RIB FROM GROOVE TO GROOVE WHICH ARE DEEPER THAN THE GROOVE ARE NOT SERVICEABLE.

F98055 S0006575654_V3

**Tire Nomenclature (Example)
Figure 601/32-45-04-990-801**

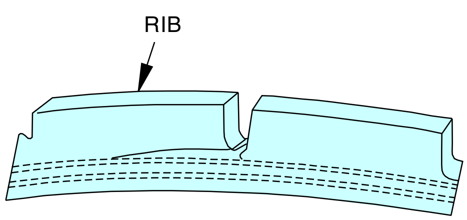


Tire Wear Conditions
Figure 602/32-45-04-990-802 (Sheet 1 of 8)



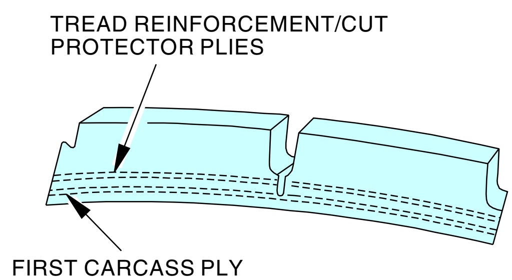
PUNCTURE

TIRES WITH HOLES LARGER THAN 3/8 INCH (9.53 mm) DIAMETER OR HOLES THAT PENETRATE INTO THE BELT PLIES (RADIAL) ARE NOT SERVICEABLE.



RIB UNDERCUTS

TIRES WITH A CRACK THAT EXTENDS BELOW A TREAD RIB ARE NOT SERVICEABLE.

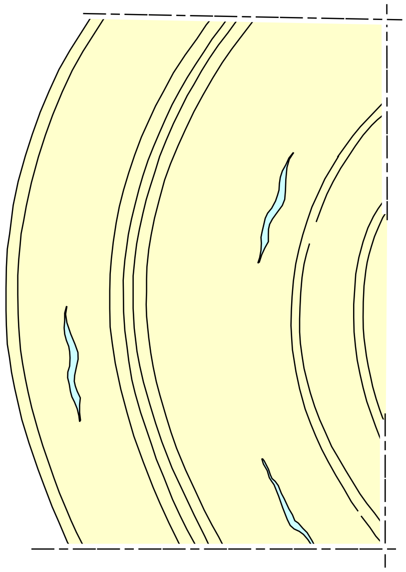


GROOVE CRACKS

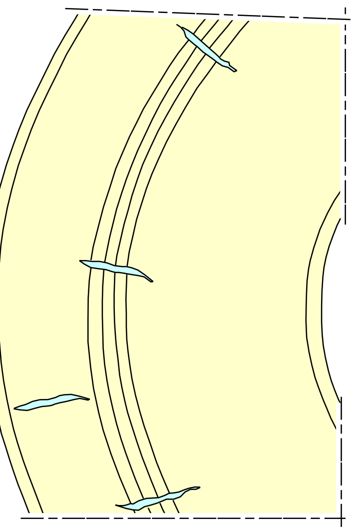
TIRES WITH CIRCUMFERENTIAL CRACKS AT THE BOTTOM OF THE GROOVES ARE NOT SERVICEABLE IF THE CRACKS EXPOSE TREAD REINFORCEMENT/CUT PROTECTOR PLIES.

1898860 S0000348948_V4

Tire Wear Conditions
Figure 602/32-45-04-990-802 (Sheet 2 of 8)

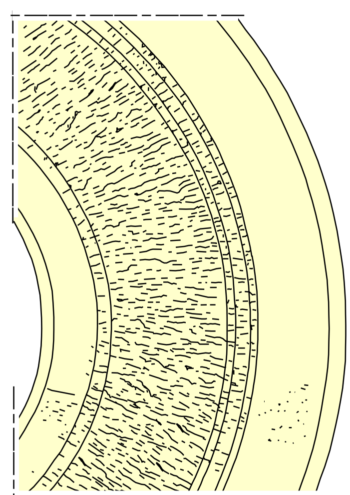


CIRCUMFERENTIAL SIDEWALL CUTS OR CRACKS



RADIAL SIDEWALL CUTS OR CRACKS

TIRES WITH CIRCUMFERENTIAL OR RADIAL CUTS OR CRACKS IN THE SIDEWALL OR SHOULDER AREA THAT EXPOSE THE FABRIC ARE NOT SERVICEABLE. TIRES WITH CUTS IN THE SIDEWALL CORDS (FABRIC) ARE NOT SERVICEABLE.

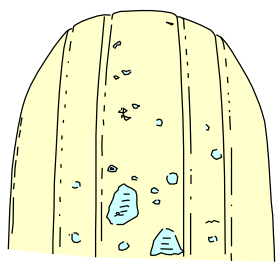


OZONE AND/OR WEATHER CUTS OR CRACKS

TIRES WITH CUTS OR CRACKS IN THE SIDEWALL WHICH ARE CAUSED BY AGE/WEATHER DETERIORATION ARE NOT SERVICEABLE IF THE FABRIC IS EXPOSED.

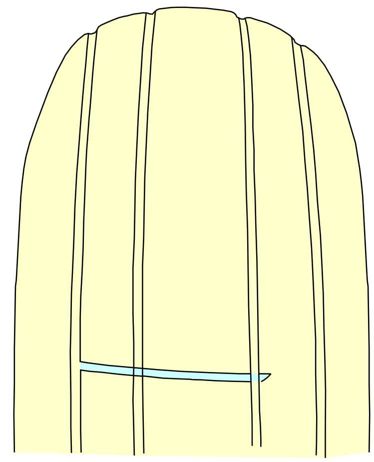
E02128 S0006419182_V4

Tire Wear Conditions
Figure 602/32-45-04-990-802 (Sheet 3 of 8)



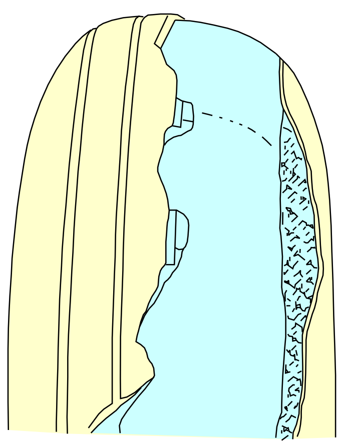
TREAD FLAKING, CHIPPING OR CHUNKING

TIRES WITH FLAKING, CHIPPING OR CHUNKING TREADS ARE NOT SERVICEABLE IF ANY FABRIC IS EXPOSED.



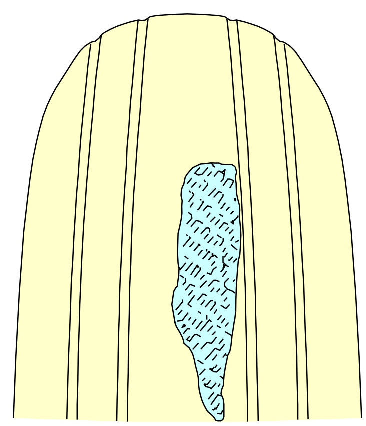
OPEN TREAD SPLICE

TIRES WITH AN OPEN TREAD SPLICE ARE NOT SERVICEABLE. A CLOSED TREAD SPLICE WILL APPEAR AS A THIN LINE THAT CROSSES THE TREAD RIBS.



THROWN TREAD

TIRES WITH THROWN TREADS ARE NOT SERVICEABLE.

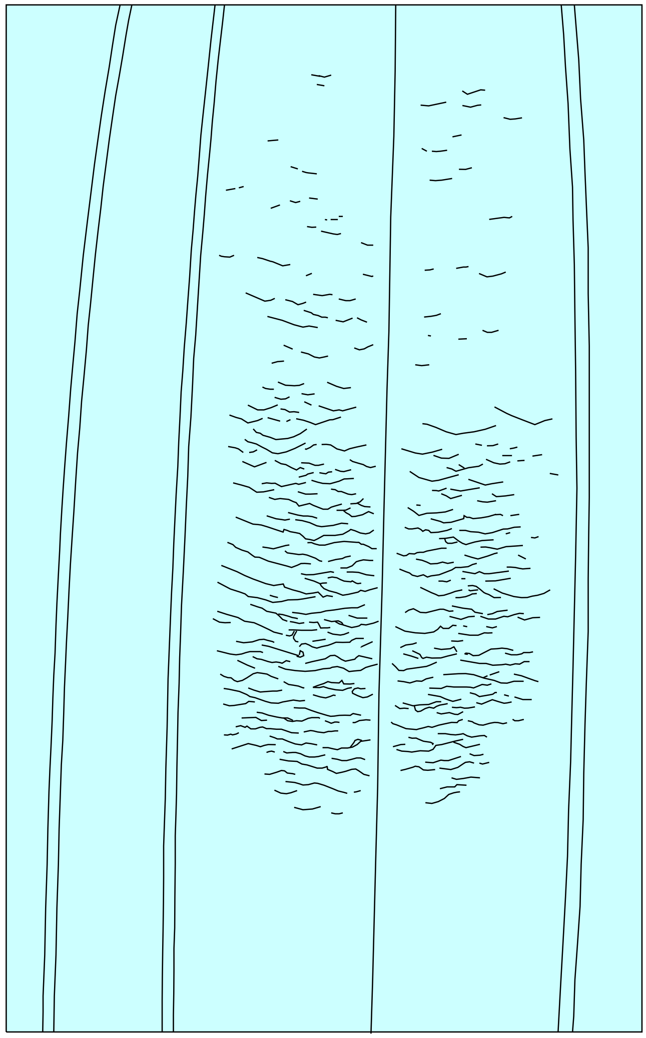


PEELED RIB

TIRES WITH PEELED RIBS ARE NOT SERVICEABLE.

E02129 S0006419183_V2

Tire Wear Conditions
Figure 602/32-45-04-990-802 (Sheet 4 of 8)

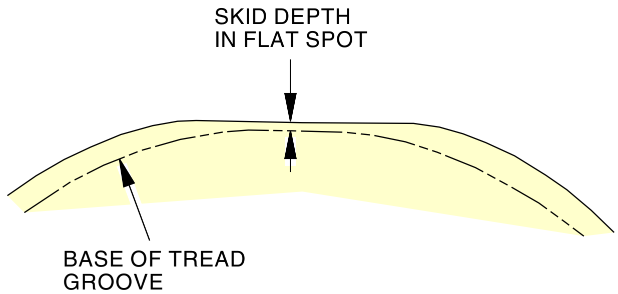


CHEVRON CUTS

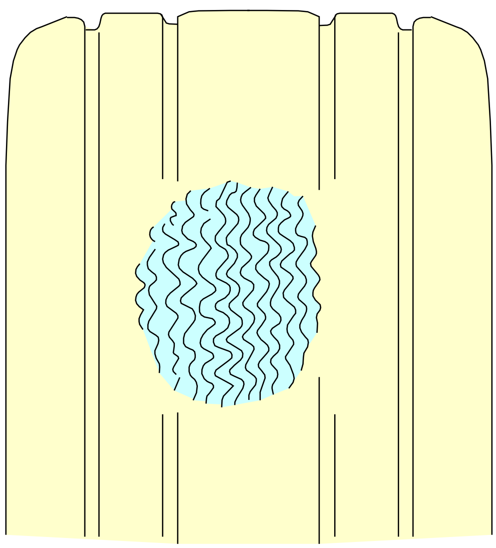
TIRES WITH CHEVRON CUTS IN THE TREAD ARE NOT SERVICEABLE IF ANY OF THE SINGLE CUT LIMITS ARE EXCEEDED OR CHUNKING OCCURS WHICH EXPOSES THE FABRIC.

E02131 S0006419184_V2

Tire Wear Conditions
Figure 602/32-45-04-990-802 (Sheet 5 of 8)

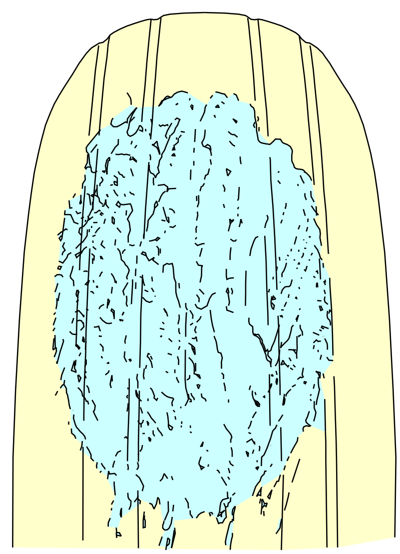


TREAD FLAT SPOTS



FLAT SPOT

TIRES WITH FLAT SPOTS ARE NOT SERVICEABLE IF THE FLAT SPOT EXPOSES THE TREAD REINFORCEMENT OR CUT PROTECTOR PLIES OR TIRE BALANCE AFFECTED.

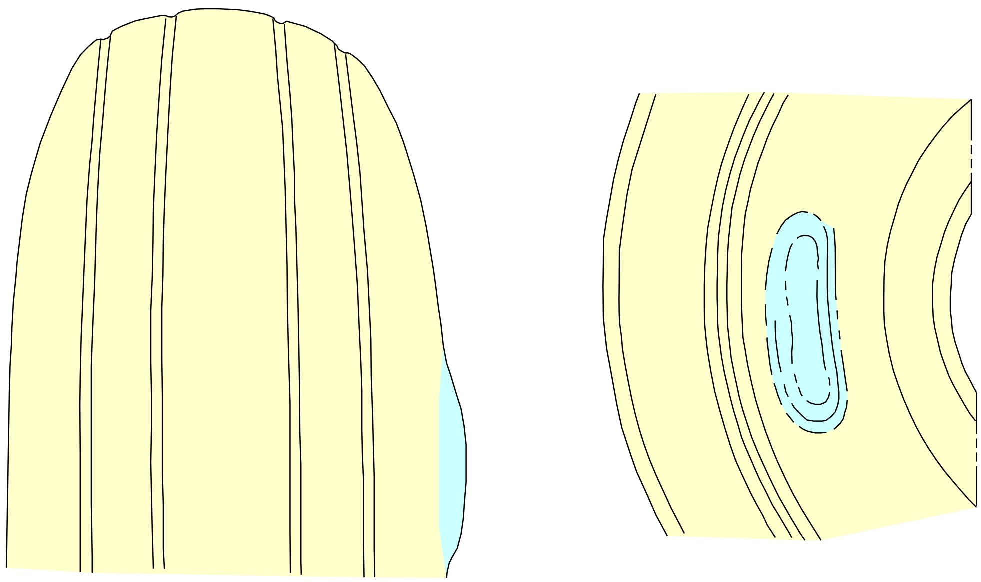


ICE SKID BURN/TREAD RUBBER REVERSION

TIRES WITH ICE BURN/TREAD RUBBER REVERSION ARE NOT SERVICEABLE IF THE DAMAGE EXPOSES THE TREAD REINFORCEMENT OR CUT PROTECTOR PLIES OR TIRE BALANCE IS AFFECTED.

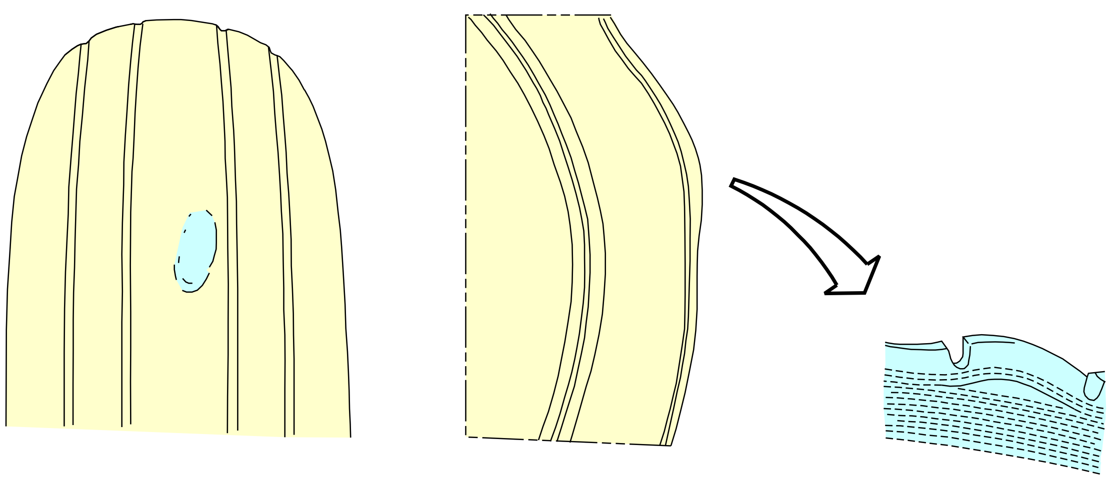
E03576 S0006419185_V2

Tire Wear Conditions
Figure 602/32-45-04-990-802 (Sheet 6 of 8)



SIDEWALL SEPARATION

TIRES WITH BLISTERS OR BULGES IN THE SIDEWALL ARE NOT SERVICEABLE.
REMOVE TIRE IMMEDIATELY.

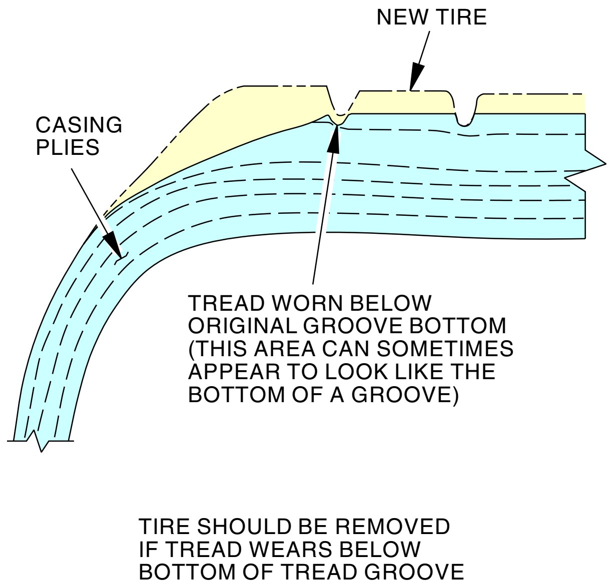


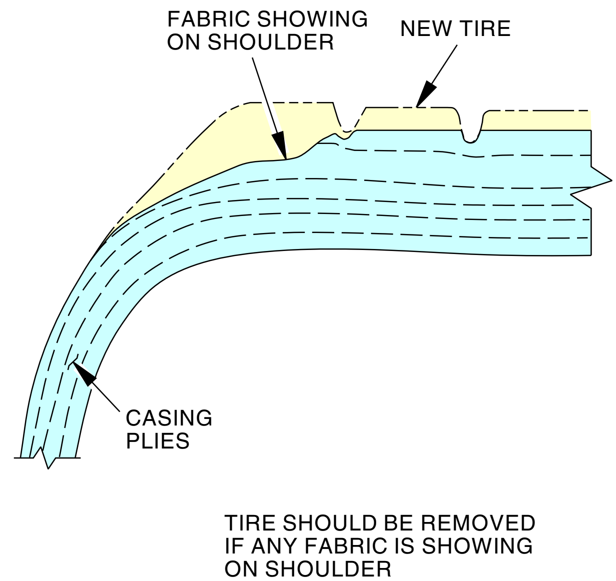
TREAD SEPARATION

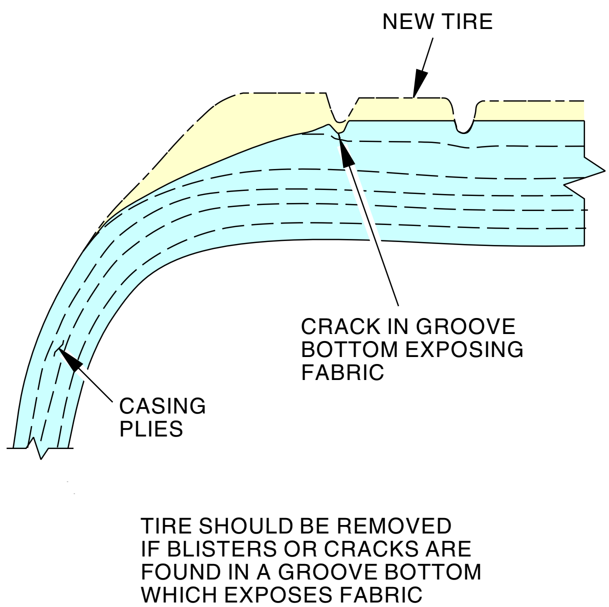
TIRES WITH BLISTERS OR BULGES IN THE TREAD ARE NOT SERVICEABLE.
REMOVE TIRE IMMEDIATELY.

E02133 S0006419186_V2

Tire Wear Conditions
Figure 602/32-45-04-990-802 (Sheet 7 of 8)







SHOULDER WEAR CONDITIONS

K98338 S0006419187_V3

Tire Wear Conditions
Figure 602/32-45-04-990-802 (Sheet 8 of 8)

NOSE WHEEL SPIN BRAKE - MAINTENANCE PRACTICES

1. **General**
   A. There are these different procedures used to operate the nose wheel spin brake.
      (1) A removal of the nose wheel spin brake (belt with cleats)
      (2) An installation of the nose wheel spin brake (belt with cleats)
      (3) A removal of the nose wheel spin brake (cleats only)
      (4) An installation of the nose wheel spin brake (cleats only)
      (5) An inspection of the nose wheel spin brake.
   B. There are two nose wheel spin brakes, one for each nose landing gear tire.

TASK 32-45-05-000-801

2. **Nose Wheel Spin Brake (Belt with Cleats) - Removal**
   (Figure 201)

   A. **References**

Reference	Title
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   B. **Location Zones**

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right

   C. **Procedure**

SUBTASK 32-45-05-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-45-05-010-001

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-45-05-020-001

(3) Remove the nuts [4], washers [3], and bolts [14] which hold the strap [6] and the belt [1] to the lower side of the mount block [5].

SUBTASK 32-45-05-020-002

(4) Remove the strap [6], filler [12], and filler [13] from the lower side of the mount block [5].

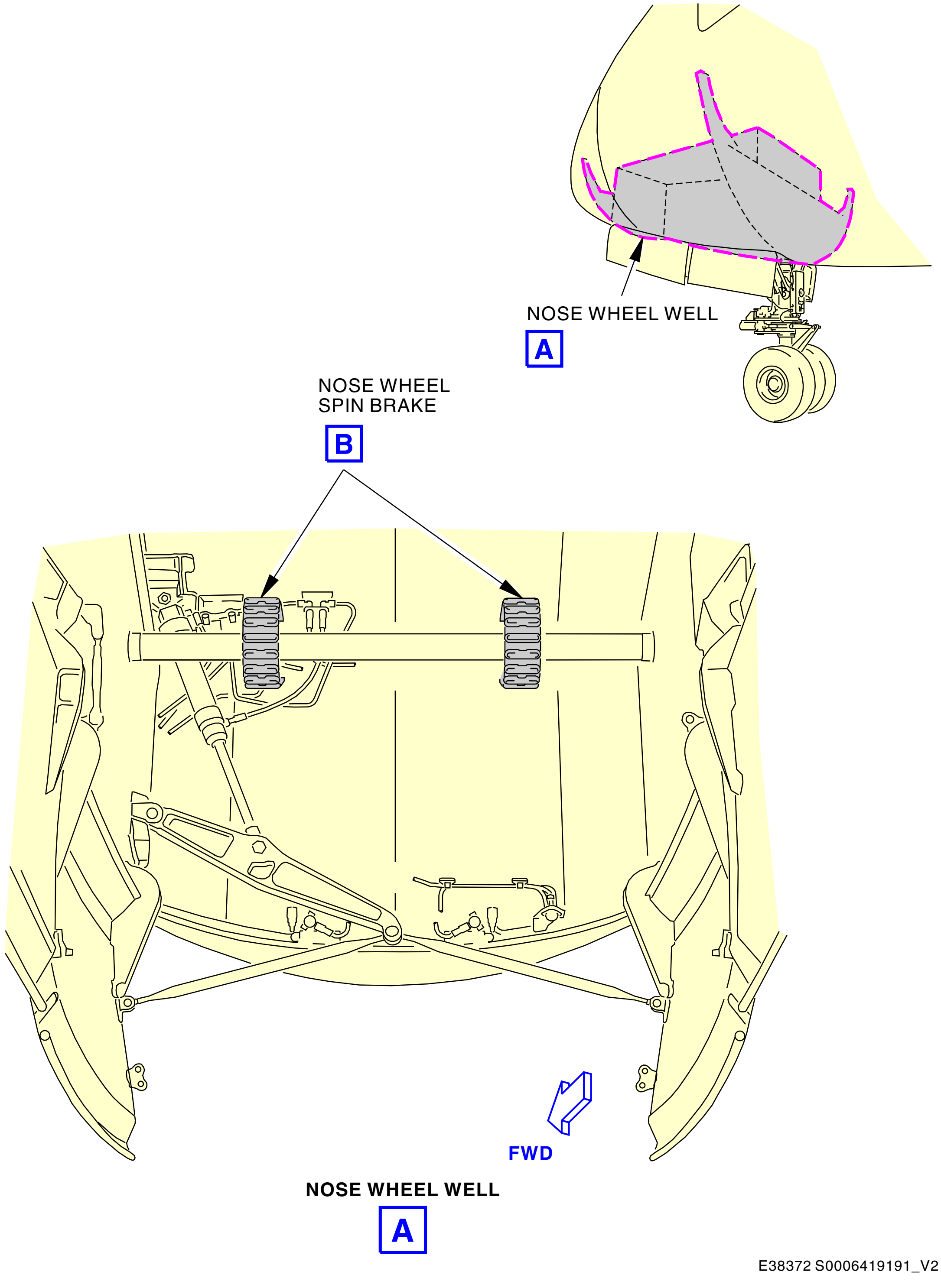
SUBTASK 32-45-05-020-003

(5) Remove the nuts [4], washers [3], and bolts [2] which hold the strap [6], plate [10], and the belt [1] to the upper side of the mount block [5].

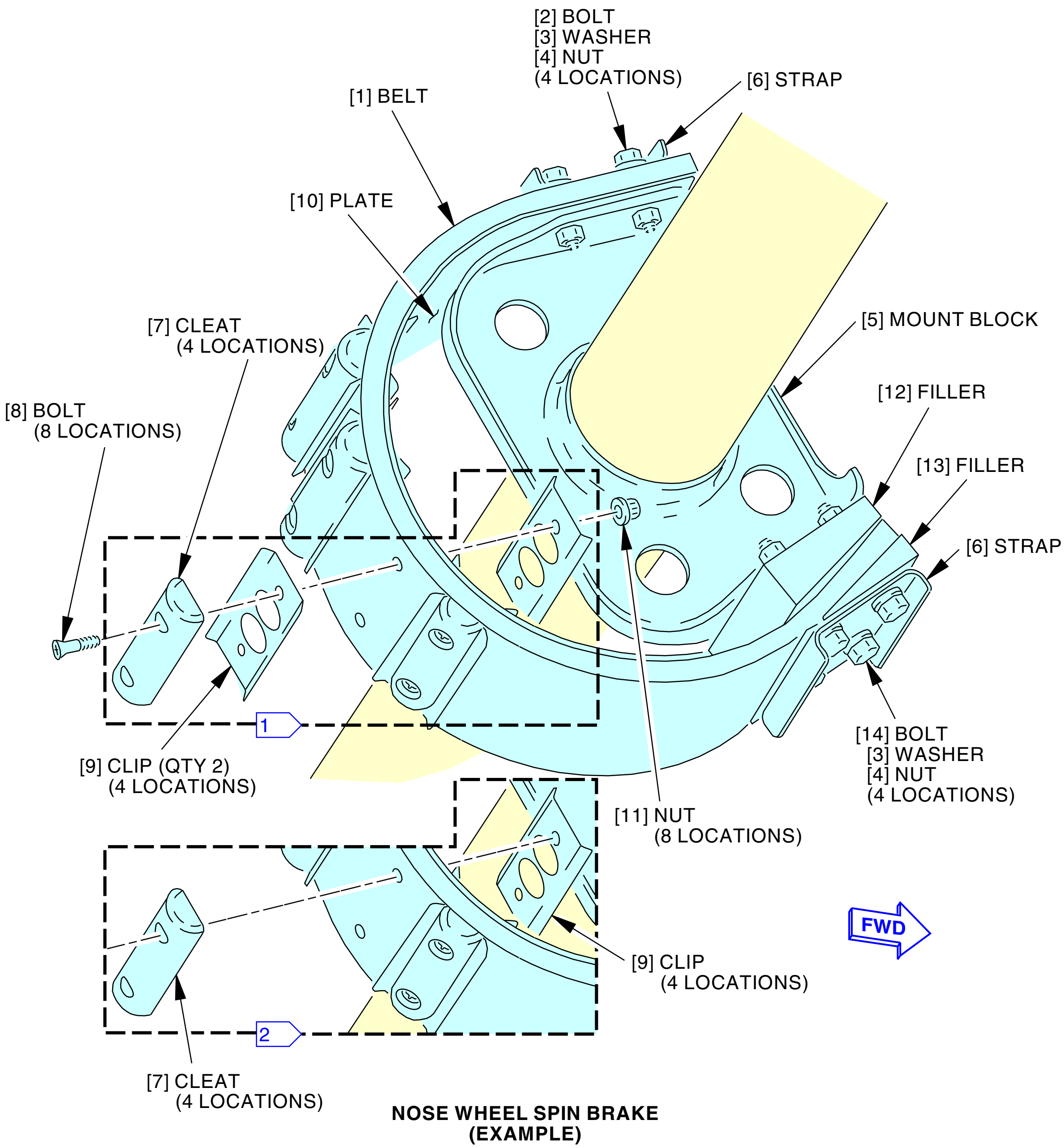
SUBTASK 32-45-05-020-004

(6) Remove the strap [6], plate [10], and the belt [1] from the airplane.

END OF TASK



Nose Wheel Spin Brake
Figure 201/32-45-05-990-801 (Sheet 1 of 2)



1 CLEAT INSTALLATION WITH TWO CLIPS

2 CLEAT INSTALLATION WITH ONE CLIP

E70705 S0006419192_V2

Nose Wheel Spin Brake
Figure 201/32-45-05-990-801 (Sheet 2 of 2)

TASK 32-45-05-400-801

3. Nose Wheel Spin Brake (Belt with Cleats) - Installation

(Figure 201)

A. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Belt	32-45-05-01A-060	ARO ALL
		32-45-05-01A-085	ARO ALL
7	Cleat	32-45-05-01A-075	ARO ALL

C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right

D. Procedure

SUBTASK 32-45-05-420-001

(1) Put the belt [1], the plate [10], and the strap [6] in their positions on the upper side of the mount block [5].

(a) If the belt [1] you will install has no cleats [7], make sure the side of the belt [1] with the corolon sail cloth is the cleats [7] side.

SUBTASK 32-45-05-420-002

(2) Install the bolts [2], washers [3], and nuts [4] on the upper side of the mount block [5].

SUBTASK 32-45-05-420-010

(3) Bend the belt [1] down to the lower side of the mount block [5].

SUBTASK 32-45-05-420-003

(4) Put the filler [12] and the filler [13] in their positions.

SUBTASK 32-45-05-420-004

(5) Install the bolts [14], washers [3], and nuts [4] on the lower side of the mount block [5].

SUBTASK 32-45-05-410-001

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

TASK 32-45-05-000-802

4. Nose Wheel Spin Brake (Cleats Only) - Removal

(Figure 201)

A. References

Reference	Title
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right

C. Procedure

SUBTASK 32-45-05-480-002

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-45-05-010-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-45-05-020-005

(3) Remove the nuts [11] and the bolts [8] which hold the clips [9] and the cleat [7] to the belt [1].

SUBTASK 32-45-05-020-006

(4) Remove the cleat [7].

——— END OF TASK ———

TASK 32-45-05-400-802

5. Nose Wheel Spin Brake (Cleats Only) - Installation

(Figure 201)

A. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)

B. Consumable Materials

Reference	Description	Specification
A00159	Compound - Sealing, Thread-Locking, Anaerobic, Single-Component (100-200 In-lbs)	ASTM D5363 Grp 3 Cl 2 Grd 1 (SUPERSEDES MIL-S-46163)

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
7	Cleat	32-45-05-01A-075	ARO ALL

D. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right

E. Procedure

SUBTASK 32-45-05-420-005

(1) Apply compound, A00159 to the bolts [8].

SUBTASK 32-45-05-420-006

(2) Put the clips [9] and cleat [7] in their positions on the belt [1].

NOTE: When installing the new style cleat that has the anti-rocking feature built in, you do not install a clip between the cleat and the belt.

SUBTASK 32-45-05-420-008

(3) Install the bolts [8] and the nuts [11].

SUBTASK 32-45-05-420-007

(4) Tighten the bolts [8] to 30 in-lb (3.4 N·m) - 40 in-lb (4.5 N·m).

SUBTASK 32-45-05-420-009

(5) Do these steps again for the other cleats [7] if it is necessary.

SUBTASK 32-45-05-410-002

WARNING

OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK

TASK 32-45-05-700-801

6. Nose Wheel Spin Brake Inspection

(Figure 201)

A. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right

B. Procedure

SUBTASK 32-45-05-220-001

(1) Measure the distance from the top of each bolt [8] to the top surface of the cleat [7].

SUBTASK 32-45-05-350-001

(2) If this distance you measured is less than 0.060 in. (1.5 mm) for a cleat [7], you must replace that cleat [7]:

(a) Do these steps:

1) Nose Wheel Spin Brake (Cleats Only) - Removal, TASK 32-45-05-000-802.
2) Nose Wheel Spin Brake (Cleats Only) - Installation, TASK 32-45-05-400-802.

———— END OF TASK ————

TIRE INFLATION VALVE - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has these tasks:

      (1) A removal of the tire inflation valve

      (2) An installation of the tire inflation valve.

TASK 32-45-06-000-801

2. **Tire Inflation Valve Removal**

   (Figure 401)

   A. References

Reference	Title
07-11-03-580-801	Lift the Airplane with Axle Jacks (P/B 201)
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   B. Tools/Equipment

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1524	Deflator - Tire, Valve Core Removal and Installation (Large Bore) Part #: 320008A-SO Supplier: SFN11 Part #: 968RB-1 Supplier: $1315 Opt Part #: 320008A Supplier: SFN11

   C. Location Zones

Zone	Area
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

   D. Procedure

   SUBTASK 32-45-06-480-001

   WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

   (1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

   SUBTASK 32-45-06-480-002

   (2) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

   SUBTASK 32-45-06-580-001

   (3) If you will remove a tire inflation valve [2] installed on the forward or aft axle of a truck, do this task for that axle only: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801.

SUBTASK 32-45-06-580-002

(4) If you will remove a tire inflation valve [2] installed on the center axle of a truck, do this task for both axles: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801.

SUBTASK 32-45-06-840-002

(5) Do these steps to deflate the tire:

(a) Remove the cap [1].

WARNING BEFORE YOU REMOVE THE WHEEL AND TIRE ASSEMBLY YOU MUST DEFLATE THE TIRE OR INSPECT THE WHEEL AND TIRE TO MAKE SURE THEY ARE SAFE. A DEFECTIVE WHEEL AND TIRE ASSEMBLY CAN EXPLODE DURING OR AFTER REMOVAL IF YOU DO NOT DEFLATE THE TIRE. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

WARNING MAKE SURE ALL PERSONS ARE CLEAR OF THE INFLATION VALVE PATH. IF THE VALVE BLOWS OFF WHILE YOU REMOVE IT, INJURY TO PERSONS CAN OCCUR.

(b) Deflate the tire with the large bore tire deflator, COM-1524.

(c) If you cannot use the usual procedure to deflate the tire because the valve core is damaged, do these steps:

1) Turn the tire inflation valve [2] slowly in a counterclockwise direction until there is gas leakage through the boss.

2) At the same time, push lightly on the valve assembly.

3) After all of the gas has been released, remove the tire inflation valve [2] from the tire.

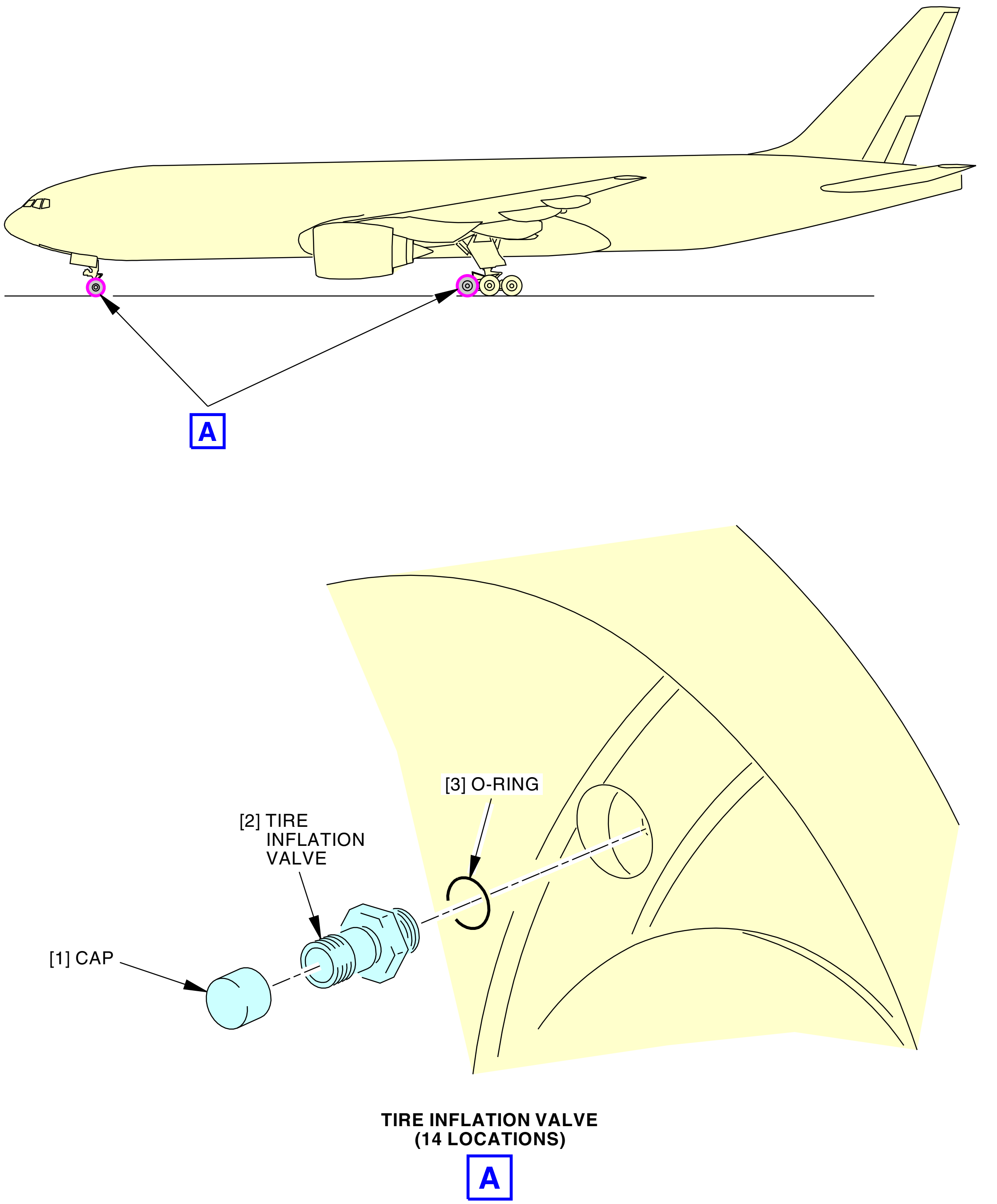
SUBTASK 32-45-06-020-001

(6) Remove the packing [3] from the tire inflation valve [2].

SUBTASK 32-45-06-910-001

(7) Discard the packing [3].

END OF TASK



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Tire Inflation Valve Installation
Figure 401/32-45-06-990-801

TASK 32-45-06-400-801

3. Tire Inflation Valve Installation

(Figure 401)

A. References

Reference	Title
12-15-03-610-801	Landing Gear Tire Servicing (P/B 301)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Tire inflation valve	32-45-01-15-010	ARO ALL
		32-45-02-15-030	ARO ALL
3	Packing	32-45-01-15-013	ARO ALL
		32-45-02-15-033	ARO ALL

C. Location Zones

Zone	Area
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Tire Inflation Valve Installation

SUBTASK 32-45-06-420-001

(1) Install the packing [3] on the tire inflation valve [2].

SUBTASK 32-45-06-420-002

(2) Install the tire inflation valve [2] in the wheel.

SUBTASK 32-45-06-420-003

(3) Tighten the tire inflation valve [2] to 175 ±25 in-lb (19.77 ±2.83 N·m).

SUBTASK 32-45-06-420-005

(4) Install the lockwire to the adjacent tie bolt nut.

SUBTASK 32-45-06-420-004

(5) Install the cap [1].

SUBTASK 32-45-06-610-001

(6) Do this task: Landing Gear Tire Servicing, TASK 12-15-03-610-801.

E. Put the Airplane Back to Its Usual Condition

SUBTASK 32-45-06-580-003

(1) Lower the aircraft off of the jacks.

(a) Use the jack manufacturer's instructions to lower the airplane off of the jacks.

——— END OF TASK ———

MAIN LANDING GEAR BRAKE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

WARNING	BRAKE ASSEMBLY WEIGHT IS APPROXIMATELY 225 LBS. A MINIMUM OF 2 PERSONS OR ASSISTED HANDLING IS REQUIRED FOR THIS TASK.

CAUTION	WHEN REMOVING THE BRAKE FROM THE AIRCRAFT, THE BRAKE SLEEVE CAN COME OFF WITH THE BRAKE. THE SLEEVE MUST BE REINSTALLED ON THE AXLE PRIOR TO INSTALLATION OF A BRAKE ASSEMBLY OR DAMAGE TO THE AIRCRAFT WILL OCCUR.

(1) A removal of the main landing gear brake

(2) An installation of the main landing gear brake.

B. The main landing gear brake will be referred to as the brake assembly [3].

TASK 32-45-07-000-801

2. Main Landing Gear Brake Removal

(Figure 401, Figure 402, Figure 403)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
05-51-14-210-801	High Energy Stop (P/B 201)
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-41-06-000-801	Brake Disconnect Removal (P/B 401)
32-42-05-020-801	In-Axle Assembly Removal (P/B 401)
32-45-01-000-801	Main Landing Gear Wheel and Tire Assembly Removal (P/B 401)
32-46-03-000-801	Brake Temperature Sensor Removal (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1816	Sling - Hot Brake, 6 Foot Mesh Length, 6 Inch Mesh Width Part #: 6T212X6 Supplier: 23755 Part #: SLG35-6X72-002-01 Supplier: 10380 Opt Part #: G-35 Supplier: 10380 Opt Part #: G-59 Supplier: 10380

(Continued)

Reference	Description
COM-1818	Dolly - Wheel/Brake Change Part #: 175M Supplier: 94861 Part #: 175S-2 Supplier: 94861 Part #: 9092-016 Supplier: 00994 Part #: IA3201A-500 Supplier: 3D5B2 Part #: MH12-004 Supplier: D2029 Part #: MH12-005 Supplier: D2029 Opt Part #: 175 Supplier: 94861 Opt Part #: 8436-012 Supplier: 00994 Opt Part #: 9092-010 Supplier: 00994 Opt Part #: 9092-015 Supplier: 00994 Opt Part #: MH12-003 Supplier: D2029 Opt Part #: PF32-002-1 Supplier: 3D5B2
SPL-1845	Equipment - Puller, Main Landing Gear Brake System Pins Part #: J32008**ECD OCT2018** Supplier: 81205 Part #: J32008-31 Supplier: 81205 Opt Part #: J32008-1 Supplier: 81205
SPL-1854	Equipment - Protector, Main Landing Gear Part #: J32031-12 Supplier: 81205
SPL-1857	Equipment - Puller, Main Landing Gear Brake Part #: J32012-18 Supplier: 81205

C. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for the Removal

SUBTASK 32-45-07-840-001

(1) For ground safety precautions necessary in the handling of hot brakes, refer: (TASK 05-51-14-210-801).

SUBTASK 32-45-07-480-004

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-45-07-480-005

WARNING MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-45-07-860-001

(4) For the right and center hydraulic systems, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-45-07-480-001

(5) Make sure the tires for the nose landing gear and for the other main landing gear have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-45-07-860-003

(6) Fully push the captain's brake pedals twelve times to remove the pressure from the brake accumulator.

E. Main Landing Gear Brake Removal

SUBTASK 32-45-07-020-005

(1) Do this task: Main Landing Gear Wheel and Tire Assembly Removal, TASK 32-45-01-000-801.

NOTE: This procedure will install the equipment to protect the axle. Leave the equipment installed for the brake removal in subsequent steps.

SUBTASK 32-45-07-020-003

(2) Disconnect the brake hose [1] from the brake assembly [3] at the brake disconnect [2]:

(a) Pull up on the barrel [16] of the brake disconnect [2].

(b) Turn the barrel [16] counterclockwise to disconnect the brake hose [1] from the brake assembly [3].

SUBTASK 32-45-07-020-006

(3) If you will use the brake disconnect [2] from the old brake assembly [3] on a new brake assembly [3], do this task: Brake Disconnect Removal, TASK 32-41-06-000-801.

SUBTASK 32-45-07-020-007

(4) Disconnect the electrical connector for the brake temperature sensor.

SUBTASK 32-45-07-020-008

(5) If you will install a different brake assembly [3] that does not have the brake temperature sensor installed, do this task: Brake Temperature Sensor Removal, TASK 32-46-03-000-801.

SUBTASK 32-45-07-020-015

(6) For the brake assembly [3] on the forward or aft axle, do these steps:

(a) Remove the pin [5], nut [6], washer [7], bolt [9], and collar [8].

(b) Remove the pin assembly [4] and lower the brake rod [11].

1) You can use the main landing gear brake system pins puller equipment, SPL-1845, to help remove the pin assembly [4].

SUBTASK 32-45-07-020-016

(7) For the brake assembly [3] on the center axle, do these steps:

(a) Remove the pin [5], nut [6], washer [7], bolt [9], and collar [8].

(b) Remove the pin assembly [12].

NOTE: It is only necessary to remove the pin assembly [12] if you want to inspect it.

1) You can use the main landing gear brake system pins puller equipment, SPL-1845 to help remove the pin assembly [12].

SUBTASK 32-45-07-480-002

(8) Make sure the main landing gear protector equipment, SPL-1854, is installed.

NOTE: This equipment was installed during the wheel and tire removal steps.

SUBTASK 32-45-07-020-004

(9) Do these steps to remove the brake assembly [3]:

CAUTION	BE VERY CAREFUL WITH CARBON BRAKES. CARBON BRAKE DISK WITH NICKS AND CRACKS IS NOT SERVICEABLE AND YOU CANNOT REPAIR THEM. DO NOT PUT FORCE ON THE BRAKE HEAT SHIELDS WHEN YOU REMOVE OR INSTALL THE BRAKE. BENT HEAT SHIELDS FREQUENTLY BROKEN PERMANENTLY. A BRAKE WITH A BENT HEAT SHIELD WILL CAUSE SCORING ON THE WHEEL SURFACE WHEN THE WHEEL TURNS.

(a) Use a hot brake sling, COM-1816, and wheel/brake changer dolly, COM-1818 , to remove the brake assembly [3] from the axle.

NOTE: If you will use the hot brake sling, COM-1816, or equivalent, you must also use a wheel/brake changer dolly, COM-1818, or equivalent.

If you will use a sling, you must also have a hoist (commercially available). If you use a sling, be careful to select one that is correct for the temperature condition of the brake--hot brake sling, COM-1816, can be used for hot brakes.

(b) If you cannot remove the brake assembly [3], do these steps:

1) Do this task: In-Axle Assembly Removal, TASK 32-42-05-020-801.

2) Use the main landing gear brake puller equipment, SPL-1857, to remove the brake assembly [3].

NOTE: The main landing gear brake puller equipment, SPL-1857, is necessary when corrosion or heat cause the brake to bind on the axle.

SUBTASK 32-45-07-160-002

(10) Remove the old grease from the axle and the sleeve [10].

SUBTASK 32-45-07-020-009

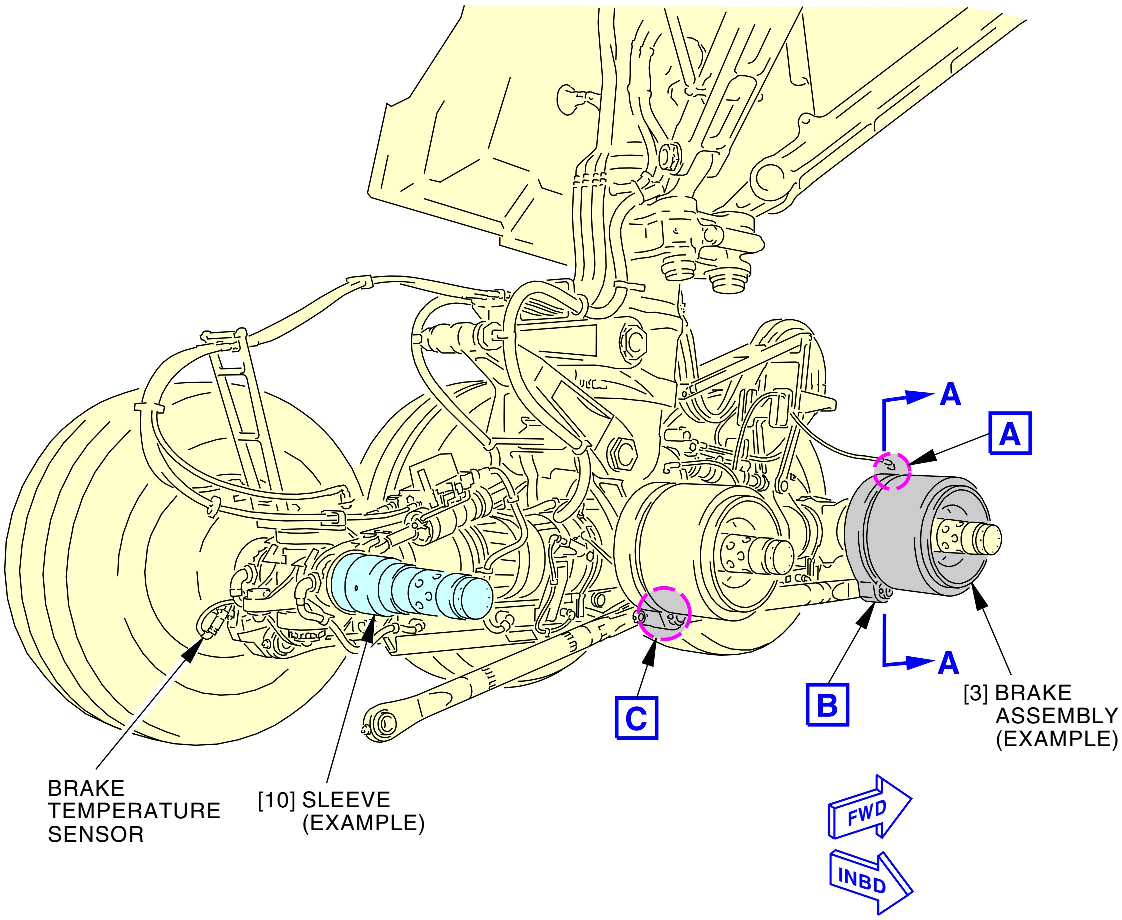
CAUTION	MAKE SURE THAT THE BRAKE SLEEVE IS INSTALLED BEFORE YOU INSTALL THE BRAKE. THE BRAKE SLEEVE CAN COME OFF WHEN YOU REMOVE THE BRAKE. IF YOU INSTALL THE BRAKE AND THE BRAKE SLEEVE IS NOT ON THE AXLE, DAMAGE CAN OCCUR TO THE AIRCRAFT.

(11) If the sleeve [10] remained in the brake assembly [3], remove the sleeve [10] from the brake assembly [3] and install it back on the axle.

SUBTASK 32-45-07-020-010

(12) Remove and discard the grease seal [13].

END OF TASK



LEFT MAIN LANDING GEAR BRAKES
(RIGHT MAIN LANDING GEAR IS EQUIVALENT)

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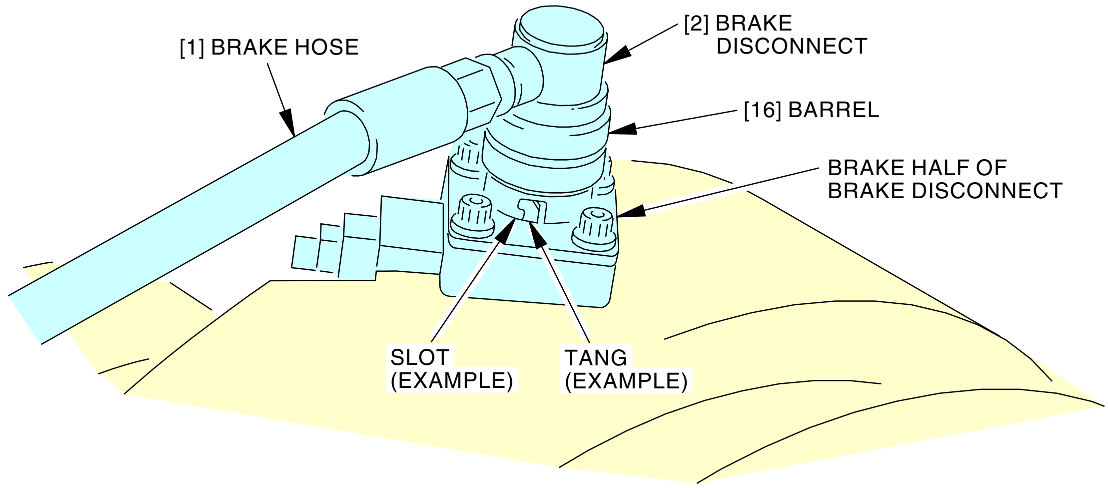
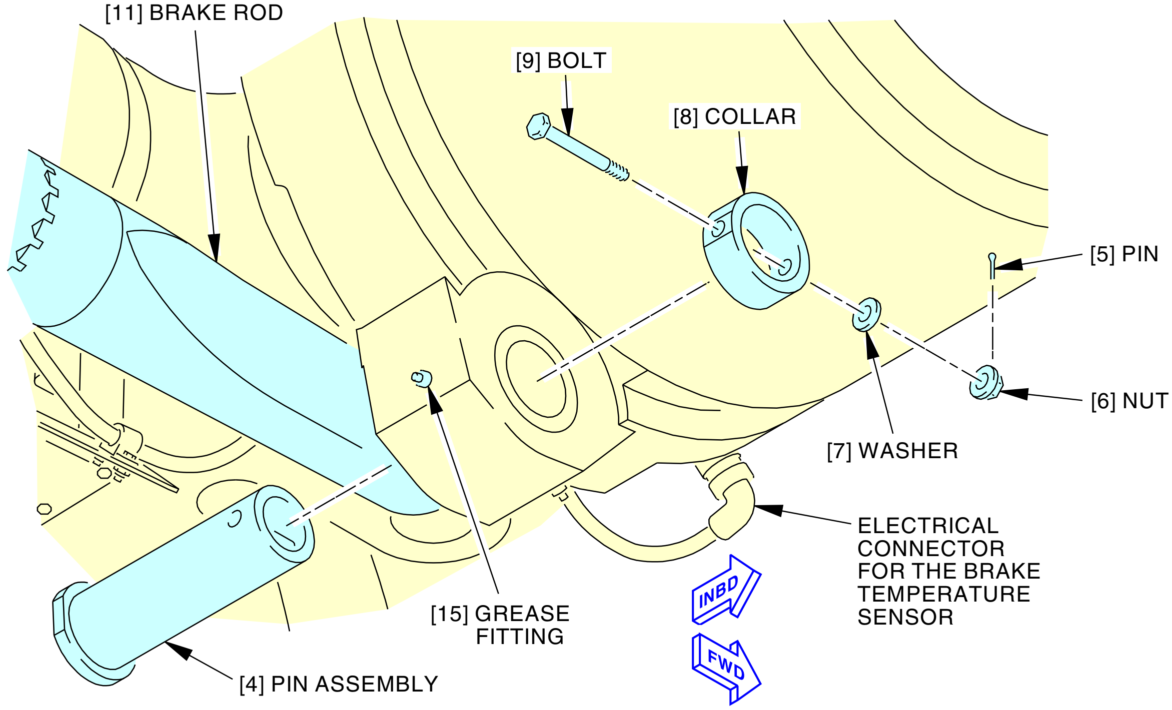
Main Landing Gear Brake Installation
Figure 401/32-45-07-990-801 (Sheet 1 of 4)



BRAKE HOSE HYDRAULIC DISCONNECT
(EXAMPLE)

A



FORWARD MAIN LANDING GEAR BRAKE
(EXAMPLE, FORWARD AND AFT BRAKES ARE EQUIVALENT)

B

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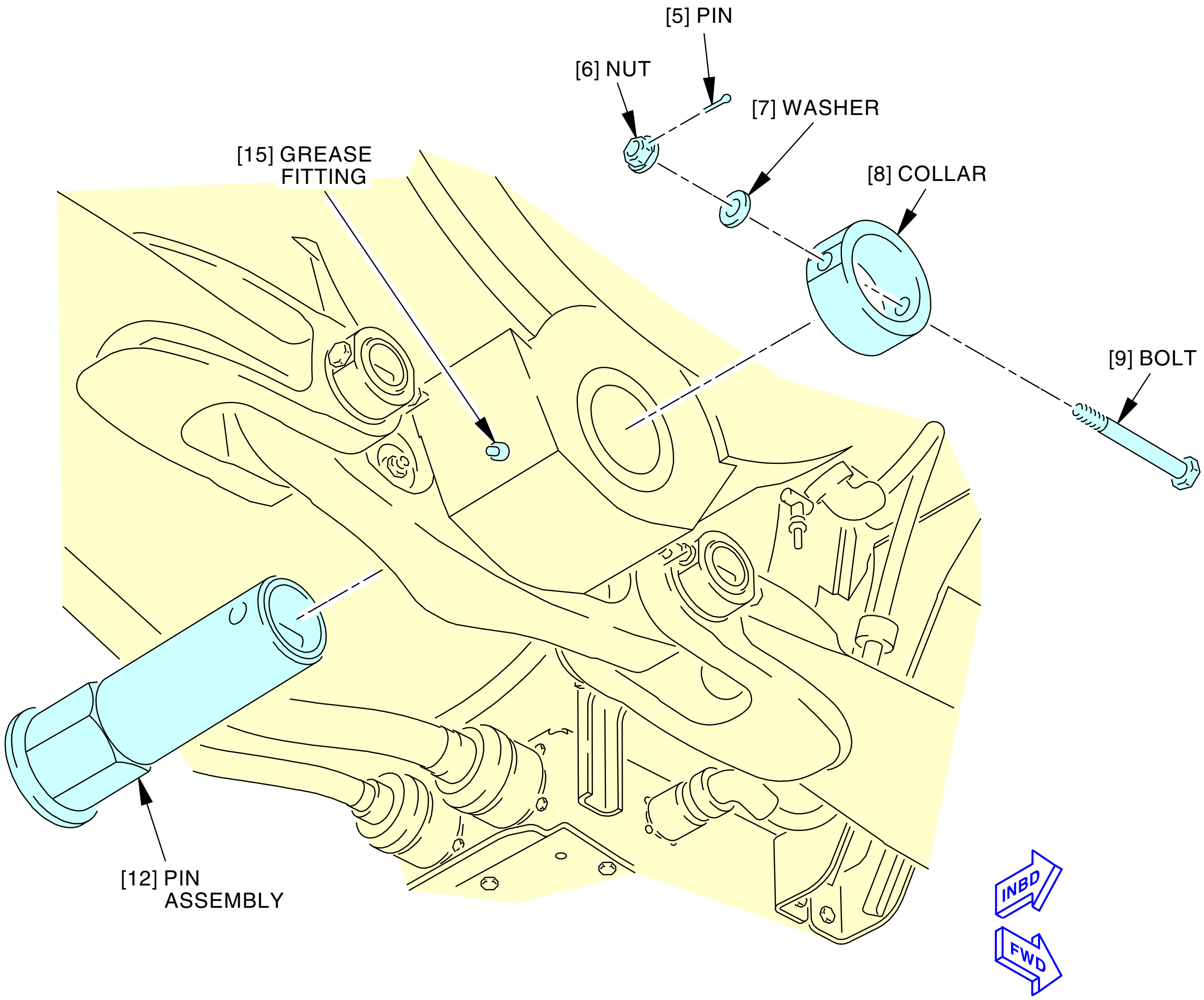
Main Landing Gear Brake Installation
Figure 401/32-45-07-990-801 (Sheet 2 of 4)

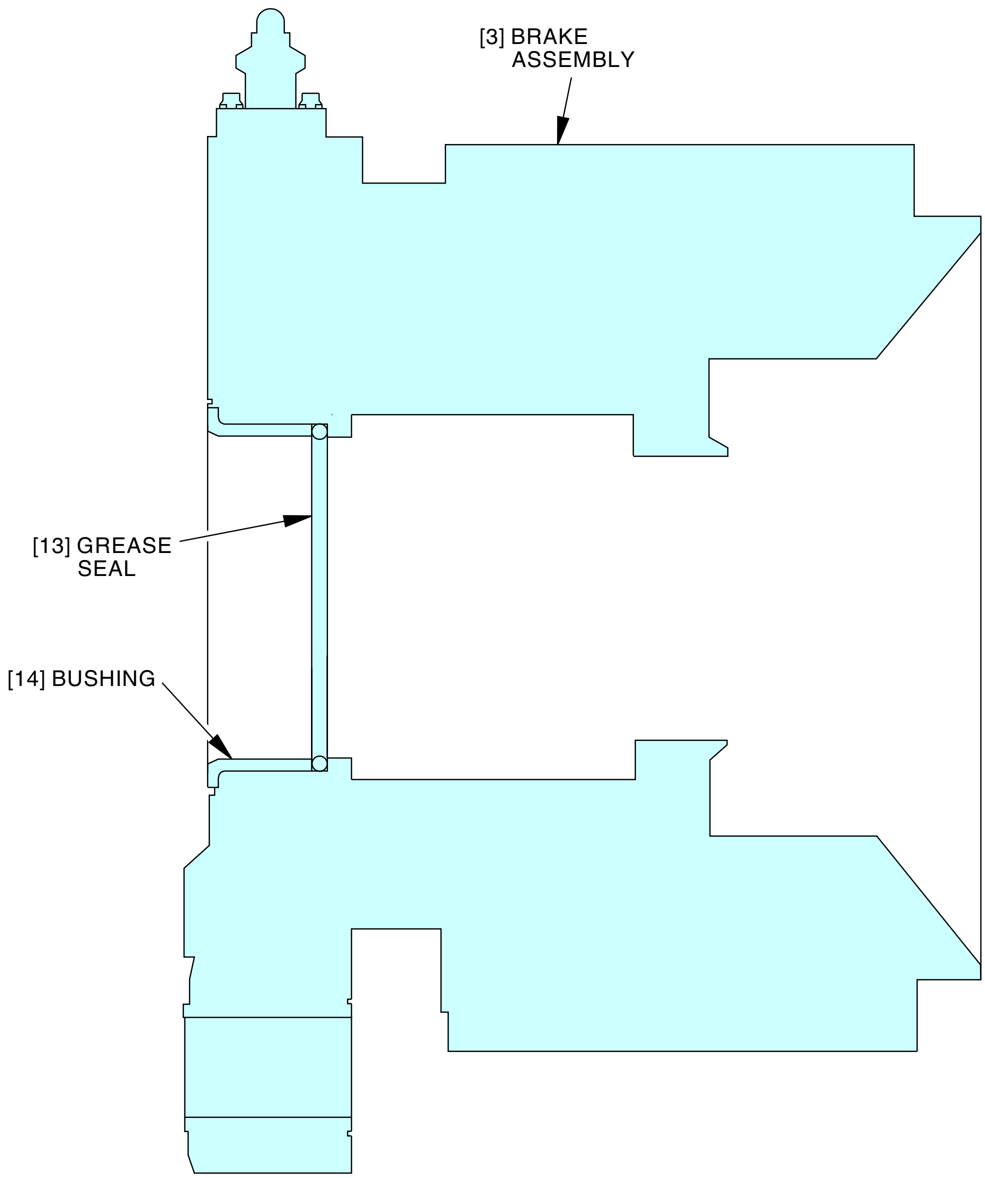


INBOARD CENTER MAIN LANDING GEAR BRAKE
(EXAMPLE, CENTER BRAKES ARE EQUIVALENT)

C

E50279 S0006419210_V2

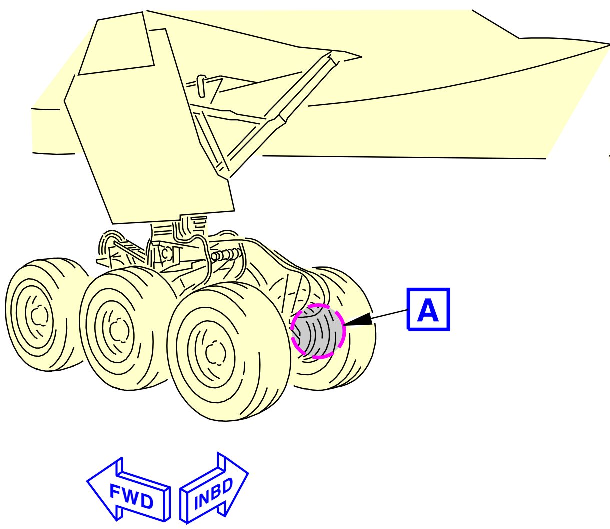
Main Landing Gear Brake Installation
Figure 401/32-45-07-990-801 (Sheet 3 of 4)

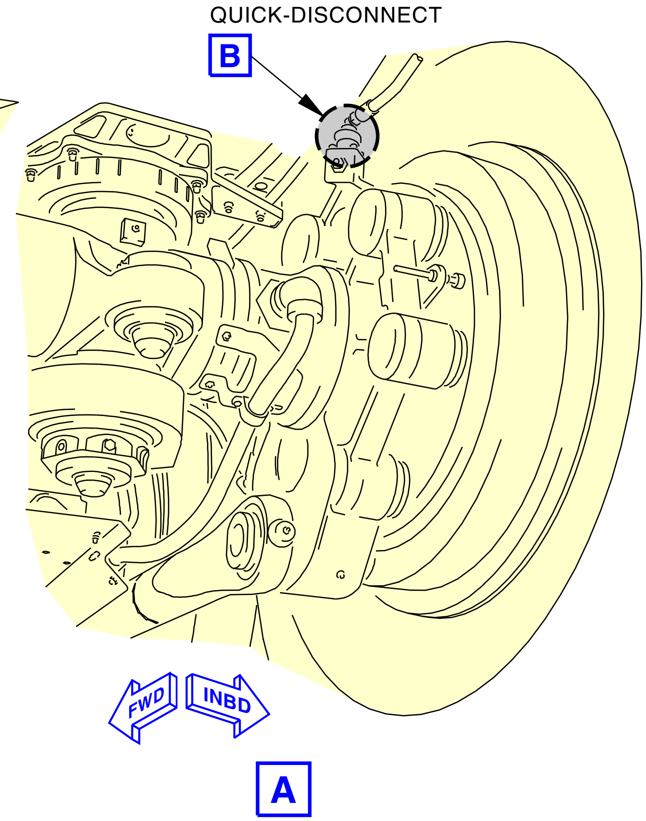


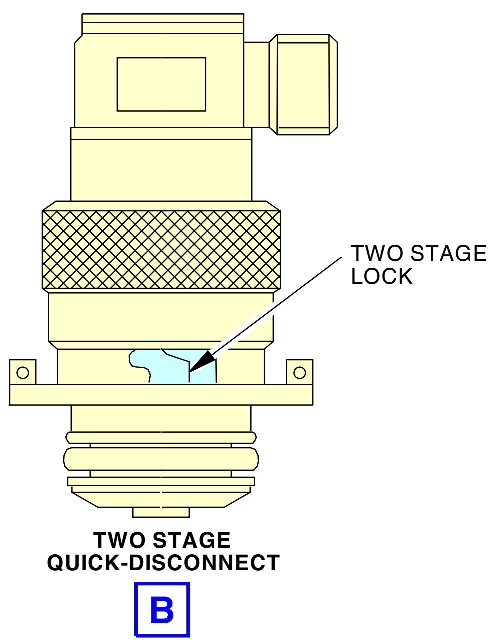
(EXAMPLE)
A-A

E50297 S0006419211_V2

Main Landing Gear Brake Installation
Figure 401/32-45-07-990-801 (Sheet 4 of 4)







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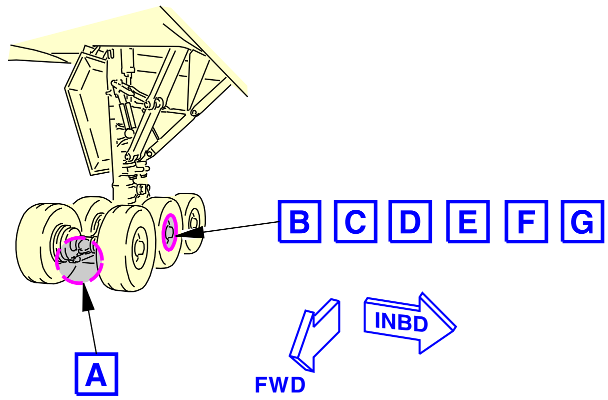
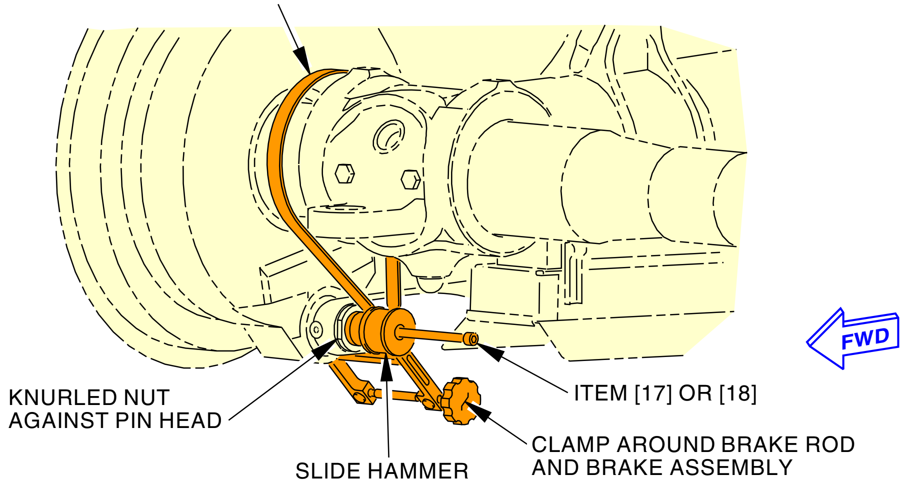
Brake Disconnect Installation
Figure 402/32-45-07-990-804





REMOVAL OF PIN CONNECTING BRAKE ROD TO FORWARD OR AFT BRAKE ASSEMBLY
J32008-1
A

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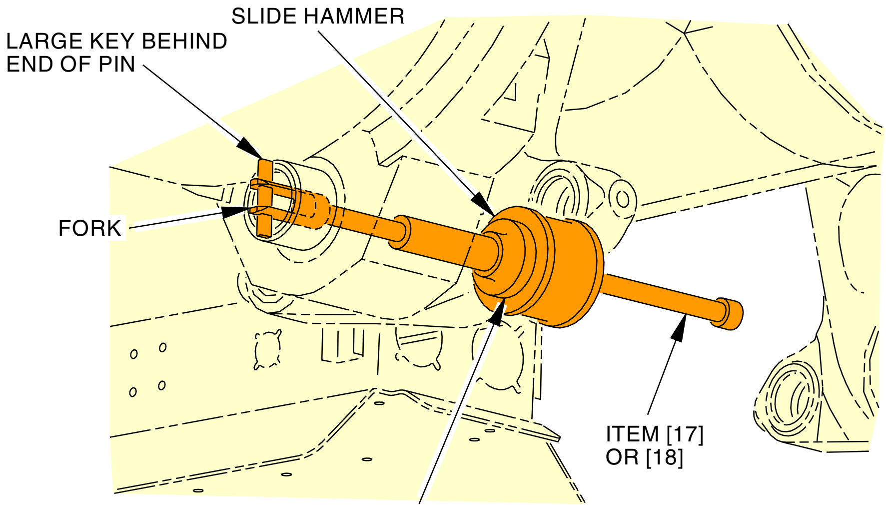
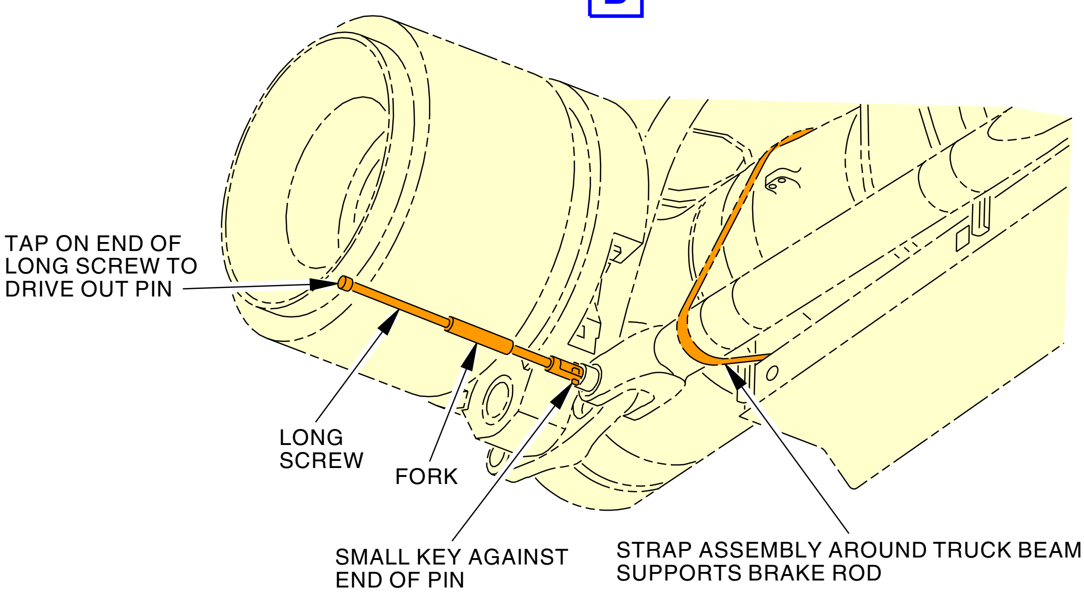
Main Landing Gear Brake System Pins Puller Equipment
Figure 403/32-45-07-990-807 (Sheet 1 of 5)



REMOVAL OF PIN CONNECTING INNER CYLINDER
YOKE TO CENTER BRAKE ASSEMBLY
J32008-1

B



REMOVAL OF PIN CONNECTING INNER CYLINDER TO BRAKE ROD
J32008-1

C

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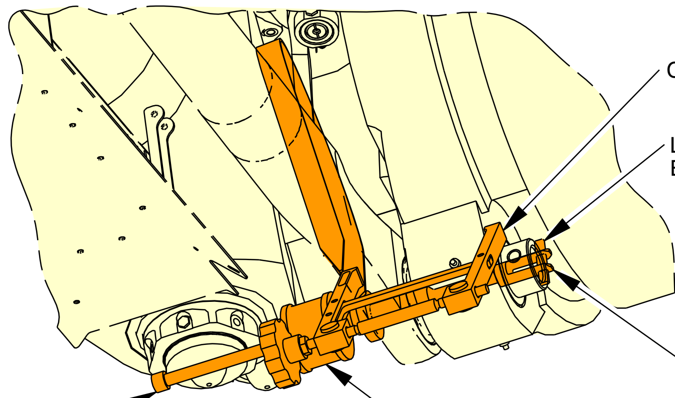
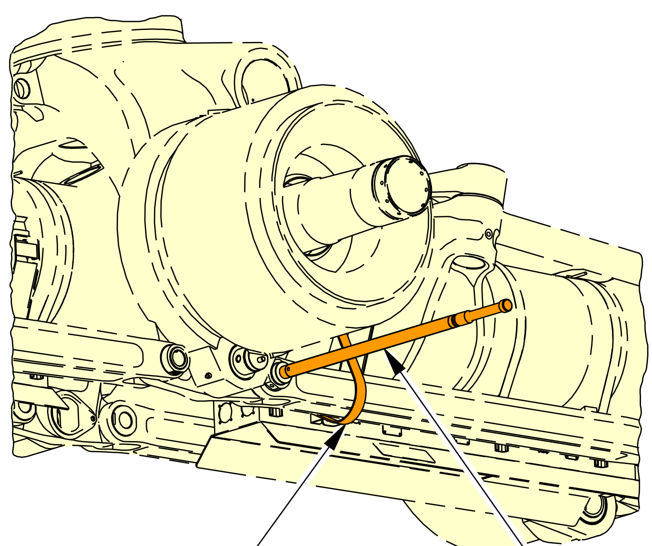
Main Landing Gear Brake System Pins Puller Equipment
Figure 403/32-45-07-990-807 (Sheet 2 of 5)



REMOVAL OF PIN CONNECTING BRAKE ROD
TO FORWARD OR AFT BRAKE ASSEMBLY
J32008-1

D



J32008-31

E

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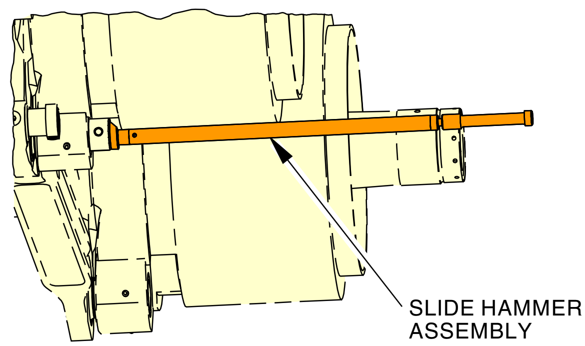
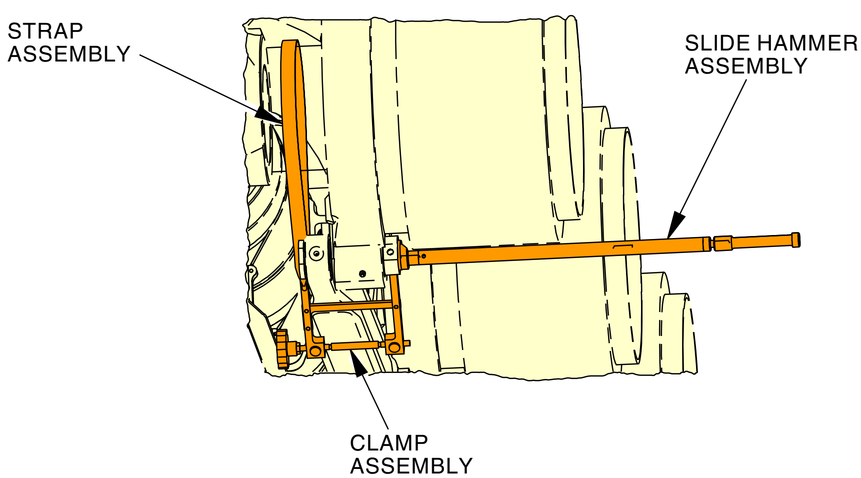
Main Landing Gear Brake System Pins Puller Equipment
Figure 403/32-45-07-990-807 (Sheet 3 of 5)



J32008-31

F



J32008-31

G

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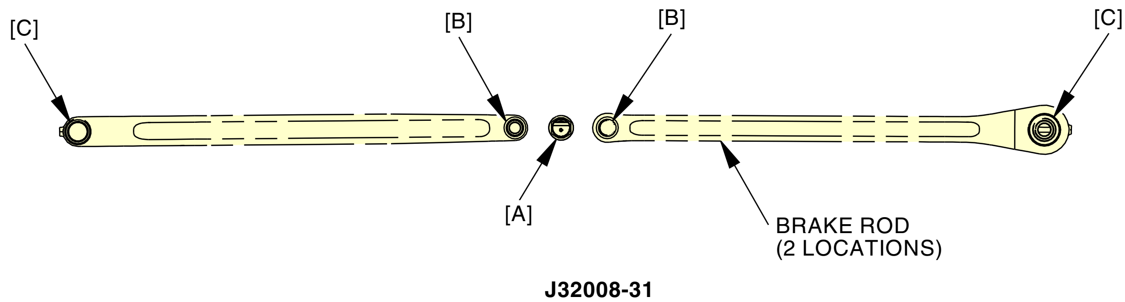
Main Landing Gear Brake System Pins Puller Equipment
Figure 403/32-45-07-990-807 (Sheet 4 of 5)



PART NUMBER	LOCATION USED	COMPONENT PART NUMBER
J32008-41	[B]	161W2188-1
J32008-42	[B]	161W1188-2
J32008-43	[B]	161W1188-1
J32008-44	[A]	161W1179-3
	[C]	161W1178-1
J32008-45	[A]	161W1179-1
J32008-46	[C]	161W2178-1

REPAIRABLE/REPLACEABLE PARTS			
ITEM NO.	PART NO.	NOMENCLATURE	VENDOR CODE
[17]	-12	LONG SCREW	
[18]	-13	SHORT SCREW	

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Main Landing Gear Brake System Pins Puller Equipment
Figure 403/32-45-07-990-807 (Sheet 5 of 5)

TASK 32-45-07-400-801

3. Main Landing Gear Brake Installation

(Figure 401, Figure 403)

NOTE: This procedure is a scheduled maintenance task.

A. General

WARNING

BRAKE ASSEMBLY WEIGHT IS APPROXIMATELY 225 LBS. A MINIMUM OF 2 PERSONS OR ASSISTED HANDLING IS REQUIRED FOR THIS TASK.

CAUTION

MAKE SURE THAT BRAKE LINES ARE CORRECTLY ROUTED. INCORRECTLY ROUTED BRAKE LINES CAN CAUSE CHAFING, LEAKS, AND POSSIBLY RUPTURES.

(1) This task provides instruction for installing the main landing gear brake.

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-41-06-400-801	Brake Disconnect Installation (P/B 401)
32-42-05-400-801	In-Axle Assembly Installation (P/B 401)
32-45-01-400-801	Main Landing Gear Wheel and Tire Assembly Installation (P/B 401)
32-46-03-400-801	Brake Temperature Sensor Installation (P/B 401)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1816	Sling - Hot Brake, 6 Foot Mesh Length, 6 Inch Mesh Width Part #: 6T212X6 Supplier: 23755 Part #: SLG35-6X72-002-01 Supplier: 10380 Opt Part #: G-35 Supplier: 10380 Opt Part #: G-59 Supplier: 10380

(Continued)

Reference	Description
COM-1818	Dolly - Wheel/Brake Change Part #: 175M Supplier: 94861 Part #: 175S-2 Supplier: 94861 Part #: 9092-016 Supplier: 00994 Part #: IA3201A-500 Supplier: 3D5B2 Part #: MH12-004 Supplier: D2029 Part #: MH12-005 Supplier: D2029 Opt Part #: 175 Supplier: 94861 Opt Part #: 8436-012 Supplier: 00994 Opt Part #: 9092-010 Supplier: 00994 Opt Part #: 9092-015 Supplier: 00994 Opt Part #: MH12-003 Supplier: D2029 Opt Part #: PF32-002-1 Supplier: 3D5B2
SPL-1854	Equipment - Protector, Main Landing Gear Part #: J32031-12 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
D00233	Grease - Aircraft, General Purpose, Wide Temperature - Mobil 28	MIL-PRF-81322
D00378	Grease - Aircraft, General Purpose, Wide Temperature - Aeroshell 22	MIL-PRF-81322
D00528	Grease - Aircraft - Royco 11MS	
D50005	Grease - Wheel Bearing - Mobil Aviation Grease SHC 100	
D50255	Grease - Aircraft And Instrument	MIL-PRF-32014

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Brake assembly	32-45-07-05B-025	ARO ALL
		32-45-07-05B-180	ARO ALL
13	Grease seal	32-45-07-05B-190	ARO ALL

F. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

G. Prepare for Installation

SUBTASK 32-45-07-020-014

> **WARNING**
> MAKE SURE THAT THE BRAKE SLEEVE IS INSTALLED BEFORE YOU INSTALL THE BRAKE. THE BRAKE SLEEVE CAN COME OFF WHEN YOU REMOVE THE BRAKE. IF YOU INSTALL THE BRAKE AND THE BRAKE SLEEVE IS NOT ON THE AXLE, DAMAGE CAN OCCUR TO THE AXLE.

(1) Make sure the sleeve [10] is installed on the axle.

SUBTASK 32-45-07-200-001

(2) Check that the rivet heads inside the brake heat shield are covered with sealant.

(a) Repair the brake heat shield if sealant is missing from a rivet head.

SUBTASK 32-45-07-480-019

(3) Make sure the main landing gear protector equipment, SPL-1854 is installed on the axle.

SUBTASK 32-45-07-640-001

WARNING DO NOT APPLY TOO MUCH GREASE TO THE LANDING GEAR BRAKE HOUSING BUSHINGS. A FIRE CAN OCCUR WHEN THE BRAKE BECOMES HOT. FIRE CAN CAUSE INJURIES TO PERSONNEL.

CAUTION DO NOT LUBRICATE THE FITTING WITH TOO MUCH GREASE. TOO MUCH GREASE CAN CAUSE A FIRE.

(4) Apply a thin layer of Aeroshell 22 grease, D00378, Mobil 28 grease, D00233 or Mobil Aviation Grease SHC 100 grease, D50005 to the sleeve [10] and to the bushing [14] on the brake assembly [3] such that the grooves in the bushings are completely filled with grease.

NOTE: Wheel bearing grease is used because it has a higher flash point.

NOTE: This will allow the brake assembly [3] to slide easily onto the axle.

H. Main Landing Gear Brake Installation

SUBTASK 32-45-07-410-002

(1) Install the new grease seal [13] in the brake assembly [3]:

(a) Apply a thin layer of Aeroshell 22 grease, D00378, Mobil 28 grease, D00233 or Mobil Aviation Grease SHC 100 grease, D50005 to the new grease seal [13].

1) Use enough grease to hold the new grease seal [13] in its position during brake installation.

(b) Install the new grease seal [13] in its groove next to the brake bushing [14].

SUBTASK 32-45-07-420-001

(2) If you removed the in-axle assembly, do this task: In-Axle Assembly Installation, TASK 32-42-05-400-801.

SUBTASK 32-45-07-420-004

(3) If the brake temperature sensor is not installed, do this task: Brake Temperature Sensor Installation, TASK 32-46-03-400-801.

SUBTASK 32-45-07-420-003

(4) Do this step to install the brake assembly [3] on the axle:

CAUTION	BE VERY CAREFUL WITH CARBON BRAKES. CARBON BRAKE DISK WITH NICKS AND CRACKS IS NOT SERVICEABLE AND YOU CANNOT REPAIR THEM. DO NOT PUT FORCE ON THE BRAKE HEAT SHIELDS WHEN YOU REMOVE OR INSTALL THE BRAKE. BENT HEAT SHIELDS FREQUENTLY BROKEN PERMANENTLY. A BRAKE WITH A BENT HEAT SHIELD WILL CAUSE SCORING ON THE WHEEL SURFACE WHEN THE WHEEL TURNS.

(a) Use a hot brake sling, COM-1816, and wheel/brake changer dolly, COM-1818 to put the brake assembly [3] in its position on the axle.

NOTE: If you will use the hot brake sling, COM-1816, or equivalent, you must also use a wheel/brake changer dolly, COM-1818, or equivalent.

NOTE: If you will use a sling, you must also have a hoist (commercially available). If you use a sling, be careful to select one that is correct for the temperature condition of the brake--hot brake sling, COM-1816, can be used for hot brakes.

SUBTASK 32-45-07-400-001

(5) If you will use the brake disconnect [2] from the old brake assembly [3] on a new brake assembly [3], do this task: Brake Disconnect Installation, TASK 32-41-06-400-801.

SUBTASK 32-45-07-420-008

(6) Connect the brake hose [1] to the brake assembly [3] at the brake disconnect [2]:

CAUTION	DO NOT APPLY HIGH PRESSURE WHEN YOU CONNECT THE HOSE-HALF OF THE BRAKE-DISCONNECT ON TO THE BRAKE-HALF OF THE BRAKE-DISCONNECT. DAMAGE TO THE SEAL/BACK-UP RING, ON THE BRAKE-HALF OF THE BRAKE-DISCONNECT CAN OCCUR.

(a) Install the hose half of the brake disconnect [2] on the brake half of the brake disconnect [2]:

1) Turn the hose half of the brake disconnect [2] until the internal tangs align with the slots inside the brake half of the brake disconnect [2] and you can push the hose half down.

2) Push down on the barrel [16] and turn it clockwise to engage the threads.

3) Turn the barrel [16] clockwise until the slots in the bottom of the barrel snap into place on the external tangs on the brake half of the brake disconnect [2].

(b) Do a visual check to make sure the slots on the barrel [16] are fully and correctly engaged with the tangs on the brake half of the brake disconnect [2].

SUBTASK 32-45-07-420-009

(7) Visually check the two halves of the brake disconnect [2] to make sure they are correctly engaged.

SUBTASK 32-45-07-420-006

(8) Connect the electrical connector for the brake temperature sensor.

SUBTASK 32-45-07-020-011

(9) For a brake assembly [3] on a forward or aft axle, do these steps:

(a) Apply a thin layer of grease, D50255 (preferred) or Royco 11MS grease, D00528 (optional), to the pin assembly [4], collar [8], bolt [9], washer [7], and nut [6].

(b) Lift the brake rod [11] to the brake assembly [3] and install the pin assembly [4].

(c) Install the collar [8], bolt [9], washer [7], nut [6] and pin [5].

SUBTASK 32-45-07-020-012

(10) For a brake assembly [3] on a center axle, do these steps:

(a) Apply a thin layer of grease, D50255 (preferred) or Royco 11MS grease, D00528 (optional), to the collar [8], bolt [9], washer [7], nut [6], and the pin assembly [12] if the pin assembly [12] has not been installed.

(b) Install the pin assembly [12], if it has not been installed.

(c) Install the collar [8], bolt [9], washer [7], nut [6] and pin [5].

SUBTASK 32-45-07-640-004

(11) For a brake assembly [3] on a forward or aft axle, lubricate these parts with grease, D50255 (preferred) or Royco 11MS grease, D00528 (optional):

(a) The grease fitting [15] on the brake assembly [3].

(b) The grease fitting on the brake rod [11].

SUBTASK 32-45-07-640-002

(12) For a brake assembly [3] on a center axle, lubricate these parts with grease, D50255 (preferred) or Royco 11MS grease, D00528 (optional):

(a) The grease fittings on the pin assembly [12].

(b) The grease fitting [15] on the brake assembly [3].

SUBTASK 32-45-07-420-007

(13) Do this task: Main Landing Gear Wheel and Tire Assembly Installation, TASK 32-45-01-400-801.

I. Main Gear Wheel Brakes Installation Test

SUBTASK 32-45-07-860-004

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-45-07-860-005

WARNING: KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(2) Do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-45-07-870-001

CAUTION: BLEED THE BRAKE ASSEMBLY SLOWLY. IF YOU BLEED IT TOO QUICKLY, AIR WILL STAY IN THE SYSTEM. AIR IN THE SYSTEM CAN CAUSE DAMAGE TO THE PRESSURE TRANSDUCER.

(3) Do these steps six times to bleed the small quantity of air from the brake assembly [3]:

(a) Slowly push one set of brake pedals to the limit of travel

(b) Hold the brake pedals in this position momentarily.

(c) Slowly release the brake pedals.

(d) Wait ten seconds.

SUBTASK 32-45-07-790-001

(4) Do these steps to do an operational check of the brake:

(a) Push one set of brake pedals to the limit of travel to fully operate the brake assembly [3].

(b) Set the parking brake.

(c) Examine the applicable wear indicator to make sure that the brake assembly [3] engaged.

(d) Wait two minutes.

(e) Look for leaks around the brake assembly [3], and at the brake disconnect [2].

(f) Release the parking brake.

(g) Examine the applicable wear indicator to make sure that the brake assembly [3] released.

J. Put the Airplane Back to Its Usual Condition

SUBTASK 32-45-07-860-006

(1) Do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-45-07-480-006

WARNING	MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

END OF TASK

MAIN LANDING GEAR BRAKE - INSPECTION/CHECK

1. General

A. This procedure contains scheduled maintenance task data.

B. This procedure has these tasks:

(1) An examination of the brakes for wear

(2) A fast check of the main gear wheel brakes (wheel installed on the airplane)

(3) An inspection of the main gear wheel brakes (wheel removed from the airplane).

TASK 32-45-07-700-801

2. Examine the Brakes for Wear

(Figure 601)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)

B. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Prepare for Procedure

SUBTASK 32-45-07-860-008

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-45-07-480-007

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-45-07-480-013

WARNING: MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-45-07-480-008

(4) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-45-07-860-009

(5) Release the parking brake.

SUBTASK 32-45-07-860-010

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801

D. Procedure

SUBTASK 32-45-07-210-002

(1) Do these steps to examine the brakes [5] for wear:

(a) Fully push the captain's brake pedals and hold.

NOTE: You can set the parking brake to hold the brake pedals.

(b) For each brake [5] (12 locations), make sure the wear indicator pins [2] extend out of the guides [3].

NOTE: For accuracy, the wear indicator pins should be checked after the brakes have cooled.

NOTE: Each brake has two brake wear indicator pins.

1) If the two wear pins are missing, you must replace the brake [5] prior to the next flight.

2) If one wear pin is missing, the brake [5] can stay in service if the remaining wear pin operation is satisfactory.

(c) Replace the brake [5] if the end of a wear indicator pin [2] is level with, or below the face of a guide [3].

E. Put the Airplane Back to Its Usual Condition

SUBTASK 32-45-07-860-011

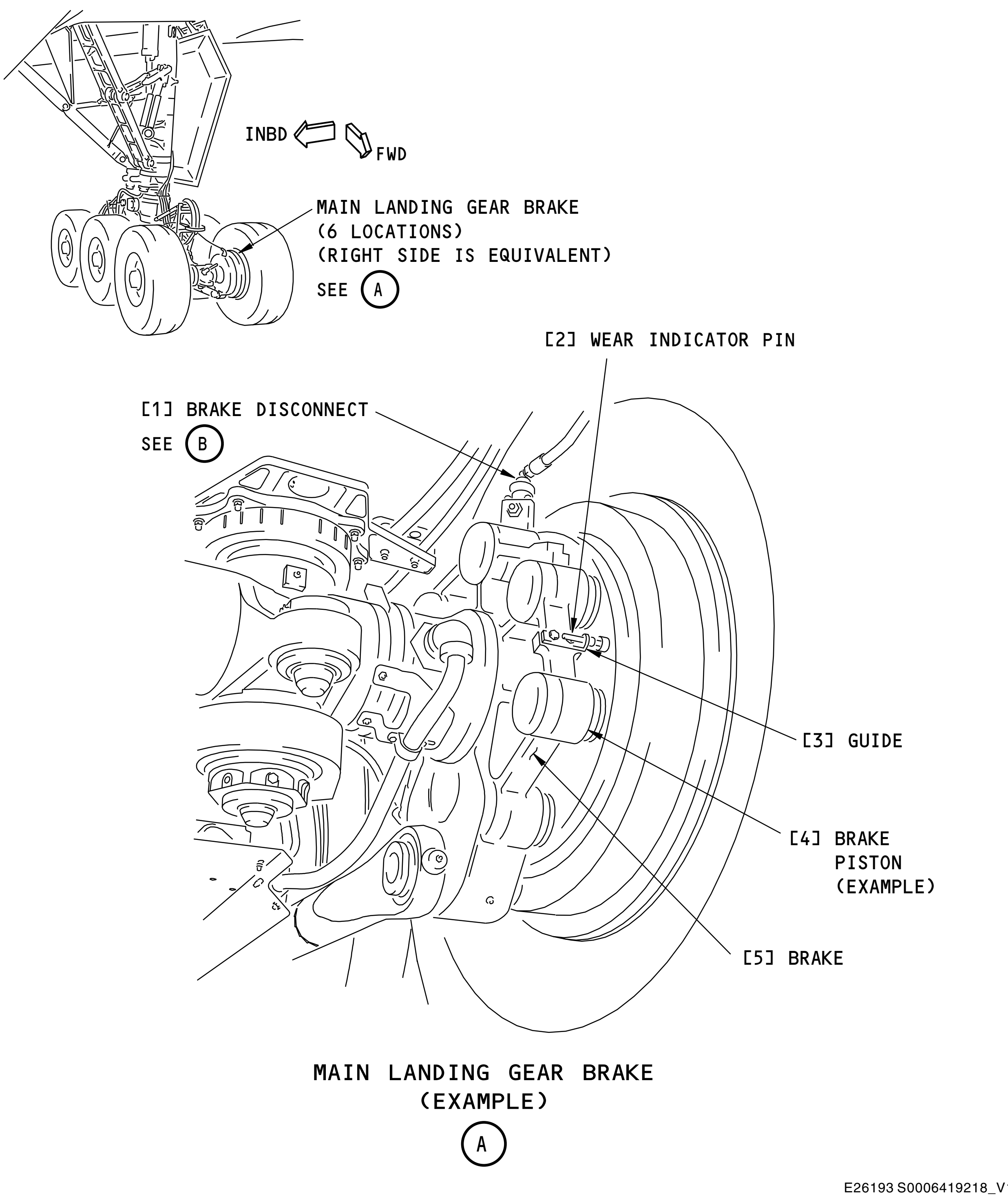
(1) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-45-07-480-014

WARNING MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

END OF TASK



Main Landing Gear Brake Inspection (Wheel Installed)
Figure 601/32-45-07-990-806

TASK 32-45-07-700-802

3. Main Landing Gear Brake Fast Check (Wheel Installed on the Airplane)

(Figure 601)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)

B. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Prepare for Procedure

SUBTASK 32-45-07-860-012

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-45-07-480-009

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-45-07-480-015

WARNING MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-45-07-480-010

(4) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-45-07-860-013

(5) Release the parking brake.

SUBTASK 32-45-07-860-014

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) For the right hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801

D. Procedure

SUBTASK 32-45-07-790-005

(1) Fully apply and release the left and right captain's or first officer's brake pedals five times.

SUBTASK 32-45-07-790-006

(2) With the brake pedals not applied, do a check of the brakes for fluid leaks at these locations:

(a) brake pistons [4]

(b) Brake housing ports

(c) Inlet and drain ports

(d) Bleed ports.

SUBTASK 32-45-07-790-007

(3) If the total leakage per brake at the above locations is greater than 1 drop/minute with the brake pedals not applied, repair the leak(s) or replace (or deactivate if applicable) the brake prior to dispatch.

SUBTASK 32-45-07-790-008

(4) Slowly apply the brake pedals to the stops (the parking brake may be set).

SUBTASK 32-45-07-790-009

(5) While the brakes are applied, do a check of the brakes for fluid leaks at these locations:

(a) brake pistons [4]

(b) Brake housing ports

(c) Inlet and drain ports

(d) Bleed ports.

SUBTASK 32-45-07-790-010

(6) If the total leakage per brake at the above locations is greater than 5 drops/minute while the brakes are being applied, repair the leak(s) or replace (or deactivate if applicable) the brake prior to dispatch.

SUBTASK 32-45-07-790-011

(7) Brakes with leaks below these limits must be rechecked prior to each flight, and should be repaired or replaced at the next opportunity that manpower and material allow.

SUBTASK 32-45-07-790-012

(8) The brake must be removed, inspected, and cleaned in accordance with the brake supplier component maintenance manual if it is suspected that a brake has been exposed to significant levels of contamination. Signs of contamination include a wet or oily appearance, buildup of charred residue, or heavy smoke after landing.

SUBTASK 32-45-07-720-001

(9) Release the captain's brake pedals (or parking brake).

SUBTASK 32-45-07-790-004

(10) Do a check for missing brake wear indicator pins.

NOTE: Each brake has two brake wear indicator pins.

(a) If the two wear pins are missing, you must replace the brake prior to the next flight.

(b) If one wear pin is missing, the brake can stay in service if the remaining wear pin operation is satisfactory.

SUBTASK 32-45-07-210-003

(11) Examine all of the brakes for these conditions:

(a) Cracks

(b) Broken parts

(c) Distortion

(d) Parts that show a large amount of wear

(e) Other damage that can cause a malfunction or a leak.

E. Put the Airplane Back to Its Usual Condition

SUBTASK 32-45-07-860-016

(1) For the right hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-45-07-480-016

WARNING	MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

——— END OF TASK ———

TASK 32-45-07-700-803

4. Main Landing Gear Brake Inspection (Wheel Removed from the Airplane)
(Figure 602)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)

B. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Prepare for Procedure

SUBTASK 32-45-07-860-017

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-45-07-480-011

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-45-07-480-017

WARNING	MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-45-07-480-012

(4) Make sure the tires have chocks installed around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-45-07-860-018

(5) Release the parking brake.

D. Procedure

SUBTASK 32-45-07-210-004

(1) For each brake (12 locations), do a check for these conditions:

(a) Cracks

(b) Broken parts

(c) Distortion

(d) Parts that show a large amount of wear.

(e) Index marks on the stator disks [9] (12 o'clock position) that do not align.

NOTE: Index marks that do not align indicate the stator has broken loose from the torque tube and is rotating with the rotor disks. Bent wear pin will also indicate excessive slot wear on the pressure plate. This will cause loss of brake effectiveness.

(f) Loose the rotor drive clips [7].

(g) Oxidation damage on the rotors and stators. The following are possible signs of oxidation damage:

NOTE: Oxidation causes softness, flaking and pieces to break off the rotors or stators. Damage on the outside diameter of the rotors and stators is easy to see but damage can also occur in other areas of the rotors and stators. Examine all visible areas for signs of oxidation.

1) Examine the brake and surrounding areas for unusual carbon debris such as chips or pieces of carbon that have broken off of the rotor disks [8] or stator disks [9].

2) Examine for indentations or flaking carbon where the pistons touch the carbon pressure plate [6].

3) Examine the brake for bent or missing wear indicator pins [10].

NOTE: This may be an indicator of carbon stator damage.

4) With the parking brake released, make sure that all rotor assemblies can be rotated freely with no binding.

5) Make sure there is no loose or flaking carbon near the rotor drive clips [7].

(h) Damage that can cause a malfunction or a leak.

(i) Corrosion on and around the brake [5].

1) Make sure the surface finishes are in good condition because corrosion can occur quickly in some climates.

(j) Look for the same brake running clearance between each brake piston [4] and the pressure plate [6].

NOTE: For the minimum permitted running clearance, refer to the applicable vendor component maintenance manual.

SUBTASK 32-45-07-210-006

(2) Examine the brake stator drive slots for excessive movement.

(a) With one hand at the 6 o'clock position and the other hand at the 12 o'clock position, rotate each stator individually on the torque tube.

1) Verify that the rotated stator does not move more than 0.25 in. (6.4 mm) maximum on the stator periphery.

(b) Repeat the above step, but with one hand at the 3 o'clock position and the other hand at the 9 o'clock position.

(c) If you find one of the above conditions, replace the brake.

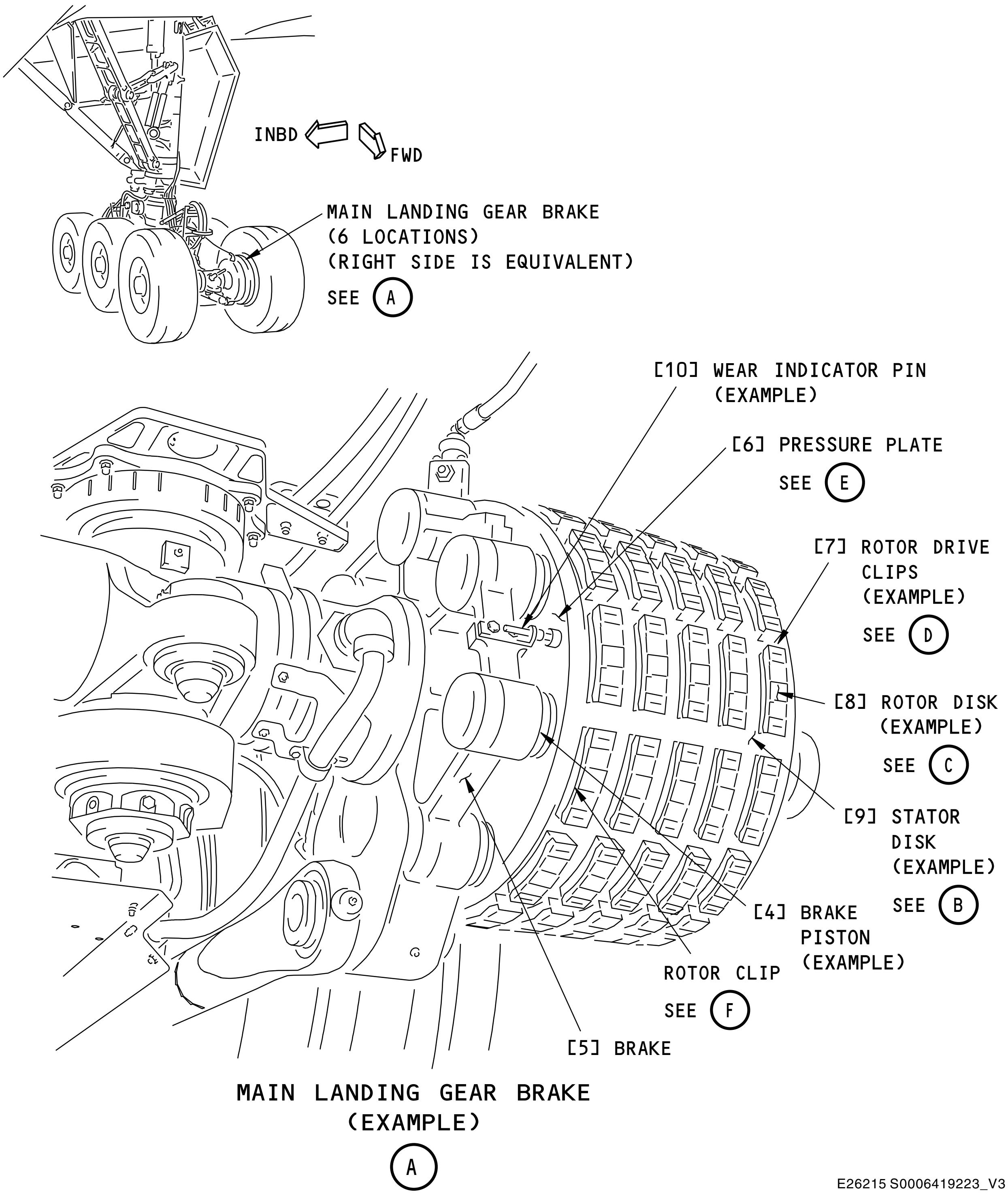
E. Put the Airplane Back to Its Usual Condition

SUBTASK 32-45-07-480-018

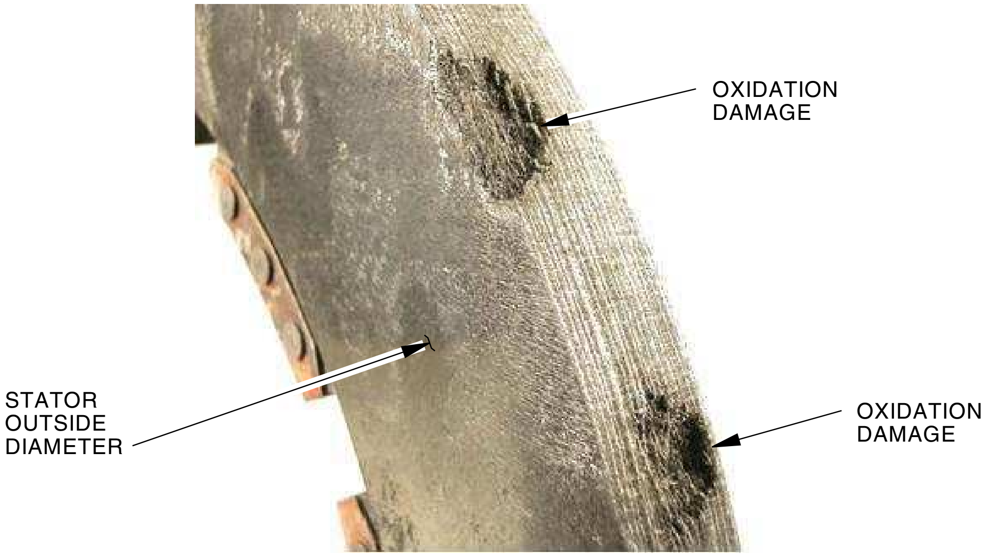
WARNING	MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

END OF TASK

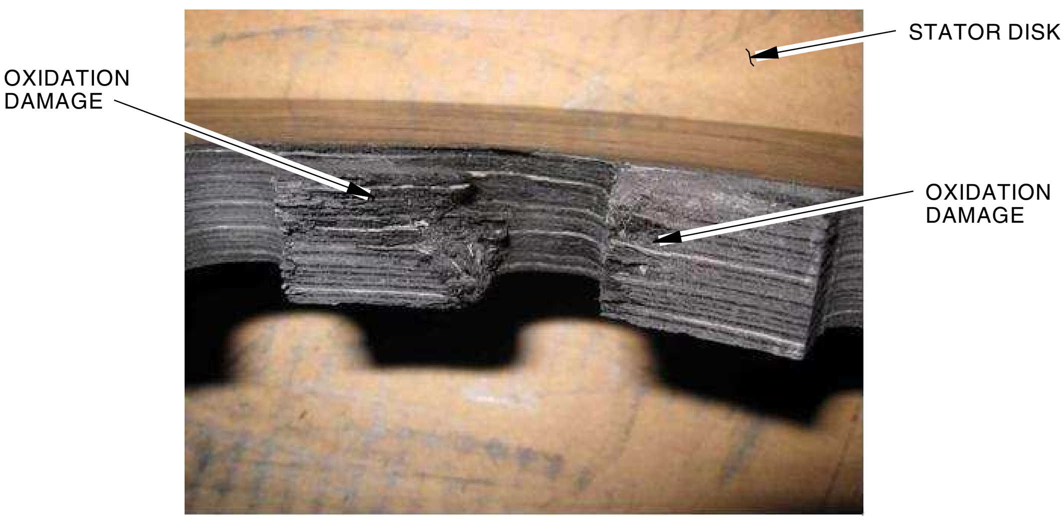


Main Landing Gear Brake Inspection (Wheel Removed)
Figure 602/32-45-07-990-803 (Sheet 1 of 4)



STATOR DISK
(OXIDATION DAMAGE ON OUTSIDE DIAMETER)
(EXAMPLE)

B



STATOR DRIVE LUGS
(OXIDATION DAMAGE ON INSIDE DIAMETER)
(EXAMPLE)

B

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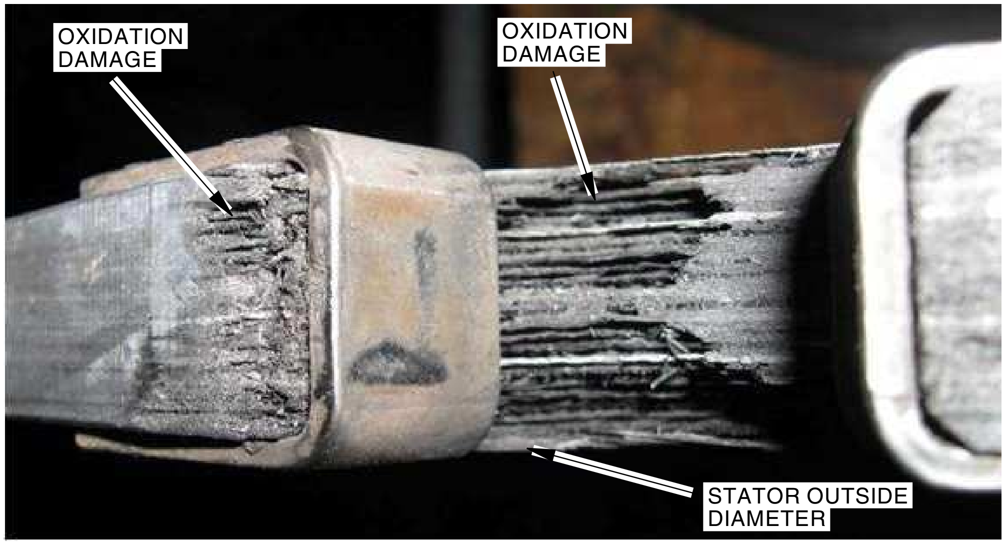
Main Landing Gear Brake Inspection (Wheel Removed)
Figure 602/32-45-07-990-803 (Sheet 2 of 4)



ROTOR DISK
(OXIDATION DAMAGE ON OUTSIDE DIAMETER)
(EXAMPLE)

C

ROTOR DRIVE CLIP
(OXIDATION DAMAGE ON OUTSIDE DIAMETER)
(EXAMPLE)

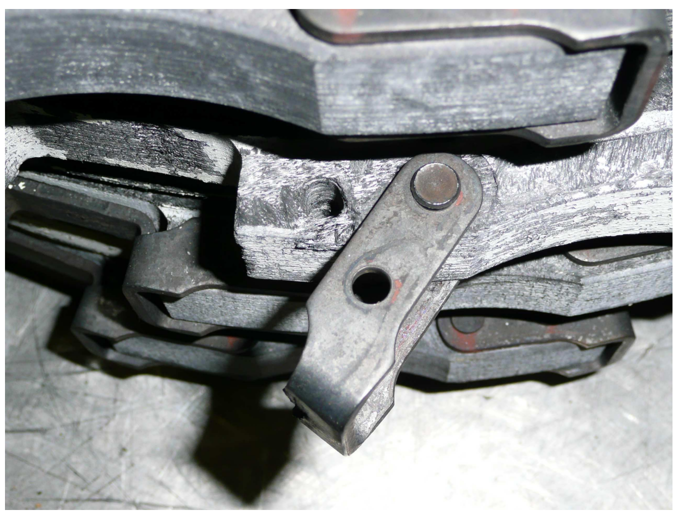
D

1836697 S0000324255_V3

Main Landing Gear Brake Inspection (Wheel Removed)
Figure 602/32-45-07-990-803 (Sheet 3 of 4)

**PRESSURE PLATE
(OXIDATION DAMAGE ON THRUST FACE)
(EXAMPLE)**

E



**ROTOR CLIP
(ROTOR CLIP BROKEN, MISSING, OR LOOSE)
(EXAMPLE)**

F

1836705 S0000324256_V5

**Main Landing Gear Brake Inspection (Wheel Removed)
Figure 602/32-45-07-990-803 (Sheet 4 of 4)**

Hubcap Removal/Installation

1. **General**

   A. This procedure has these tasks;

      (1) Removal of the main gear hubcap.

      (2) Installation of the main gear hubcap.

      (3) Removal of the nose gear hubcap.

      (4) Installation of the nose gear hubcap.

TASK 32-45-08-020-801

2. **Main Landing Gear Hubcap - Removal**

   A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-49-05 P/B 401	TIRE AND BRAKE MONITORING SYSTEM (TBMS) TIRE PRESSURE SENSOR/FILL VALVE - REMOVAL/INSTALLATION

   B. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

   C. Prepare for removal.

   Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801

   SUBTASK 32-45-08-840-001

   WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

   (1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801

   D. Main Gear Hubcap Removal

   CAUTION REMOVE THE HUBCAP CAREFULLY. THERE IS A LOCATING PIN ON THE HUBCAP. SUDDEN MOVEMENTS CAN CAUSE DAMAGE TO THE LOCATING PIN.

   SUBTASK 32-45-08-020-003

   (1) Do these steps to remove the tire and brake monitoring system (TBMS) hubcap assembly [1]

      (a) Remove the lockwire [3].

      (b) Remove the nut [4] and the washer [5] from the tire pressure sensor/fill valve.

      (c) Remove the relay transformer coupling ring [6] from the tire pressure sensor/fill valve.

      (d) Remove the clamp [2] from the hubcap.

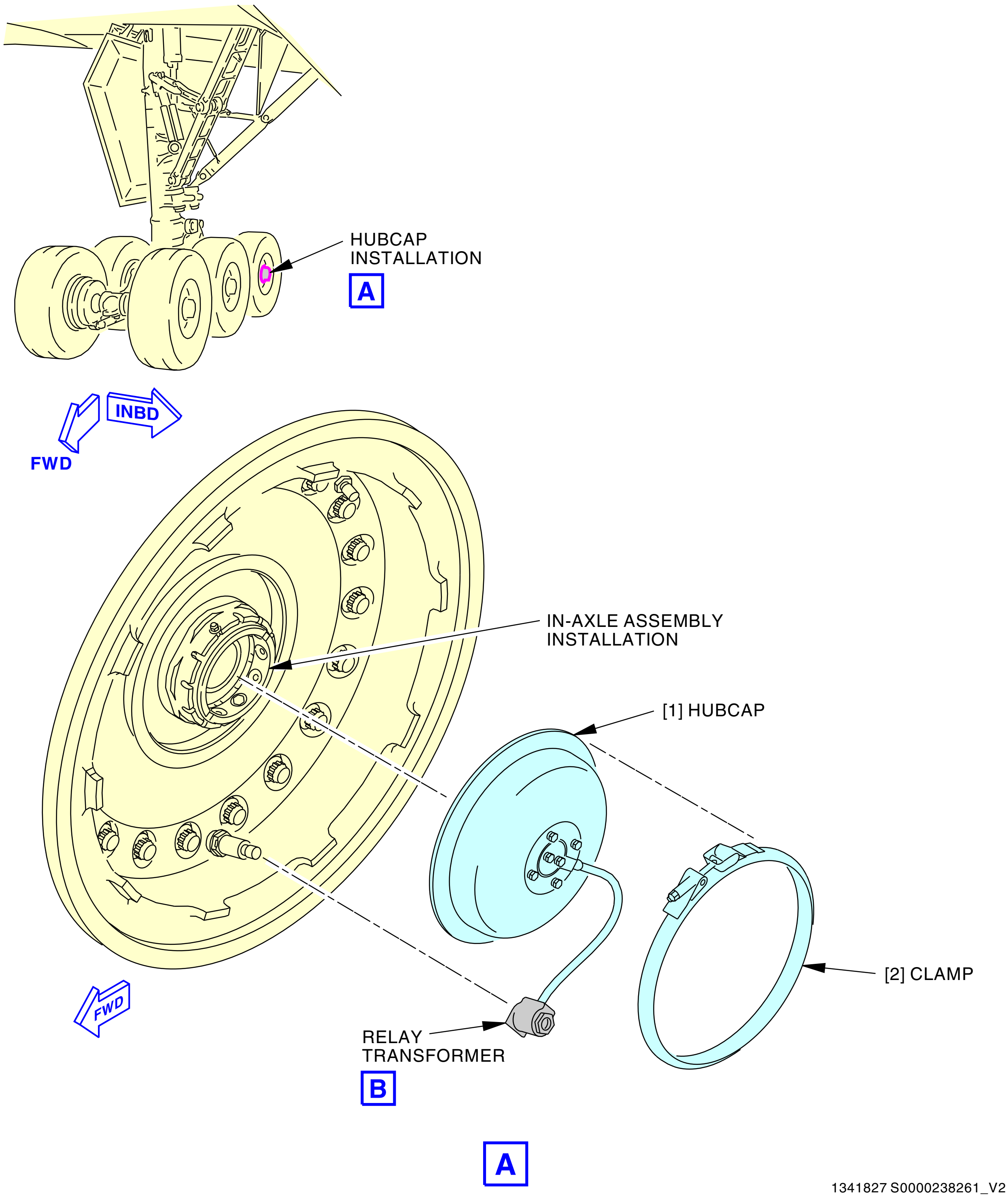
      (e) Remove the hubcap assembly [1] from the wheel.

SUBTASK 32-45-08-200-002

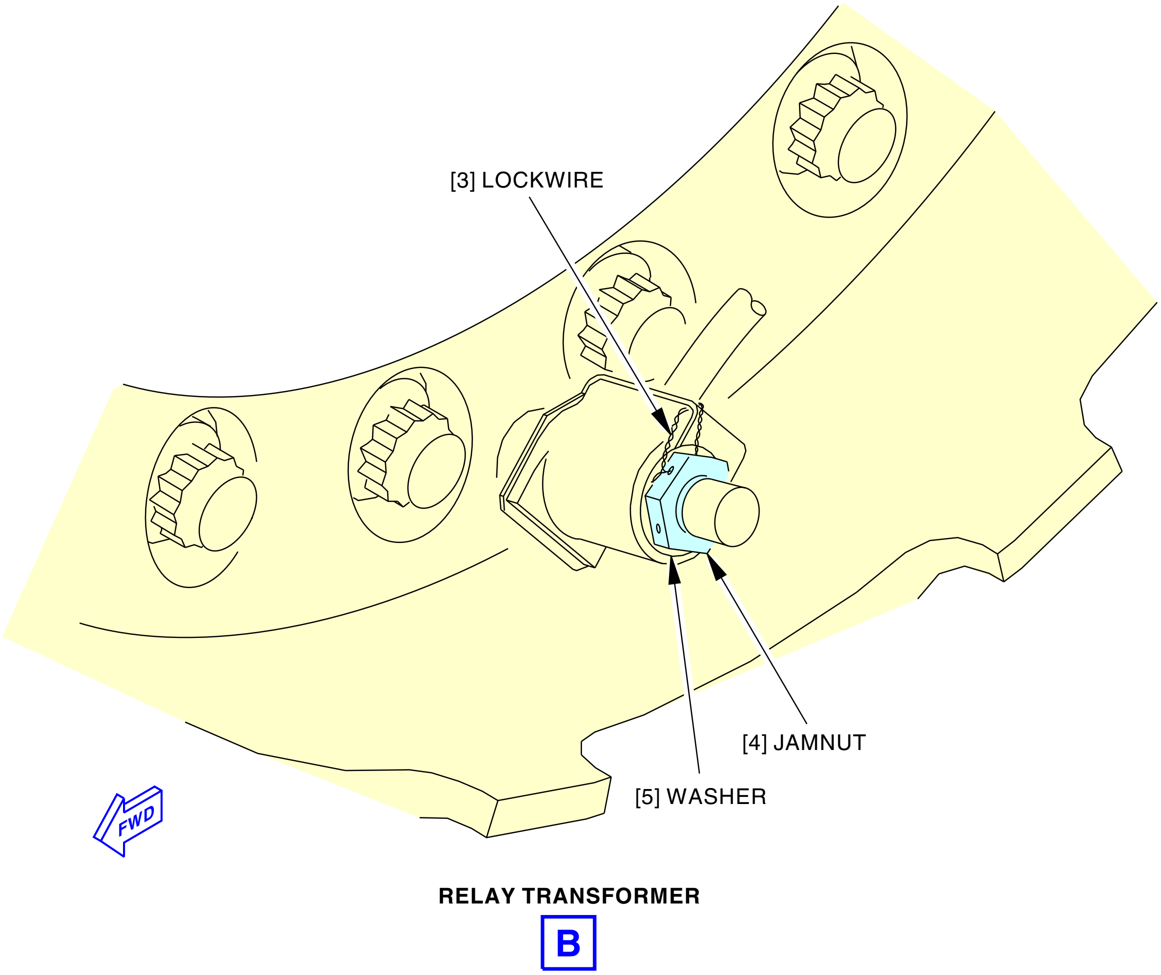
(2) Inspect the tire pressure sensor/fill valve.

(a) Replace the tire pressure sensor/fill valve if the two staked halves of the tire pressure sensor/fill valve are loose or misaligned, do this pageblock: TIRE AND BRAKE MONITORING SYSTEM (TBMS) TIRE PRESSURE SENSOR/FILL VALVE - REMOVAL/INSTALLATION, PAGEBLOCK 32-49-05/401.

——— END OF TASK ———



Hubcap Installation
Figure 401/32-45-08-990-805 (Sheet 1 of 2)



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Hubcap Installation
Figure 401/32-45-08-990-805 (Sheet 2 of 2)

TASK 32-45-08-420-801

3. Main Landing Gear Hubcap - Installation

A. References

Reference	Title
32-49-05 P/B 401	TIRE AND BRAKE MONITORING SYSTEM (TBMS) TIRE PRESSURE SENSOR/FILL VALVE - REMOVAL/INSTALLATION

B. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Main Landing Gear Hubcap Installation

SUBTASK 32-45-08-200-003

(1) Inspect the tire pressure sensor/fill valve.

(a) Replace the tire pressure sensor/fill valve if the two staked halves of the tire pressure sensor/fill valve are loose or misaligned, do this pageblock: TIRE AND BRAKE MONITORING SYSTEM (TBMS) TIRE PRESSURE SENSOR/FILL VALVE - REMOVAL/INSTALLATION, PAGEBLOCK 32-49-05/401.

SUBTASK 32-45-08-420-006

(2) Do these steps to install the TBMS hubcap assembly [1] on the wheel:

(a) Install the hubcap [1] in its position on the wheel and align the index pin with the hole in the wheel.

(b) Install the clamp [2] over the edge of the hubcap and wheel.

(c) Tighten the clamp [2] to 60-75 inch-pounds (6.8-8.5 Nm).

(d) Install the relay transformer [6] onto the tire pressure sensor/fill valve.

NOTE: Align the relay transformer on the tire pressure sensor/fill valve to make sure the cable run is as smooth as possible.

(e) Install the washer [5] and the nut [4] on the tire pressure sensor/fill valve. Tighten the nut [4] to 87-93 inch-pounds (9.8-10.5 Nm).

(f) Install the lockwire [3] on the nut [4].

——— END OF TASK ———

TASK 32-45-08-020-802

4. Nose Landing Gear Hubcap - Removal

A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-49-05 P/B 401	TIRE AND BRAKE MONITORING SYSTEM (TBMS) TIRE PRESSURE SENSOR/FILL VALVE - REMOVAL/INSTALLATION

B. Location Zones

Zone	Area
711	Nose Landing Gear

C. Prepare for Hubcap Removal

SUBTASK 32-45-08-490-001

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

D. Nose Gear Hubcap Removal

SUBTASK 32-45-08-020-001

(1) Do these steps to remove the tire and brake monitoring system (TBMS) hubcap assy [1]:

(a) Remove the lockwire [3].

(b) Remove the nut [4] and washer [5] from the tire pressure sensor/fill valve [6].

(c) Remove the relay transformer coupling ring [7] from the tire pressure sensor/fill valve [6].

(d) Remove the clamp [2] from the hubcap assembly [1].

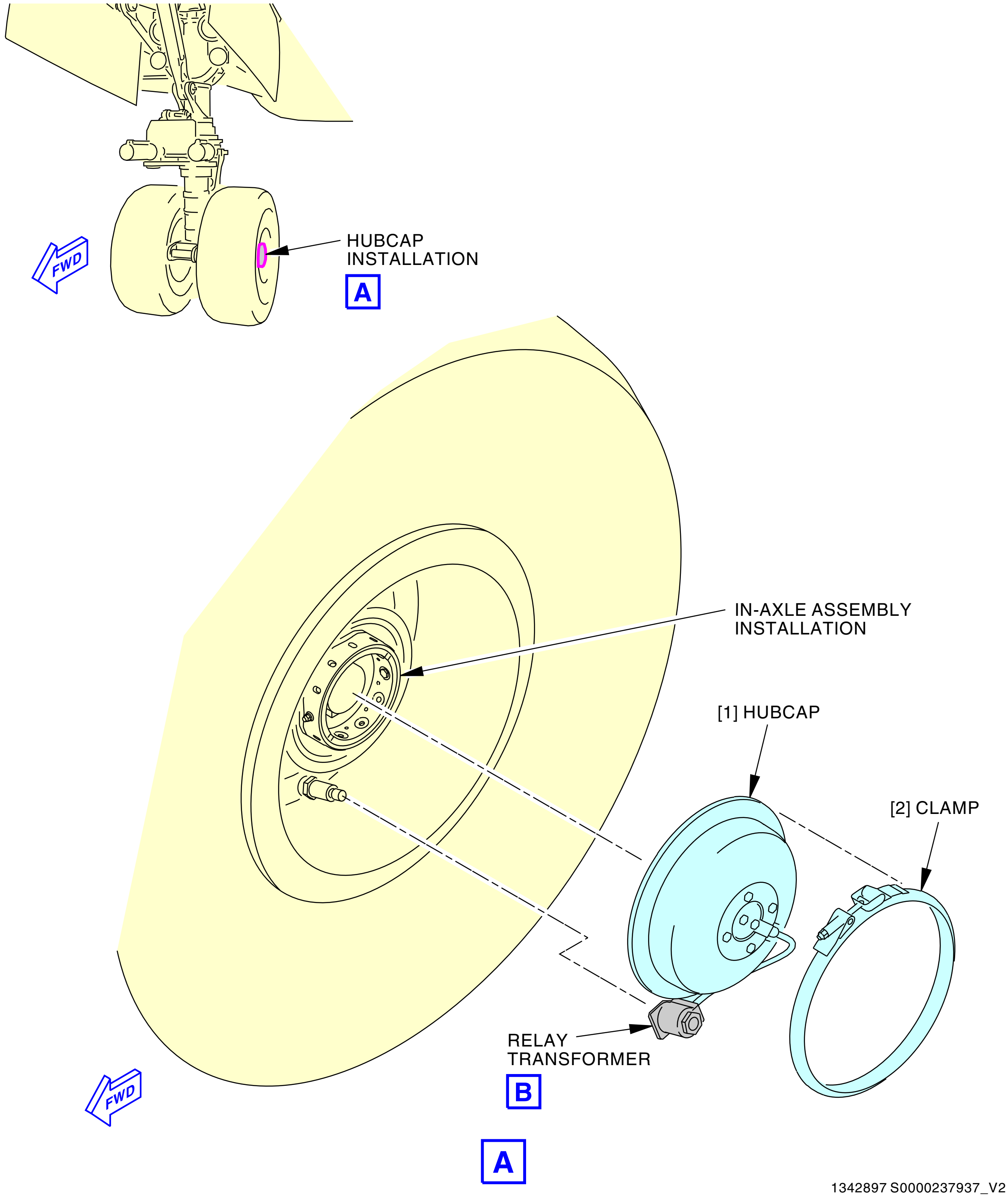
(e) Remove the hubcap assembly [1] from the wheel.

SUBTASK 32-45-08-200-004

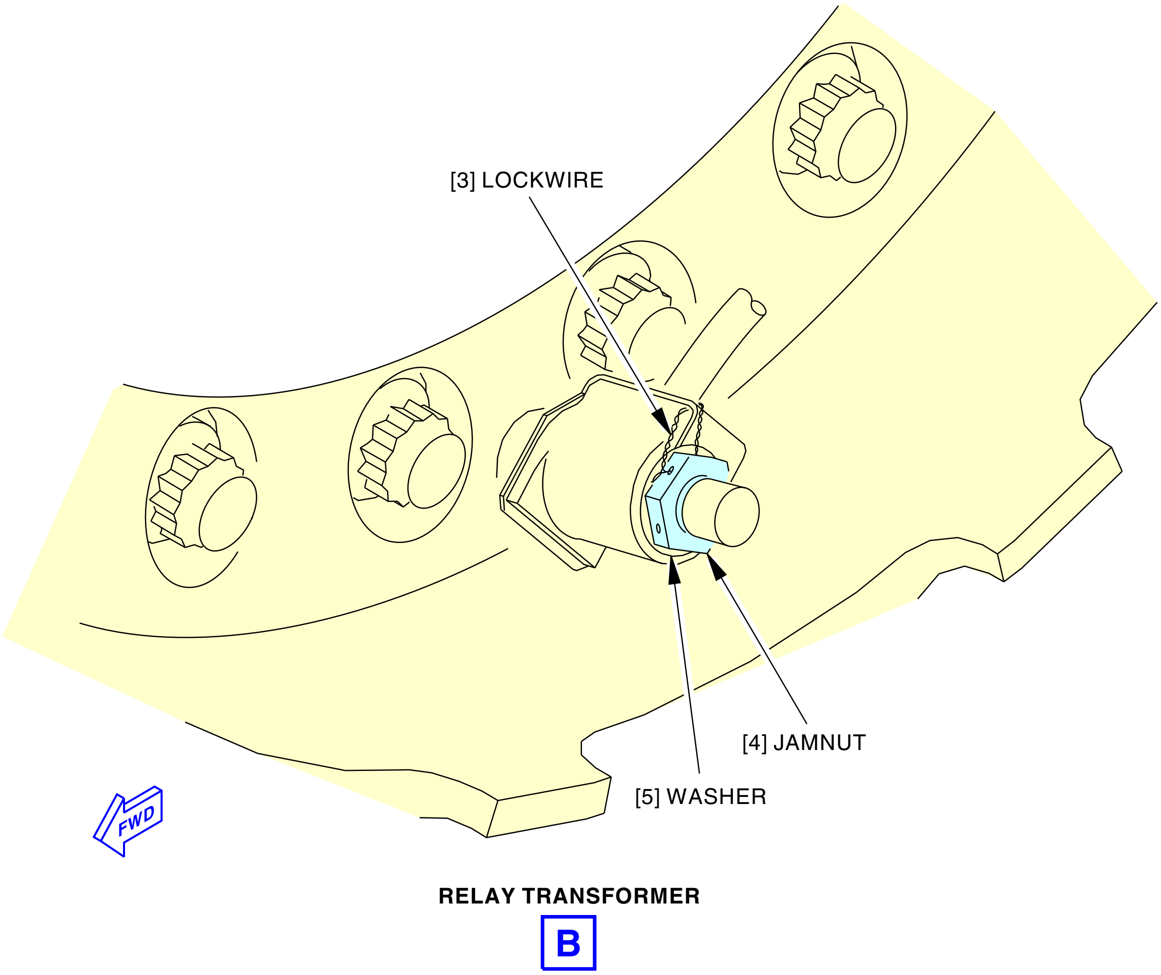
(2) Inspect the tire pressure sensor/fill valve.

(a) Replace the tire pressure sensor/fill valve if the two staked halves of the tire pressure sensor/fill valve are loose or misaligned, do this pageblock: TIRE AND BRAKE MONITORING SYSTEM (TBMS) TIRE PRESSURE SENSOR/FILL VALVE - REMOVAL/INSTALLATION, PAGEBLOCK 32-49-05/401.

END OF TASK



Hubcap Installation
Figure 402/32-45-08-990-806 (Sheet 1 of 2)



Hubcap Installation
Figure 402/32-45-08-990-806 (Sheet 2 of 2)

TASK 32-45-08-420-802

5. **Nose Gear Hubcap - Installation**

A. **References**

Reference	Title
32-49-05 P/B 401	TIRE AND BRAKE MONITORING SYSTEM (TBMS) TIRE PRESSURE SENSOR/FILL VALVE - REMOVAL/INSTALLATION

B. **Location Zones**

Zone	Area
711	Nose Landing Gear

C. **Hubcap Installation.**

SUBTASK 32-45-08-200-005

(1) Inspect the tire pressure sensor/fill valve.

(a) Replace the tire pressure sensor/fill valve if the two staked halves of the tire pressure sensor/fill valve are loose or misaligned, do this pageblock: TIRE AND BRAKE MONITORING SYSTEM (TBMS) TIRE PRESSURE SENSOR/FILL VALVE - REMOVAL/INSTALLATION, PAGEBLOCK 32-49-05/401.

(b) Make sure that the coil assembly and the tire pressure sensor (TPS) stem base are correctly aligned during installation of the hubcap assembly to reduce or eliminate the possibility of damage.

NOTE: Misalignment of the conduit attachment bracket can cause damage. If the conduit attachment bracket is not aligned with the TPS stem base, a gap occurs between the bracket and the top of the TPS. When the jam nut is overtorqued to close the gap, the bracket squeezes against the coil assembly instead of the TPS. This can cause unrepairable damage to the coil assembly at the end of the Relay Transformer hubcap assembly.

SUBTASK 32-45-08-420-004

(2) Do these steps to install the TBMS hubcap assembly [1] on the wheel:

(a) Install the hubcap assembly [1] in its position on the wheel and align the index pin on the hubcap with the hole in the wheel.

(b) Install the clamp [2] over the edge of the hubcap and wheel.

(c) Tighten the clamp [2] to 60-75 inch-pounds (6.8-8.5 Nm).

(d) Install the relay transformer [6] on the pressure sensor/fill valve.

NOTE: Align the relay transformer on the tire pressure sensor/fill valve to make sure the cable run is as smooth as possible.

(e) Install the washer [5] and the nut [4] on the tire pressure sensor/fill valve. Tighten the nut [4] to 87-93 inch-pounds (9.8-10.5 Nm).

(f) Install the lockwire [3] on the nut [4].

END OF TASK

Main And Nose Landing Gear Hubcap Repair

1. **General**

   A. This procedure provides instructions to repair the main and nose landing gear hub caps.

TASK 32-45-08-300-801

2. **Main And Nose Landing Gear Hubcap - Repair**

A. References

Reference	Title
32-45-08-020-801	Main Landing Gear Hubcap - Removal (P/B 401)
32-45-08-020-802	Nose Landing Gear Hubcap - Removal (P/B 401)

B. Consumable Materials

Reference	Description	Specification
A50254	Sealant - Momentive Performance Materials TSE382 General Purpose Silicone Adhesive	
B50073	Alcohol - Isopropyl	ASTM D 770
D50063	Grease - Perfluoropolyether, fuel and oxygen resistant - Krytox 240AC	MIL-PRF- 27617 Type III

C. Location Zones

Zone	Area
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for the Procedure

SUBTASK 32-45-08-020-007

(1) Do the applicable task: Main Landing Gear Hubcap - Removal, TASK 32-45-08-020-801 or Nose Landing Gear Hubcap - Removal, TASK 32-45-08-020-802.

E. Procedure

SUBTASK 32-45-08-020-006

(1) Do these steps to remove the relay transformer [2] from the hubcap assembly [1] :

(a) Remove four screws [3], four washers [6] and the from nuts [7] which connect relay transformer [2] and the hubcap assembly [1].

(b) Put a rubber handled screwdriver or a wooden dowl in a vertical position on a hard level surface.

(c) Put the hub of the Relay Transformer Hubcap Assembly over the screwdriver handle or dowel.

(d) Push down on the cap [8] until the adhesive seal is released between the relay transformer [2] and the cap [8].

(e) Remove any old adhesive on the relay transformer [2].

(f) Remove and discard seal [4] and seal [5].

(g) Clean all surfaces with a clean lint free cloth dampened with alcohol, B50073.

(h) Dry with a clean lint free cloth.

SUBTASK 32-45-08-420-005

(2) Do these steps to install the relay transformer [2] in the hubcap assembly [1]:

(a) Apply a thin coat of inert perfluoropolyether, high temperature grease to new seal [4] and seal [5].

(b) Put the seal [4] and the seal [5] on the relay transformer [2].

(c) Apply TSE382 adhesive sealant, A50254 around the screw holes on the under side of the cap [8] of the relay transformer [2].

(d) Apply a thin coat of inert Krytox 240AC perfluoropolyether grease, D50063 high temperature grease, to the center core of the cap [8].

(e) Align the relay transformer [2] with the cap [8].

(f) Press the relay transformer [2] down against the hubcap assembly [1].

(g) Apply silicone adhesive under the heads of four screws [3].

(h) Apply corrosion inhibiter sealer to the threads of four screws [3].

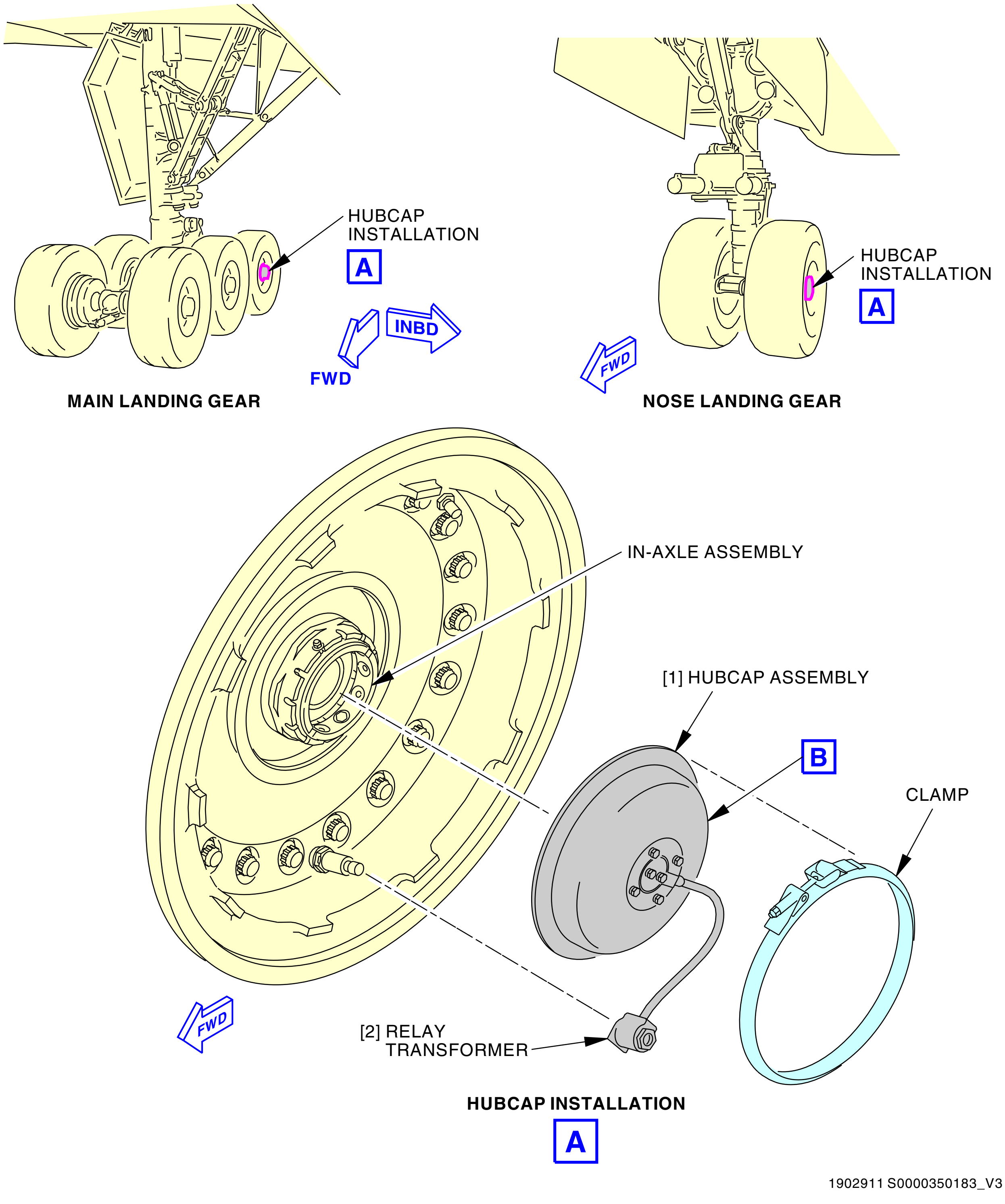
(i) Put four screws [3] in the cap [8] of the relay transformer [2].

(j) Put four washers [6] and four nuts [7] on the four screws [3].

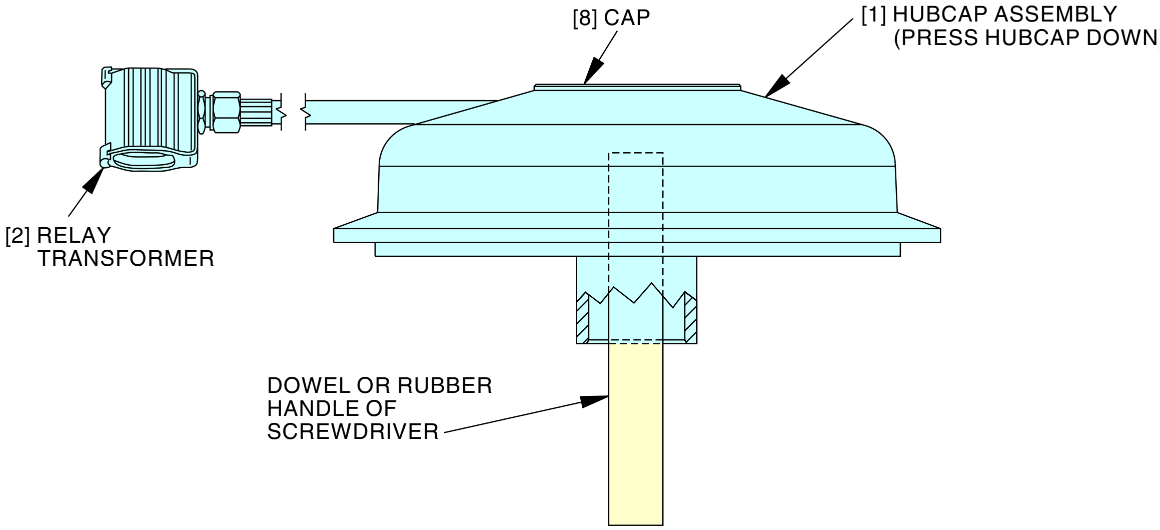
(k) Tighten the four nuts [7] to 30 in-lb (3.39 N·m) - 40 in-lb (4.52 N·m).

(l) Put the unit in a 144°F (62°C) to 156°F (69°C) oven and cure the silicone adhesive for 1.5 hours.

——— END OF TASK ———

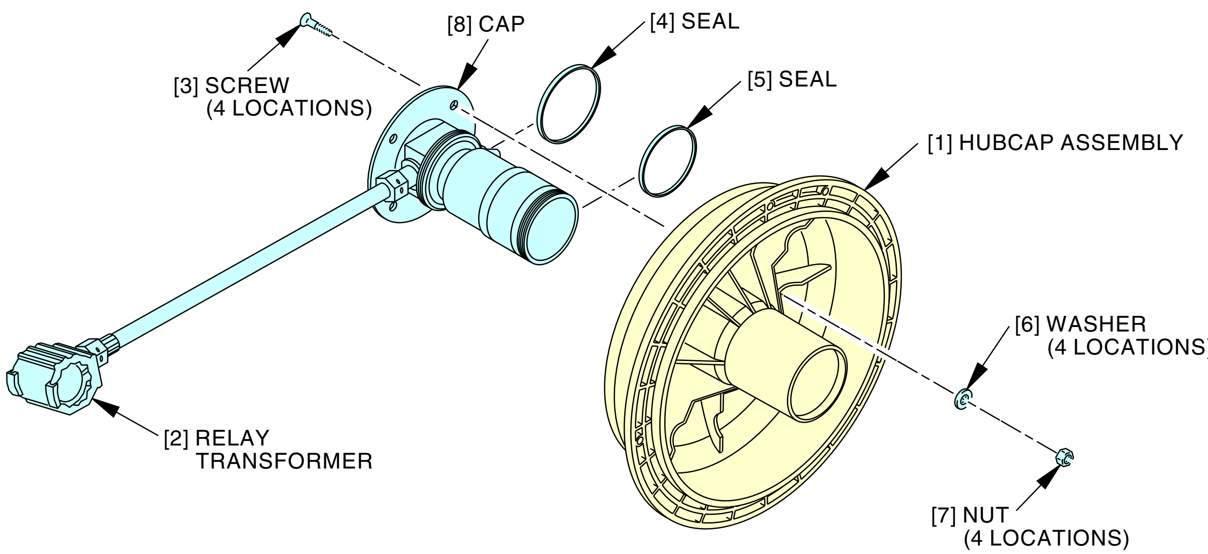


Hubcap Installation- Main And Nose Landing Gear
Figure 801/32-45-08-990-804 (Sheet 1 of 2)



RELAY TRANSFORMER HUBCAP ASSEMBLY
(SETUP FOR SEPARATION OF UNITS)

B



RELAY TRANSFORMER HUBCAP ASSEMBLY

B

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Hubcap Installation- Main And Nose Landing Gear
Figure 801/32-45-08-990-804 (Sheet 2 of 2)

BRAKE TEMPERATURE MONITORING SYSTEM (BTMS) - ADJUSTMENT/TEST

1. General

A. This procedure has these tasks:

(1) An operational test of the brake temperature monitoring system (BTMS).

TASK 32-46-00-710-801

2. Brake Temperature Monitoring System (BTMS) - Operational Test

(Figure 501 or Figure 502)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
45-10-00-910-810	How to Operate the MAT in the Flight Compartment (P/B 201)

B. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Procedure

SUBTASK 32-46-00-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-46-00-860-001

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-46-00-710-001

(3) Do these steps to do a check of the brake temperature monitoring unit:

(a) Push the GEAR button on the multi-function display select panel (MFD).

(b) Make sure that the MFD Landing Gear Synoptic page shows a brake temperature level of 0.0 for all 12 brakes.

NOTE: All brakes must be below 100 degrees F.

(c) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

Row	Col	Number	Name
N	28	C32618	LG BRAKE TEMP MONITOR

(d) Push the STAT button on the multi-function display select panel (MFD).

(e) Make sure that the BRAKE TEMP SYS status message shows on the Landing Gear Status page.

(f) Remove the safety tag and close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
N	28	C32618	LG BRAKE TEMP MONITOR

(g) Make sure that the BRAKE TEMP SYS status message does not show on the Landing Gear Status page.

(h) Push the GEAR button on the multi-function display select panel (MFD).

(i) Make sure that the MFD Landing Gear Synoptic page shows a brake temperature level of 0.0 for all 12 brakes.

NOTE: All brakes must be below 100 degrees F.

SUBTASK 32-46-00-710-002

(4) Do these steps for each brake temperature sensor:

(a) Disconnect the brake temperature sensor installed on the brake at the electrical connector with the connector pliers, ST2584C.

(b) Make sure that the MFD Landing Gear Synoptic page does not show a brake temperature level for that brake.

(c) Push the STAT button on the multi-function display select panel (MFD).

(d) Make sure that the BRAKE TEMP SYS status message shows on the Landing Gear Status page.

(e) Connect the electrical connector to the brake temperature sensor.

(f) Tighten one quarter turn past finger tight with the connector pliers, ST2584C.

(g) Make sure that the BRAKE TEMP SYS status message does not show on the Landing Gear Status page.

(h) Push the GEAR button on the multi-function display select panel (MFD).

(i) Make sure that the MFD Landing Gear Synoptic page shows a brake temperature level of 0.0 for all 12 brakes.

SUBTASK 32-46-00-710-003

(5) Make these selections on a maintenance access terminal (MAT) (TASK 45-10-00-910-810):

(a) EXISTING FAULTS

(b) 32 LANDING GEAR

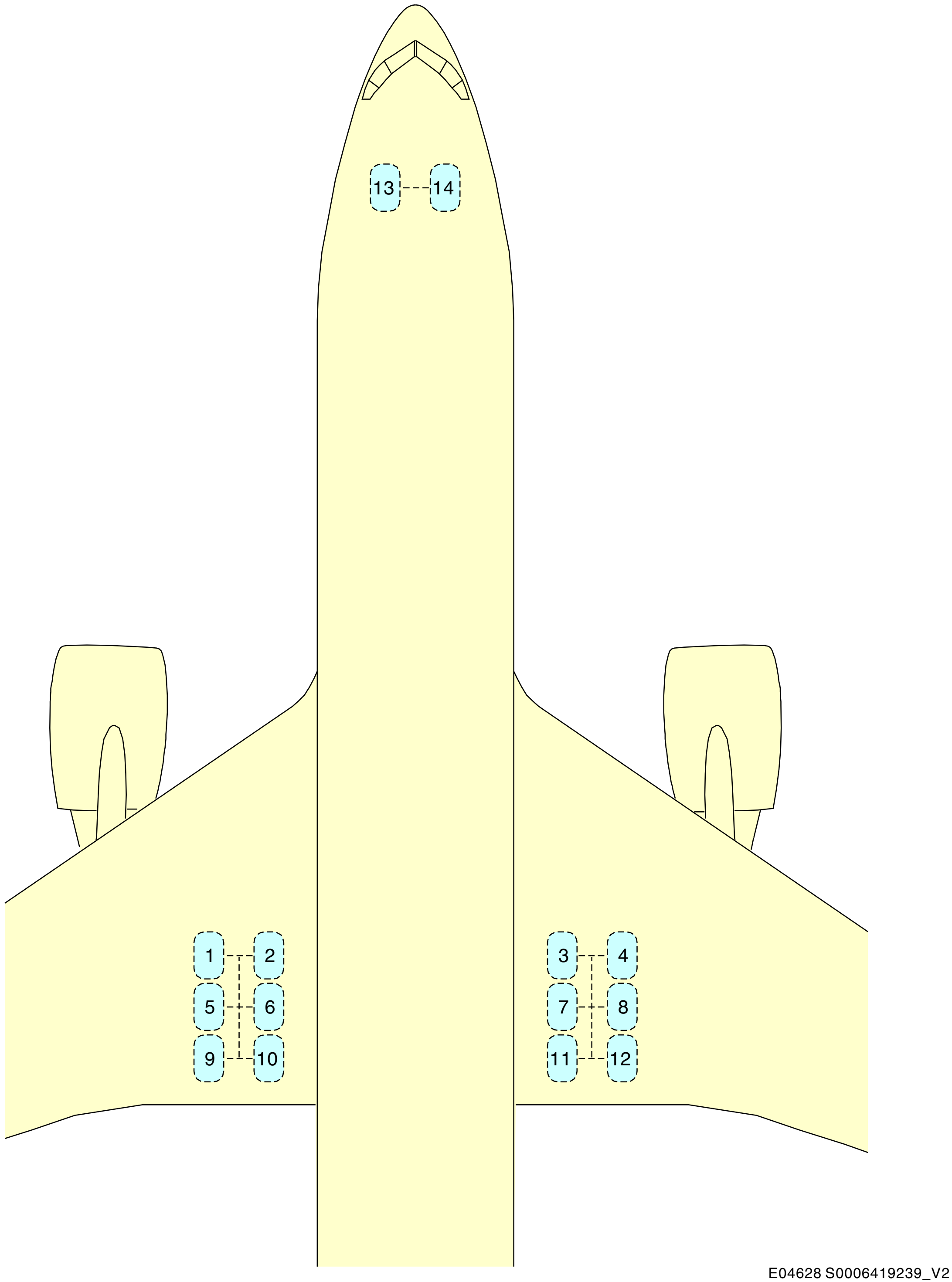
(c) TIRE AND BRAKE MONITORING SYSTEM

(d) BRAKE TEMPERATURE CHANNEL

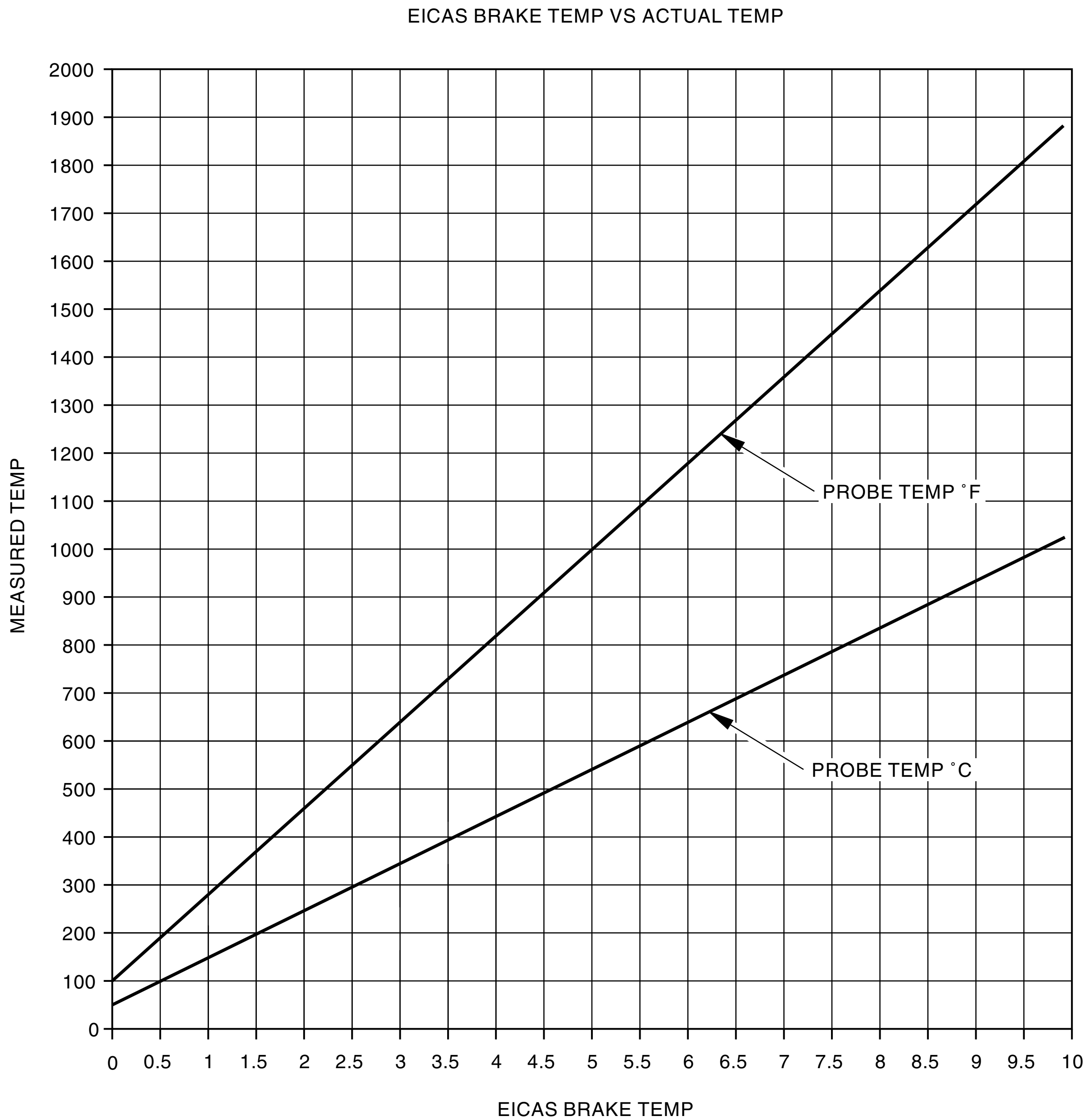
SUBTASK 32-46-00-710-004

(6) Make sure that no existing faults show on the MAT.

END OF TASK



Wheel Position
Figure 501/32-46-00-990-801



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ECIAS Brake Temperature Conversion Chart
Figure 502/32-46-00-990-802

BRAKE TEMPERATURE COMPENSATION MODULE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the brake temperature compensation module

(2) An installation of the brake temperature compensation module.

TASK 32-46-02-000-801

2. Brake Temperature Compensation Module Removal

(Figure 401)

A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Prepare for the Removal

SUBTASK 32-46-02-480-001

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-46-02-860-001

(2) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

Row	Col	Number	Name
N	28	C32618	LG BRAKE TEMP MONITOR

SUBTASK 32-46-02-020-004

(3) Remove the access plate from the rock shield [3].

(a) Remove the screws and washers which attached the access plate to the rock shield [3].

D. Brake Temperature Compensation Module Removal

SUBTASK 32-46-02-020-001

(1) Disconnect the two electrica connectors [1] from the brake temprature compensation module [2].

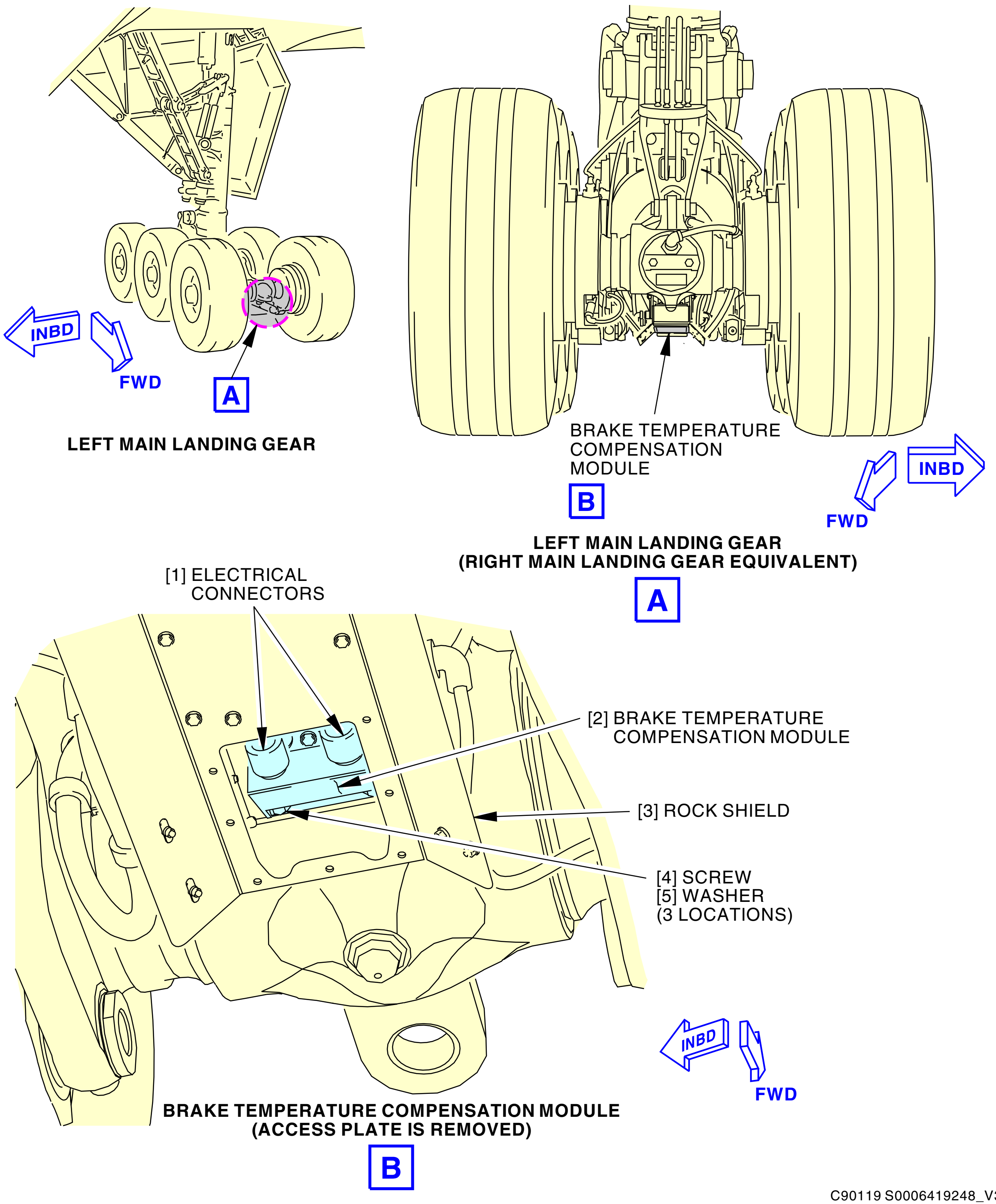
SUBTASK 32-46-02-020-002

(2) Remove the three screws [4] and three washers [5].

SUBTASK 32-46-02-020-003

(3) Remove the brake temprature compensation module [2].

END OF TASK



Brake Temperature Compensation Module Installation
Figure 401/32-46-02-990-801

TASK 32-46-02-400-801

3. Brake Temperature Compensation Module Installation

(Figure 401)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)

B. Consumable Materials

Reference	Description	Specification
A00723	Sealant - Corrosion Inhibitive, 2-Part - PR-1405-G	

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Brake temprature compensation module	32-46-51-52-055	ARO ALL

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Brake Temperature Compensation Module Installation

SUBTASK 32-46-02-420-001

(1) Hold the brake temprature compensation module [2] in its position on the lower junction box.

SUBTASK 32-46-02-420-002

(2) Do these steps to install the three screws [4]:

(a) Install the washers [5] on the screws [4].

(b) Apply a layer of PR-1405-G sealant, A00723, to the screws [4].

(c) While the PR-1405-G sealant, A00723 is wet, install the screws [4].

(d) Tighten the screws [4] to 50 in-lb (5.6 N·m) - 70 in-lb (7.9 N·m).

SUBTASK 32-46-02-420-003

(3) Connect the two electrica connectors [1] to the brake temprature compensation module [2].

SUBTASK 32-46-02-420-004

(4) Install the access plate to the rock shield [3].

(a) Install the screws and washers which attached the access plate to the rock shield [3].

SUBTASK 32-46-02-860-002

(5) Remove the safety tag and close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
N	28	C32618	LG BRAKE TEMP MONITOR

F. Brake Temperature Compensation Module Installation Test

SUBTASK 32-46-02-860-005

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-46-02-860-003

(2) Push the GEAR button on the multifunction display (MFD) select panel.

NOTE: The MFD is above the control lever for the landing gear in the flight compartment.

SUBTASK 32-46-02-710-001

(3) Make sure that the MFD Landing Gear Synoptic page shows a brake temperature level of 0.0 for all 12 brakes.

NOTE: The brakes temperatures must be below 100 °F for the MFD to show 0.0.

SUBTASK 32-46-02-860-004

(4) Push the STAT button on the multifunction display (MFD) select panel.

SUBTASK 32-46-02-710-002

(5) Make sure that the BRAKE TEMP SYS status message does not show on the Status page.

END OF TASK

BRAKE TEMPERATURE SENSOR - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of a brake temperature sensor

(2) An installation of a brake temperature sensor.

B. The brake temperature sensor is referred to as the sensor [2] in this procedure.

TASK 32-46-03-000-801

2. Brake Temperature Sensor Removal

(Figure 401)

A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)

B. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

C. Prepare for the Removal

SUBTASK 32-46-03-860-001

(1) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

Row	Col	Number	Name
N	28	C32618	LG BRAKE TEMP MONITOR

SUBTASK 32-46-03-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-46-03-480-002

WARNING MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

D. Brake Temperature Sensor Removal

SUBTASK 32-46-03-020-001

(1) Disconnect the electrical connector [1] from the sensor [2].

SUBTASK 32-46-03-020-002

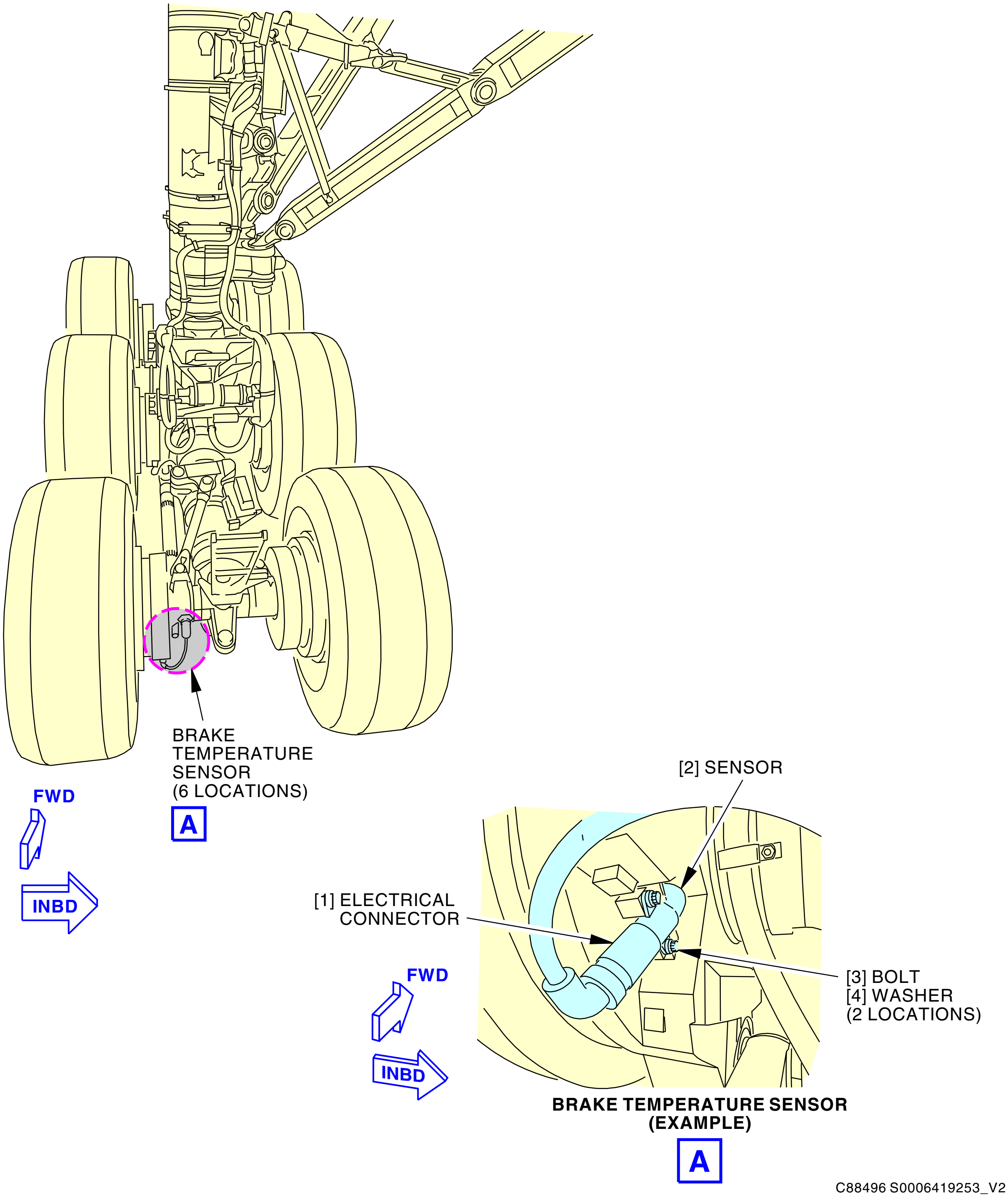
(2) Remove the bolt [3] and washer [4] which hold the sensor [2] to the brake.

SUBTASK 32-46-03-020-003

(3) Remove the sensor [2] from the airplane.

NOTE: You can bend the sensor [2] to remove it from a center brake.

END OF TASK



Brake Temperature Sensor Installation
Figure 401/32-46-03-990-801

TASK 32-46-03-400-801

3. Brake Temperature Sensor Installation

(Figure 401)

A. References

Reference	Title
20-11-00-910-801	Standard Torque Values (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)

B. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Sensor	32-46-03-02A-035	ARO ALL

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Brake Temperature Sensor Installation

SUBTASK 32-46-03-420-001

(1) Put the sensor [2] into its position in the brake.

NOTE: You can bend the sensor [2] when you install it in a center brake.

SUBTASK 32-46-03-620-001

WARNING: DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING: USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(2) Apply a thin layer of Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237 to the entire bolt [3] except the head.

SUBTASK 32-46-03-420-002

(3) Install the bolt [3] and washer [4] which hold the sensor [2] to the brake. Refer to Standard Torque Values, TASK 20-11-00-910-801.

SUBTASK 32-46-03-420-004

(4) Safety the bolt [3] with lockwire.

SUBTASK 32-46-03-420-003

(5) Connect the electrical connector [1] to the sensor [2].

SUBTASK 32-46-03-860-006

(6) Remove the safety tag and close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
N	28	C32618	LG BRAKE TEMP MONITOR

F. Brake Temperature Sensor Installation Test

SUBTASK 32-46-03-860-005

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-46-03-860-003

(2) Push the GEAR button on the multifunction display (MFD) select panel.

NOTE: The MFD is above the control lever for the landing gear in the flight compartment.

SUBTASK 32-46-03-710-001

(3) Make sure that the MFD Landing Gear Synoptic page shows a brake temperature indication for each brake temperature sensor installed.

SUBTASK 32-46-03-860-004

(4) Push the STAT button on the MFD select panel.

SUBTASK 32-46-03-710-002

(5) Make sure that the BRAKE TEMP SYS status message does not show on the Landing Gear Status page.

SUBTASK 32-46-03-480-003

WARNING MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) Do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

END OF TASK

Tire and Brake Monitoring Unit - Removal/Installation

1. **General**

A. This procedure has these tasks:

(1) A removal of the tire and brake monitoring unit (TBMU).

(2) An installation of the tire and brake monitoring unit (TBMU).

TASK 32-46-04-000-801

2. **Tire and Brake Monitoring Unit (TBMU) Removal**

A. **References**

Reference	Title
20-10-01-000-801	E/E Box Removal (P/B 401)
20-41-01-000-802	Conductive Dust Cap and Connector Cover Installation (P/B 201)

B. **Location Zones**

Zone	Area
152	Aft Cargo Compartment, Right

C. **Prepare for the Removal**

SUBTASK 32-46-04-860-001

(1) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
M	19	C32617	LG TIRE PRESSURE INDICATOR
N	28	C32618	LG BRAKE TEMP MONITOR

D. **Tire and Brake Monitoring Unit Removal**

SUBTASK 32-46-04-840-001

CAUTION

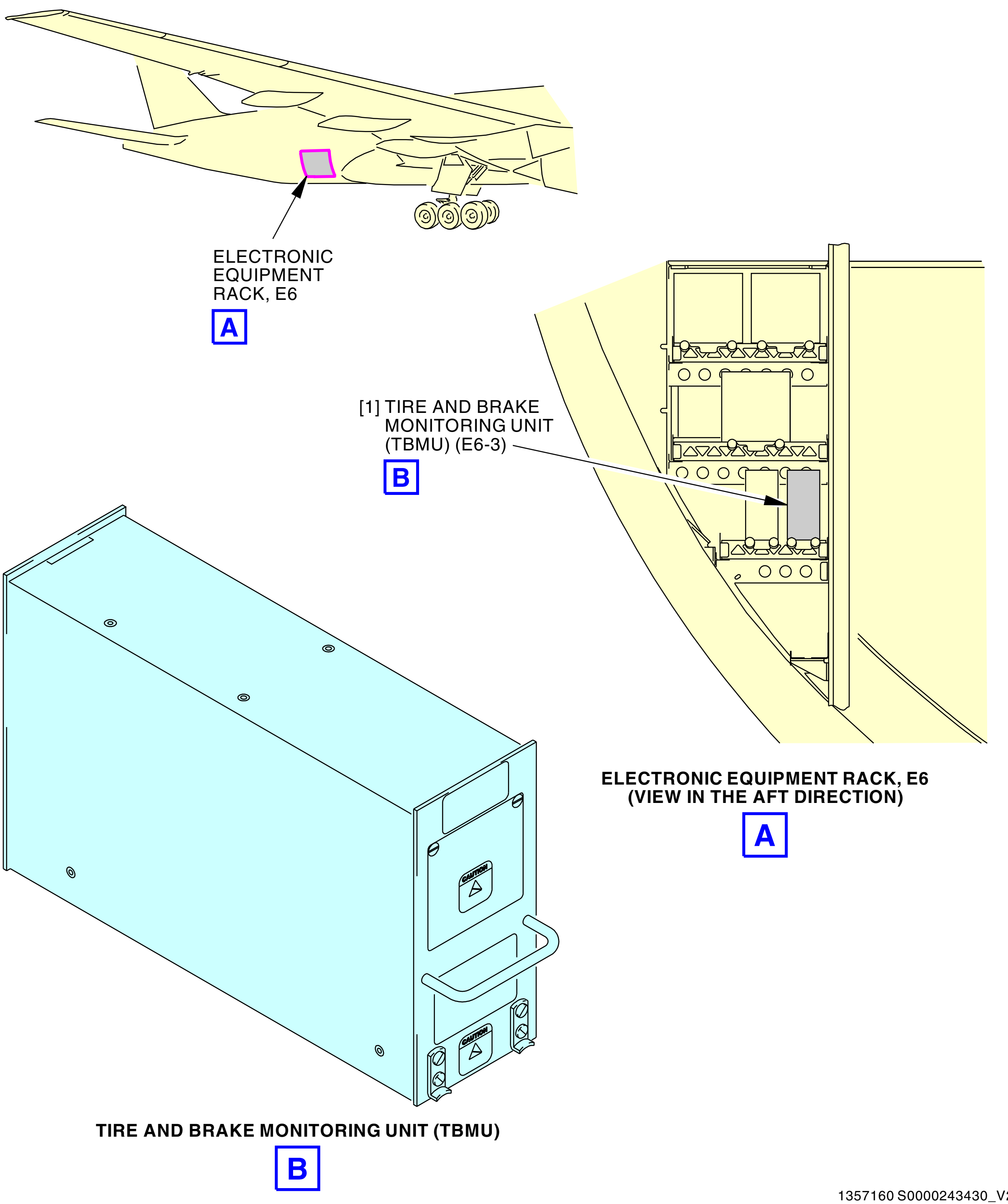
DO NOT TOUCH THE UNIT BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE UNIT.

(1) Do this task: Conductive Dust Cap and Connector Cover Installation, TASK 20-41-01-000-802.

SUBTASK 32-46-04-020-001

(2) To remove the Tire and Brake Monitoring Unit [1] (TBMU) do this task: E/E Box Removal, TASK 20-10-01-000-801.

END OF TASK



Tire and Brake Monitoring Unit (TBMU) Installation
Figure 401/32-46-04-990-801

TASK 32-46-04-400-801

3. Tire and Brake Monitoring Unit (TBMU) Installation

A. References

Reference	Title
20-10-01-400-801	E/E Box Installation (P/B 401)
20-41-01-400-802	Conductive Dust Cap and Connector Cover Removal (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)

B. Location Zones

Zone	Area
152	Aft Cargo Compartment, Right

C. Tire and Brake Monitoring Unit (TBMU) Installation

SUBTASK 32-46-04-840-002

CAUTION DO NOT TOUCH THE CONNECTOR PINS, OR OTHER CONDUCTORS. IF YOU TOUCH THESE CONDUCTORS, ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE COMPONENTS.

(1) Do this task: Conductive Dust Cap and Connector Cover Removal, TASK 20-41-01-400-802.

SUBTASK 32-46-04-420-001

(2) To install the Tire and Brake Monitoring Unit [1] (TBMU), do this task: E/E Box Installation, TASK 20-10-01-400-801.

SUBTASK 32-46-04-860-002

(3) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
M	19	C32617	LG TIRE PRESSURE INDICATOR
N	28	C32618	LG BRAKE TEMP MONITOR

D. Tire and Brake Monitoring Unit (TBMU) Installation Test

SUBTASK 32-46-04-860-003

(1) Do this Task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-46-04-710-001

(2) Do these steps to do a check of the tire pressure unit:

(a) Push the Gear button on the multi-function display (MFD) select panel.

NOTE: The MFD is above the control lever for the landing gear in the flight deck compartment.

(b) Make sure that the MFD Landing Gear Synoptic page shows tire pressures for each of the main landing gear and nose landing gear tires.

(c) Push the STAT button on the multifunctional display select panel (MFD).

(d) Make sure the TIRE PRESS SYS status message does not show on the Status page.

SUBTASK 32-46-04-710-002

(3) Do these steps to do a check of the brake temperature unit:

(a) Push the GEAR button on the multifunctional display (MFD) select panel.

NOTE: The MFD us above the control lever for the landing gear in the flight deck compartment.

(b) Make sure that the MFD Landing Gear Synoptic page shows a brake temperature level of 0.0 - 0.1 for all 12 brakes.

NOTE: All brakes must be below 100 degrees F.

(c) Push the STAT button on the multifunctional display select panel (MFD).

(d) Make sure that the BRAKE TEMP SYS status message does not show on the Status page.

——— END OF TASK ———

Tire Pressure Sensor Configuration Change - Maintenance Practices

1. General

A. This procedure contains these tasks:

(1) Convert a tire and wheel assembly with a TBMS tire pressure sensor configuration to a wheel and tire assembly with a TPIS tire pressure sensor configuration.

(2) Convert a tire and wheel assembly with a TPIS tire pressure sensor configuration to a wheel and tire assembly with a TBMS tire pressure sensor configuration.

(3) Replace the TPIS tire pressure sensor holder with a blank plug.

(4) Convert a Hybrid wheel and tire assembly to the TPIS or TBMS tire pressure sensor configuration.

TASK 32-49-00-420-801

2. Change from a TBMS Compatible Wheel Assembly to a TPIS Compatible Wheel Assembly

A. References

Reference	Title
07-11-03-580-801	Lift the Airplane with Axle Jacks (P/B 201)
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1524	Deflator - Tire, Valve Core Removal and Installation (Large Bore) Part #: 320008A-SO Supplier: SFN11 Part #: 968RB-1 Supplier: $1315 Opt Part #: 320008A Supplier: SFN11
SPL-8744	Socket - Tire Pressure Sensor, SmartStem Part #: 050-1000-06C31-B Supplier: 44UC3

C. Location Zones

Zone	Area
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for the Procedure

SUBTASK 32-49-00-490-001

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed on the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-49-00-490-002

(2) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-49-00-580-001

(3) If you remove the blank plug [1] installed on a wheel on the forward or aft axle of a truck, do this task: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801.

(a) Lift only the axle where you remove the tire pressure sensor/fill valve assembly.

SUBTASK 32-49-00-580-002

(4) If you remove the blank plug [1] installed on a wheel on the center axle of a truck, do this task: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801.

(a) Lift the forward and aft axles when you remove the tire pressure sensor/fill valve assembly from the center axle.

SUBTASK 32-49-00-840-001

WARNING YOU MUST FULLY DEFLATE THE TIRE BEFORE YOU REMOVE THE WHEEL AND TIRE ASSEMBLY. A DEFECTIVE WHEEL AND TIRE CAN EXPLODE IF YOU DO NOT DEFLATE THE TIRE BEFORE YOU REMOVE THE ASSEMBLY. INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR.

WARNING BE VERY CAREFUL WHEN DEFLATING TIRES (606) TO PREVENT INJURY TO PERSONNEL FROM A FLYING INFLATION VALVE CAP AND/OR VALVE CORE.

CAUTION MAKE SURE THAT THE DEFLATED TIRE THAT IS ON THE AXLE DOES NOT TOUCH THE GROUND. IF THE TIRE DOES TOUCH THE GROUND, THE TIRE'S BEAD SEAT CAN MOVE OUT OF ITS POSITION AND BECOME UNSEATED. THE UNSEATED BEAD SEAT CAN CAUSE LEAKAGE WHICH THEN CAN CAUSE DAMAGE TO THE TIRE AND WHEEL.

(5) Do these steps to deflate the tire:

(a) Remove the inflation valve cap [5] from the tire inflation valve [3].

WARNING BE VERY CAREFUL WHEN DEFLATING TIRES (606) TO PREVENT INJURY TO PERSONNEL FROM A FLYING INFLATION VALVE CAP AND/OR VALVE CORE.

(b) Deflate the tire with the large bore tire deflator, COM-1524.

(c) If you cannot use the usual procedure to deflate the tire because the valve core is damaged, do these steps:

1) Turn the tire pressure sensor/fill valve [2] slowly in a counterclockwise direction until there is gas leakage through the boss.

2) At the same time, push lightly on the valve assembly.

3) After all of the gas has been released, use the socket, SPL-8744, to remove the tire pressure sensor/fill valve [2] from the tire.

E. Change from a TBMS Compatible Wheel Assembly to a TPIS Compatible Wheel Assembly

SUBTASK 32-49-00-020-001

(1) Remove the blank plug [1] from the TBMS compatible wheel assembly (Figure 201).

SUBTASK 32-49-00-420-001

(2) To install the TPIS tire pressure sensor holder [4] in the wheel, do this task: Tire Pressure Sensor Holder Installation, TASK 32-49-03-400-802.

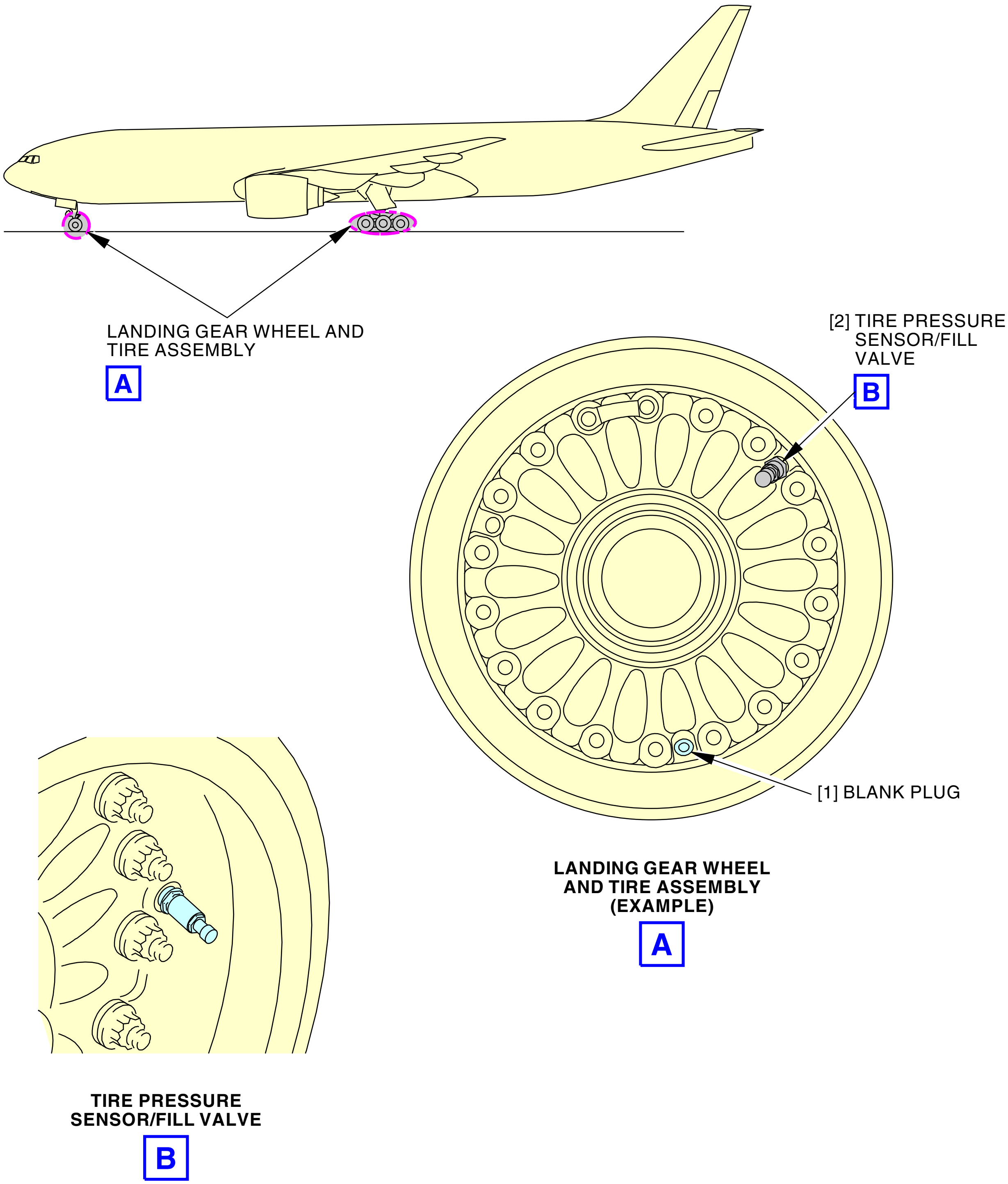
(a) Install the seal cap from the flyaway kit and nut on the TPIS tire pressure sensor holder [4] if the tire pressure sensor will not be installed.

1) Install lockwire on the nut.

SUBTASK 32-49-00-420-002

(3) To install the tire pressure sensor, do this task: Tire Pressure Sensor Installation, TASK 32-49-03-400-801.

END OF TASK



1375871 S0000249435_V2

TBMS Compatible Wheel/Tire Assembly
Figure 201/32-49-00-990-804

TASK 32-49-00-420-802

3. Change From a TPIS Compatible Wheel Assembly to a TBMS Compatible Wheel Assembly

A. References

Reference	Title
07-11-03-580-801	Lift the Airplane with Axle Jacks (P/B 201)
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-45-06-000-801	Tire Inflation Valve Removal (P/B 401)
32-49-05-400-801	Tire Pressure Sensor/Fill Valve Installation (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1524	Deflator - Tire, Valve Core Removal and Installation (Large Bore) Part #: 320008A-SO Supplier: SFN11 Part #: 968RB-1 Supplier: $1315 Opt Part #: 320008A Supplier: SFN11

C. Location Zones

Zone	Area
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for the Procedure

SUBTASK 32-49-00-490-003

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed on the nose or main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-49-00-490-004

(2) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-49-00-580-003

(3) If you remove the tire inflation valve [3] on a wheel on the forward or aft axle of a truck, do this task: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801.

(a) Lift only the axle where you remove the tire inflation valve [3].

SUBTASK 32-49-00-580-004

(4) If you remove the tire inflation valve [3] installed on a wheel on the center axle of a truck, do this task: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801.

(a) Lift the forward and aft axles when you remove the tire inflation valve [3] from the center axle.

SUBTASK 32-49-00-840-002

(5) Do these steps to deflate the tire:

(a) Remove the inflation valve cap [5].

WARNING BE VERY CAREFUL WHEN DEFLATING TIRES (606) TO PREVENT INJURY TO PERSONNEL FROM A FLYING INFLATION VALVE CAP AND/OR VALVE CORE.

(b) Deflate the tire with the large bore tire deflator, COM-1524.

E. Change From a TPIS Compatible Wheel Assembly to a TBMS Compatible Wheel Assembly

SUBTASK 32-49-00-020-005

(1) To remove the TPIS tire pressure sensor, do this task: Tire Pressure Sensor Removal, TASK 32-49-03-000-801.

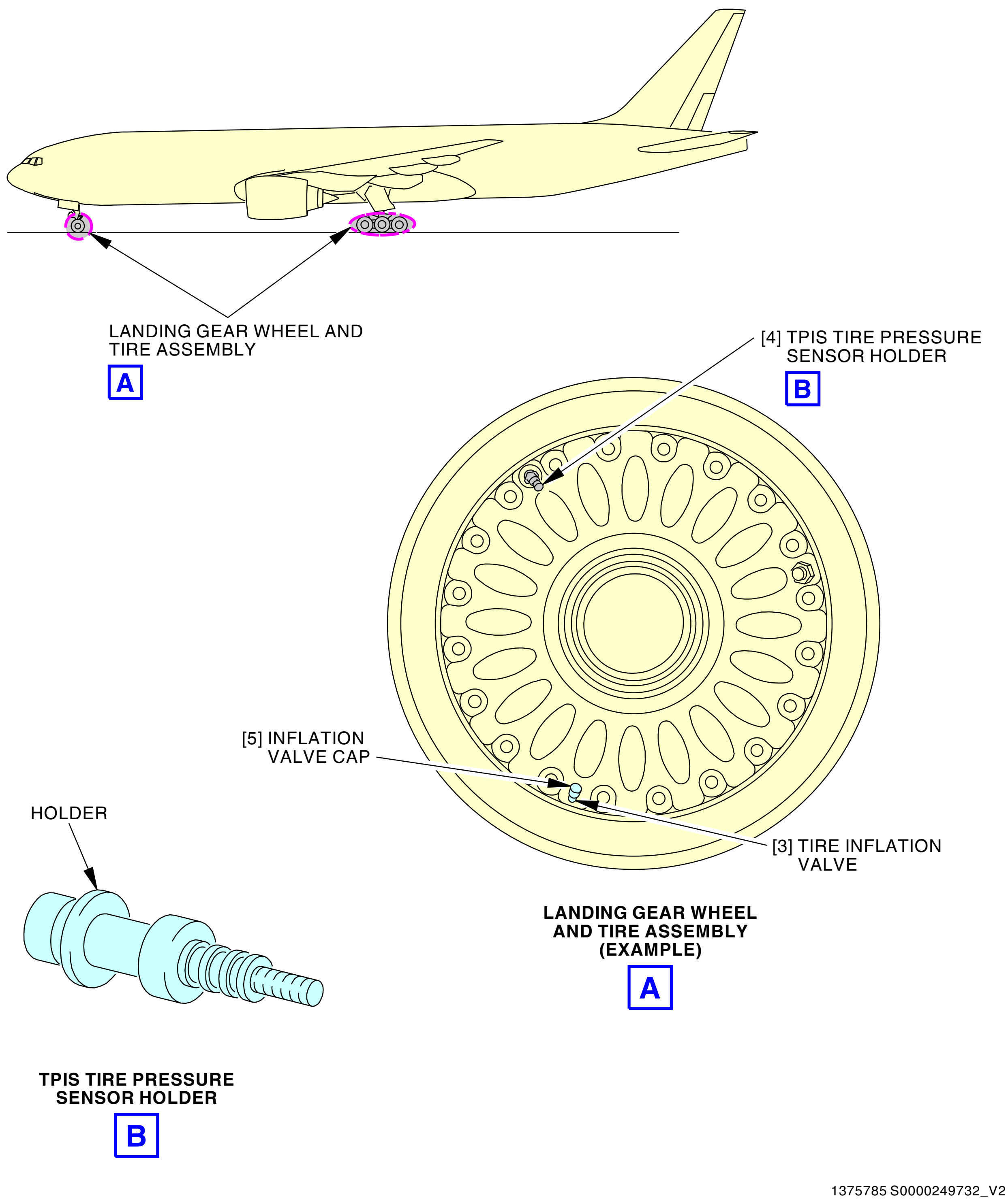
SUBTASK 32-49-00-020-003

(2) To remove the tire inflation valve [3], do this task: Tire Inflation Valve Removal, TASK 32-45-06-000-801.

SUBTASK 32-49-00-420-003

(3) To install the tire pressure sensor/fill valve [2], do this task: Tire Pressure Sensor/Fill Valve Installation, TASK 32-49-05-400-801.

——— END OF TASK ———



TPIS Compatible Wheel/Tire Assembly
Figure 202/32-49-00-990-805

TASK 32-49-00-420-803

4. Replace TPIS Tire Pressure Sensor Holder with Blank Plug

A. References

Reference	Title
07-11-03-580-801	Lift the Airplane with Axle Jacks (P/B 201)
10-11-05 P/B 201	CHOCK INSTALLATION
12-15-03-610-801	Landing Gear Tire Servicing (P/B 301)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1524	Deflator - Tire, Valve Core Removal and Installation (Large Bore) Part #: 320008A-SO Supplier: SFN11 Part #: 968RB-1 Supplier: $1315 Opt Part #: 320008A Supplier: SFN11

C. Location Zones

Zone	Area
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for Procedure

SUBTASK 32-49-00-490-005

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed on the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-49-00-490-006

(2) Make sure the tires have chocks installed around them (PAGEBLOCK 10-11-05/201).

SUBTASK 32-49-00-580-007

(3) If you remove a TPIS tire pressure sensor holder [4] installed on the forward or aft axle of a truck, do this task: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801.

(a) Lift only the axle where you remove the TPIS tire pressure sensor holder [4].

SUBTASK 32-49-00-580-008

(4) If you remove a TPIS tire pressure sensor holder [4] installed on a wheel on the center axle of a truck, do this task: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801.

(a) Lift the forward and aft axles when you remove the TPIS tire pressure sensor holder [4] from the center axle.

SUBTASK 32-49-00-840-003

(5) Do these steps to deflate the tire:

(a) Remove the inflation valve cap [5] from the inflation valve (Figure 202).

WARNING
BE VERY CAREFUL WHEN DEFLATING TIRES (606) TO PREVENT INJURY TO PERSONNEL FROM A FLYING INFLATION VALVE CAP AND/OR VALVE CORE.

(b) Deflate the tire with a large fore tire deflator, large bore tire deflator, COM-1524.

E. Procedure

SUBTASK 32-49-00-580-009

(1) Remove the TPIS tire pressure sensor holder [4] from the wheel (Figure 203 or Figure 204).

(a) Do this task: Tire Pressure Sensor Holder Removal, TASK 32-49-03-000-802.

SUBTASK 32-49-00-420-004

(2) Install the blank plug [1] in place of the TPIS tire pressure sensor holder [4] (Figure 201).

(a) Torque the blank plug to 180 in-lb (20.34 N·m) - 200 in-lb (22.60 N·m).

SUBTASK 32-49-00-610-001

(3) Do this task: Landing Gear Tire Servicing, TASK 12-15-03-610-801.

SUBTASK 32-49-00-420-005

(4) Install the tire inflation valve cap [5] after the tire has been serviced (Figure 202).

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-49-00-580-010

(1) Lower the applicable axles and remove the jacks (TASK 07-11-03-580-801).

——— END OF TASK ———

TASK 32-49-00-420-804

5. Hybrid Tire and Wheel Assembly with TBMS and TPIS Tire Pressure Sensor Capability

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. General

SUBTASK 32-49-00-400-001

(1) A Hybrid tire and wheel assembly has both the TBMS tire pressure sensor/fill valve [2], and TPIS tire pressure sensor holder [4] with the seal cap [6] and nut [7] installed, on the wheel (Figure 203 or Figure 204).

C. Hybrid Tire and Wheel Assembly with TBMS and TPIS Capability

SUBTASK 32-49-00-840-004

WARNING
MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-49-00-420-007

(2) To convert a Hybrid tire and wheel assembly to a TBMS configuration, do these steps (Figure 203 or Figure 204):

(a) Install the relay transformer hubcap [9] in its position on the wheel and align the index pin with the hole in the wheel.

(b) Install the clamp [10] on the hubcap.

1) For titanium clamps, tighten the clamp from 60 in-lb (6.8 N·m) to 75 in-lb (8.5 N·m).

2) For steel clamps, tighten the clamp from 35 in-lb (4.0 N·m) to 40 in-lb (4.5 N·m).

(c) Install the relay transformer coupling ring [13] on the tire pressure sensor/fill valve [2].

NOTE: Align the relay transformer coupling ring on the tire pressure sensor/fill valve to make the cable run as smooth as possible.

(d) Install the washer [12] and nut [11] on the tire pressure sensor/fill valve [2].

(e) Tighten the nut [11] from 87 in-lb (9.8 N·m) to 93 in-lb (10.5 N·m).

(f) Install the lockwire on the nut [11].

D. Tire Pressure Sensor/Fill Valve Installation Test

SUBTASK 32-49-00-440-001

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-49-00-860-002

(2) Push the GEAR button on the multi-function display (MFD) select panel.

NOTE: The MFD select panel is above the control lever for the landing gear in the flight compartment.

SUBTASK 32-49-00-860-003

(3) Make sure the tire pressure shows for the tire for which you installed the Hybrid wheel and tire assembly with the active tire pressure sensor/fill valve [2].

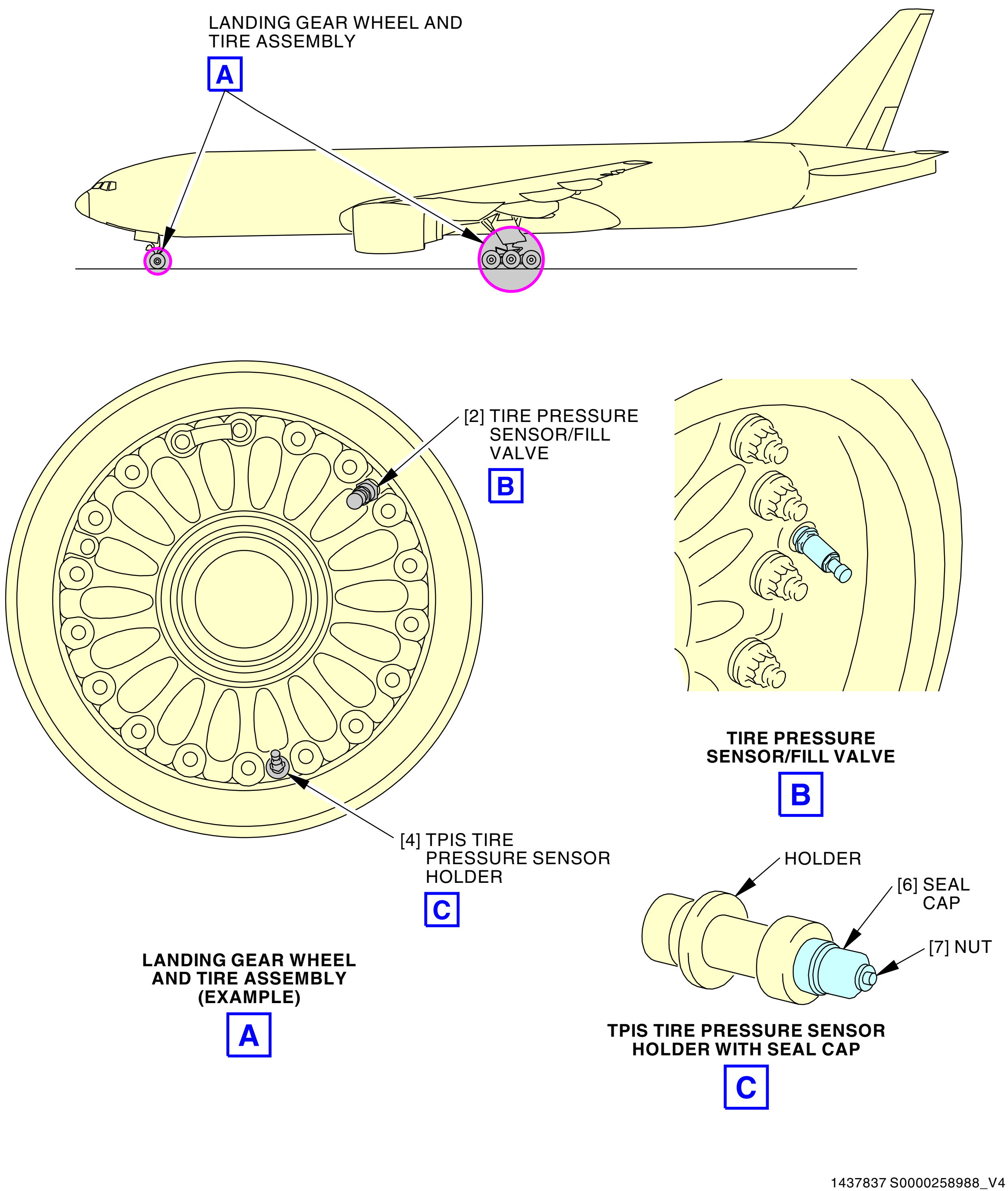
SUBTASK 32-49-00-860-004

(4) Push the STAT button on the multi-function display (MFD) select panel.

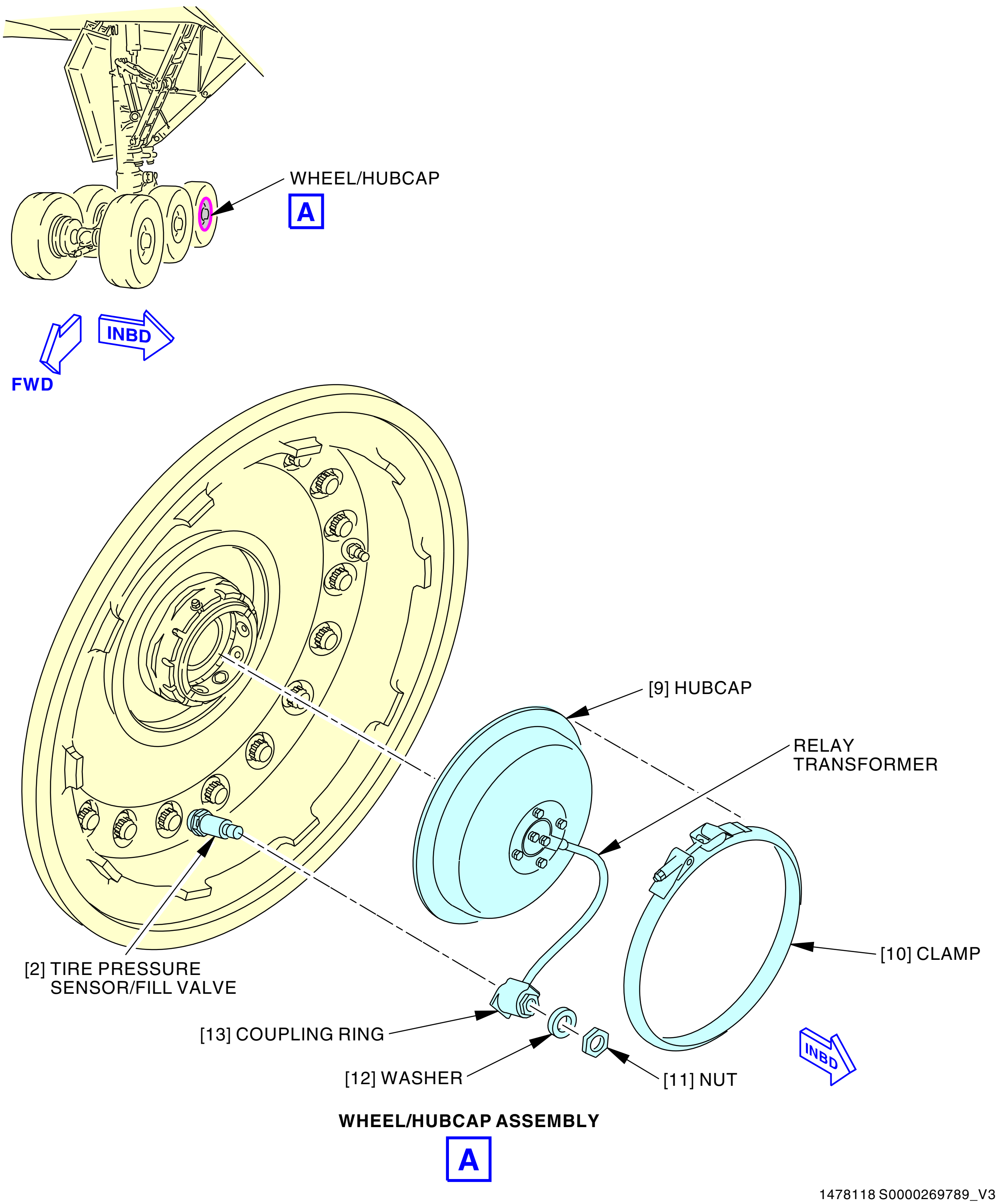
SUBTASK 32-49-00-860-005

(5) Make sure that TIRE PRESS does not show on the MFD Landing Gear Status display.

END OF TASK



Hybrid Tire and Wheel Assembly with TBMS and TPIS Pressure Sensor Capability
Figure 203/32-49-00-990-806



TBMS Tire Pressure Sensor/Fill Valve Activation
Figure 204/32-49-00-990-807

TIRE PRESSURE INDICATION SYSTEM - ADJUSTMENT/TEST

1. **General**
   A. This procedure contains scheduled maintenance task data.
   B. This procedure has this task:
      (1) A functional check of the tire pressure indication system.

TASK 32-49-00-710-801

2. **Tire Pressure Indication System - Functional Check**

   A. **References**

Reference	Title
12-15-03-610-802	Tire Pressure Indication System Check (P/B 301)
24-22-00-860-805	Supply Electrical Power (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
45-10-00-910-810	How to Operate the MAT in the Flight Compartment (P/B 201)

   B. **Location Zones**

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

   C. **Procedure**

SUBTASK 32-49-00-480-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-49-00-860-001

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-49-00-710-001

(3) Do these steps to do a check of the tire pressure monitor unit:
   (a) Push the GEAR button on the Multi-Function Display (MFD) select panel .
      NOTE: The tires must be serviced to their recommended pressure.
   (b) Make sure that the MFD Landing Gear Synoptic page shows tire pressures for each of the main landing gear and nose landing gear tires (Figure 501).
   (c) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

Row	Col	Number	Name
M	19	C32617	LG TIRE PRESSURE INDICATOR

   (d) Push the STAT button on the MFD select panel.

(e) Make sure that the TIRE PRESS SYS status message shows on the Landing Gear Status page.

(f) Remove the safety tag and close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
M	19	C32617	LG TIRE PRESSURE INDICATOR

(g) Make sure that the TIRE PRESS SYS status message does not show on the Landing Gear Status page.

(h) Push the GEAR button on the MFD select panel.

(i) Make sure that the MFD Landing Gear Synoptic page shows tire pressures for each of the main landing gear and nose landing gear tires.

1) If the tire pressures are not correct, do this task: Tire Pressure Indication System Check, TASK 12-15-03-610-802.

SUBTASK 32-49-00-710-005

(4) Do these steps for each tire pressure sensor/fill valve [2] (Figure 502):

(a) Remove the nut [1] and washer [4] that holds the relay transformer coupling ring [3] onto the tire pressure sensor/fill valve [2].

(b) Remove the relay transformer coupling ring [3] from the tire pressure sensor/fill valve [2].

(c) Make sure that the MFD Landing Gear Synoptic page blanks the tire pressure for that tire (Figure 501).

(d) Push the STAT button on the MFD select panel.

(e) Make sure that the TIRE PRESS SYS status message shows on the Landing Gear Status page.

(f) Use a dry, lint free cloth to remove grease and carbon from the tire pressure sensor/fill valve [2] and the relay transformer coupling ring [3].

(g) Install the relay transformer coupling ring [3] onto the tire pressure sensor/fill valve [2].

NOTE: Make sure the relay transformer conduit is not loose or pulled tight.

(h) Install the washer [4] and nut [1].

(i) Tighten the nut [1] to 87 in-lb (10 N·m) - 93 in-lb (11 N·m).

(j) Install a lockwire on the nut [1].

(k) Make sure that the TIRE PRESS SYS status message does not show on the Landing Gear Status page (Figure 501).

(l) Push the GEAR button on the MFD select panel.

(m) Make sure that the MFD Landing Gear Synoptic page shows tire pressures for each of the main landing gear and nose landing gear tires.

SUBTASK 32-49-00-710-007

(5) If the tire pressures are not correct, do this task: Tire Pressure Indication System Check, TASK 12-15-03-610-802.

SUBTASK 32-49-00-710-003

(6) Make these selections on a Maintenance Access Terminal (MAT) (TASK 45-10-00-910-810):

(a) EXISTING FAULTS

(b) 32 LANDING GEAR

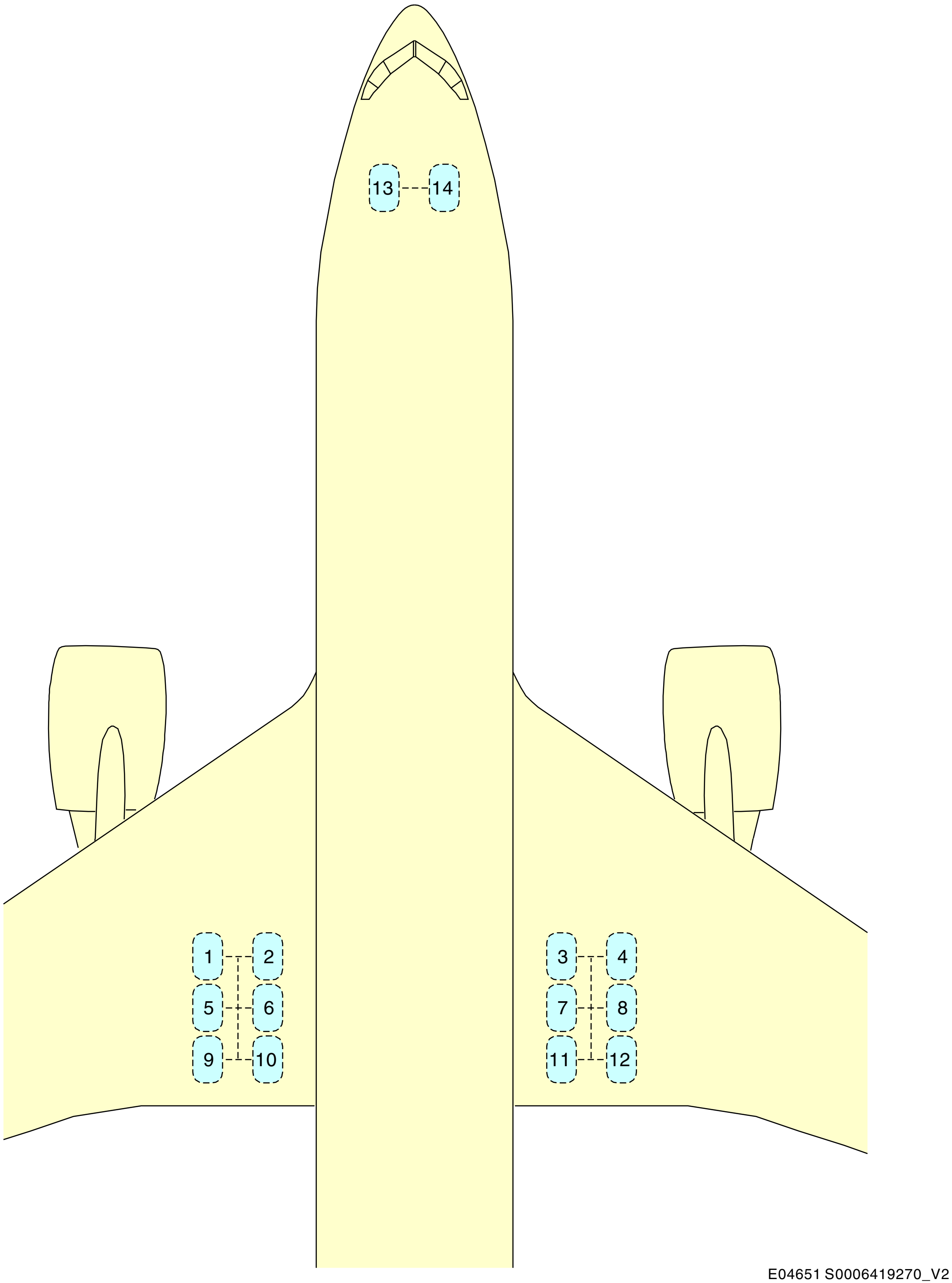
(c) TIRE AND BRAKE MONITORING SYSTEM

(d) TIRE PRESSURE CHANNEL

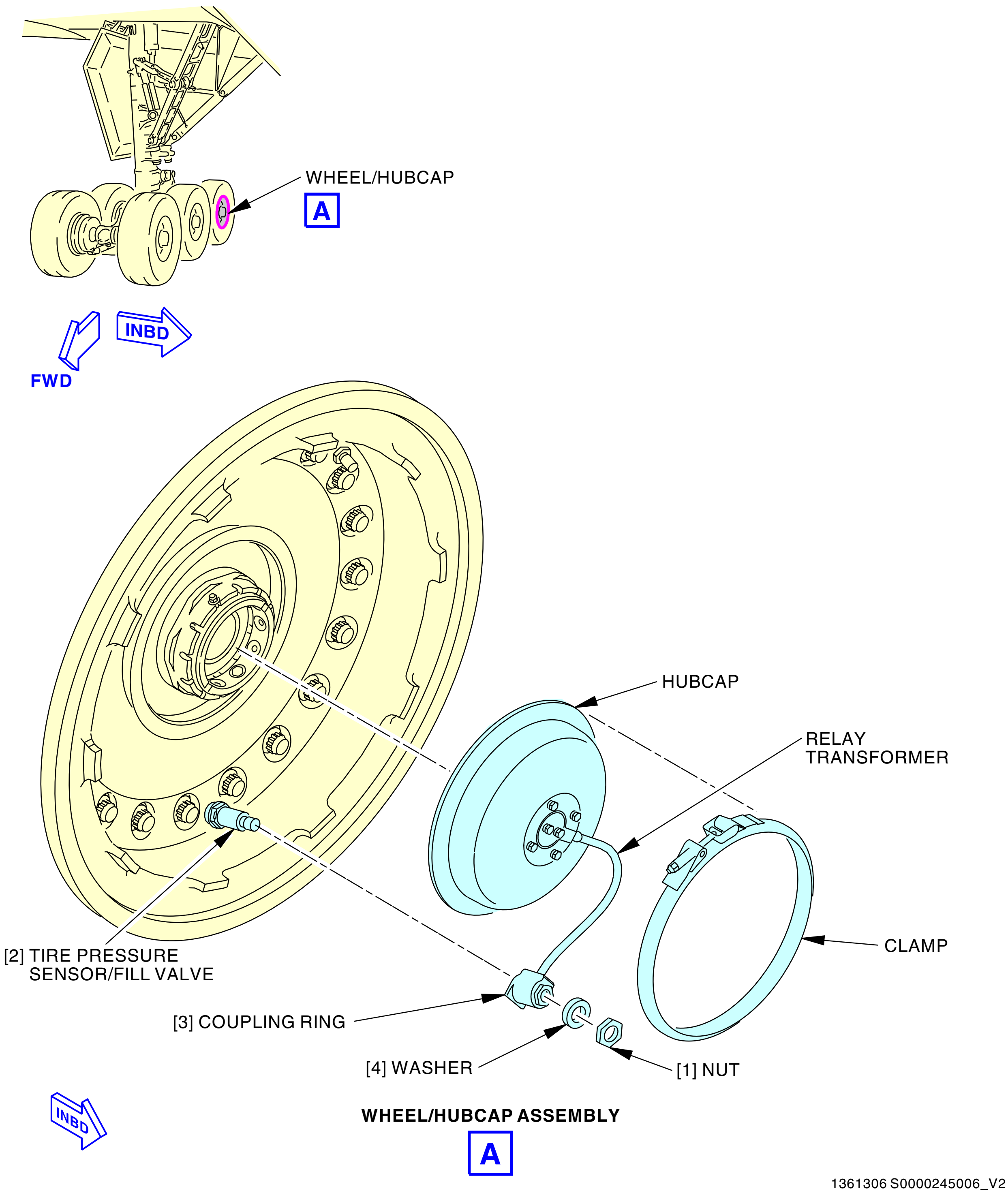
SUBTASK 32-49-00-710-004

(7) Make sure that no existing faults show on the MAT.

END OF TASK



Wheel Position
Figure 501/32-49-00-990-801



TIRE AND BRAKE MONITORING SYSTEM
Figure 502/32-49-00-990-803

TIRE AND BRAKE MONITORING UNIT (TBMU) - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has these tasks:

      (1) A removal of the tire and brake monitoring unit (TBMU)

      (2) An installation of the tire and brake monitoring unit (TBMU).

TASK 32-49-04-000-801

2. **Tire and Brake Monitoring Unit (TBMU) Removal**

   A. **References**

Reference	Title
32-46-04-000-801	Tire and Brake Monitoring Unit (TBMU) Removal (P/B 401)

   B. **Location Zones**

Zone	Area
152	Aft Cargo Compartment, Right

   C. **Procedure**

   NOTE: Tire and brake monitoring unit includes tire pressure indication system.

   SUBTASK 32-49-04-000-001

   (1) Do this task: Tire and Brake Monitoring Unit (TBMU) Removal, TASK 32-46-04-000-801

——— END OF TASK ———

TASK 32-49-04-400-801

3. **Tire and Brake Monitoring Unit (TBMU) Installation**

   A. **References**

Reference	Title
32-46-04-400-801	Tire and Brake Monitoring Unit (TBMU) Installation (P/B 401)

   B. **Location Zones**

Zone	Area
152	Aft Cargo Compartment, Right

   C. **Procedure**

   SUBTASK 32-49-04-400-001

   (1) Do this task: Tire and Brake Monitoring Unit (TBMU) Installation, TASK 32-46-04-400-801

——— END OF TASK ———

TIRE AND BRAKE MONITORING SYSTEM (TBMS) TIRE PRESSURE SENSOR/FILL VALVE - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) The removal of the tire pressure sensor/fill valve.

(2) The installation of the tire pressure sensor/fill valve.

(3) The removal of the relay transformer hubcap assembly.

(4) The installation of the relay transformer hubcap assembly.

TASK 32-49-05-000-801

2. Tire Pressure Sensor/Fill Valve Removal

A. References

Reference	Title
07-11-03-580-801	Lift the Airplane with Axle Jacks (P/B 201)
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1524	Deflator - Tire, Valve Core Removal and Installation (Large Bore) Part #: 320008A-SO Supplier: SFN11 Part #: 968RB-1 Supplier: $1315 Opt Part #: 320008A Supplier: SFN11
SPL-8744	Socket - Tire Pressure Sensor, SmartStem Part #: 050-1000-06C31-B Supplier: 44UC3

C. Location Zones

Zone	Area
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for the Removal

SUBTASK 32-49-05-480-001

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) If the downlocks are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-49-05-480-002

(2) Make sure that the tires have chocks around them (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-49-05-860-001

(3) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

Row	Col	Number	Name
M	19	C32617	LG TIRE PRESSURE INDICATOR

E. Tire Pressure Sensor/Fill Valve Removal

SUBTASK 32-49-05-490-002

(1) If you will remove the tire pressure sensor/fill valve [2] assembly installed on the forward or aft axles of a truck, do this task: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801.

(a) Lift only the axle where you remove the tire pressure sensor/fill valve [2] assembly.

SUBTASK 32-49-05-580-001

(2) If you will remove the tire pressure sensor/fill valve [2] installed on the center axle of a truck, do this task: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801.

(a) Lift the forward and aft axles when you remove the tire pressure sensor/fill valve [2] from the center axle.

SUBTASK 32-49-05-840-001

WARNING YOU MUST FULLY DEFLATE THE TIRE BEFORE YOU REMOVE THE WHEEL AND TIRE ASSEMBLY. A DEFECTIVE WHEEL AND TIRE CAN EXPLODE IF YOU DO NOT DEFLATE THE TIRE BEFORE YOU REMOVE THE ASSEMBLY. INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR.

WARNING BE VERY CAREFUL WHEN DEFLATING TIRES (606) TO PREVENT INJURY TO PERSONNEL FROM A FLYING INFLATION VALVE CAP AND/OR VALVE CORE.

CAUTION MAKE SURE THAT THE DEFLATED TIRE THAT IS ON THE AXLE DOES NOT TOUCH THE GROUND. IF THE TIRE DOES TOUCH THE GROUND, THE TIRE'S BEAD SEAT CAN MOVE OUT OF ITS POSITION AND BECOME UNSEATED. THE UNSEATED BEAD SEAT CAN CAUSE LEAKAGE WHICH THEN CAN CAUSE DAMAGE TO THE TIRE AND WHEEL.

(3) Do these steps to deflate the tire:

(a) Remove the cap [5].

(b) Deflate the tire with the large bore tire deflator, COM-1524.

(c) If you cannot use the usual procedure to deflate the tire because the valve core is damaged, do these steps:

1) Turn the tire pressure sensor/fill valve [2] slowly in a counterclockwise direction until there is gas leakage through the boss.

2) At the same time, push lightly on the valve assembly.

3) After all of the gas has been released, use the socket, SPL-8744 to remove the tire pressure sensor/fill valve [2] from the tire.

SUBTASK 32-49-05-020-002

(4) Remove the O-Ring [6] from the tire pressure sensor/fill valve [2].

SUBTASK 32-49-05-910-001

(5) Discard the O-Ring [6].

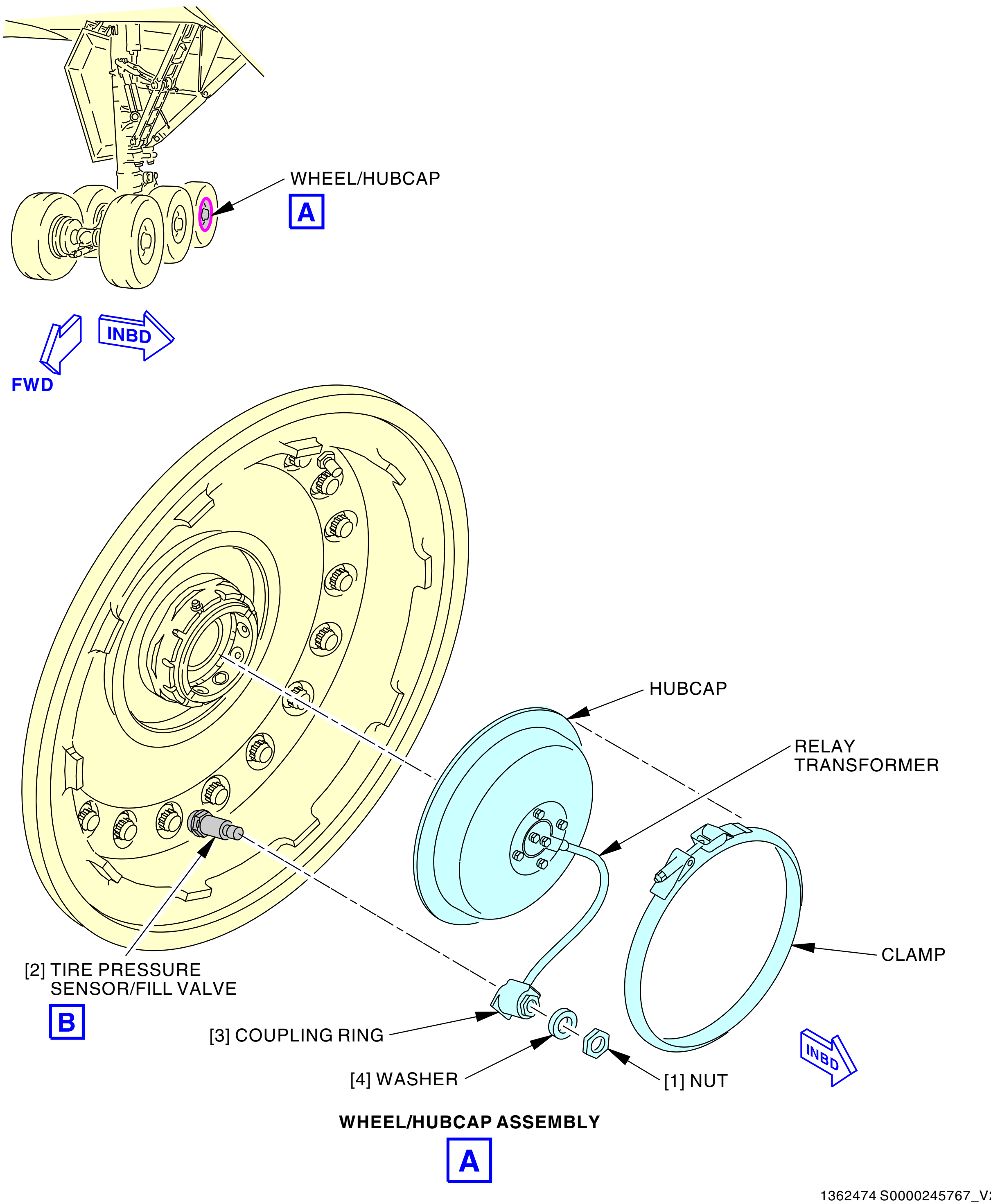
F. Inspection of the Tire Pressure Sensor/Fill Valve

SUBTASK 32-49-05-200-001

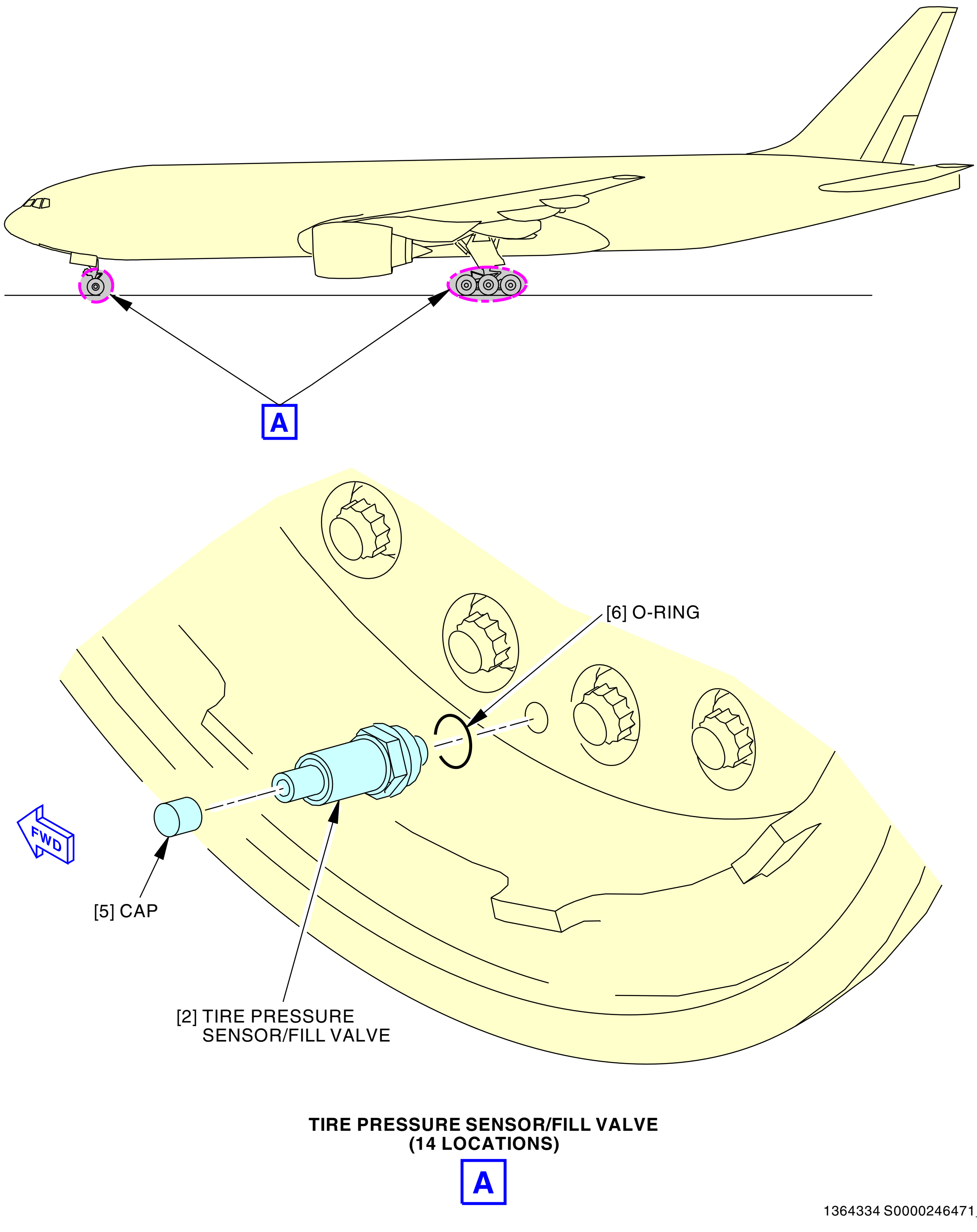
(1) Inspect the tire pressure sensor/fill valve [2].

(a) Replace the tire pressure sensor/fill valve [2] if the two staked halves of the tire pressure sensor/fill valve [2] are loose or misaligned.

END OF TASK



Tire Pressure Sensor/Fill Valve Installation
Figure 401/32-49-05-990-801



Tire Pressure Sensor/Fill Valve
Figure 402/32-49-05-990-802

TASK 32-49-05-400-801

3. **Tire Pressure Sensor/Fill Valve Installation**

A. **References**

Reference	Title
07-11-03-580-801	Lift the Airplane with Axle Jacks (P/B 201)
12-15-03-610-801	Landing Gear Tire Servicing (P/B 301)
12-15-03-610-802	Tire Pressure Indication System Check (P/B 301)
24-22-00-860-805	Supply Electrical Power (P/B 201)

B. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-8744	Socket - Tire Pressure Sensor, SmartStem Part #: 050-1000-06C31-B Supplier: 44UC3

C. **Consumable Materials**

Reference	Description	Specification
D00016	Grease - Aircraft, General Purpose, Wide Temperature Range	MIL-PRF-81322

D. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
6	O-Ring	32-45-01-15-013	ARO ALL
		32-45-01-15-030	ARO ALL
		32-45-02-15-033	ARO ALL

E. **Location Zones**

Zone	Area
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

F. **Tire Pressure Sensor/Fill Valve Installation, SmartStem.**

SUBTASK 32-49-05-400-001

CAUTION

MAKE SURE THAT THE DEFLATED TIRE THAT IS ON THE AXLE DOES NOT TOUCH THE GROUND. IF THE TIRE DOES TOUCH THE GROUND, THE TIRE'S BEAD SEAT CAN MOVE OUT OF ITS POSITION AND BECOME UNSEATED. THE UNSEATED BEAD SEAT CAN CAUSE LEAKAGE WHICH THEN CAN CAUSE DAMAGE TO THE TIRE AND WHEEL.

(1) Make sure that the deflated tire that is on the axle does not touch the ground.

SUBTASK 32-49-05-200-003

(2) Do a careful visual inspection of a reused tire pressure sensor/fill valve [2].

(a) Replace the reused tire pressure sensor/fill valve [2] if the two staked halves of the tire pressure sensor/fill valve [2] are loose or misaligned.

SUBTASK 32-49-05-420-001

(3) Lubricate the new O-Ring [6] with grease, D00016 and install it on the tire pressure sensor/fill valve [2].

NOTE: MIL-PRF-81322 qualified lubricants should be used on the vendor specified O-rings for the tire pressure sensor/fill valve for the TBMS.

(a) Avoid contact with the threads of the tire pressure sensor/fill valve [2].

SUBTASK 32-49-05-420-002

(4) Install the tire pressure sensor/fill valve [2] with the socket, SPL-8744 on the wheel.

SUBTASK 32-49-05-420-003

(5) Tighten the tire pressure sensor/fill valve [2] to 175 ±25 in-lb (20 ±3 N·m).

SUBTASK 32-49-05-420-005

(6) Install the coupling ring [3] on the tire pressure sensor/fill valve [2].

SUBTASK 32-49-05-420-006

(7) Install the washer [4] and nut [1] on the tire pressure sensor/fill valve [2].

SUBTASK 32-49-05-420-007

(8) Tighten the nut [1] to 90 ±3 in-lb (10 ±1 N·m).

SUBTASK 32-49-05-420-008

(9) Install the lockwire on the nut [1].

SUBTASK 32-49-05-865-001

(10) Remove the safety tag and close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
M	19	C32617	LG TIRE PRESSURE INDICATOR

SUBTASK 32-49-05-610-001

(11) Do this task: Landing Gear Tire Servicing, TASK 12-15-03-610-801.

SUBTASK 32-49-05-420-009

(12) Install the cap [5] after the tire has been serviced.

G. Tire Pressure Sensor/Fill Valve Installation Test

SUBTASK 32-49-05-860-002

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805

SUBTASK 32-49-05-860-003

(2) Push the GEAR button on the multifunction display, (MFD), select panel.

NOTE: The MFD select panel is above the control lever for the landing gear in the flight compartment.

SUBTASK 32-49-05-860-004

(3) Make sure the tire pressure shows for the tire for which you installed the tire pressure sensor/fill valve [2].

SUBTASK 32-49-05-860-005

(4) Push the STAT button on the multifunction display select panel (MFD).

SUBTASK 32-49-05-860-006

(5) Make sure that TIRE PRESS does not show on the MFD Landing Gear Status display.

SUBTASK 32-49-05-610-002

(6) Cross check the system with a tire pressure gage, do this task: Tire Pressure Indication System Check, TASK 12-15-03-610-802.

H. Put the Airplane Back to Its Usual Condition.

SUBTASK 32-49-05-580-002

(1) Remove the appropriate jack, do this task: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801.

——— END OF TASK ———

NOSE LANDING GEAR STEERING SYSTEM - MAINTENANCE PRACTICES

1. **General**
   A. This procedure has these tasks:
      (1) Nose Landing Gear Steering System Deactivation.
      (2) Nose Landing Gear Steering System Activation.

TASK 32-51-00-040-801

2. **Nose Landing Gear Steering System - Deactivation**
   (Figure 201)

   A. General
      (1) This task will deactivate the Nose Landing Gear Steering System.

   B. References

Reference	Title
10-11-05-500-801	Chock Installation in Winds or Wind Gusts to a Maximum of 35 Knots (P/B 201)
10-11-05-500-802	Chock Installation in Winds of More than 35 Knots (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   C. Tools/Equipment

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
STD-858	Tag - DO NOT OPERATE

   D. Location Zones

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
116	Area Outboard and Above Nose Landing Gear Wheel Well, Right
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

F. Procedure

SUBTASK 32-51-00-500-001

(1) Install chocks around the forward or center tires of the main landing gear (TASK 10-11-05-500-801 or TASK 10-11-05-500-802).

(a) Do not install chocks around the tires of the aft axles.

SUBTASK 32-51-00-480-012

(2) On the control stand, P10, make sure that the PARKING BRAKE control lever is in the PULL position.

(a) Attach a DO NOT OPERATE tag, STD-858, on the PARKING BRAKE control lever.

SUBTASK 32-51-00-480-013

(3) On the center forward panel, P2, make sure that the LANDING GEAR control lever is in the DN position.

(a) Attach a DO NOT OPERATE tag, STD-858, on the LANDING GEAR control lever.

SUBTASK 32-51-00-860-026

WARNING MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE FLIGHT CONTROLS SURFACES. MAKE SURE THAT THE INBOARD FAN DUCT COWL AND THE INBOARD AND OUTBOARD THRUST REVERSERS ARE CLOSED. THE FLIGHT CONTROL SURFACES CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Make sure clearance zones are established at the following areas:

(a) Ailerons

(b) Flaperons

(c) Rudders

(d) Elevators

(e) Flaps

(f) Slats

(g) Spoilers

ARO 005-999

(h) Landing Gear

ARO 001-004

(i) Landing Gear and Tail Skid

ARO ALL

(j) Thrust Reversers

(k) Drive Mechanisms.

SUBTASK 32-51-00-480-018

CAUTION	DO NOT OPERATE THE STEERING SYSTEM FOR THE NOSE WHEEL WITHOUT HYDRAULIC POWER. THIS CAN CAUSE DAMAGE TO THE CABLE LOOP COMPONENTS.

(5) Make sure that the wheels of the nose landing gear are in the neutral position (Figure 201, View A-A).

NOTE: The protractor on the steering collar shows the angular position of the wheels.

The 0 ° position is referred to as the neutral position.

SUBTASK 32-51-00-480-019

WARNING	ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(6) On the towing lever do these steps:

(a) Move the towing lever to the TOW position.

(b) On the forward side of the nose landing gear install the NLG towing lever pin, SPL-1499, through the towing lever.

NOTE: You use the NLG towing lever pin, SPL-1499, to hold the towing lever in the TOW position.

NOTE: These steps isolate the steering system for the nose landing gear from hydraulic power.

SUBTASK 32-51-00-480-020

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

WARNING	MAKE SURE THAT ALL PERSONNEL AND EQUIPMENT ARE AWAY FROM THE AREA AROUND THE LANDING GEAR. IF THE LANDING GEAR MOVES, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

ARO 001-004

WARNING	MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE AREA AROUND THE TAIL SKID. THE MOVEMENT OF THE TAIL SKID CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

ARO ALL

(7) If the downlock pins are not installed in the nose landing gear and the main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-51-00-480-021

WARNING

KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR. THE DOORS OPEN, AND CLOSE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

(8) If the nose landing gear doors and the main landing gear doors safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-51-00-860-030

(9) Depressurize the center hydraulic system (TASK 29-11-00-860-807).

(a) Make sure that the EICAS hydraulic maintenance page shows that the center hydraulic system pressures are all below 100 psi (689 kPa).

NOTE: If connected to the hydraulics bench, hydraulic pressure in the L, C ad R hydraulic systems will quickly drop to less than 100 psi (689 kPa). If using the overhead P5 hydraulics panel switches, the system may take 30 minutes or so to depressurize.

SUBTASK 32-51-00-860-031

(10) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-51-00-860-032

(11) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-51-00-860-033

WARNING

BE CAREFUL WHEN YOU DO WORK AROUND ENERGIZED PANELS. HIGH VOLTAGES CAN KILL YOU.

(12) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

G. Nose Landing Gear Steering System - Tryout

NOTE: This tryout is to make sure that the Nose Landing Gear Steering System is in a zero energy state.

SUBTASK 32-51-00-480-014

(1) Make sure that chocks are around the forward or center tires of the main landing gear.

SUBTASK 32-51-00-480-015

(2) On the control stand, P10, make sure that the PARKING BRAKE control lever is in the PULL position.

(a) Make sure a DO NOT OPERATE tag, STD-858, is attached to the PARKING BRAKE control lever.

SUBTASK 32-51-00-480-016

(3) On the center forward panel, P2, make sure that the LANDING GEAR control lever is in the DN position.

(a) Make sure a DO NOT OPERATE tag, STD-858, is attached to the LANDING GEAR control lever.

SUBTASK 32-51-00-860-034

WARNING	MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE FLIGHT CONTROLS SURFACES. MAKE SURE THAT THE INBOARD FAN DUCT COWL AND THE INBOARD AND OUTBOARD THRUST REVERSERS ARE CLOSED. THE FLIGHT CONTROL SURFACES CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Make sure clearance zones are established at the following areas:

(a) Ailerons

(b) Flaperons

(c) Rudders

(d) Elevators

(e) Flaps

(f) Slats

(g) Spoilers

ARO 005-999

(h) Landing Gear

ARO 001-004

(i) Landing Gear and Tail Skid

ARO ALL

(j) Thrust Reversers

(k) Drive Mechanisms.

SUBTASK 32-51-00-480-022

CAUTION	DO NOT OPERATE THE STEERING SYSTEM FOR THE NOSE WHEEL WITHOUT HYDRAULIC POWER. THIS CAN CAUSE DAMAGE TO THE CABLE LOOP COMPONENTS.

(5) Make sure that the wheels of the nose landing gear are in the neutral position.

NOTE: The protractor on the steering collar shows the angular position of the wheels. The 0 ° position is referred to as the neutral position.

SUBTASK 32-51-00-480-023

> **WARNING**
> ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(6) On the towing lever do these steps:

(a) Make sure that the nose landing gear towing lever is in the TOW position.

(b) Make sure that the NLG towing lever pin, SPL-1499, has been inserted through the towing lever on forward side of the nose landing gear.

NOTE: You use the NLG towing lever pin, SPL-1499, to hold the towing lever in the TOW position.

NOTE: These steps isolate the steering system for the nose landing gear from hydraulic power.

SUBTASK 32-51-00-480-024

> **WARNING**
> MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

> **WARNING**
> MAKE SURE THAT ALL PERSONNEL AND EQUIPMENT ARE AWAY FROM THE AREA AROUND THE LANDING GEAR. IF THE LANDING GEAR MOVES, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

ARO 001-004

> **WARNING**
> MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE AREA AROUND THE TAIL SKID. THE MOVEMENT OF THE TAIL SKID CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

ARO ALL

(7) Make sure that the nose landing gear and the main landing gear downlock pins are installed.

SUBTASK 32-51-00-480-025

> **WARNING**
> KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR. THE DOORS OPEN, AND CLOSE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

(8) Make sure that the nose landing gear doors and the main landing gear doors safety pins are installed.

SUBTASK 32-51-00-860-038

(9) Make sure that these circuit breakers are open and have safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-51-00-860-039

WARNING	BE CAREFUL WHEN YOU DO WORK AROUND ENERGIZED PANELS. HIGH VOLTAGES CAN KILL YOU.

(10) Make sure that this circuit breaker is open and has safety tag:

Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

SUBTASK 32-51-00-860-040

WARNING	MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE FLIGHT CONTROLS SURFACES. MAKE SURE THAT THE INBOARD FAN DUCT COWL AND THE INBOARD AND OUTBOARD THRUST REVERSERS ARE CLOSED. THE FLIGHT CONTROL SURFACES CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

WARNING	MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(11) Pressurize the center hydraulic system (TASK 29-11-00-860-801).

SUBTASK 32-51-00-710-004

WARNING	MAKE SURE THAT ALL PERSONNEL AND EQUIPMENT ARE AWAY FROM THE AREA AROUND THE LANDING GEAR. IF THE LANDING GEAR MOVES, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

CAUTION	DO NOT USE FORCE ON THE STEERING TILLERS. DAMAGE TO TILLER HANDLE MECHANISM AND CABLES CAN OCCUR.

(12) Rotate both the Captain's and First Officer's steering tillers to the left, then to the right.

(a) Make sure that nose gear wheels do not turn.

SUBTASK 32-51-00-480-026

(13) Attach DO NOT OPERATE tags, STD-858, on the Captain's and First Officer's steering tillers and rudder pedals.

SUBTASK 32-51-00-860-042

(14) Depressurize the center hydraulic system (TASK 29-11-00-860-807).

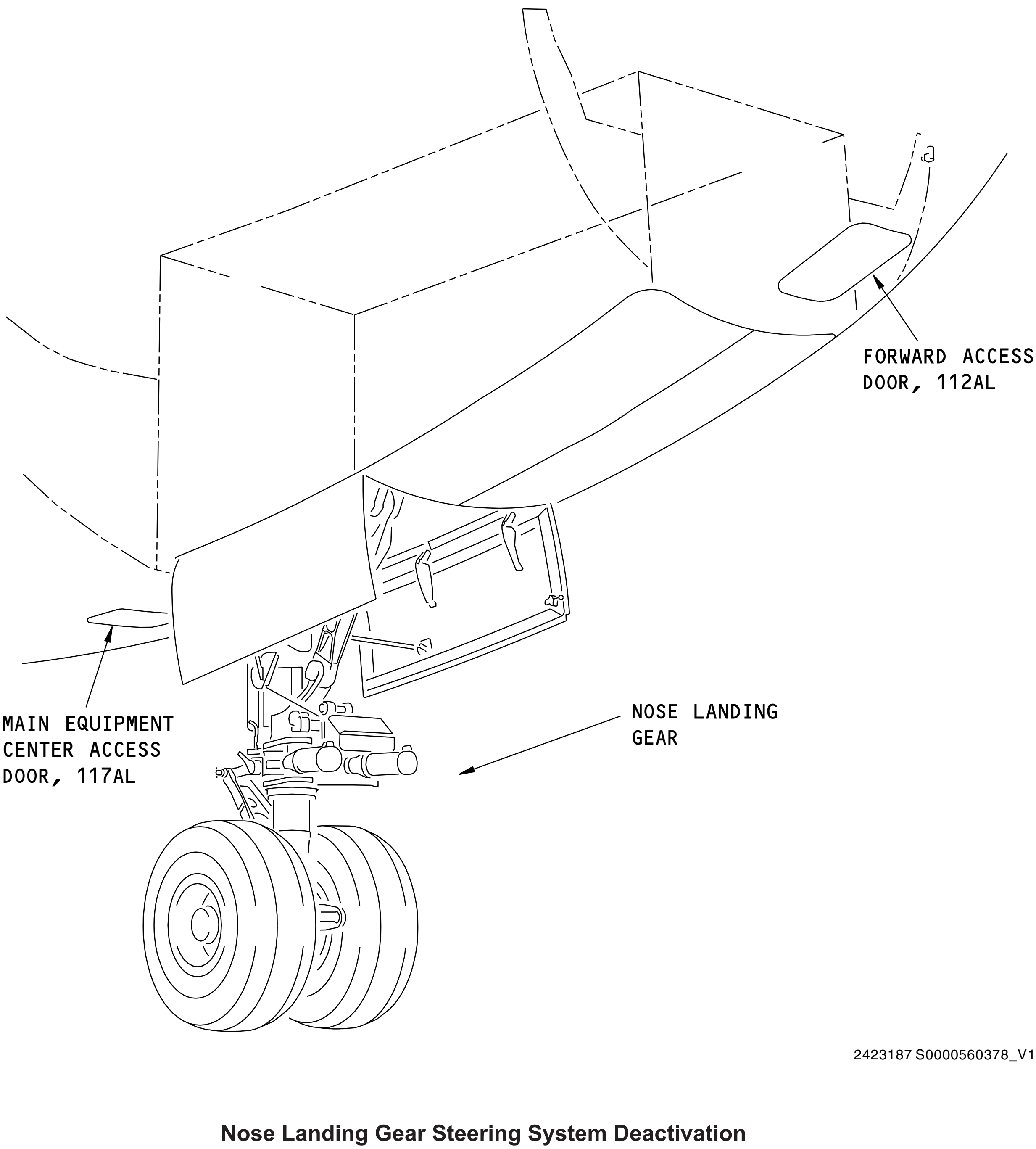
(a) Make sure that the EICAS hydraulic maintenance page shows that the center hydraulic system pressures are all below 100 psi (689 kPa).

NOTE: If connected to the hydraulics bench, hydraulic pressure in the L, C ad R hydraulic systems will quickly drop to less than 100 psi (689 kPa). If using the overhead P5 hydraulics panel switches, the system may take 30 minutes or so to depressurize.

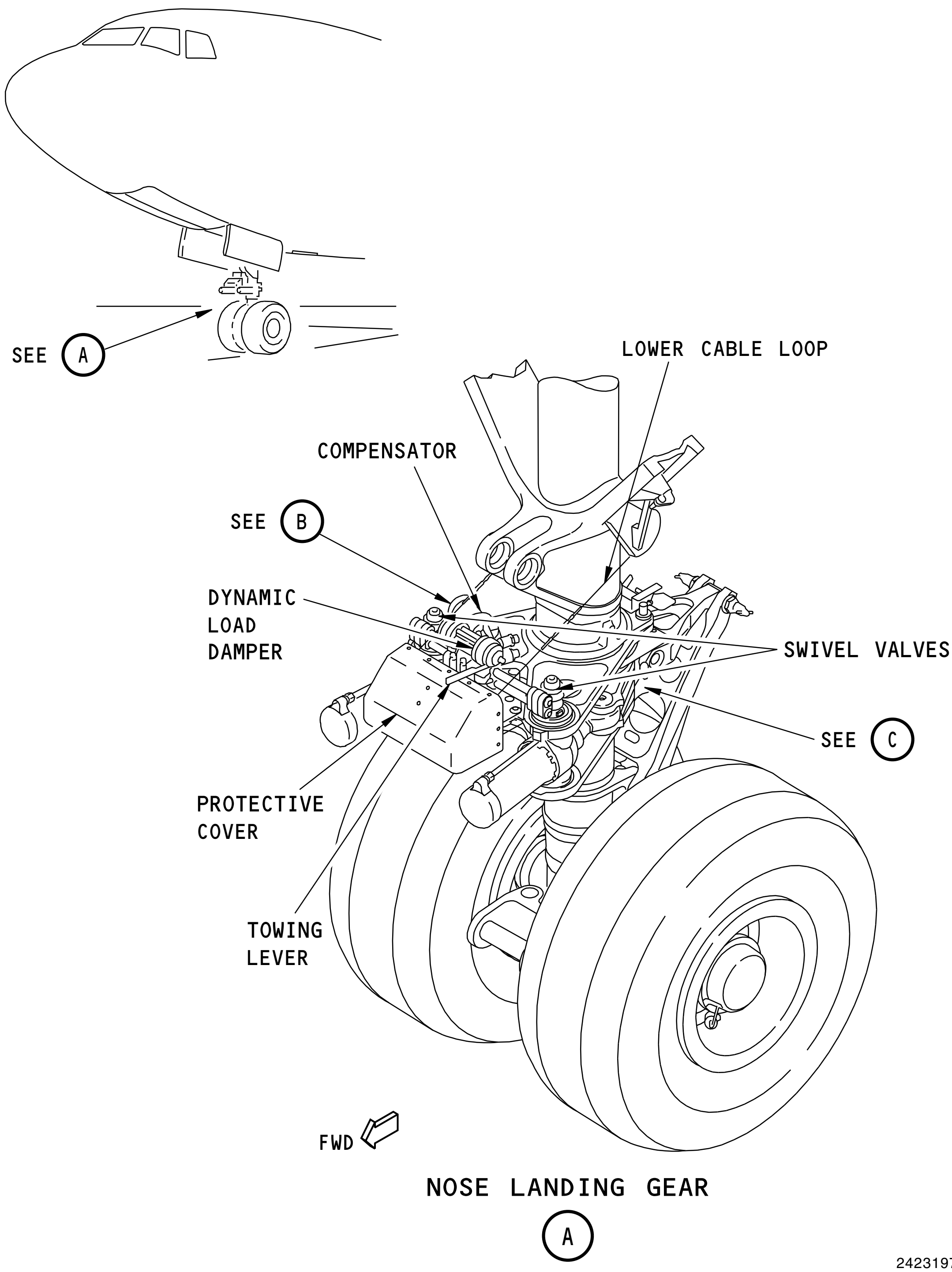
SUBTASK 32-51-00-480-017

(15) Attach DO NOT OPERATE tags, STD-858, on the center hydraulic system.

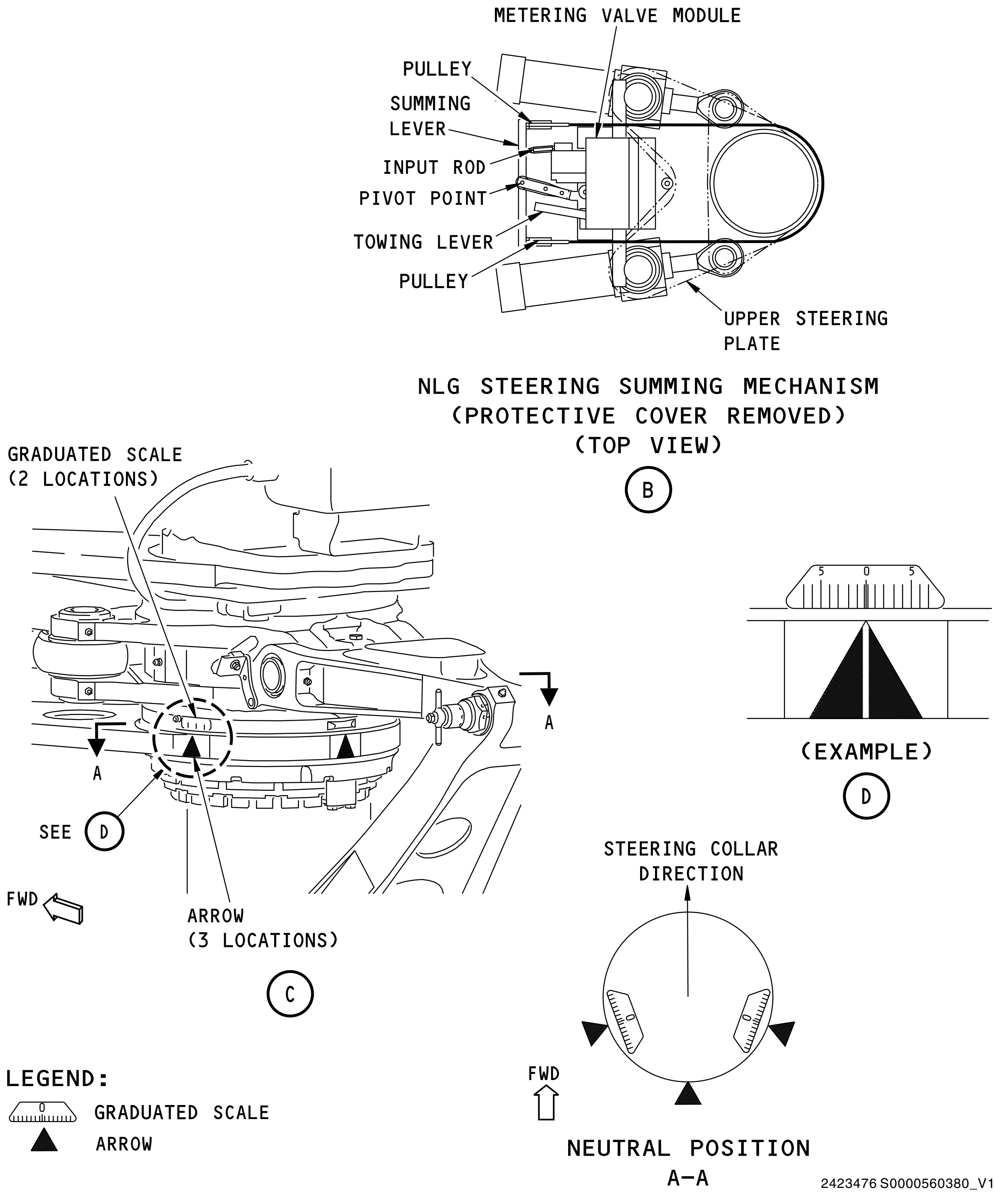
——— END OF TASK ———



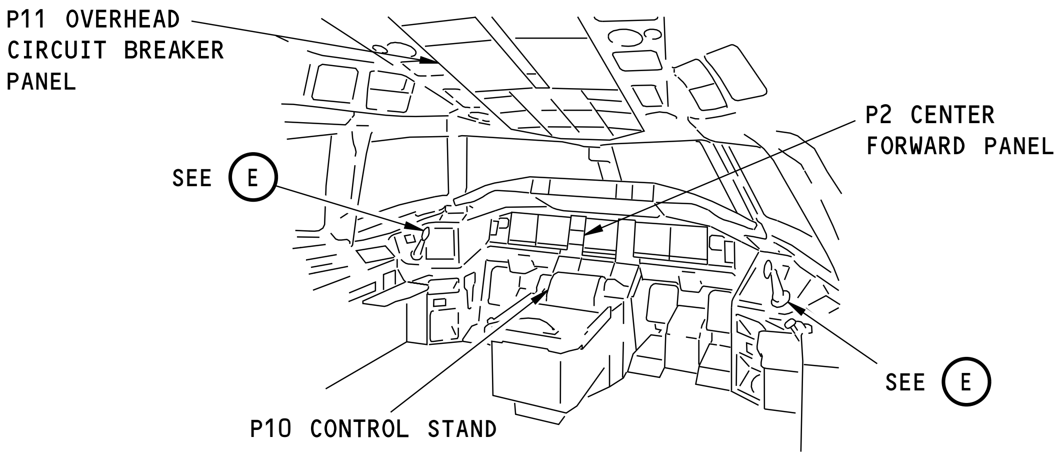
Nose Landing Gear Steering System Deactivation
Figure 201/32-51-00-990-805 (Sheet 1 of 4)



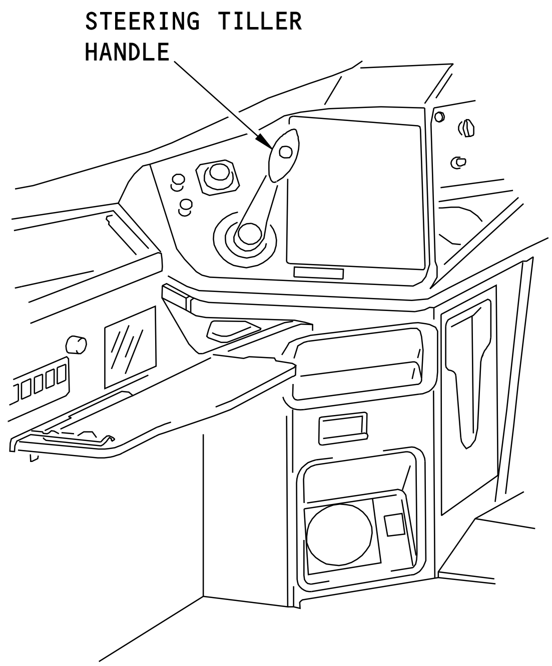
Nose Landing Gear Steering System Deactivation
Figure 201/32-51-00-990-805 (Sheet 2 of 4)



Nose Landing Gear Steering System Deactivation
Figure 201/32-51-00-990-805 (Sheet 3 of 4)



FLIGHT COMPARTMENT



LEFT SIDE IS SHOWN
(RIGHT SIDE IS EQUIVALENT)

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Nose Landing Gear Steering System Deactivation
Figure 201/32-51-00-990-805 (Sheet 4 of 4)

TASK 32-51-00-440-801

3. Nose Landing Gear Steering System - Activation

(Figure 201)

A. General

(1) This task will activate the Nose Landing Gear Steering System.

B. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
STD-858	Tag - DO NOT OPERATE

D. Location Zones

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
116	Area Outboard and Above Nose Landing Gear Wheel Well, Right
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

F. Procedure

SUBTASK 32-51-00-500-002

(1) Make sure that chocks are around the forward or center tires of the main landing gear.

SUBTASK 32-51-00-480-027

(2) On the control stand, P10, make sure that the PARKING BRAKE control lever is in the PULL position.

(a) Remove the DO NOT OPERATE tag, STD-858, on the PARKING BRAKE control lever.

SUBTASK 32-51-00-480-028

(3) On the center forward panel, P2, make sure that the LANDING GEAR control lever is in the DN position.

(a) Remove the DO NOT OPERATE tag, STD-858, on the LANDING GEAR control lever.

SUBTASK 32-51-00-080-007

(4) Remove the NLG towing lever pin, SPL-1499, from the towing lever on forward side of the nose landing gear.

SUBTASK 32-51-00-080-008

WARNING	MAKE SURE THAT ALL PERSONNEL AND EQUIPMENT ARE AWAY FROM THE AREA AROUND THE LANDING GEAR. IF THE LANDING GEAR MOVES, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

ARO 001-004

WARNING	MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE AREA AROUND THE TAIL SKID. THE MOVEMENT OF THE TAIL SKID CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

ARO ALL

(5) Remove the nose landing gear and the main landing gear downlock pins (TASK 32-00-30-080-801).

SUBTASK 32-51-00-080-009

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR. THE DOORS OPEN, AND CLOSE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

(6) Remove the nose landing gear doors and the main landing gear doors safety pins (TASK 32-00-15-080-801).

SUBTASK 32-51-00-860-043

(7) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-51-00-860-044

WARNING	BE CAREFUL WHEN YOU DO WORK AROUND ENERGIZED PANELS. HIGH VOLTAGES CAN KILL YOU.

(8) Remove the safety tag and close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

SUBTASK 32-51-00-860-046

(9) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-51-00-080-010

(10) Remove the DO NOT OPERATE tags, STD-858, from the Captain's and First Officer's steering tillers and rudder pedals.

SUBTASK 32-51-00-080-013

(11) Remove the DO NOT OPERATE tags, STD-858, from the center hydraulic system.

SUBTASK 32-51-00-860-045

(12) After all the DO NOT OPERATE tags, STD-858, have been removed, if required, pressurize the center hydraulic system.

——— END OF TASK ———

NOSE LANDING GEAR STEERING SYSTEM - ADJUSTMENT/TEST

1. **General**
   A. This procedure has two tasks:
      (1) A functional test of the steering system for the nose landing gear
      (2) An adjustment of the steering system for the nose landing gear.

TASK 32-51-00-720-802

2. **Nose Landing Gear Steering System - Functional Test**

   A. **General**
      (1) This task does a functional test of the steering system for the nose landing gear. The functional test has four parts:
         (a) The first part of the functional test does a check to make sure the dynamic load damper and the towing shutoff valve in the steering metering valve module operate correctly
         (b) The second part of the functional test does a check of the steering system's rate and travel with the steering tillers
         (c) The third part of the functional test does a check of the steering system's travel with the rudder pedals
         (d) The fourth part of the functional test does a check of the torque necessary to turn the steering tillers through their full travel.
      (2) The functional test does a check to make sure that all of the cables, pulleys, quadrants, mechanisms, and valves in the steering system for the nose landing gear operate correctly.

   B. **References**

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
24-22-00-860-806	Remove Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-21-11-000-803	Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage (P/B 201)
32-21-11-400-803	Nose Landing Gear Torsion Link Connection (P/B 201)

   C. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1910	Bar - Torsion, NLG Steering Part #: J32052-1 Supplier: 81205

(Continued)

Reference	Description
STD-1139	Timer - Stop Watch, Accurate to 1 Second

D. **Location Zones**

Zone	Area
116	Area Outboard and Above Nose Landing Gear Wheel Well, Right
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

E. **Prepare for the Test**

CAUTION DO NOT OPERATE THE STEERING SYSTEM FOR THE NOSE WHEEL WITHOUT HYDRAULIC POWER. THIS CAN CAUSE DAMAGE TO THE CABLE LOOP COMPONENTS.

NOTE: Use the graduated scales on the steering collar and the arrows on the lower support plate to measure the angular position of the steering collar and the wheels (Figure 501). The 0 ° position is referred to as the neutral position.

SUBTASK 32-51-00-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-51-00-860-001

WARNING MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-51-00-860-002

(3) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-51-00-860-003

(4) On the overhead maintenance panel, P61, move these switches to the SHUT OFF position:

NOTE: This isolates the rudder from hydraulic power.

(a) Left Tail Flight Control Shutoff Switch

(b) Center Tail Flight Control Shutoff Switch

(c) Right Tail Flight Control Shutoff Switch.

SUBTASK 32-51-00-860-004

(5) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-51-00-860-005

(6) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-51-00-860-006

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(7) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(a) Make sure you have more than one Alternating Current Motor Pump (ACMP) in operation.

NOTE: The hydraulic demand for steering operations tests can exceed the 6 GPM capacity of a single ACMP.

SUBTASK 32-51-00-860-007

(8) On the aft aisle stand panel, P8, push the manual trim cancel switch.

SUBTASK 32-51-00-210-001

(9) Make sure the wheels of the nose landing gear are in the neutral position.

SUBTASK 32-51-00-860-008

(10) Move the towing lever, on the forward side of the nose landing gear, to the TOW position.

NOTE: This isolates the steering system for the nose landing gear from hydraulic power.

SUBTASK 32-51-00-480-002

WARNING ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(11) Install the NLG towing lever pin, SPL-1499, through the towing lever.

NOTE: The NLG towing lever pin, SPL-1499, holds the towing lever in the TOW position.

SUBTASK 32-51-00-020-001

CAUTION MAKE SURE THAT YOU CORRECTLY DISCONNECT AND STOW THE ELECTRICAL HARNESS. IF YOU DO NOT FOLLOW THIS PROCEDURE, DAMAGE TO THE HARNESS EQUIPMENT CAN OCCUR.

(12) Do this task: Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage, TASK 32-21-11-000-803.

F. Nose Landing Gear Steering System - Functional Test

SUBTASK 32-51-00-710-001

(1) Do the steps below to make sure the dynamic load damper and the towing shutoff valve in the steering metering valve module operate correctly:

CAUTION: MAKE SURE THAT YOU SUPPORT THE NLG STEERING TORSION BAR, SPL-1910, AT ALL TIMES AFTER YOU CONNECT IT TO THE UPPER TORSION LINK. IF YOU DO NOT DO THIS, YOU CAN CAUSE DAMAGE TO THE RESTRAINT MECHANISM FOR THE UPPER TORSION LINK.

(a) Connect the NLG steering torsion bar, SPL-1910, to the upper torsion link.

WARNING: DO NOT TURN THE STEERING COLLAR MORE THAN 10°. IF YOU TURN THE STEERING COLLAR MORE THAN 10°, IT CAN AUTOMATICALLY MOVE FURTHER IN THE DIRECTION OF THE TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(b) Make sure you can manually turn the steering collar counterclockwise 10 ° to 20 ° with the NLG steering torsion bar, SPL-1910.

(c) Turn the steering collar back to the neutral position with the NLG steering torsion bar, SPL-1910.

WARNING: DO NOT TURN THE STEERING COLLAR MORE THAN 10°. IF YOU TURN THE STEERING COLLAR MORE THAN 10°, IT CAN AUTOMATICALLY MOVE FURTHER IN THE DIRECTION OF THE TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(d) Make sure you can manually turn the steering collar clockwise 10 ° to 20 ° with the NLG steering torsion bar, SPL-1910.

(e) Turn the steering collar back to the neutral position with the NLG steering torsion bar, SPL-1910.

(f) Disconnect the NLG steering torsion bar, SPL-1910, from the upper torsion link.

SUBTASK 32-51-00-080-001

(2) Remove the NLG towing lever pin, SPL-1499, from the towing lever.

SUBTASK 32-51-00-720-001

(3) Do the steps below to do a check of the steering system's rate and travel with the steering tillers:

(a) Turn the Captain's steering tiller counterclockwise to its stop and hold it there.

NOTE: Turn the Captain's steering tiller approximately 350 ° to get to the stop.

(b) Make sure the steering collar turns to the left 69 ° to 71 °.

(c) Release the Captain's steering tiller.

(d) Make sure the Captain's steering tiller moves back to the neutral position without manual help in 4 seconds or less.

1) Use the stopwatch, STD-1139 to measure the time.

NOTE: Start the stopwatch, STD-1139 when you release the Captain's steering tiller. Stop the stopwatch, STD-1139 when the Captain's steering tiller gets to the neutral position.

(e) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

(f) Turn the Captain's steering tiller clockwise to its stop and hold it there.

NOTE: Turn the Captain's steering tiller approximately 350 ° to get to the stop.

(g) Make sure the steering collar turns to the right 69 ° to 71 °.

(h) Release the Captain's steering tiller.

(i) Make sure the Captain's steering tiller moves back to the neutral position without manual help in 4 seconds or less.

1) Use the stopwatch, STD-1139 to measure the time.

NOTE: Start the stopwatch, STD-1139 when you release the Captain's steering tiller. Stop the stopwatch, STD-1139 when the Captain's steering tiller gets to the neutral position.

(j) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

SUBTASK 32-51-00-720-002

(4) Do the steps below to do a check of the steering system's travel with the rudder pedals:

(a) Push the Captain's left rudder pedal to its stop and hold it there.

1) Do not hold the Captain's or the First Officer's steering tiller when you do this.

(b) Make sure the steering collar turns to the left 6 ° to 9 °.

1) If the pointer goes beyond the marks on the protractor decal, make sure the rotation angle is correct by measuring the circumference length from the protractor zero line to the pointer arrow.

2) The maximum angle of 9 degrees can be measured as 0.98 in. (24.9 mm) from the protractor zero line to the pointer

(c) Release the Captain's left rudder pedal.

(d) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

(e) Push the Captain's right rudder pedal to its stop and hold it there.

1) Do not hold the Captain's or the First Officer's steering tiller when you do this.

(f) Make sure the steering collar turns to the right 6 ° to 9 °.

1) If the pointer goes beyond the marks on the protractor decal, make sure the rotation angle is correct by measuring the circumference length from the protractor zero line to the pointer arrow.

2) The maximum angle of 9 degrees can be measured as 0.98 in. (24.9 mm) from the protractor zero line to the pointer

(g) Release the Captain's right rudder pedal.

(h) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

SUBTASK 32-51-00-720-003

(5) Do the steps below to do a check of the torque necessary to turn the steering tillers through their full travel:

(a) Do the steps below for the Captain's steering tiller and the First Officer's steering tiller:

1) Remove the plug [1] from the steering tiller handle (Figure 502).

2) Connect a torque wrench to the nut [2] on the end of the steering tiller shaft.

3) With the torque wrench, turn the steering tiller counterclockwise to its stop.

NOTE: Turn the steering tiller approximately 350 ° to get to the stop.

4) Make sure the torque necessary to turn the steering tiller is between 28 in-lb (3.2 N·m) and 38 in-lb (4.3 N·m).

NOTE: A torque of 28 in-lb (3.2 N·m) or less is permitted if the springs [53] of the steering centering and rudder interconnect mechanism [49] are not broken and are correctly installed (Figure 503).

5) Turn the steering tiller back to the neutral position.

6) With the torque wrench, turn the steering tiller clockwise to its stop.

NOTE: You must turn the steering tiller approximately 350 ° to get to the stop.

7) Make sure the torque necessary to turn the steering tiller is between 28 in-lb (3.2 N·m) and 38 in-lb (4.3 N·m).

NOTE: A torque of 28 in-lb (3.2 N·m) or less is permitted if the spring [53] of the steering centering and rudder interconnect mechanism [49] are not broken and are correctly installed (Figure 503).

8) Turn the steering tiller back to the neutral position.

9) Remove the torque wrench from the nut [2] on the end of the steering tiller shaft (Figure 502).

10) Install the plug [1] on the steering tiller handle.

SUBTASK 32-51-00-210-002

(6) Make sure the steering collar is in the neutral position.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-51-00-860-009

(1) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-51-00-860-010

(2) Do this task: Remove Electrical Power, TASK 24-22-00-860-806.

SUBTASK 32-51-00-860-011

(3) On the overhead maintenance panel, P61, move these switches to the NORM position:

(a) Left Tail Flight Control Shutoff Switch

(b) Center Tail Flight Control Shutoff Switch

(c) Right Tail Flight Control Shutoff Switch.

SUBTASK 32-51-00-420-001

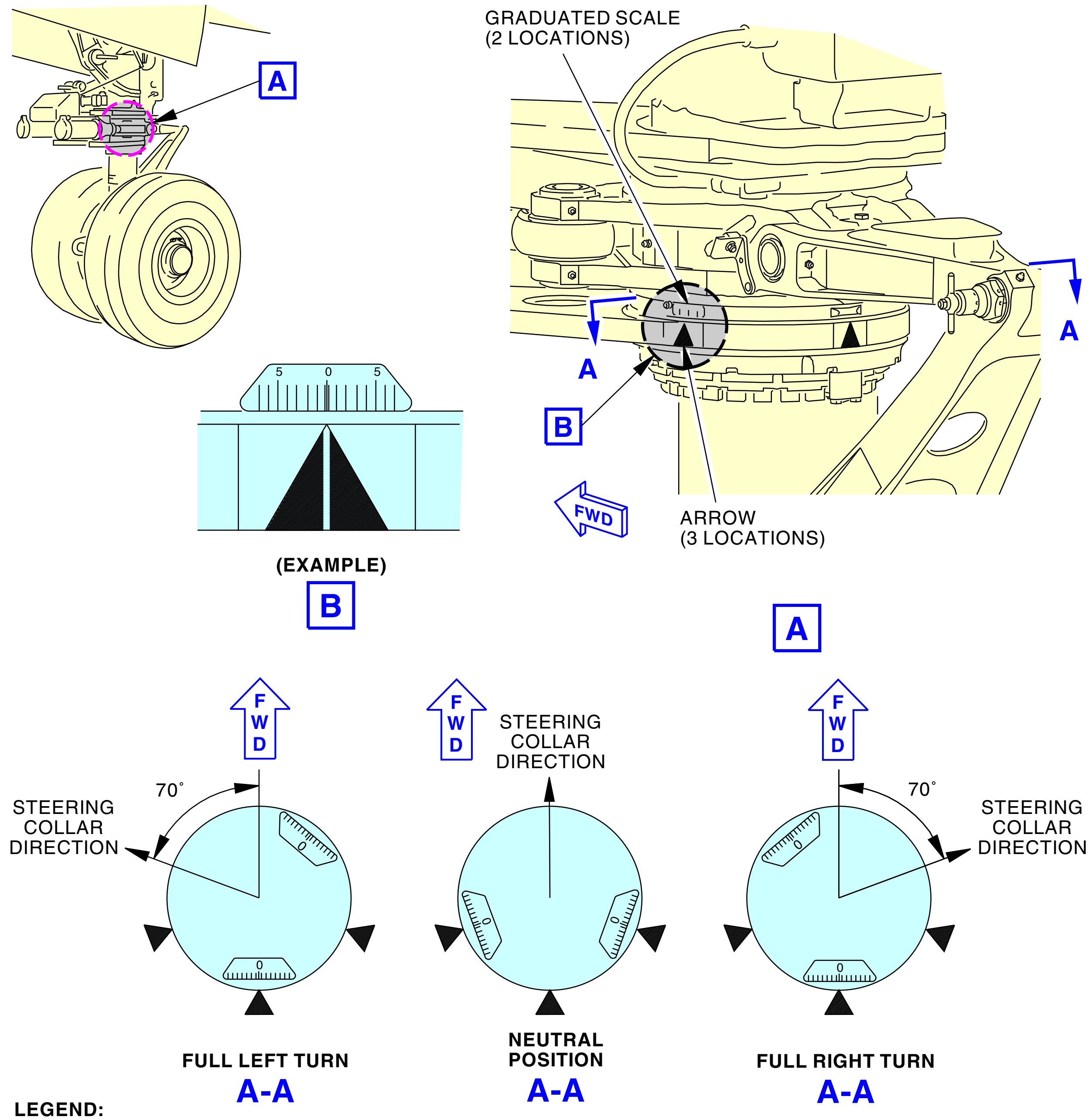
(4) Do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-11-400-803.

SUBTASK 32-51-00-860-012

WARNING: MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

END OF TASK



LEGEND:

GRADUATED SCALE

ARROW

NOTE:

FOR A FULL LEFT TURN OR A FULL RIGHT TURN THE ZERO GRADUATION ON THE APPLICABLE GRADUATED SCALE ALIGNS WITH THE AFT ARROW.

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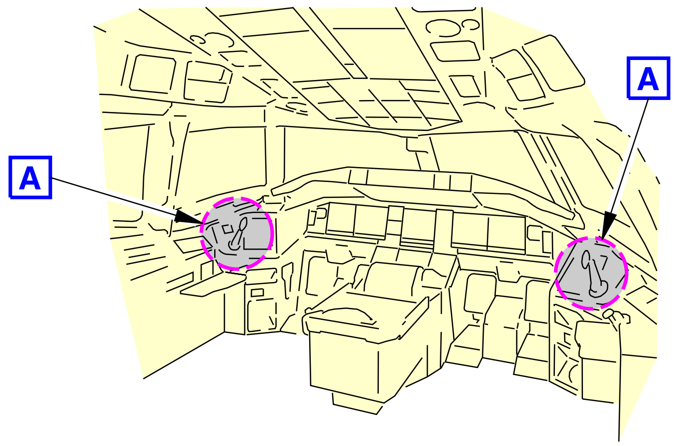
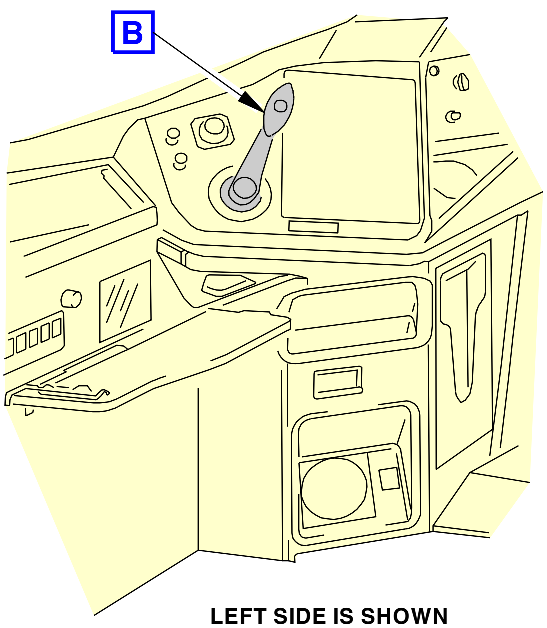
Nose Landing Gear Steering Angle Indication
Figure 501/32-51-00-990-801

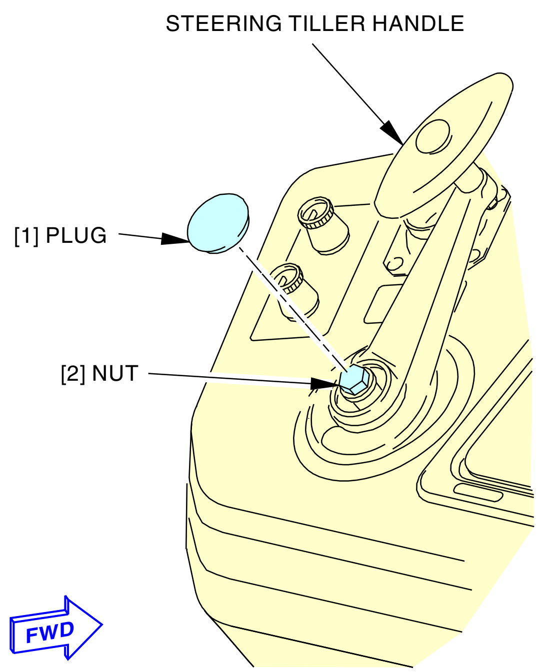


FLIGHT COMPARTMENT



LEFT SIDE IS SHOWN
(RIGHT SIDE IS EQUIVALENT)

A



B

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Nose Landing Gear Steering Tiller Handle Installation
Figure 502/32-51-00-990-802

TASK 32-51-00-820-801

3. Nose Landing Gear Steering System Adjustment

A. General

(1) This task supplies instructions to fully adjust (rig) the upper and lower cable loops of the steering system for the nose landing gear.

(2) This task is applicable to new cables and used cables (cables that have been on the airplane for a long time).

B. References

Reference	Title
20-11-00-910-801	Standard Torque Values (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-21-11-000-803	Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage (P/B 201)
32-21-11-400-803	Nose Landing Gear Torsion Link Connection (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1553	Tensiometer - Cable, Low Tension (200 lbs and below) Part #: 102-03108 Supplier: 21844 Part #: 102-03120 Supplier: 21844 Part #: ACX-250 Supplier: 13331 Part #: T60-1001-C8-1A Supplier: 0N8U4 Opt Part #: 102-03110 Supplier: 21844 Opt Part #: ACM-200 Supplier: 13331
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1910	Bar - Torsion, NLG Steering Part #: J32052-1 Supplier: 81205
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

D. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

E. Location Zones

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
116	Area Outboard and Above Nose Landing Gear Wheel Well, Right
118	Main Equipment Center, Right
211	Flight Compartment, Left
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Access Panels

Number	Name/Location
112AL	Forward Access Door
117AL	Main Equipment Center Access Door

G. Prepare for the Adjustment

NOTE: Use the low tension cable tensiometer, COM-1553, to measure the cable tension.

NOTE: Use the graduated scales on the steering collar and the arrows on the lower support plate to measure the angular position of the steering collar and the wheels (Figure 501). The 0 ° position is referred to as the neutral position.

SUBTASK 32-51-00-860-013

(1) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-51-00-860-014

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-51-00-860-015

(3) On the aft aisle stand panel, P8, turn the rudder trim control until the rudder trim indicator shows that the rudder has 0 units of trim.

SUBTASK 32-51-00-860-016

(4) On the overhead maintenance panel, P61, move these switches to the SHUT OFF position:

NOTE: This isolates the rudder from hydraulic power.

(a) Left Tail Flight Control Shutoff Switch

(b) Center Tail Flight Control Shutoff Switch

(c) Right Tail Flight Control Shutoff Switch.

SUBTASK 32-51-00-480-003

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-51-00-860-017

(6) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-51-00-480-004

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(7) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-51-00-210-003

(8) Make sure the wheels of the nose landing gear are in the neutral position.

SUBTASK 32-51-00-860-018

(9) Move the towing lever, on the forward side of the nose landing gear, to the TOW position.

NOTE: This isolates the steering system for the nose landing gear from hydraulic power.

SUBTASK 32-51-00-480-005

WARNING	ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(10) Install the NLG towing lever pin, SPL-1499, through the towing lever.

NOTE: The NLG towing lever pin, SPL-1499, holds the towing lever in the TOW position.

SUBTASK 32-51-00-860-019

WARNING	MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(11) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

H. Nose Landing Gear Steering System - Adjustment

(Figure 503)

SUBTASK 32-51-00-020-002

(1) Do the steps below to disconnect the aft pivot link [11] from the forward pivot link [18]:

NOTE: This is necessary to disconnect the upper cable loop from the lower cable loop.

(a) Remove the nut [14] and the washer [13] from the bolt [12].

(b) Remove the bolt [12] from the forward pivot link [18] and the aft pivot link [11].

SUBTASK 32-51-00-820-001

(2) Do the steps below to adjust the cam [36] of the gear up centering mechanism [26]:

(a) Remove the bolts [25] that hold the cover [27] on the gear up centering mechanism [26].

(b) Remove the cover [27] from the gear up centering mechanism [26].

(c) Measure dimension A.

(d) If the airplane is on the ground, make sure dimension A is 0.29 in. (7.4 mm) to 0.35 in. (8.89 mm).

(e) If the airplane is on jacks, make sure dimension A is 0.33 in. (8.4 mm) to 0.37 in. (9.4 mm).

(f) If dimension A is not correct, do the steps below to adjust the spring cartridge [28]:

1) Remove the lockwire [20] and loosen the nut [35].

2) Remove the nut [29] and the washer [30] from the bolt [33].

3) Remove the bolt [33], with the bushing [32], from the rod end bearing [34] and the crank [31].

4) Turn the crank [31] until dimension A is correct.

a) Hold the crank in this position until the rod end bearing [34] is adjusted.

5) Adjust the rod end bearing [34] so that, when it is connected to the crank [31], it holds the cam [36] in a position where dimension A is correct.

NOTE: You turn the rod end bearing to adjust its length.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

6) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913, to the threads and shank of the bolt [33].

7) Install the bolt [33], and the bushing [32], through the crank [31] and the rod end bearing [34].

8) Measure dimension A again and make sure it is correct.

9) Install the washer [30] and the nut [29] on the bolt [33]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

10) Tighten the nut [35] and install the lockwire [20].

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(g) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913, to the threads and shank of the bolts [25] that hold the cover [27] on the gear up centering mechanism [26].

(h) Put the cover [27] in its position on the gear up centering mechanism [26].

(i) Install the bolts [25] that hold the cover [27] on the gear up centering mechanism [26]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

SUBTASK 32-51-00-020-003

(3) Remove the bolts [39] that hold the cover [37] on the summing mechanism [38].

SUBTASK 32-51-00-010-001

(4) Remove the cover [37] from the summing mechanism [38].

SUBTASK 32-51-00-480-006

(5) Install these rigging pins:

NOTE: The placard on the inside of the box for the rigging pin set, SPL-2532, identifies the different rigging pins.

(a) Rigging pin NS6 in the summing mechanism [38].

(b) Rigging pin NS7 in the valve input lever [41].

SUBTASK 32-51-00-750-001

(6) Make sure you can freely move these rigging pins in their holes:

(a) Rigging pin NS6 in the summing mechanism [38].

(b) Rigging pin NS7 in the valve input lever [41].

SUBTASK 32-51-00-820-002

(7) If you cannot freely move rigging pins NS6 and NS7 in their holes, do the steps below to adjust the control rod [42]:

(a) Remove the lockwire [20] and loosen the nut [40] and nut [43].

(b) Turn the sleeve [44] until you can freely move rigging pins NS6 and NS7 in their holes.

(c) Tighten the nut [40] and nut [43] and install the lockwire [20].

SUBTASK 32-51-00-480-007

(8) Install rigging pin NS5 in the gear up centering mechanism [26].

SUBTASK 32-51-00-020-010

(9) Remove the turnbuckle locking clips [16] from the turnbuckle [15] and turnbuckle [17].

SUBTASK 32-51-00-820-005

(10) If the cables you will adjust are new cables, then tighten the turnbuckle [15] and turnbuckle [17] until the tension in the lower cable loop is 120 ±10 lb (54.4 ±4.6 kg).

SUBTASK 32-51-00-420-011

(11) If the cables you will adjust are used cables (cables that have been on the airplane for a long time), then tighten the turnbuckle [15] and turnbuckle [17] until the tension in the lower cable loop is 60 ±10 lb (27.2 ±4.6 kg).

SUBTASK 32-51-00-750-002

(12) Make sure you can freely move these rigging pins in their holes:

(a) Rigging pin NS5 in the gear up centering mechanism [26].

(b) Rigging pin NS6 in the summing mechanism [38].

SUBTASK 32-51-00-010-002

(13) Open this access panel:

Number	Name/Location
112AL	Forward Access Door

SUBTASK 32-51-00-480-008

(14) Install these rigging pins:

(a) Rigging pin NS1 in the Captain's steering tiller drum [45].

(b) Rigging pin NS2 in the First Officer's steering tiller drum [48].

SUBTASK 32-51-00-010-003

(15) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-51-00-480-009

(16) Install these rigging pins:

(a) Rigging pin NS3 in the steering centering and rudder interconnect mechanism [49].

(b) Rigging pin R3 in the rudder jackshaft crank [52].

(c) Rigging pin NS4 in the broken cable compensator [58].

SUBTASK 32-51-00-750-003

(17) Make sure you can freely move these rigging pins in their holes:

(a) Rigging pin NS3 in the steering centering and rudder interconnect mechanism [49].

(b) Rigging pin R3 in the rudder jackshaft crank [52].

SUBTASK 32-51-00-820-003

(18) If you cannot freely move rigging pins NS3 and R3 in their holes, do the steps below to adjust the control rod [54]:

(a) Loosen the nut [57] on the clamp bolt [55].

(b) Turn the adjusting sleeve [56] until you can freely move rigging pins NS3 and R3 in their holes.

(c) Tighten the nut [57] on the clamp bolt [55] to 40 ±10 in-lb (4.5 ±1.1 N·m).

SUBTASK 32-51-00-020-005

(19) Remove the turnbuckle locking clips [16] from the turnbuckle [46], turnbuckle [47], turnbuckle [50] and turnbuckle [51].

SUBTASK 32-51-00-420-003

(20) If the cables you will adjust are new cables then tighten the turnbuckle [46], turnbuckle [47], turnbuckle [50] and turnbuckle [51] until the tension in the upper cable loop is 150 ±10 lb (68.0 ±4.6 kg).

SUBTASK 32-51-00-420-012

(21) If the cables you will adjust are used cables then tighten the turnbuckle [46], turnbuckle [47], turnbuckle [50], and turnbuckle [51] until the tension in the upper cable loop is correct (Figure 504).

SUBTASK 32-51-00-750-004

(22) Make sure you can freely move these rigging pins in their holes:

(a) Rigging pin NS1 in the Captain's steering tiller drum [45].

(b) Rigging pin NS2 in the First Officer's steering tiller drum [48].

(c) Rigging pin NS3 in the steering centering and rudder interconnect mechanism [49].

(d) Rigging pin NS4 in the broken cable compensator [58].

SUBTASK 32-51-00-080-002

(23) Remove these rigging pins:

(a) The rigging pin NS1 from the Captain's steering tiller drum [45].

(b) The rigging pin NS2 from the First Officer's steering tiller drum [48].

(c) The rigging pin NS3 from the steering centering and rudder interconnect mechanism [49].

(d) The rigging pin R3 from the rudder jackshaft crank [52]

(e) The rigging pin NS4 from the broken cable compensator [58]

(f) The rigging pin NS5 from the gear up centering mechanism [26]

(g) The rigging pin NS6 from the summing mechanism [38]

(h) The rigging pin NS7 from the valve input lever [41].

SUBTASK 32-51-00-420-004

(24) Do the steps below to connect the aft pivot link [11] to the forward pivot link [18]:

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WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913, to the threads and shank of the bolt [12].

(b) Align the aft pivot link [11] with the forward pivot link [18].

(c) Install the bolt [12] through the aft pivot link [11] and the forward pivot link [18].

(d) Install the washer [13] and the nut [14] on the bolt [12]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

SUBTASK 32-51-00-020-006

(25) Do this task: Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage, TASK 32-21-11-000-803.

SUBTASK 32-51-00-710-002

(26) Do the steps below to do an operational test of the steering system for the nose landing gear:

NOTE: This is necessary so that, after you complete the adjustment, the cables keep their tension.

(a) Remove the NLG towing lever pin, SPL-1499, from the towing lever.

(b) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(c) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(d) Turn the Captain's steering tiller through 15 full cycles.

NOTE: One cycle is from the neutral position, counterclockwise approximately 350 ° to the left stop, back to the neutral position, clockwise approximately 350 ° to the right stop, and back to the neutral position.

This will cause the upper torsion link on the nose landing gear to turn through its full travel.

(e) Make sure the steering collar is in the neutral position.

(f) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

(g) Move the towing lever to the TOW position.

NOTE: This isolates the steering system for the nose landing gear from hydraulic power.

WARNING ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(h) Install the NLG towing lever pin, SPL-1499, through the towing lever.

NOTE: The NLG towing lever pin, SPL-1499, holds the towing lever in the TOW position.

SUBTASK 32-51-00-480-010

(27) Install these rigging pins:

(a) Rigging pin NS1 in the Captain's steering tiller drum [45].

(b) Rigging pin NS2 in the First Officer's steering tiller drum [48].

(c) Rigging pin NS3 in the steering centering and rudder interconnect mechanism [49].

(d) Rigging pin NS5 in the gear up centering mechanism [26]

(e) Rigging pin NS6 in the summing mechanism [38].

SUBTASK 32-51-00-020-007

(28) If the cables are new then loosen the turnbuckle [15] and turnbuckle [17] until the tension in the lower cable loop is 60 ±10 lb (27.2 ±4.6 kg).

SUBTASK 32-51-00-020-011

(29) If the cables are used then make sure the tension in the lower cable loop is 60 ±10 lb (27.2 ±4.6 kg).

SUBTASK 32-51-00-020-008

(30) If the cables are new then loosen the turnbuckle [46], turnbuckle [47], turnbuckle [50] and turnbuckle [51] until the tension in the upper cable loop is correct (Figure 504).

SUBTASK 32-51-00-020-012

(31) If the cables are used then make sure the tension in the upper cable loop is correct (Figure 504).

SUBTASK 32-51-00-750-005

(32) Make sure you can freely move these rigging pins in their holes:

(a) Rigging pin NS1 in the Captain's steering tiller drum [45].

(b) Rigging pin NS2 in the First Officer's steering tiller drum [48].

(c) Rigging pin NS3 in the steering centering and rudder interconnect mechanism [49].

(d) Rigging pin NS5 in the gear up centering mechanism [26]

(e) Rigging pin NS6 in the summing mechanism [38].

SUBTASK 32-51-00-080-003

(33) Remove these rigging pins:

NOTE: Do not remove the rigging pin from the summing mechanism [38].

(a) The rigging pin NS1 from the Captain's steering tiller drum [45].

(b) The rigging pin NS2 from the First Officer's steering tiller drum [48].

(c) The rigging pin NS3 from the steering centering and rudder interconnect mechanism [49].

(d) The rigging pin NS5 from the gear up centering mechanism [26].

SUBTASK 32-51-00-820-004

(34) Do the steps below to adjust the stops of the gear up centering mechanism [26]:

(a) Do the steps below for the left stop and the right stop:

1) Remove the lockwire [20].

2) Loosen the top nut [23] and turn it until it moves up to the top of the bolt [19].

3) Loosen the bottom nut [21] and turn it until it moves down and touches the head of the bolt [19].

4) Turn the bolt [19] until it moves up and the bottom nut [21] touches the stop support [22].

NOTE: This gives the drum maximum travel.

> **CAUTION**: MAKE SURE THAT YOU SUPPORT THE NLG STEERING TORSION BAR, SPL-1910, AT ALL TIMES AFTER YOU CONNECT IT TO THE UPPER TORSION LINK. IF YOU DO NOT DO THIS, YOU CAN CAUSE DAMAGE TO THE RESTRAINT MECHANISM FOR THE UPPER TORSION LINK.

(b) Connect the NLG steering torsion bar, SPL-1910, to the upper torsion link.

(c) Use the NLG steering torsion bar, SPL-1910, to manually turn the steering collar counterclockwise 70 ° ± 0.5 °.

1) Hold the steering collar in this position until the left stop is adjusted.

(d) Do the steps below to adjust the left stop:

1) Turn the bolt [19] of the left stop until it touches the center stop [24].

2) Turn the top nut [23] and the bottom nut [21] until they touch the stop support [22].

a) Hold the bolt [19] in its position against the center stop [24] when you turn the top nut [23] and the bottom nut [21].

3) Tighten the top nut [23] and the bottom nut [21] against the stop support [22]

(e) Use the NLG steering torsion bar, SPL-1910, to manually turn the steering collar back to the neutral position.

(f) Install the lockwire [20] on the left stop.

(g) Use the NLG steering torsion bar, SPL-1910, to manually turn the steering collar clockwise 70 ° ± 0.5 °.

1) Hold the steering collar in this position until the right stop is adjusted.

(h) Do the steps below to adjust the right stop:

1) Turn the bolt [19] of the right stop until it touches the center stop [24].

2) Turn the top nut [23] and the bottom nut [21] until they touch the stop support [22].

a) Hold the bolt [19] in its position against the center stop [24] when you turn the top nut [23] and the bottom nut [21].

3) Tighten the top nut [23] and the bottom nut [21] against the stop support [22].

(i) Use the NLG steering torsion bar, SPL-1910, to manually turn the steering collar back to the neutral position.

(j) Install the lockwire [20] on the right stop.

(k) Disconnect the NLG steering torsion bar, SPL-1910, from the upper torsion link.

SUBTASK 32-51-00-080-004

(35) Remove the rigging pin NS6 from the summing mechanism [38].

SUBTASK 32-51-00-710-003

(36) If the cables are new then do the steps below to do an operational test of the steering system for the nose landing gear:

NOTE: This is necessary so that, after you complete the adjustment, the cables keep their tension.

(a) Remove the NLG towing lever pin, SPL-1499, from the towing lever.

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(b) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(c) Turn the Captain's steering tiller through 3 full cycles.

NOTE: One cycle is from the neutral position, counterclockwise approximately 350 ° to the left stop, back to the neutral position, clockwise approximately 350 ° to the right stop, and back to the neutral position.

This will cause the upper torsion link on the nose landing gear to turn through its full travel.

(d) Turn the Captain's steering tiller counterclockwise to its stop and hold it there.

NOTE: You must turn the Captain's steering tiller approximately 350 ° to get to the stop.

(e) Make sure the steering collar turns to the left 69 ° to 71 °.

(f) Release the Captain's steering tiller.

(g) Make sure the Captain's steering tiller moves back to the neutral position without manual help.

(h) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

(i) Turn the Captain's steering tiller clockwise to its stop and hold it there.

NOTE: You must turn the Captain's steering tiller approximately 350 ° to get to the stop.

(j) Make sure the steering collar turns to the right 69 ° to 71 °.

(k) Release the Captain's steering tiller.

(l) Make sure the Captain's steering tiller moves back to the neutral position without manual help.

(m) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

(n) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

(o) Move the towing lever to the TOW position.

NOTE: This isolates the steering system for the nose landing gear from hydraulic power.

WARNING	ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(p) Install the NLG towing lever pin, SPL-1499, through the towing lever.

NOTE: The NLG towing lever pin, SPL-1499, holds the towing lever in the TOW position.

SUBTASK 32-51-00-420-005

(37) Do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-11-400-803.

SUBTASK 32-51-00-750-006

(38) Do a check to make sure the tension in the lower cable loop is 60 ±10 lb (27.2 ±4.6 kg).

SUBTASK 32-51-00-420-006

(39) Install the turnbuckle locking clips [16] on the turnbuckle [15] and turnbuckle [17].

SUBTASK 32-51-00-750-007

(40) Do a check to make sure the tension in the upper cable loop is correct (Figure 504).

SUBTASK 32-51-00-420-007

(41) Install the turnbuckle locking clips [16] on the turnbuckle [46], turnbuckle [47], turnbuckle [50] and turnbuckle [51].

SUBTASK 32-51-00-410-001

(42) Close these access panels:

Number	Name/Location
112AL	Forward Access Door
117AL	Main Equipment Center Access Door

SUBTASK 32-51-00-620-001

WARNING: USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING: DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(43) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913, to the threads and shank of the bolts [39] that hold the cover [37] on the summing mechanism [38].

SUBTASK 32-51-00-420-008

(44) Put the cover [37] in its position on the summing mechanism [38].

SUBTASK 32-51-00-420-009

(45) Install the bolts [39] that hold the cover [37] on the summing mechanism [38]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 32-51-00-080-005

WARNING: OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-51-00-860-020

(2) On the overhead maintenance panel, P61, move these switches to the NORM position:

(a) Left Tail Flight Control Shutoff Switch

(b) Center Tail Flight Control Shutoff Switch

(c) Right Tail Flight Control Shutoff Switch.

SUBTASK 32-51-00-860-021

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-51-00-860-022

(4) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-51-00-860-023

(5) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-51-00-080-006

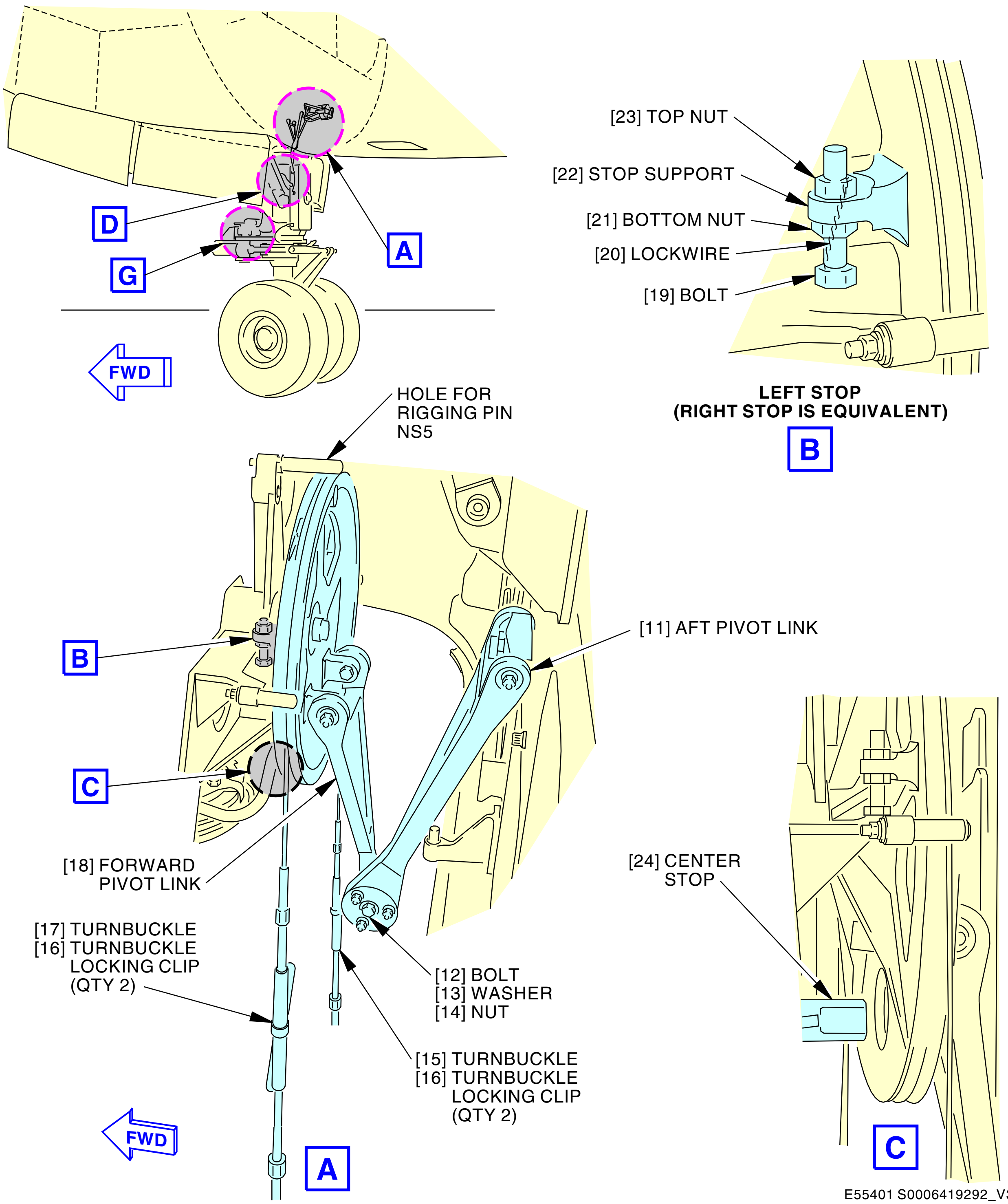
(6) Remove the NLG towing lever pin, SPL-1499, from the towing lever.

SUBTASK 32-51-00-860-025

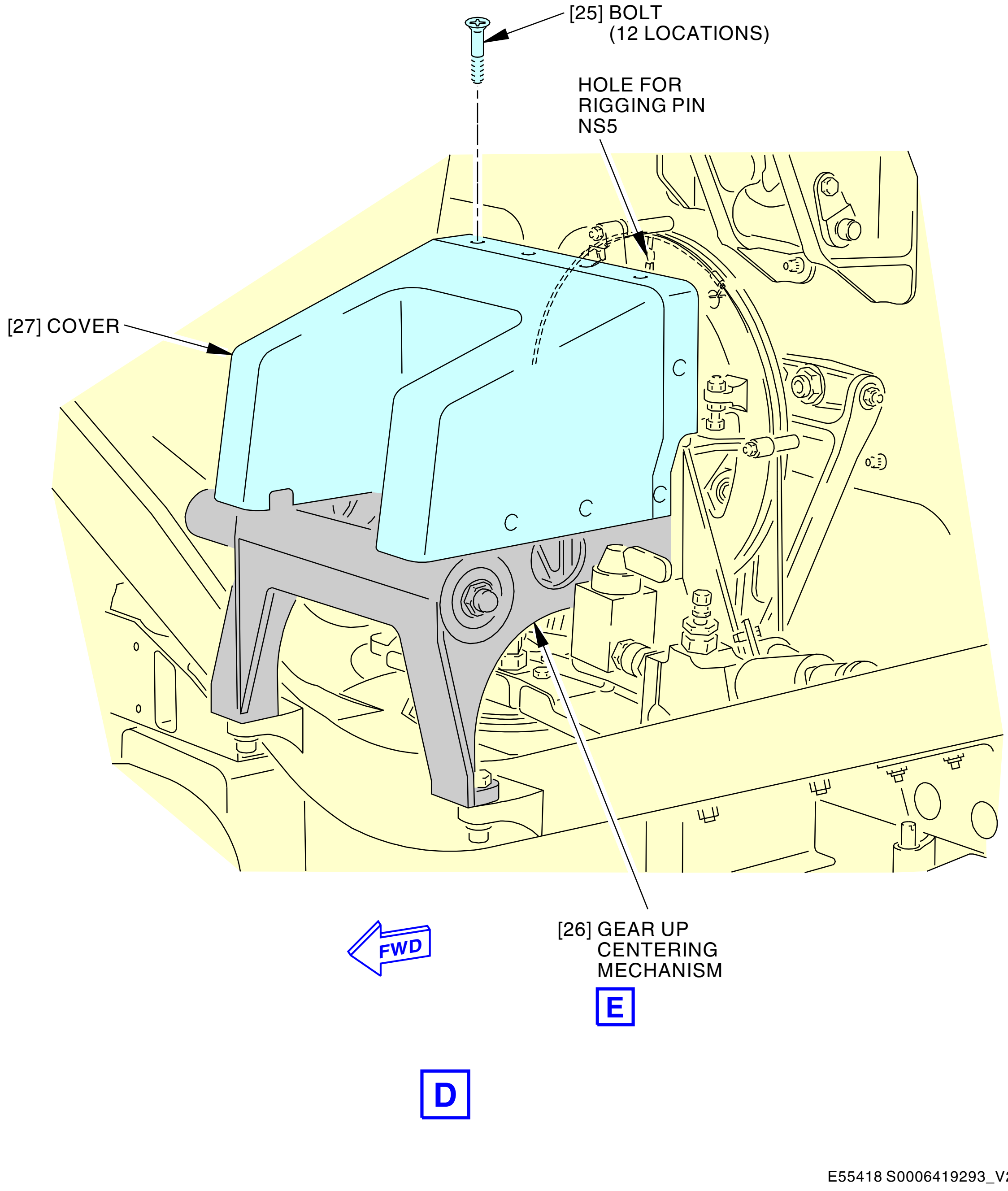
WARNING	MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(7) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

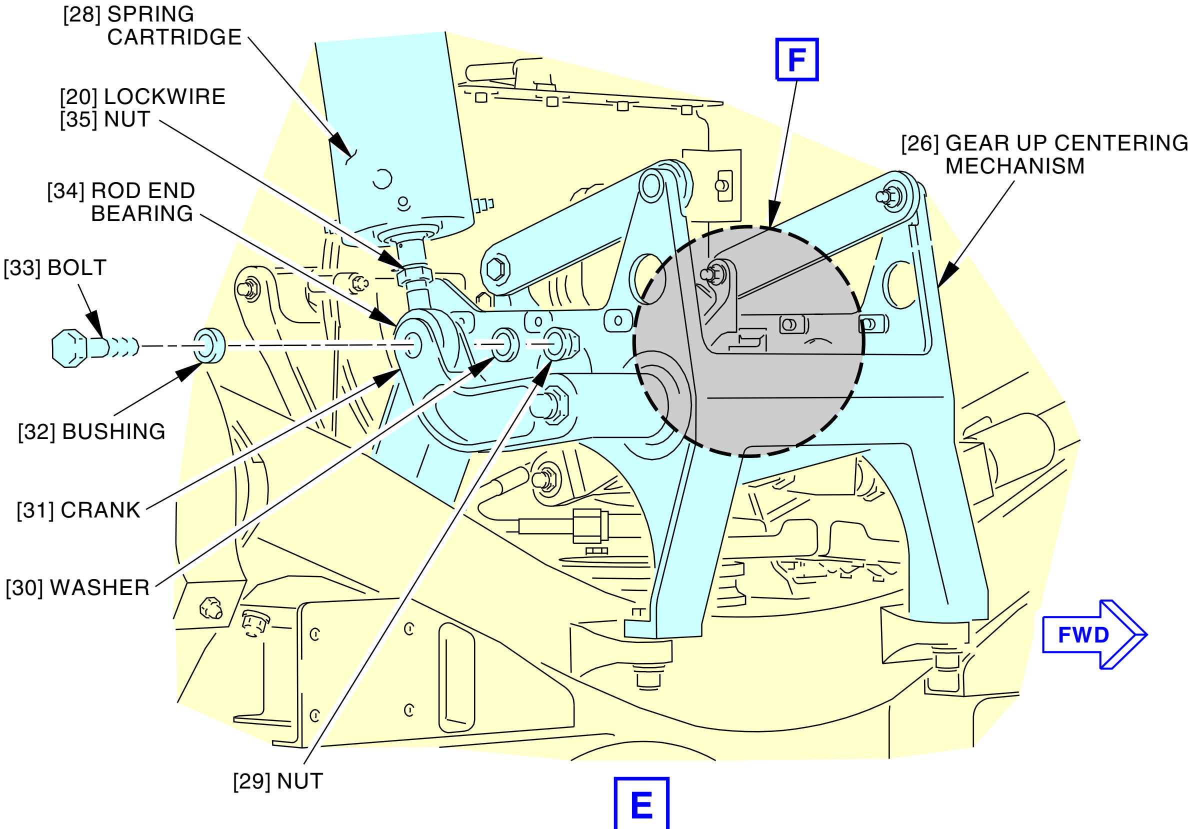
——— END OF TASK ———

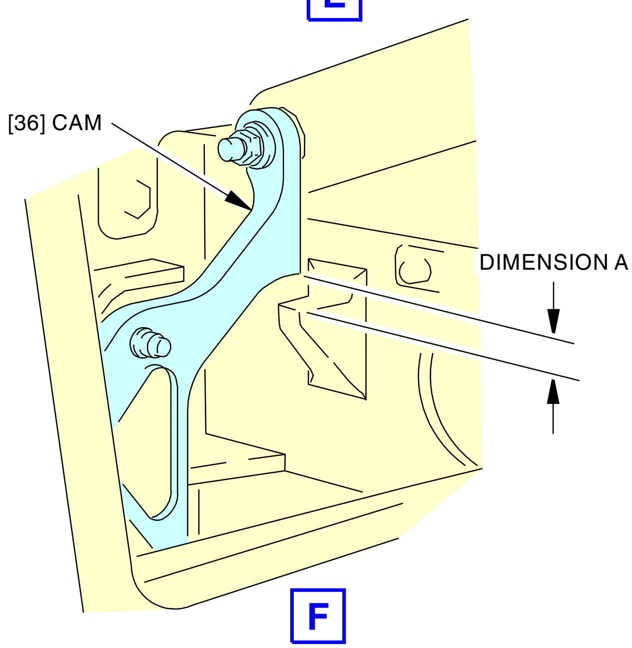


Nose Landing Gear Steering System Adjustment
Figure 503/32-51-00-990-803 (Sheet 1 of 11)



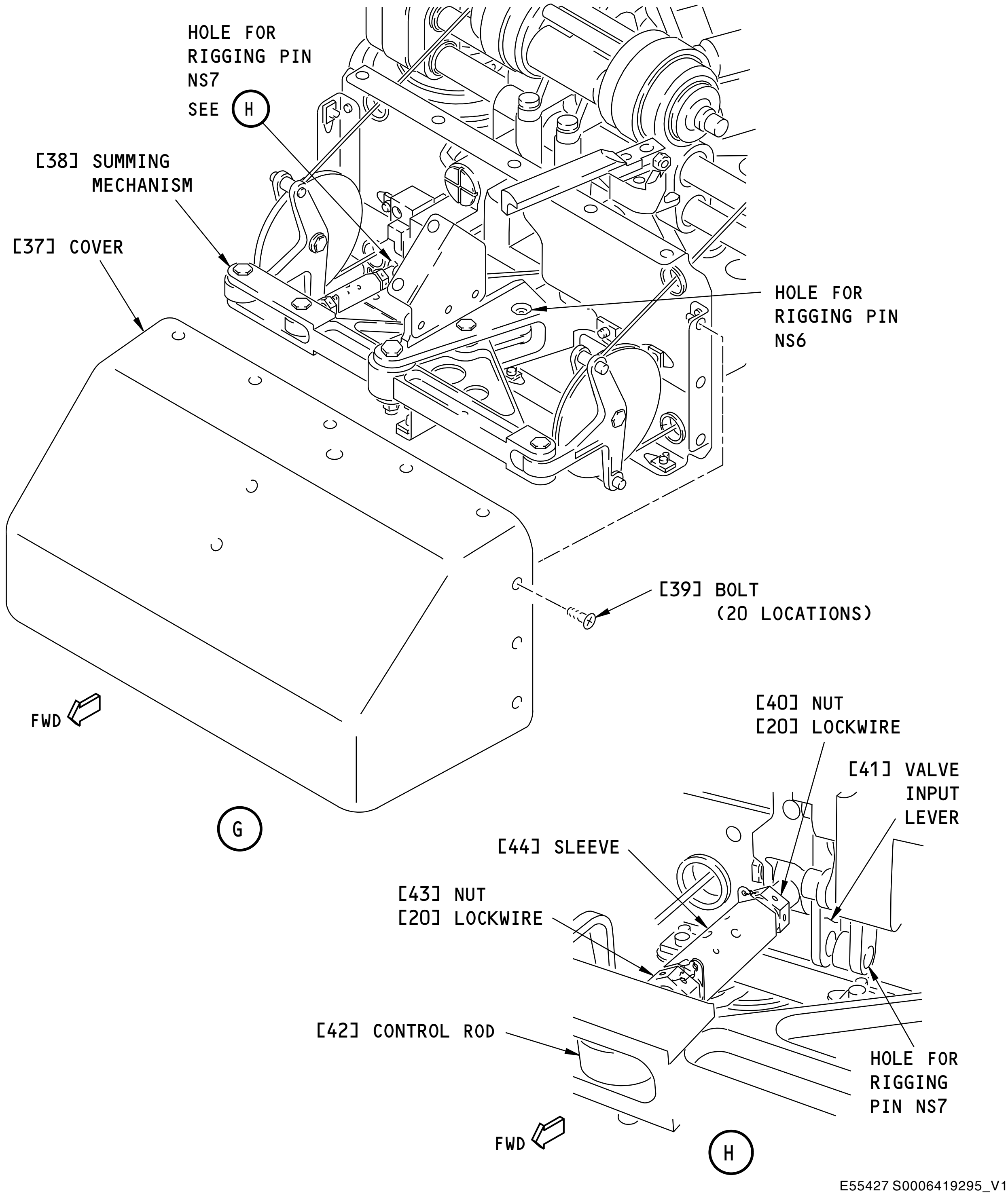
Nose Landing Gear Steering System Adjustment
Figure 503/32-51-00-990-803 (Sheet 2 of 11)



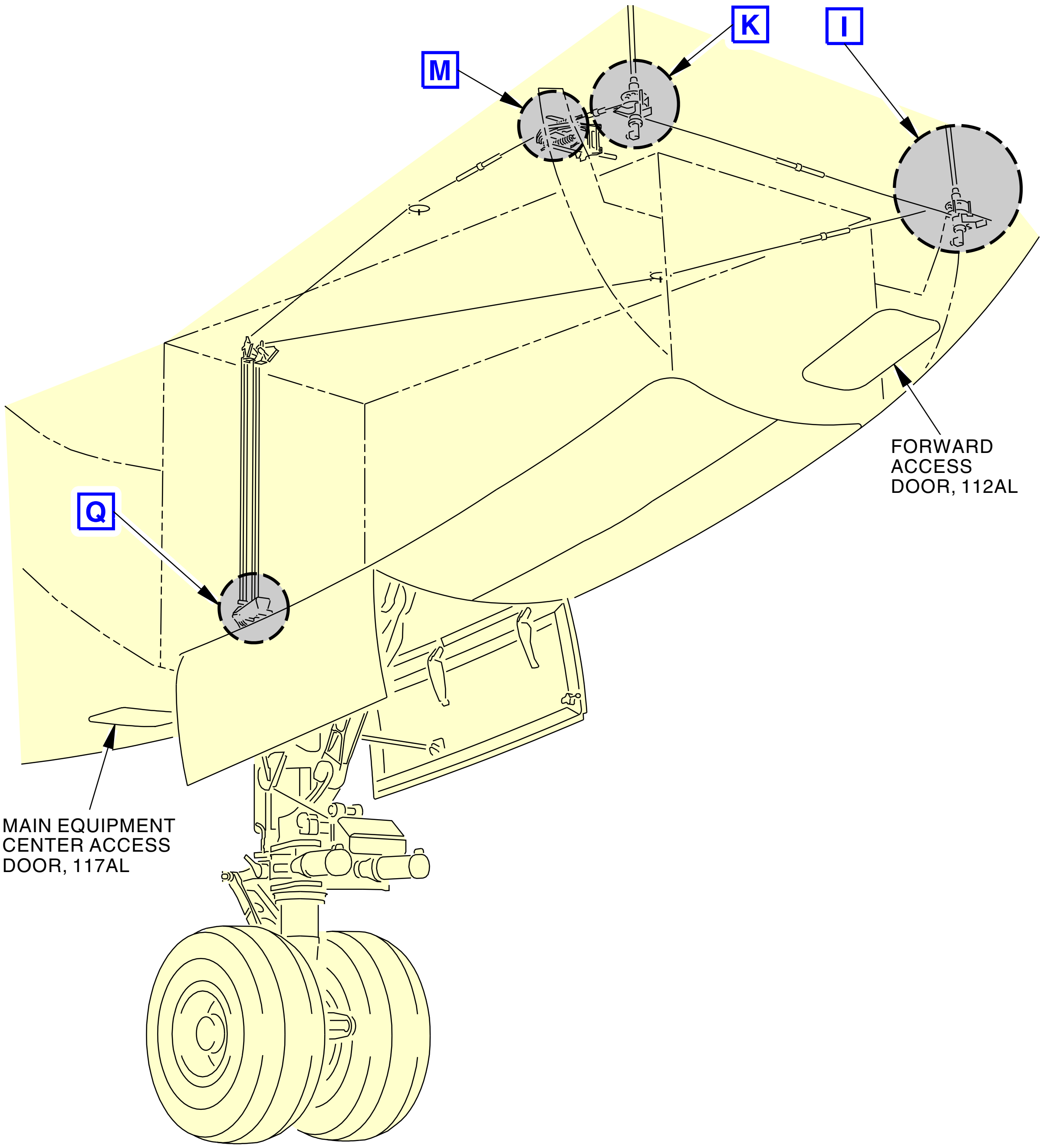


E55423 S0006419294_V2

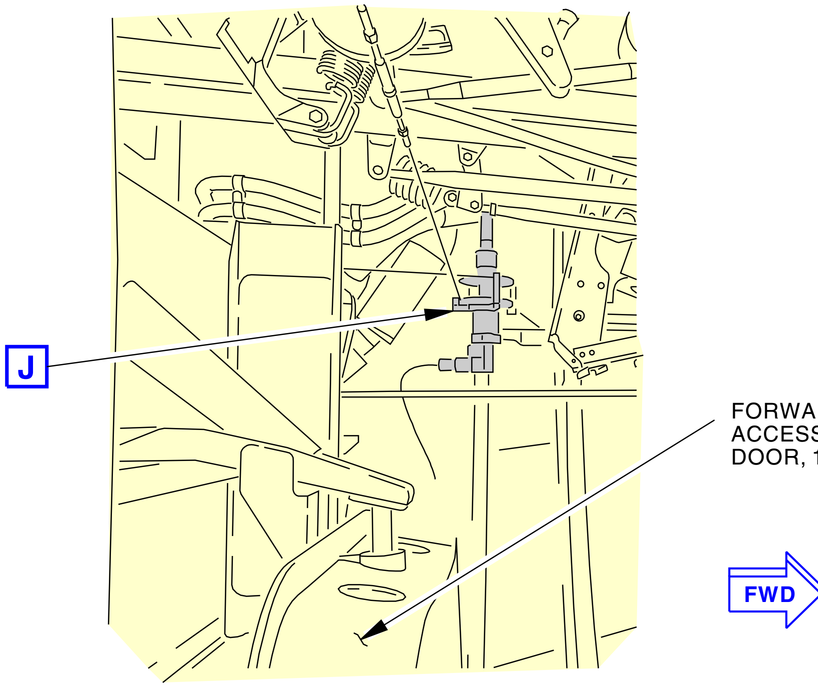
Nose Landing Gear Steering System Adjustment
Figure 503/32-51-00-990-803 (Sheet 3 of 11)



Nose Landing Gear Steering System Adjustment
Figure 503/32-51-00-990-803 (Sheet 4 of 11)

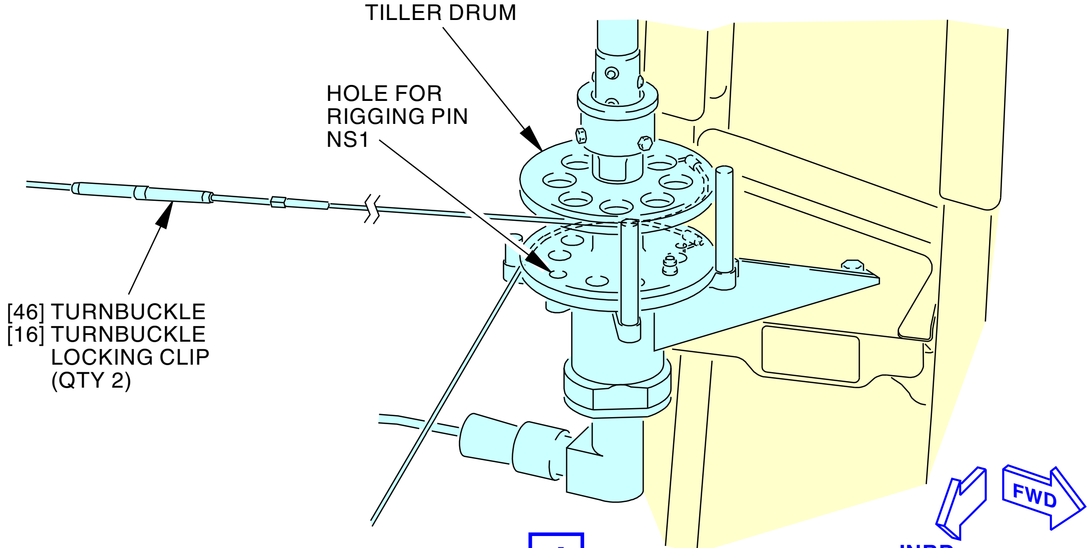


Nose Landing Gear Steering System Adjustment
Figure 503/32-51-00-990-803 (Sheet 5 of 11)



AREA FORWARD OF THE NOSE LANDING GEAR WHEEL WELL
(LEFT SIDE)

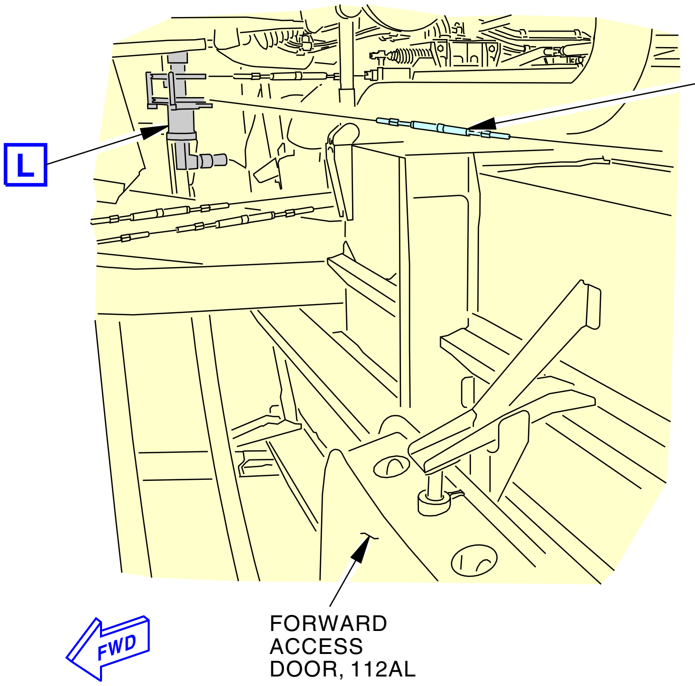
I



J

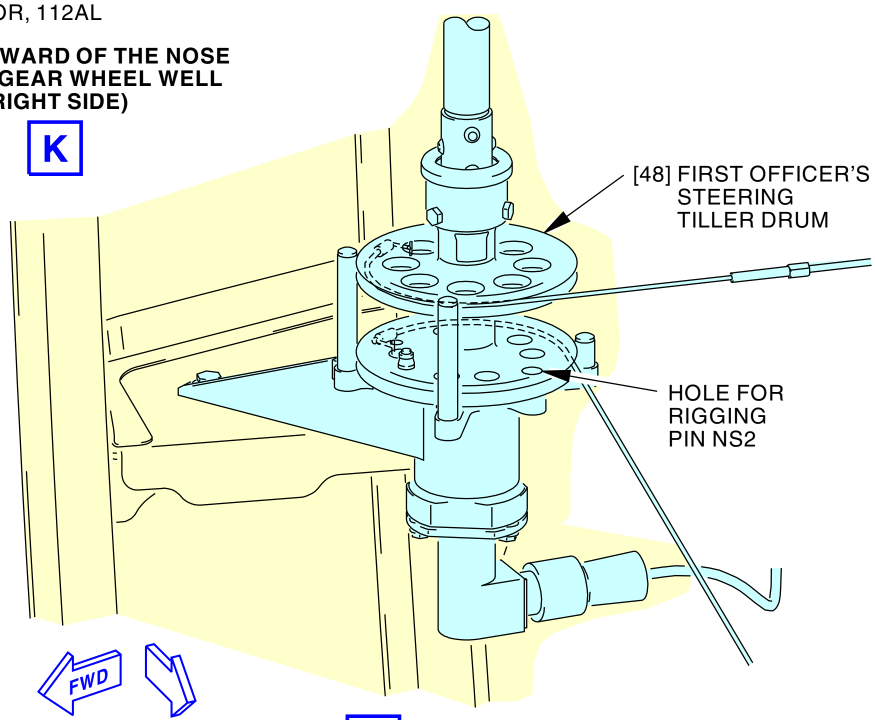
E55729 S0006419298_V2

Nose Landing Gear Steering System Adjustment
Figure 503/32-51-00-990-803 (Sheet 6 of 11)



AREA FORWARD OF THE NOSE LANDING GEAR WHEEL WELL (RIGHT SIDE)

K



L

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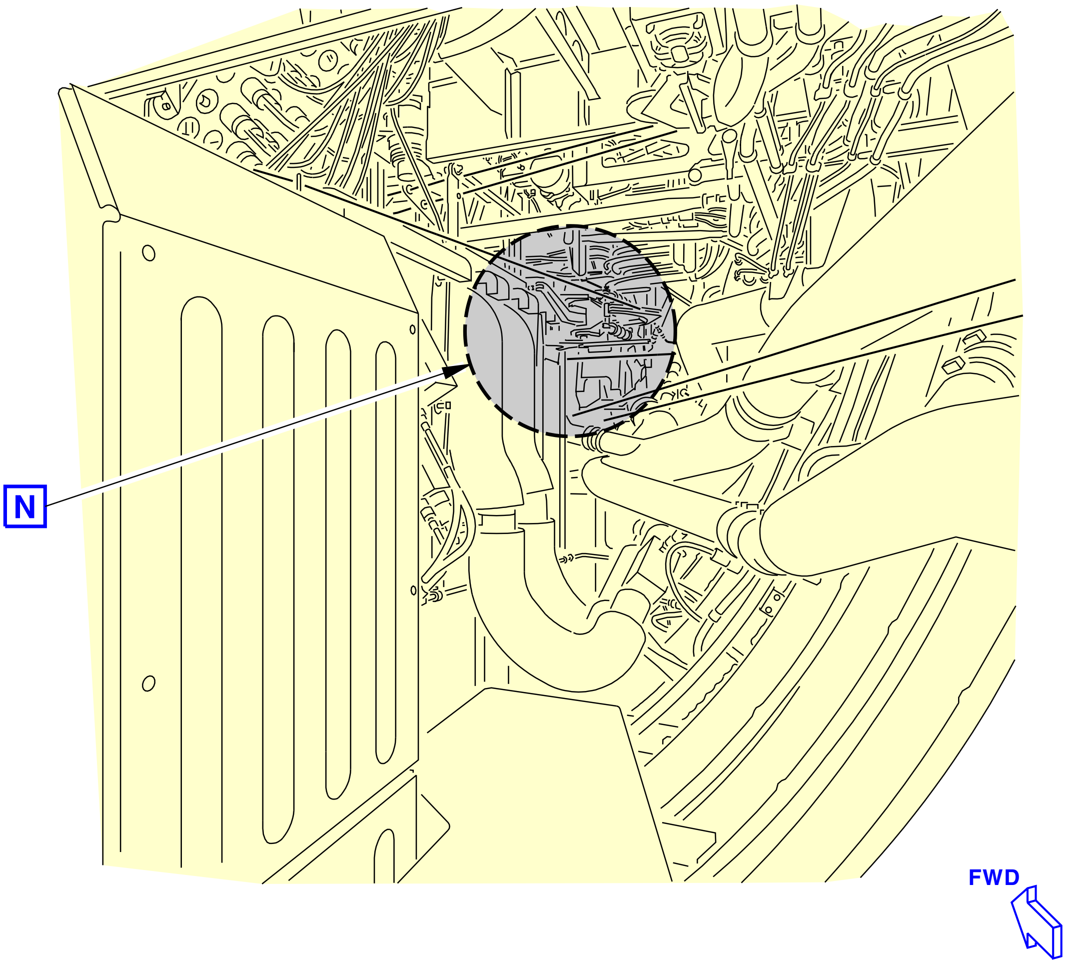
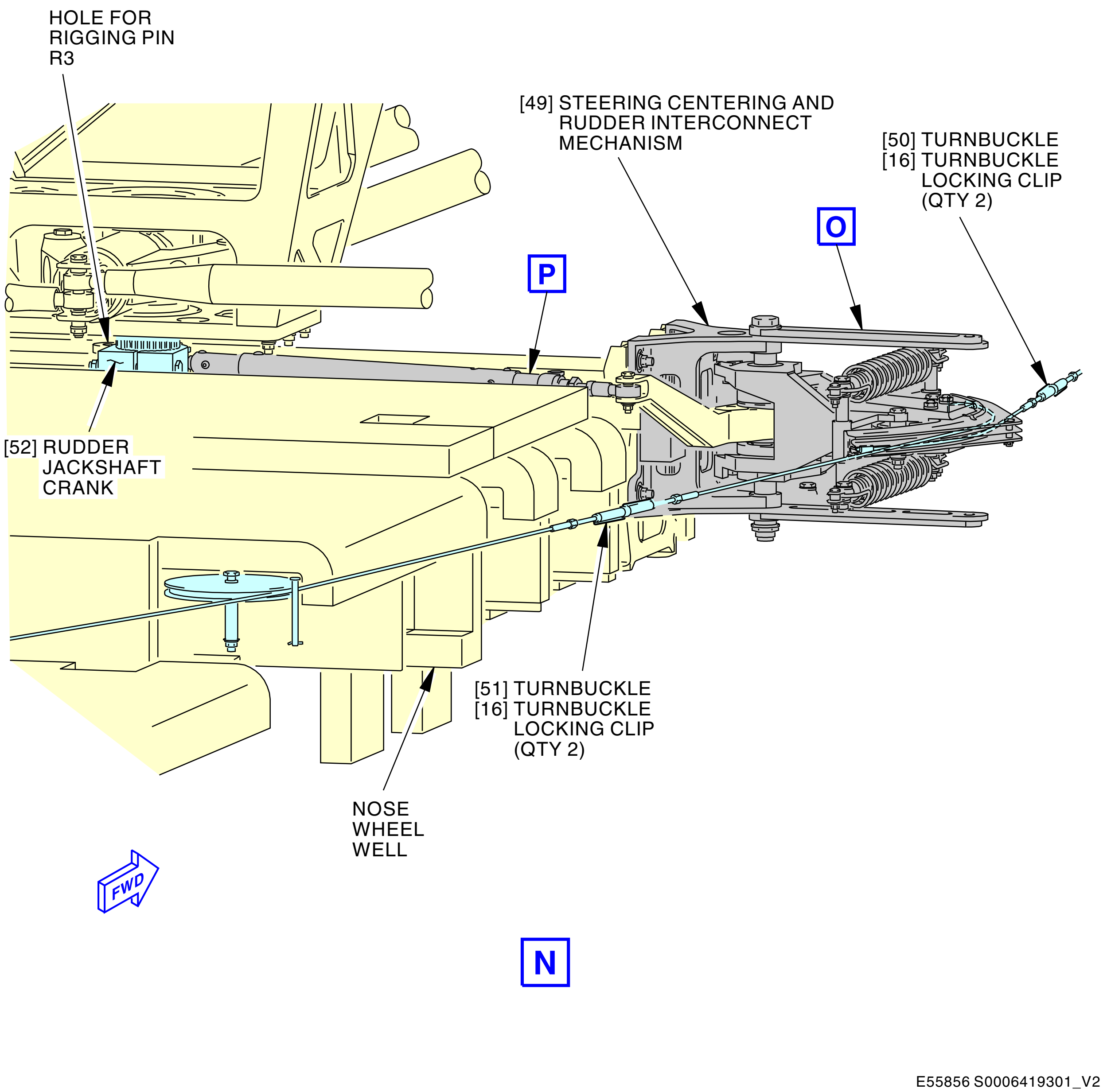
Nose Landing Gear Steering System Adjustment
Figure 503/32-51-00-990-803 (Sheet 7 of 11)



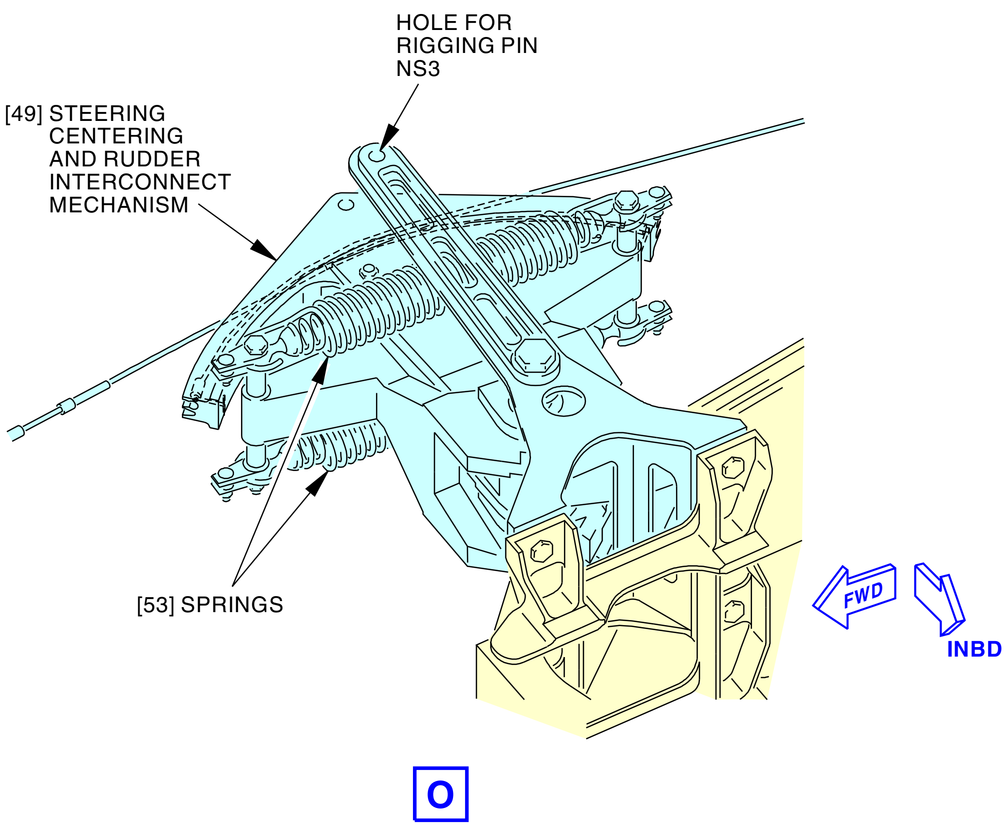
AREA OUTBOARD OF THE NOSE LANDING GEAR WHEEL WELL
(RIGHT SIDE)
M

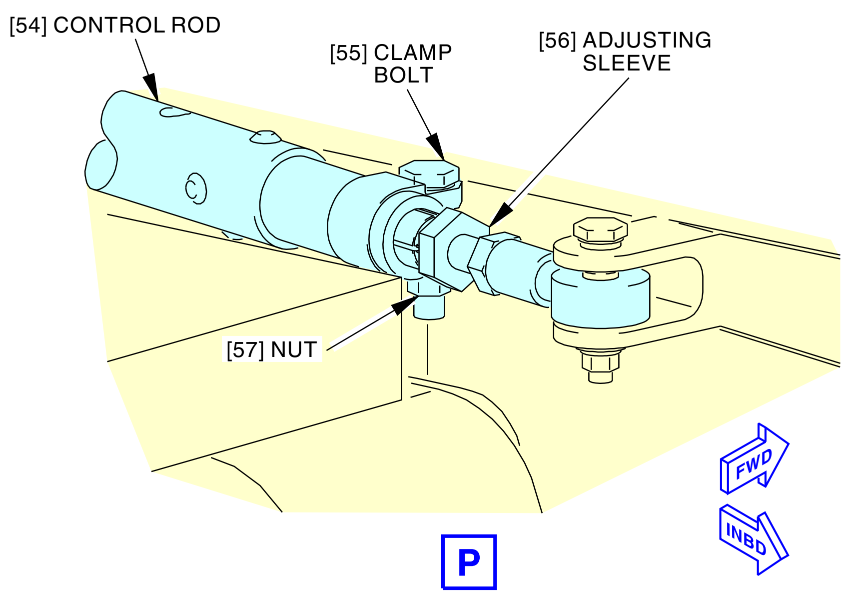
E55838 S0006419300_V2

Nose Landing Gear Steering System Adjustment
Figure 503/32-51-00-990-803 (Sheet 8 of 11)



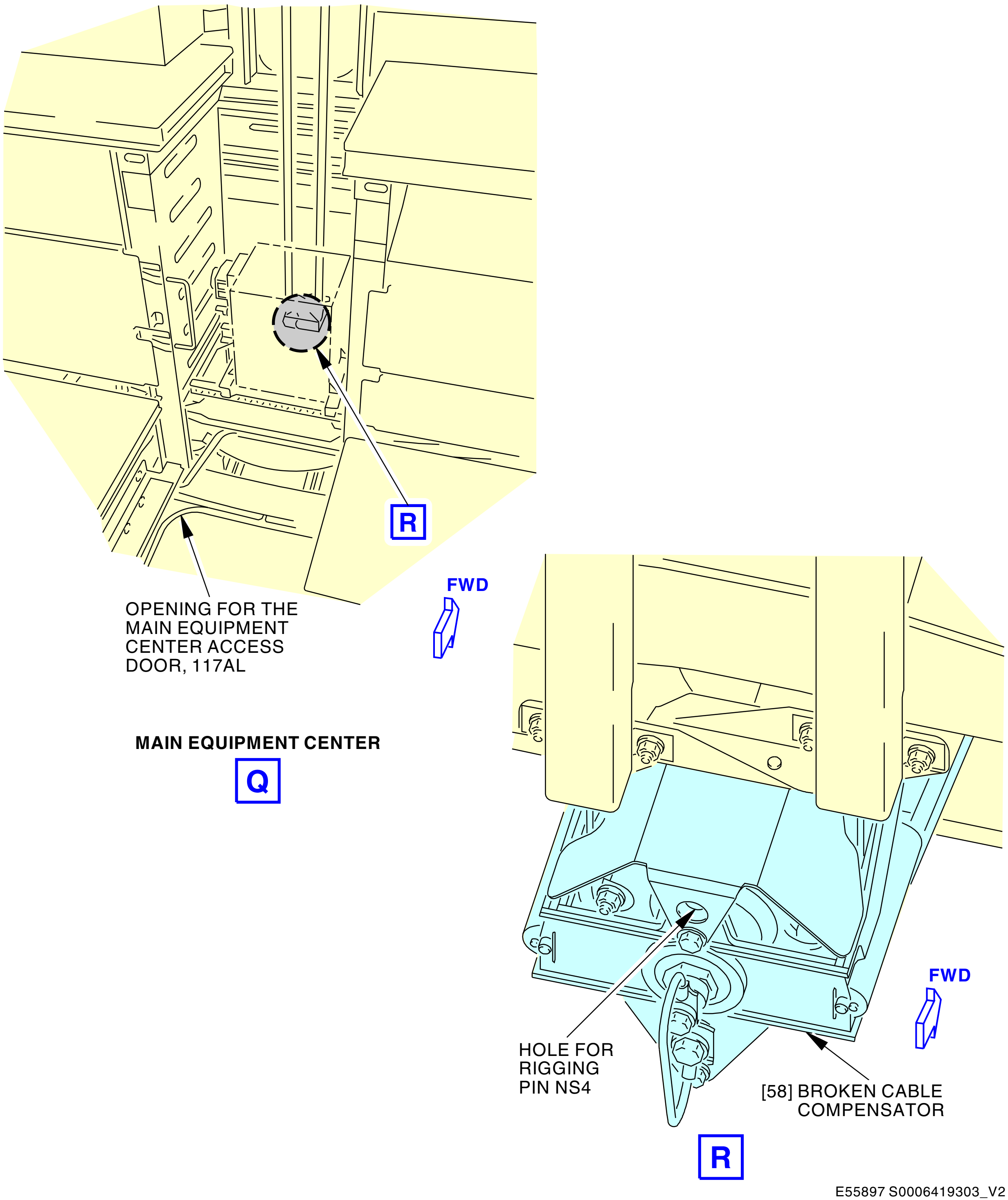
Nose Landing Gear Steering System Adjustment
Figure 503/32-51-00-990-803 (Sheet 9 of 11)





E55864 S0006419302_V2

Nose Landing Gear Steering System Adjustment
Figure 503/32-51-00-990-803 (Sheet 10 of 11)



Nose Landing Gear Steering System Adjustment
Figure 503/32-51-00-990-803 (Sheet 11 of 11)

TEMPERATURE CORRECTION FACTORS FOR UPPER CABLE LOOP TENSION

TEMPERATURE ˚F (˚C)	CORRECTION FACTOR FOR OUTSIDE TEMPERATURE LBS. (kgs)	CORRECTION FACTOR FOR INSIDE TEMPERATURE LBS. (kgs)
130 (54.4)	24 (10.9)	-12 (-5.4)
120 (48.8)	20 (9.1)	-10 (-4.5)
110 (43.3)	16 (7.3)	-8 (-3.6)
100 (37.7)	12 (5.4)	-6 (-2.7)
90 (32.2)	8 (3.6)	-4 (-1.8)
80 (26.6)	4 (1.8)	-2 (-0.9)
70 (21.1)	0 (0)	0 (0)
60 (15.5)	-4 (-1.8)	2 (0.9)
50 (10)	-8 (-3.6)	4 (1.8)
40 (4.4)	-12 (-5.4)	6 (2.7)
30 (-1.1)	-16 (-7.3)	8 (3.6)
20 (-6.7)	-20 (-9.1)	10 (4.5)
10 (-12.2)	-24 (-10.9)	12 (5.4)
0 (-17.8)	-28 (-12.7)	14 (6.4)
-10 (-23.3)	-32 (-14.5)	16 (7.3)
-20 (-28.9)	-36 (-16.3)	18 (8.2)
-30 (-34.4)	-40 (-18.4)	20 (9.1)

HOW TO CALCULATE THE CORRECT CABLE TENSION:

· MEASURE THE OUTSIDE TEMPERATURE IN THE NOSE WHEEL WELL

· MEASURE THE INSIDE TEMPERATURE ABOVE THE NOSE WHEEL WELL

CABLE TENSION = [(75 LBS (34 KG) ± OUTSIDE TEMPERATURE CORRECTION FACTOR ± INSIDE TEMPERATURE CORRECTION FACTOR)] ±10 LBS (4.5 KG)

EXAMPLE: IF OUTSIDE TEMPERATURE = 80˚ (26.6), AND INSIDE TEMPERATURE = 100˚;

CABLE TENSION = (75 LBS + 4 LBS - 6 LBS) ±10 LBS = 73 ±10 LBS
= (34 KG + 1.8 KG - 0.9 KG) ± 4.5 KG = 35.7 ± 4.5 KG.

E56583 S0006419304_V3

Nose Landing Gear Steering System - Upper Cable Loop Tension
Figure 504/32-51-00-990-804

NOSE LANDING GEAR STEERING TILLER AND GEARBOX - REMOVAL/INSTALLATION

1. **General**
   A. This procedure has two tasks:
      (1) A removal of the tiller and gearbox for the steering system for the nose landing gear
      (2) An installation of the tiller and gearbox for the steering system for the nose landing gear.
   B. This procedure shows the Captain's steering tiller and gearbox. This procedure also applies to the First Officer's steering tiller and gearbox.

TASK 32-51-01-020-801

2. **Nose Landing Gear Steering Tiller and Gearbox Removal**
   (Figure 401)

   A. **References**

Reference	Title
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)

   B. **Tools/Equipment**

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

   C. **Location Zones**

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
211	Flight Compartment, Left
212	Flight Compartment, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

   D. **Access Panels**

Number	Name/Location
112AL	Forward Access Door

   E. **Prepare for the Removal**

   SUBTASK 32-51-01-210-001

   (1) Make sure the wheels of the nose landing gear are in the centered position.
       NOTE: The protractor on the steering collar shows the angular position of the wheels.

   SUBTASK 32-51-01-860-001

   (2) Move the towing lever, on the forward side of the nose landing gear, to the TOW position.
       NOTE: This isolates the steering system for the nose landing gear from hydraulic power.

SUBTASK 32-51-01-480-001

WARNING ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) Install the NLG towing lever pin, SPL-1499, through the towing lever.

NOTE: You use the NLG towing lever pin, SPL-1499, to hold the towing lever in the TOW position.

SUBTASK 32-51-01-860-002

WARNING MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-51-01-010-001

(5) Open this access panel:

Number	Name/Location
112AL	Forward Access Door

SUBTASK 32-51-01-480-002

(6) Install rigging pin NS1 (Captain's tiller) or NS2 (First Officer's tiller) in the drum mechanism for the steering tiller.

NOTE: These rigging pins are from rigging pin set, SPL-2532.

F. Tiller and Gearbox Removal

SUBTASK 32-51-01-020-001

(1) Do these steps to remove the tiller handle assembly [1] from the gearbox assembly [6]:

(a) Remove the plug button [2] from the tiller handle assembly [1].

(b) Remove the nut [3] and washer [4] from the pinion shaft [5] on the gearbox assembly [6].

(c) Remove the tiller handle assembly [1] from the pinion shaft [5].

SUBTASK 32-51-01-010-002

(2) Remove the top panel on the pilot's forward console to get access to the gearbox assembly [6].

SUBTASK 32-51-01-020-002

(3) Do the steps below to remove the gearbox assembly [6]:

(a) Remove the lockwire and screw [14] to disconnect the torque shaft [12] from the drum mechanism at the lower coupling.

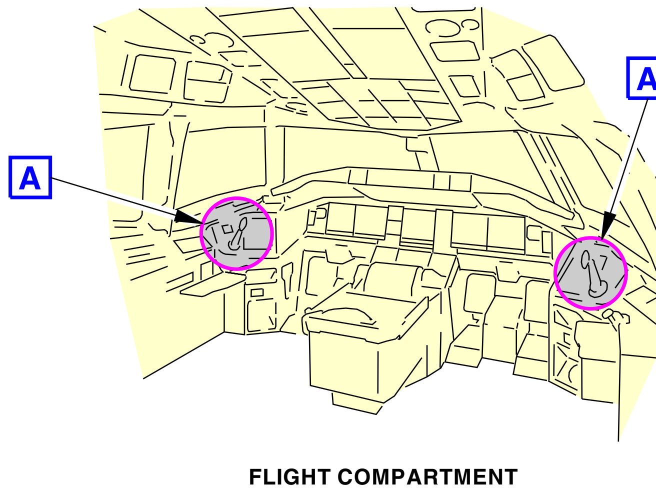
(b) Remove the bolt [7] and washer [8] that attach the gearbox assembly [6] to the support [10].

(c) Lift the gearbox assembly to make easy access to the coupling [11].

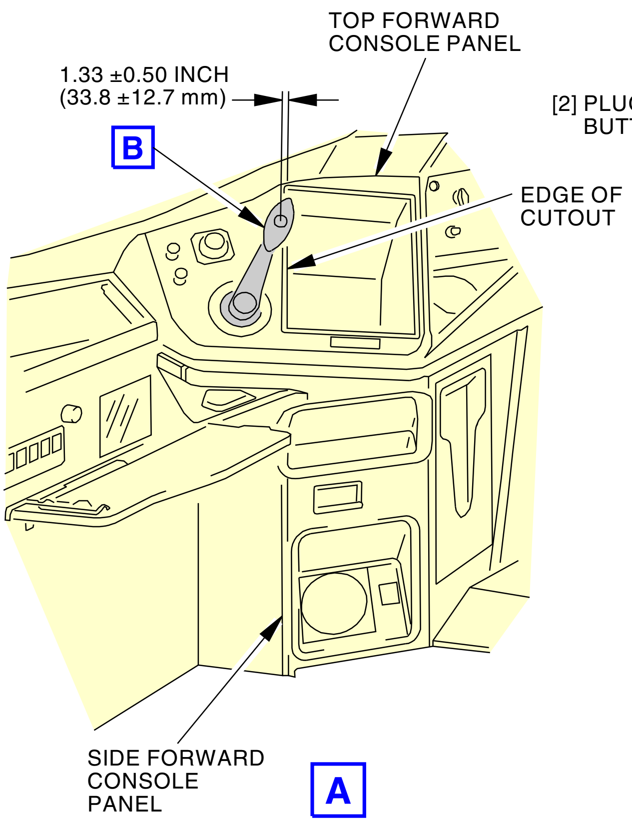
(d) Remove the lockwire and screw [9] to disconnect the torque shaft [12] from the gearbox assembly [6] at the coupling [11].

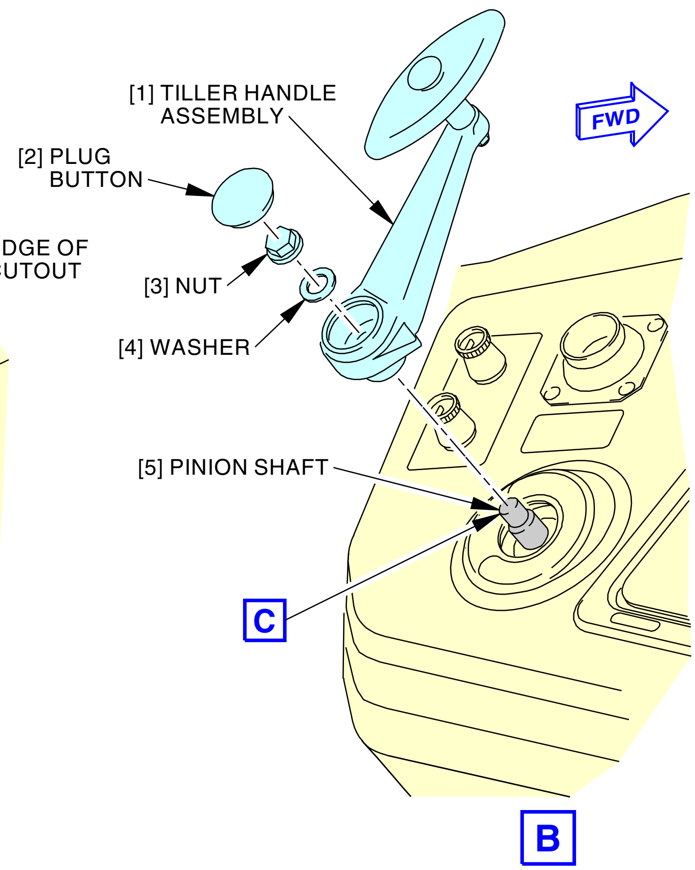
(e) Remove the gearbox assembly [6].

——— END OF TASK ———



FLIGHT COMPARTMENT





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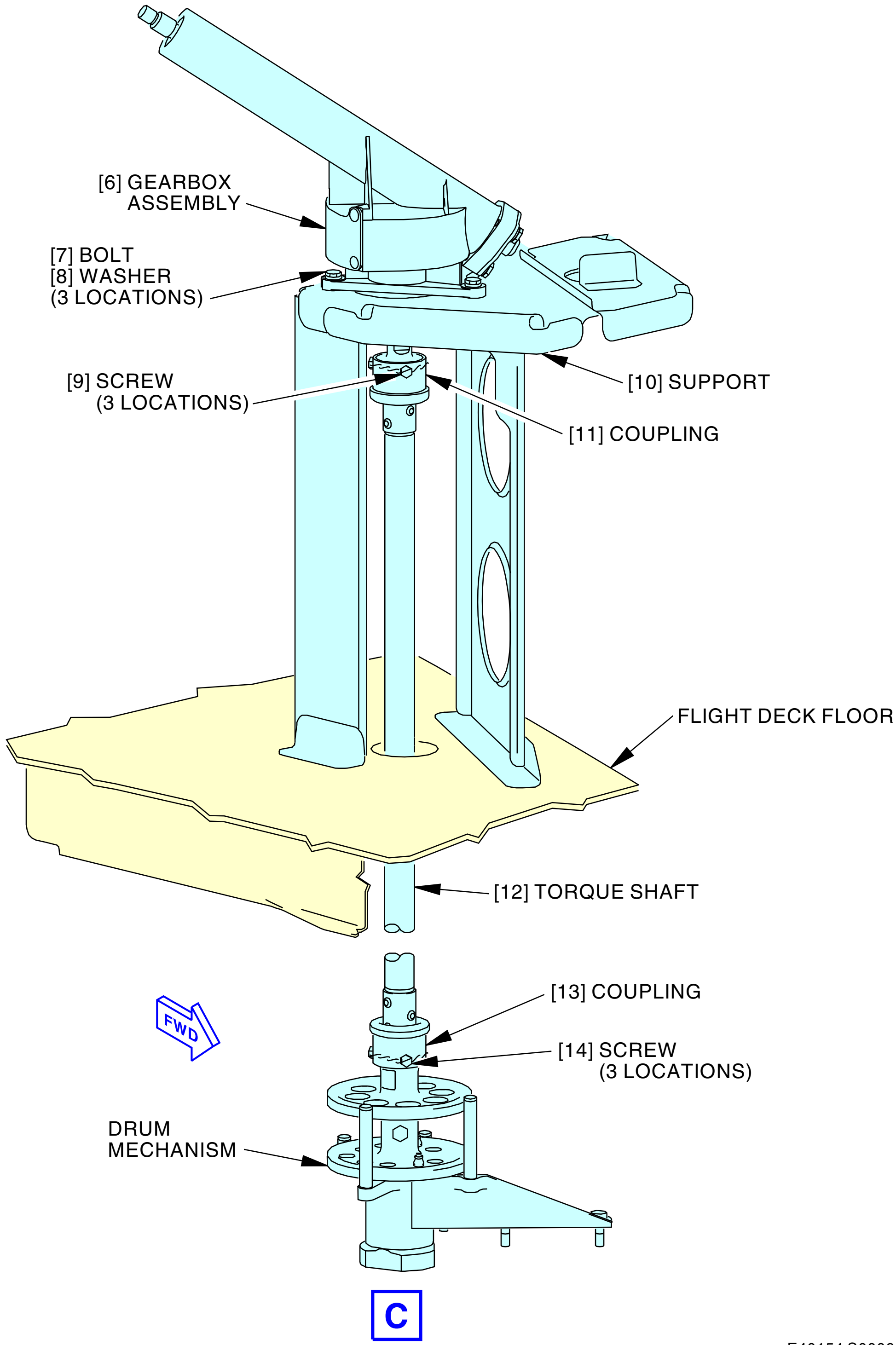
Nose Landing Gear Steering Tiller and Gearbox Installation
Figure 401/32-51-01-990-801 (Sheet 1 of 2)



Nose Landing Gear Steering Tiller and Gearbox Installation
Figure 401/32-51-01-990-801 (Sheet 2 of 2)

TASK 32-51-01-400-801

3. **Nose Landing Gear Steering Tiller and Gearbox Installation**
(Figure 401)

A. **References**

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-21-11-000-803	Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage (P/B 201)
32-21-11-400-803	Nose Landing Gear Torsion Link Connection (P/B 201)

B. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205

C. **Consumable Materials**

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)

D. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
6	Gearbox assembly	32-51-01-01-115	ARO ALL

E. **Location Zones**

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
211	Flight Compartment, Left
212	Flight Compartment, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

F. **Access Panels**

Number	Name/Location
112AL	Forward Access Door

G. **Prepare for the Installation**

SUBTASK 32-51-01-210-002

(1) Make sure the wheels of the nose landing gear are in the centered position.

NOTE: The protractor on the steering collar shows the angular position of the wheels.

SUBTASK 32-51-01-860-003

(2) Make sure the towing lever, on the forward side of the nose landing gear, is in the TOW position.

NOTE: This isolates the steering system for the nose landing gear from hydraulic power.

SUBTASK 32-51-01-480-003

WARNING	ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) Make sure the NLG towing lever pin, SPL-1499, is installed through the towing lever.

NOTE: The NLG towing lever pin, SPL-1499, holds the towing lever in the TOW position.

SUBTASK 32-51-01-480-004

(4) Make sure a rig pin is installed in the drum mechanism for the steering tiller.

H. Install the Tiller and Gearbox

SUBTASK 32-51-01-420-001

(1) Do the steps below to install the gearbox assembly [6] :

(a) Apply the grease, D00013, to the splines on the torque shaft [12] and the splines on the coupling [11].

(b) Align the torque shaft [12] with the coupling [11].

(c) Install the screw [9] to attach the coupling [11] on the torque shaft [12] to the gearbox assembly [6].

(d) Tighten the screw [9] and install lockwire.

(e) Install the gearbox assembly [6] on the support [10].

(f) Install the bolt [7] and washer [8] that attach the gearbox assembly [6] to the support [10].

(g) Apply grease, D00013, to the screws [9] for the coupling [11] on the torque shaft [12].

(h) Align the torque shaft [12] with the coupling [13].

(i) Install the screw [14] to attach the coupling [13] on the torque shaft [12] to the drum mechanism.

(j) Tighten the screw [14] and install lockwire.

SUBTASK 32-51-01-410-001

(2) Install the top panel on the pilot's forward console.

SUBTASK 32-51-01-420-002

(3) Do the steps below to install the tiller handle assembly [1] on the gearbox assembly [6]:

(a) Apply the grease, D00013, to the splines on the pinion shaft [5] on the gearbox assembly [6].

(b) Install the tiller handle assembly [1] on the pinion shaft with the center of the knob 1.33 ±0.50 in. (33.78 ±12.70 mm) from the edge of the cutout on the pilot's forward console.

(c) Install the washer [4] and nut [3] that attach the tiller handle assembly [1] to the pinion shaft [5].

(d) Tighten the nut [3] to engage the lock feature.

1) Tighten the nut [3] to 50 in-lb (6 N·m) plus run-on torque.

NOTE: The washer [4] may be omitted to obtain good thread engagement for the nut [3].

(e) Install the plug button [2] on the tiller handle assembly [1].

I. Tiller and Gearbox Installation Test

SUBTASK 32-51-01-710-002

(1) Use the position indicator at the base of the steering tiller to measure the angular position of the steering tiller.

(2) Use the protractor on the steering collar to measure the angular position of the steering collar.

NOTE: The 0 ° position is referred to as the neutral position.

SUBTASK 32-51-01-710-001

(3) Do the steps below to prepare for the test:

(a) Remove the rigging pin from the steering tiller drum mechanism.

(b) Close this access panel:

Number	Name/Location
112AL	Forward Access Door

(c) Do this task: Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage, TASK 32-21-11-000-803.

(d) Remove the NLG Towing Lever Lock Pin, A09003, from the towing lever.

(e) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

(f) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(g) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-51-01-860-004

(4) Turn the steering tiller clockwise to its stop and hold it there.

(a) You must turn the steering tiller approximately 350° to get to the stop.

SUBTASK 32-51-01-210-003

(5) Make sure the steering collar turns to the right 69° to 71°.

SUBTASK 32-51-01-860-005

(6) Release the steering tiller.

SUBTASK 32-51-01-210-004

(7) Make sure the steering tiller moves back to the neutral position without manual help.

SUBTASK 32-51-01-210-005

(8) Make sure the steering collar moves back to a position ± 1.5° from the neutral position.

SUBTASK 32-51-01-860-006

(9) Turn the steering tiller counterclockwise to its stop and hold it there.

(a) You must turn the steering tiller approximately 350° to get to the stop.

SUBTASK 32-51-01-210-006

(10) Make sure the steering collar turns to the left 69° to 71°.

SUBTASK 32-51-01-860-007

(11) Release the steering tiller.

SUBTASK 32-51-01-210-007

(12) Make sure the steering tiller moves back to the neutral position without manual help.

SUBTASK 32-51-01-210-008

(13) Make sure the steering collar moves back to a position ± 1.5° from the neutral position.

J. Put the Airplane Back to Its Usual Condition

SUBTASK 32-51-01-860-008

(1) Use the steering tiller to align the upper torsion link with the lower torsion link.

SUBTASK 32-51-01-860-009

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-51-01-420-003

(3) Do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-11-400-803.

SUBTASK 32-51-01-860-011

WARNING MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

END OF TASK

NOSE LANDING GEAR STEERING TILLER AND GEARBOX - INSPECTION/CHECK

1. **General**
   A. This procedure only has illustrations and wear limit tables which show the data for wear limits. There are no procedures for access, removal, or installation of the parts. Refer to NOSE LANDING GEAR STEERING TILLER AND GEARBOX - REMOVAL/INSTALLATION, PAGEBLOCK 32-51-01/401 for procedures to do these tasks.

TASK 32-51-01-200-801

2. **Wear Limits for the Nose Landing Gear Steering Tiller and Gearbox**
   (Figure 601)

   A. **References**

Reference	Title
32-51-01 P/B 401	NOSE LANDING GEAR STEERING TILLER AND GEARBOX - REMOVAL/INSTALLATION

   B. **Location Zones**

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
211	Flight Compartment, Left
212	Flight Compartment, Right

   C. **General**

SUBTASK 32-51-01-210-009

(1) This procedure only has illustrations and wear limit tables which show the data for wear limits. There are no procedures for access, removal, or installation of the parts. Refer to NOSE LANDING GEAR STEERING TILLER AND GEARBOX - REMOVAL/INSTALLATION, PAGEBLOCK 32-51-01/401for procedures to do these tasks.

SUBTASK 32-51-01-220-001

(2) Use the following table to see the permitted quantity of wear:

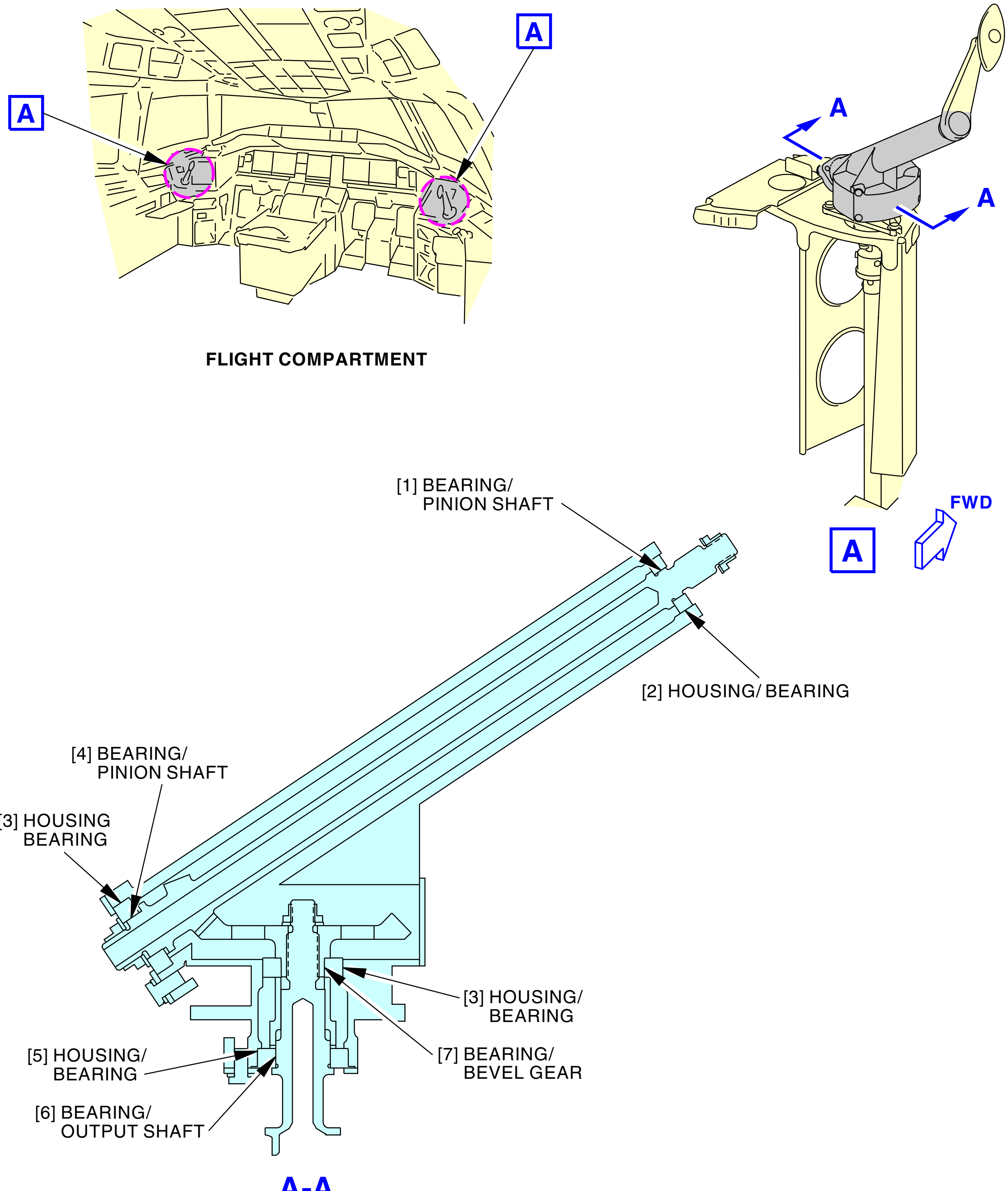
Nose Landing Gear Lock Actuator Wear Limits

INDEX NO.	PART NAME	DIM.	DESIGN LIMITS DIAMETER inches (millimeters)		WEAR LIMITS	
			MIN	MAX	ALLOWED WEAR DIM. inches (millimeters)	MAX CLEARANCE inches (millimeters)
1	Bearing	ID	0.5903 (14.994)	0.5960 (15.001)	0.5891 (14.963)	0.0012 (0.030)
	Pinion Shaft	OD	0.5900 (14.986)	0.5904 (14.996)	0.5916 (15.784)	
2	Housing	ID	1.1024 (28.001)	1.1032 (28.021)	1.1000 (27.940)	0.0024 (0.061)
	Bearing	OD	1.1020 (27.991)	1.1024 (28.001)	1.1048 (28.062)	
3	Housing	ID	1.4567 (37.000)	1.4577 (37.026)	1.4552 (36.962)	0.0015 (0.038)
	Bearing	OD	1.4562 (36.987)	1.4567 (37.000)	1.4582 (37.038)	
4	Bearing	ID	0.7870 (19.990)	0.7874 (20.000)	0.7860 (19.964)	0.0010 (0.025)
	Pinion Shaft	OD	0.7867 (19.982)	0.7873 (19.997)	0.7883 (20.023)	

Nose Landing Gear Lock Actuator Wear Limits (Continued)

INDEX NO.	PART NAME	DIM.	DESIGN LIMITS		WEAR LIMITS	
			DIAMETER inches (millimeters)		ALLOWED WEAR DIM. inches (millimeters)	MAX CLEARANCE inches (millimeters)
			MIN	MAX		
5	Housing	ID	1.6353 (41.999)	1.6545 (42.024)	1.6520 (41.961)	0.0015 (0.038)
	Bearing	OD	1.6530 (41.986)	1.6535 (41.999)	1.6550 (42.037)	
6	Bearing	ID	0.9839 (24.991)	0.9843 (25.001)	0.9829 (24.966)	0.0010 (0.025)
	Output Shaft	OD	0.9836 (24.983)	0.9840 (24.994)	0.9850 (25.019)	
7	Bearing	ID	0.7870 (19.990)	0.7874 (20.000)	0.7860 (19.964)	0.0010 (0.025)
	Bevel Gear	OD	0.7866 (19.980)	0.7871 (19.992)	0.7881 (20.018)	

END OF TASK



Nose Landing Gear Steering Tiller and Gearbox Wear Limits
Figure 601/32-51-01-990-802

NOSE LANDING GEAR STEERING CENTERING AND RUDDER INTERCONNECT MECHANISM - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the centering and rudder interconnect mechanism for the steering system for the nose landing gear.

(2) An installation of the centering and rudder interconnect mechanism for the steering system for the nose landing gear.

B. In this procedure, the centering and rudder interconnect mechanism is referred to as the steering centering mechanism [5].

TASK 32-51-02-020-801

2. Steering Centering Mechanism Removal

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1569	Clamp - Control Cable Part #: A20005-9 Supplier: 81205
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

C. Location Zones

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
116	Area Outboard and Above Nose Landing Gear Wheel Well, Right
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Access Panels

Number	Name/Location
112AL	Forward Access Door
117AL	Main Equipment Center Access Door

E. Prepare for the Removal

SUBTASK 32-51-02-210-001

(1) Make sure the wheels of the nose landing gear are in the neutral position.

NOTE: The graduated scales on the steering collar and the arrows on the lower support plate show the angular position of the wheels (Figure 401).

SUBTASK 32-51-02-860-016

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-51-02-860-017

(3) On the aft aisle stand panel, P8, turn the rudder trim control until the rudder trim indicator shows that the rudder has 0 units of trim.

SUBTASK 32-51-02-860-001

(4) Move the towing lever, on the forward side of the nose landing gear, to the TOW position.

NOTE: This isolates the steering system for the nose landing gear from hydraulic power.

SUBTASK 32-51-02-480-001

WARNING ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(5) Install the NLG towing lever pin, SPL-1499, through the towing lever.

NOTE: You use the NLG towing lever pin, SPL-1499, to hold the towing lever in the TOW position.

SUBTASK 32-51-02-860-002

WARNING MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-51-02-010-001

(7) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-51-02-480-002

(8) Install these rigging pins:

NOTE: The placard on the inside of the box for the rigging pin set, SPL-2532, identifies the different rigging pins.

(a) Rigging pin NS3 in the steering centering mechanism steering centering mechanism [5]

(b) Rigging pin R3 in the rudder jackshaft crank [14]

(c) Rigging pin NS4 in the broken cable compensator [19].

SUBTASK 32-51-02-010-002

(9) Open this access panel:

Number	Name/Location
112AL	Forward Access Door

SUBTASK 32-51-02-480-003

(10) Install rigging pin NS2 in the First Officer's steering tiller drum [20].

F. Steering Centering Mechanism Removal

SUBTASK 32-51-02-020-001

(1) Remove the cotter pin [7] from the cable retaining pin [6] (Figure 402).

SUBTASK 32-51-02-020-002

(2) Remove the cable retaining pin [6] from the steering centering mechanism [5].

SUBTASK 32-51-02-020-003

(3) Do the steps below for each of the cables NWS1A-2 and NWS1A-3 to disconnect them from the steering centering mechanism [5]:

(a) Remove the two turnbuckle locking clips [12] from the turnbuckle [11].

(b) Loosen the turnbuckle [11] to remove the tension from the cable.

(c) Remove the cotter pin [15], at the end of the cable, from the steering centering mechanism [5].

(d) Disconnect the cable from the steering centering mechanism [5].

(e) Attach a control cable clamp, SPL-1569, to the cable.

(f) Attach the opposite end of the control cable clamp, SPL-1569, to a piece of the airplane structure so that the cable has tension in it.

NOTE: This is necessary so that the cable does not fall off of its pulleys.

SUBTASK 32-51-02-020-004

(4) Do the steps below to disconnect the steering centering mechanism [5] from the control rod [1]:

(a) Remove the nut [4] and the washer [3] from the bolt [2].

(b) Remove the bolt [2], with the bushing [21], from the control rod [1] and the rudder pedal arm of the steering centering mechanism [5].

SUBTASK 32-51-02-020-005

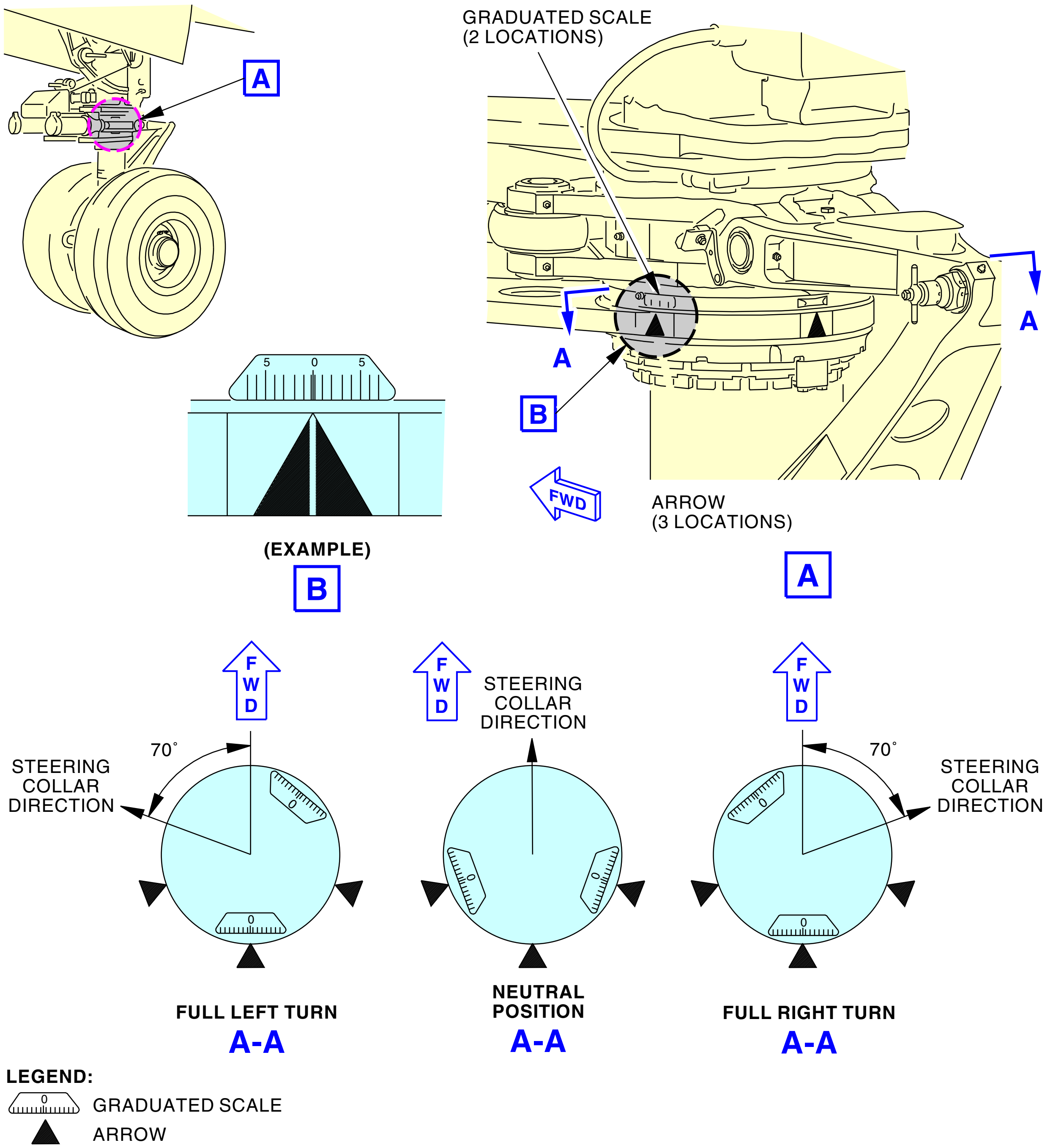
(5) Do the steps below to remove the steering centering mechanism [5] from the nose wheel well [13]:

(a) Remove the nut [10] and the washer [9] from the bolt [8].

(b) Carefully lift the steering centering mechanism [5] off of the bolt [8] and remove it from the nose wheel well [13].

(c) Remove the bolt [8].

END OF TASK

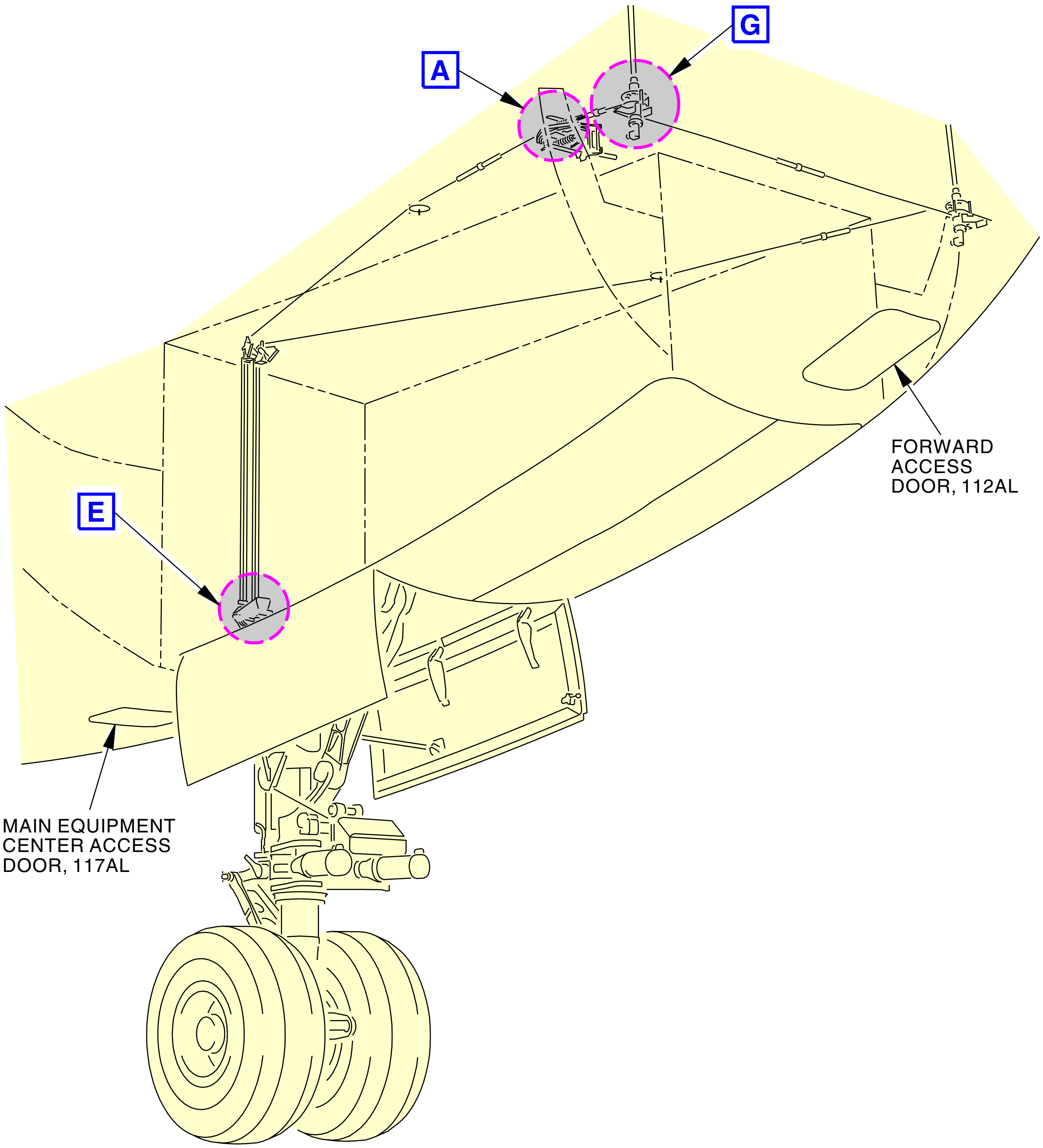


NOTE:

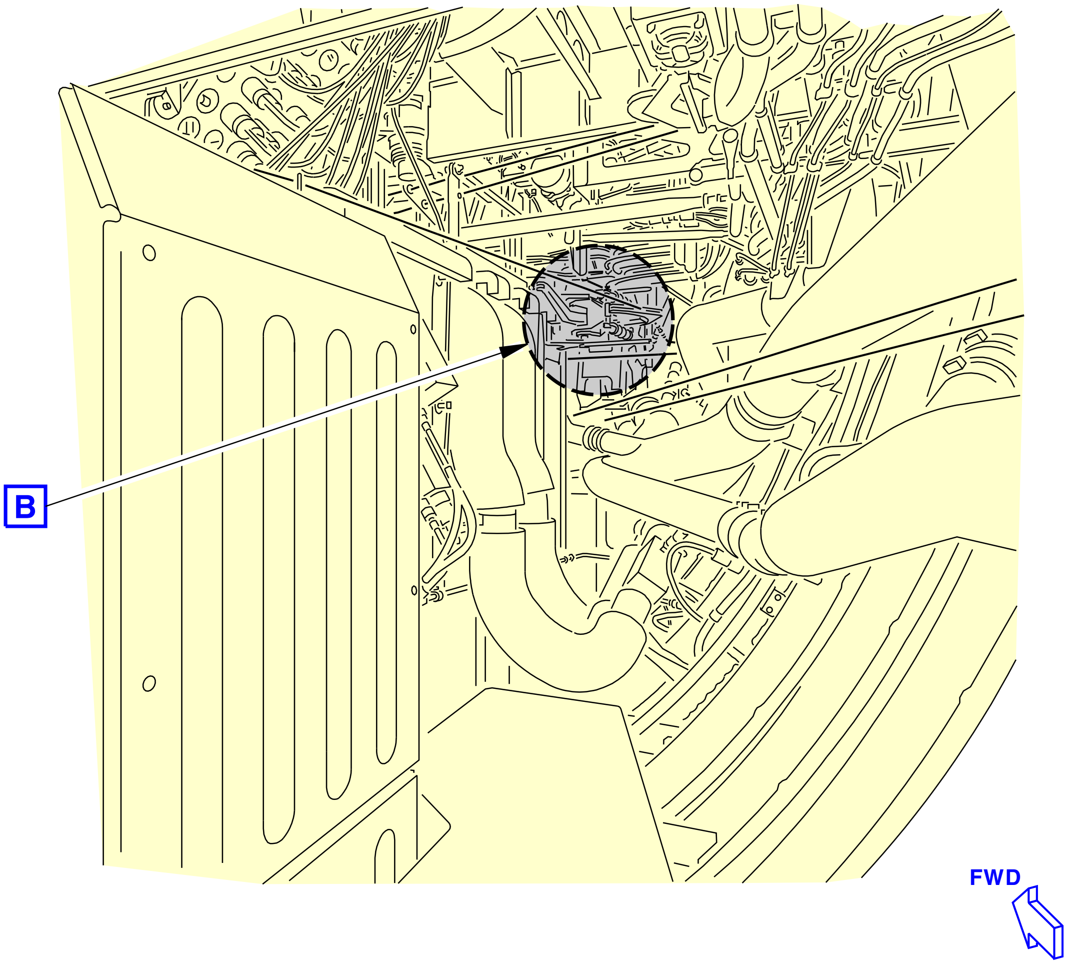
FOR A FULL LEFT TURN OR A FULL RIGHT TURN THE ZERO GRADUATION ON THE APPLICABLE GRADUATED SCALE ALIGNS WITH THE AFT ARROW.

E55158 S0006419314_V2

Nose Landing Gear Steering Angle Indication
Figure 401/32-51-02-990-801



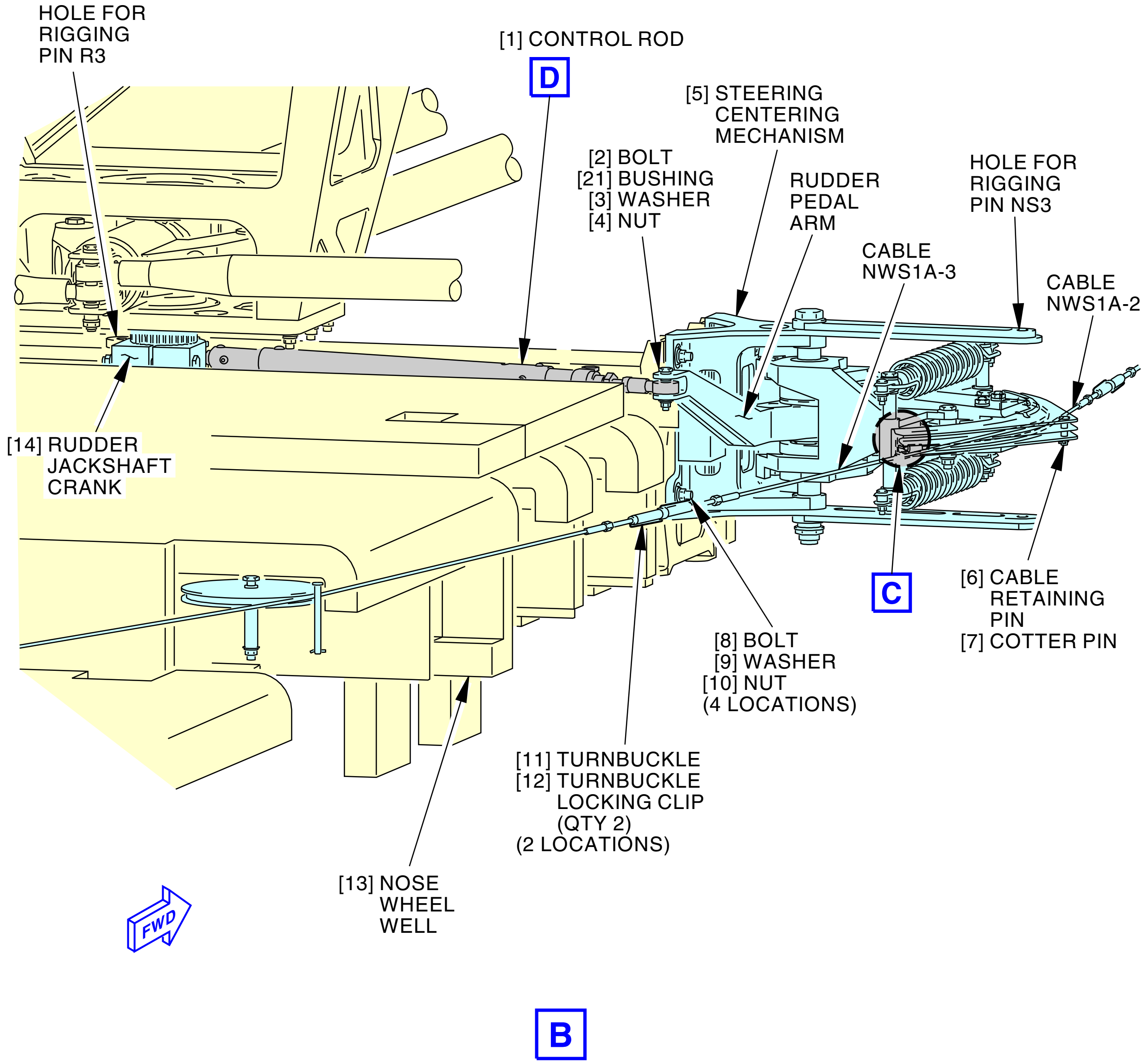
Nose Landing Gear Steering Centering and Rudder Interconnect Mechanism Installation
Figure 402/32-51-02-990-802 (Sheet 1 of 6)



AREA OUTBOARD OF THE NOSE LANDING GEAR WHEEL WELL
(RIGHT SIDE)
A

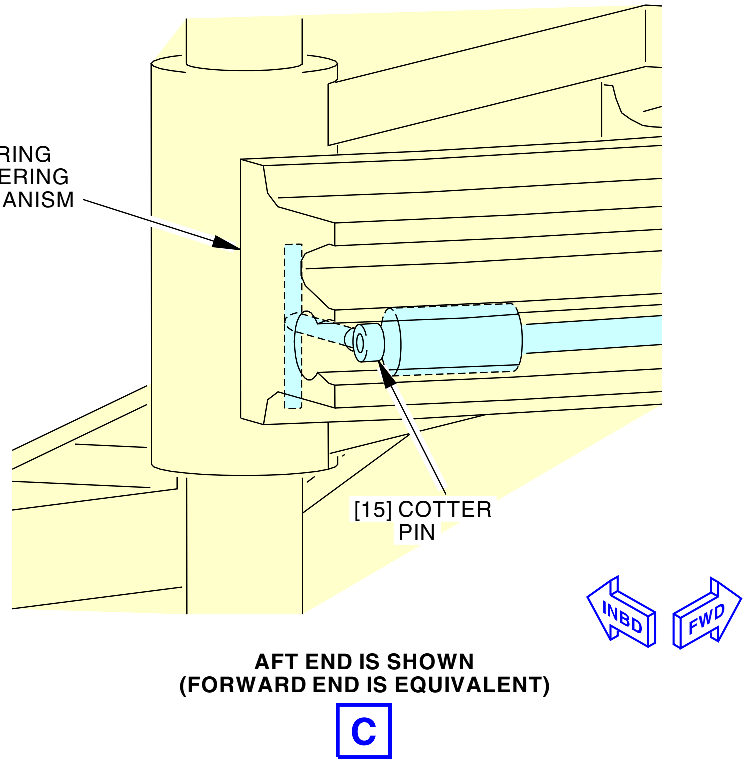
E30213 S0006419316_V2

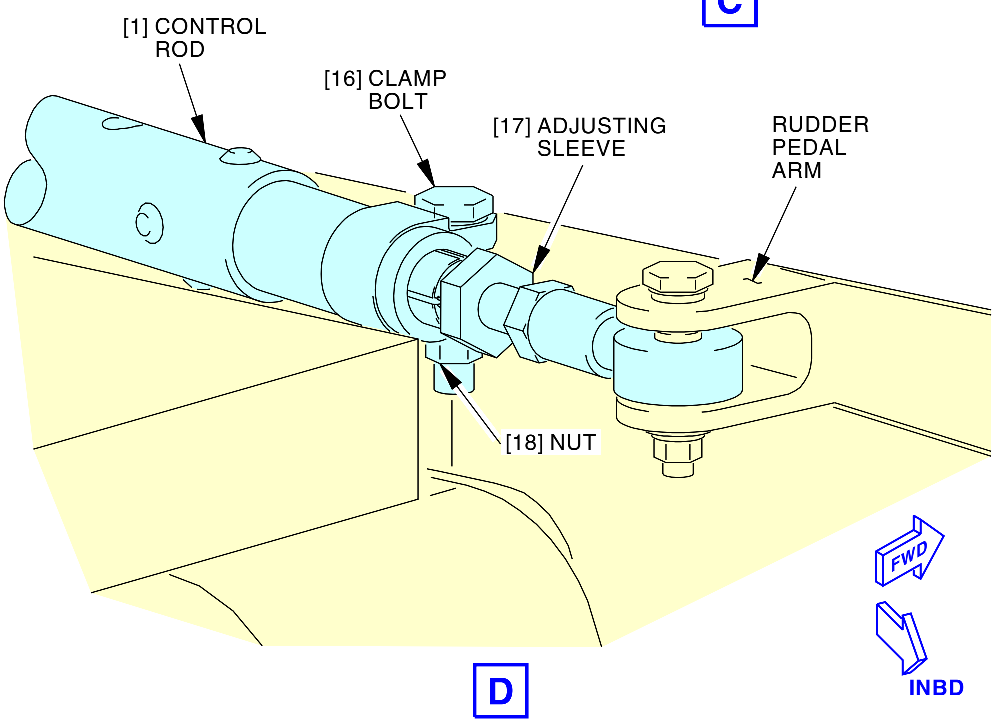
Nose Landing Gear Steering Centering and Rudder Interconnect Mechanism Installation
Figure 402/32-51-02-990-802 (Sheet 2 of 6)



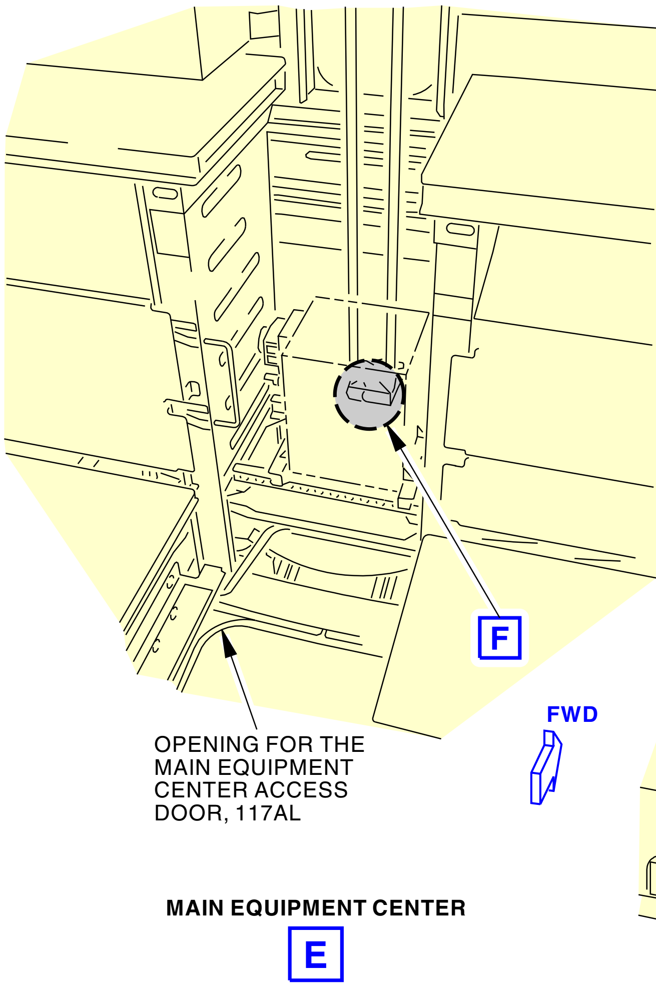
E30562 S0006419317_V2

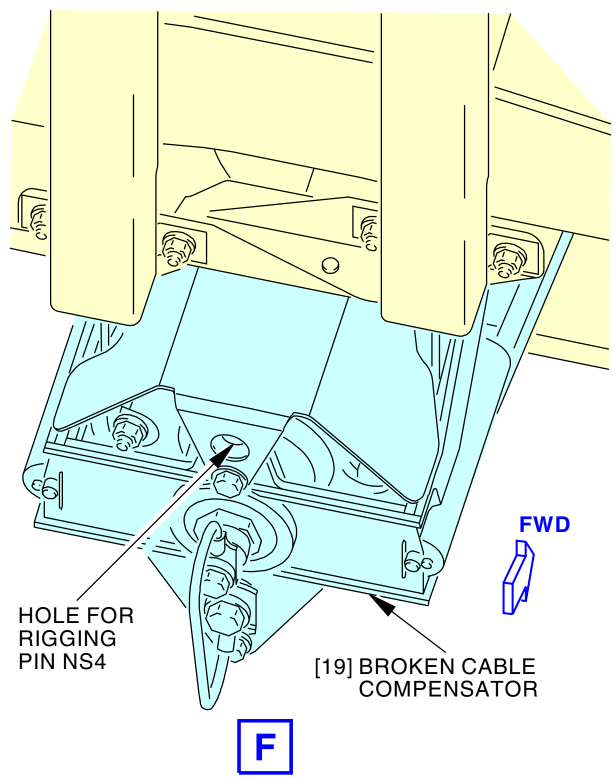
Nose Landing Gear Steering Centering and Rudder Interconnect Mechanism Installation
Figure 402/32-51-02-990-802 (Sheet 3 of 6)



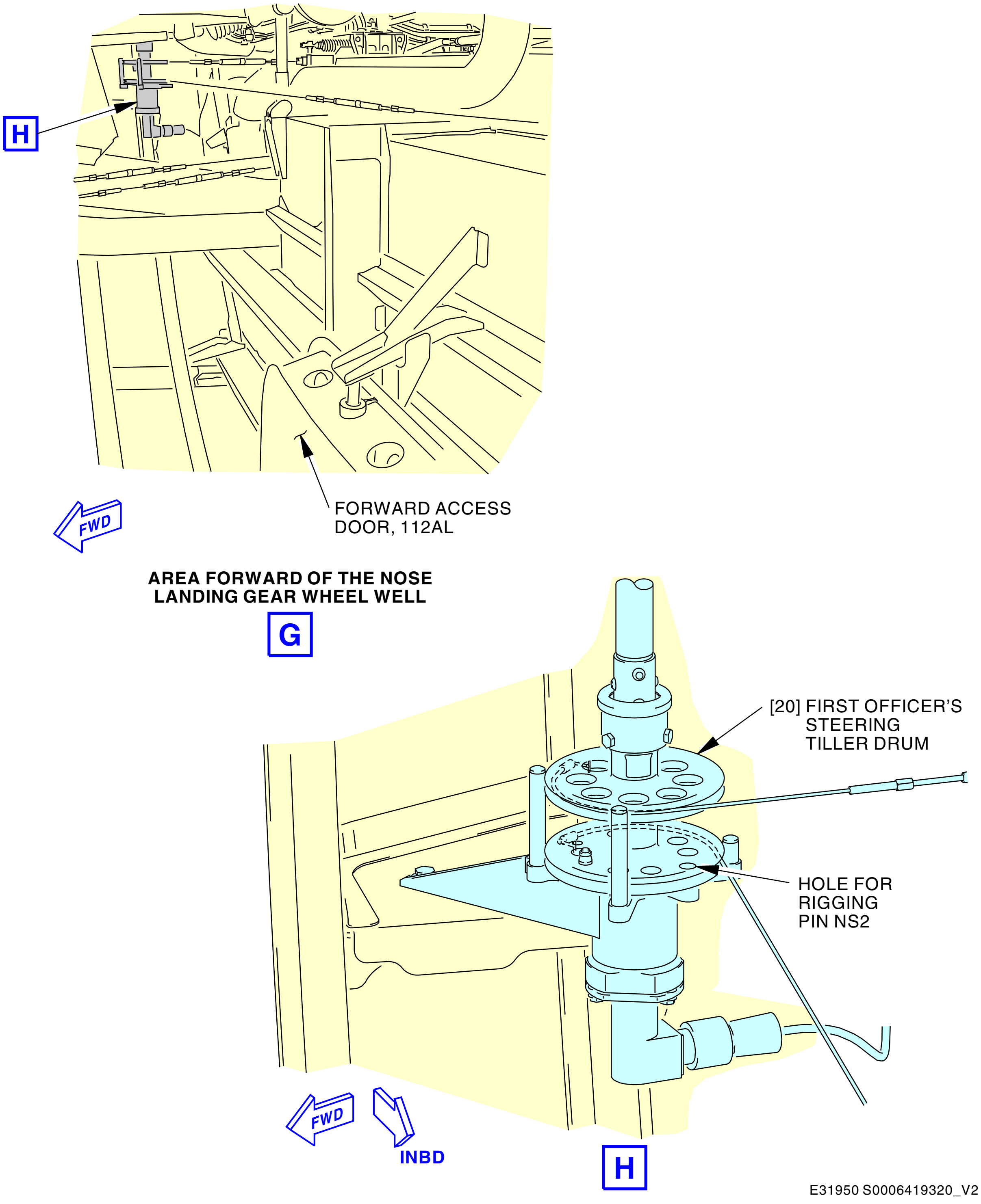


Nose Landing Gear Steering Centering and Rudder Interconnect Mechanism Installation
Figure 402/32-51-02-990-802 (Sheet 4 of 6)





Nose Landing Gear Steering Centering and Rudder Interconnect Mechanism Installation
Figure 402/32-51-02-990-802 (Sheet 5 of 6)



Nose Landing Gear Steering Centering and Rudder Interconnect Mechanism Installation
Figure 402/32-51-02-990-802 (Sheet 6 of 6)

TASK 32-51-02-420-801

3. Steering Centering Mechanism Installation

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-21-11-000-803	Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage (P/B 201)
32-21-11-400-803	Nose Landing Gear Torsion Link Connection (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1553	Tensiometer - Cable, Low Tension (200 lbs and below) Part #: 102-03108 Supplier: 21844 Part #: 102-03120 Supplier: 21844 Part #: ACX-250 Supplier: 13331 Part #: T60-1001-C8-1A Supplier: 0N8U4 Opt Part #: 102-03110 Supplier: 21844 Opt Part #: ACM-200 Supplier: 13331
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1569	Clamp - Control Cable Part #: A20005-9 Supplier: 81205
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
5	Steering centering mechanism	32-51-02-01-075	ARO ALL
6	Cable retaining pin	32-51-02-01-275	ARO ALL
7	Cotter pin	32-51-02-01-270	ARO ALL
		32-51-03-02-050	ARO ALL
12	Turnbuckle locking clip	32-51-03-02-020	ARO ALL
15	Cotter pin	32-51-03-02-045	ARO ALL

D. Location Zones

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
116	Area Outboard and Above Nose Landing Gear Wheel Well, Right
118	Main Equipment Center, Right
211	Flight Compartment, Left
711	Nose Landing Gear

(Continued)

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. **Access Panels**

Number	Name/Location
112AL	Forward Access Door
117AL	Main Equipment Center Access Door

F. **Steering Centering Mechanism Installation**

SUBTASK 32-51-02-210-002

(1) Make sure rigging pin NS3 is installed in the steering centering mechanism [5] (Figure 402).

NOTE: The placard on the inside of the box for the rigging pin set, SPL-2532, identifies the different rigging pins.

SUBTASK 32-51-02-420-001

(2) Do these steps to install the steering centering mechanism [5] on the nose wheel well [13]:

(a) Align the steering centering mechanism [5] with the bolt [8].

(b) Put the steering centering mechanism [5] in its position.

(c) Install the washer [9] and the nut [10].

(d) Tighten the nut [10] on the bolt [8].

SUBTASK 32-51-02-420-002

(3) Do the steps below to connect the steering centering mechanism [5] to the control rod [1]:

(a) Loosen the nut [18] on the clamp bolt [16].

(b) Turn the adjusting sleeve [17] until the end of the control rod [1] aligns with the rudder pedal arm of the steering centering mechanism [5].

(c) Install the bolt [2] and the bushing [21], through the rudder pedal arm and the control rod [1].

(d) Install the washer [3] and the nut [4] on the bolt [2].

(e) Tighten the nut [18] on the clamp bolt [16] from 30 in-lb (3.4 N·m) to 50 in-lb (5.6 N·m).

SUBTASK 32-51-02-420-003

(4) Do the steps below for each of the cables NWS1A-2 and NWS1A-3 to connect them to the steering centering mechanism [5]:

(a) Disconnect the control cable clamp, SPL-1569, from the airplane structure.

(b) Remove the control cable clamp, SPL-1569, from the cable.

(c) Connect the cable to the steering centering mechanism [5].

(d) Install the cotter pin [15] in the steering centering mechanism [5] at the end of the cable.

(e) Tighten the turnbuckle [11] until the cable has the correct tension (Figure 403).

NOTE: Use the low tension cable tensiometer, COM-1553, to measure the cable tension.

(f) Install the two turnbuckle locking clips [12] on the turnbuckle [11] (Figure 402).

SUBTASK 32-51-02-420-004

(5) Install the cable retaining pin [6] in the steering centering mechanism [5].

SUBTASK 32-51-02-420-005

(6) Install the cotter pin [7] through the cable retaining pin [6].

G. Steering Centering Mechanism Installation Test

NOTE: In this test:

Use the graduated scales on the steering collar and the arrows on the lower support plate to measure the angular position of the steering collar (Figure 401).

The 0 ° position is referred to as the neutral position.

SUBTASK 32-51-02-710-001

(1) Do the steps below to prepare for the test:

(a) Remove the rigging pin NS2 from the First Officer's steering tiller drum [20].

(b) Close this access panel:

Number	Name/Location
112AL	Forward Access Door

(c) Remove these rigging pins:

1) The rigging pin NS4 from the broken cable compensator [19]

2) The rigging pin R3 from the rudder jackshaft crank [14]

3) The rigging pin NS3 from the steering centering mechanism [5].

(d) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

(e) Do this task: Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage, TASK 32-21-11-000-803.

(f) Remove the NLG towing lever pin, SPL-1499, from the towing lever.

(g) If the electrical system is not energized, do this task: Supply Electrical Power, TASK 24-22-00-860-805.

(h) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(i) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(j) On the overhead maintenance panel, P61, move these switches to the SHUT OFF position:

NOTE: This is necessary to prevent the operation of the rudder during the test.

1) Left Tail Flight Control Shutoff Switch

2) Center Tail Flight Control Shutoff Switch

3) Right Tail Flight Control Shutoff Switch.

SUBTASK 32-51-02-860-003

(2) Turn the Captain's steering tiller clockwise to its stop and hold it there.

NOTE: You must turn the Captain's steering tiller approximately 350 ° to get to the stop.

SUBTASK 32-51-02-210-003

(3) Make sure the steering collar turns to the right 69 ° to 71 °.

SUBTASK 32-51-02-860-004

(4) Release the Captain's steering tiller.

SUBTASK 32-51-02-210-004

(5) Make sure the Captain's steering tiller moves back to the neutral position without manual help.

SUBTASK 32-51-02-210-005

(6) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

SUBTASK 32-51-02-860-005

(7) Turn the Captain's steering tiller counterclockwise to its stop and hold it there.

NOTE: You must turn the Captain's steering tiller approximately 350 ° to get to the stop.

SUBTASK 32-51-02-210-006

(8) Make sure the steering collar turns to the left 69 ° to 71 °.

SUBTASK 32-51-02-860-006

(9) Release the Captain's steering tiller.

SUBTASK 32-51-02-210-007

(10) Make sure the Captain's steering tiller moves back to the neutral position without manual help.

SUBTASK 32-51-02-210-008

(11) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

SUBTASK 32-51-02-860-007

(12) Push the Captain's right rudder pedal to its stop and hold it there.

NOTE: Do not hold the Captain's or the First Officer's steering tiller when you do this.

SUBTASK 32-51-02-210-009

(13) Make sure the steering collar turns to the right 6 ° to 9 °.

SUBTASK 32-51-02-860-008

(14) Release the Captain's right rudder pedal.

SUBTASK 32-51-02-210-010

(15) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

SUBTASK 32-51-02-860-009

(16) Push the Captain's left rudder pedal to its stop and hold it there.

NOTE: Do not hold the Captain's or the First Officer's steering tiller when you do this.

SUBTASK 32-51-02-210-011

(17) Make sure the steering collar turns to the left 6 ° to 9 °.

SUBTASK 32-51-02-860-010

(18) Release the Captain's left rudder pedal.

SUBTASK 32-51-02-210-012

(19) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-51-02-860-011

(1) Use the Captain's steering tiller to align the upper torsion link with the lower torsion link.

SUBTASK 32-51-02-860-012

(2) On the overhead maintenance panel, P61, move these switches to the NORM position:

(a) Left Tail Flight Control Shutoff Switch

(b) Center Tail Flight Control Shutoff Switch

(c) Right Tail Flight Control Shutoff Switch.

SUBTASK 32-51-02-860-013

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-51-02-420-006

(4) Do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-11-400-803.

SUBTASK 32-51-02-860-015

WARNING	MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

END OF TASK

TEMPERATURE CORRECTION FACTORS FOR UPPER CABLE LOOP TENSION

TEMPERATURE ˚F (˚C)	CORRECTION FACTOR FOR OUTSIDE TEMPERATURE LBS. (kgs)	CORRECTION FACTOR FOR INSIDE TEMPERATURE LBS. (kgs)
130 (54.4)	24 (10.8)	-12 (-5.4)
120 (48.8)	20 (9.1)	-10 (-4.5)
110 (43.3)	16 (7.3)	-8 (-3.6)
100 (37.7)	12 (5.4)	-6 (-2.7)
90 (32.2)	8 (3.6)	-4 (-1.8)
80 (26.6)	4 (1.8)	-2 (-0.9)
70 (21.1)	0 (0)	0 (0)
60 (15.5)	-4 (-1.8)	2 (0.9)
50 (10)	-8 (-3.6)	4 (1.8)
40 (44)	-12 (-5.4)	6 (2.7)
30 (-1.1)	-16 (-7.3)	8 (3.6)
20 (-6.7)	-20 (-9.1)	10 (4.5)
10 (-12.2)	-24 (-10.8)	12 (5.4)
0 (-17.8)	-28 (-12.7)	14 (6.4)
-10 (-23.3)	-32 (-14.2)	16 (7.3)
-20 (-28.9)	-36 (-16.3)	18 (8.2)
-30 (-34.5)	-40 (-18.4)	20 (9.1)

HOW TO CALCULATE THE CORRECT CABLE TENSION:

· MEASURE THE OUTSIDE TEMPERATURE IN THE NOSE WHEEL WELL

· MEASURE THE INSIDE TEMPERATURE ABOVE THE NOSE WHEEL WELL

CABLE TENSION = [(75 LBS (34 KG) ± OUTSIDE TEMPERATURE CORRECTION FACTOR ± INSIDE TEMPERATURE CORRECTION FACTOR)] ±10 LBS (4.5 KG)

EXAMPLE: IF OUTSIDE TEMPERATURE = 80˚ (26.6), AND INSIDE TEMPERATURE = 100˚;

CABLE TENSION = (75 LBS + 4 LBS - 6 LBS) ±10 LBS = 73 ±10 LBS
= (34 KG + 1.8 KG - 0.9 KG) ± 4.5 KG = 35.7 ± 4.5 KG.

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Nose Landing Gear Steering System - Upper Cable Loop Tension
Figure 403/32-51-02-990-803

NOSE LANDING GEAR STEERING BROKEN CABLE COMPENSATOR - REMOVAL/INSTALLATION

1. **General**
   A. This procedure has two tasks:
      (1) A removal of the broken cable compensator for the steering system for the nose landing gear
      (2) An installation of the broken cable compensator for the steering system for the nose landing gear.
   B. In this procedure the broken cable compensator is referred to as the compensator assembly [11].

TASK 32-51-03-000-801

2. **Broken Cable Compensator Removal**
   (Figure 401)

   A. **References**

Reference	Title
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)

   B. **Tools/Equipment**

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1569	Clamp - Control Cable Part #: A20005-9 Supplier: 81205
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

   C. **Location Zones**

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
116	Area Outboard and Above Nose Landing Gear Wheel Well, Right
118	Main Equipment Center, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

   D. **Access Panels**

Number	Name/Location
112AL	Forward Access Door
117AL	Main Equipment Center Access Door

E. Prepare for the Removal

SUBTASK 32-51-03-210-001

(1) Make sure the wheels of the nose landing gear are in the center position.

NOTE: The protractor on the steering collar shows the angular position of the wheels.

SUBTASK 32-51-03-860-001

(2) Move the towing lever, on the forward side of the nose landing gear, to the TOW position.

NOTE: This isolates the steering system for the nose landing gear from hydraulic power.

SUBTASK 32-51-03-480-001

WARNING

ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) Install the NLG towing lever pin, SPL-1499, through the towing lever.

NOTE: You use the pin to hold the towing lever in the TOW position.

SUBTASK 32-51-03-860-002

WARNING

MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-51-03-010-001

(5) Open this access panel:

Number	Name/Location
112AL	Forward Access Door

SUBTASK 32-51-03-010-002

(6) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-51-03-480-002

(7) Install these rigging pins, which are part of rigging pin set, SPL-2532:

NOTE: The placard on the inside of the box for the rigging pin set, SPL-2532, identifies the different rigging pins.

(a) Rigging pin NS1 in the captain`s steering tiller drum [3].

(b) Rigging pin NS3 in the steering centering mechanism [4].

(c) Rigging pin NS4 in the compensator assembly [11].

F. Broken Cable Compensator Removal

SUBTASK 32-51-03-010-003

(1) Remove the nut [5], washer [6], and screw [7] that attach the clip [8] to the compensator assembly [11].

SUBTASK 32-51-03-010-004

(2) Remove the clip [8] to get access to the cables.

SUBTASK 32-51-03-020-001

(3) Do the steps below for each of the cables NWS1A-4 and NWS1B-2 to disconnect them from the compensator assembly [11]:

(a) Remove the two turnbuckle locking clips [2] from the turnbuckle [1].

(b) Loosen the turnbuckle [1] to remove the tension from the cable.

(c) Remove the pins [10], at the end of the cable, from the cable drum in the compensator assembly [11].

(d) Disconnect the cable from the cable drum in the compensator assembly [11].

(e) Attach a control cable clamp, SPL-1569, to the cable.

(f) Attach the opposite end of the control cable clamp, SPL-1569, to a piece of the airplane structure to make sure the cable has tension in it.

NOTE: This is necessary so that the cable does not fall off of its pulleys.

SUBTASK 32-51-03-020-002

(4) Remove the washer [19] and nut [18] from the broken cable compensator shaft [15].

SUBTASK 32-51-03-020-003

(5) Remove the drive bar [16] and link assembly [17] from the broken cable compensator shaft [15].

SUBTASK 32-51-03-020-004

(6) Remove the nut [12], washer [13] and bolt [14] that hold the compensator assembly [11] to the bulkhead [9].

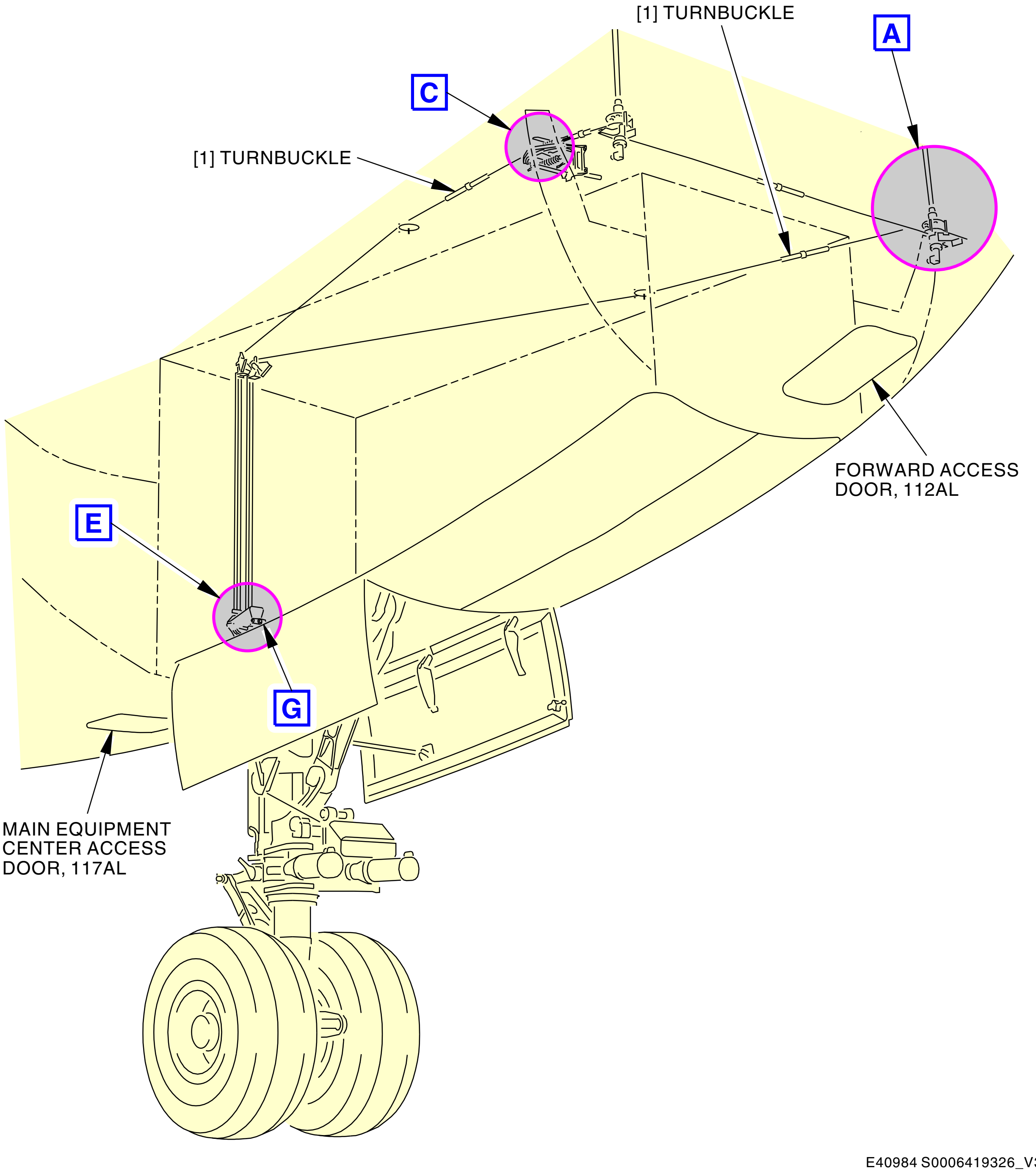
SUBTASK 32-51-03-020-005

(7) Remove the compensator assembly [11].

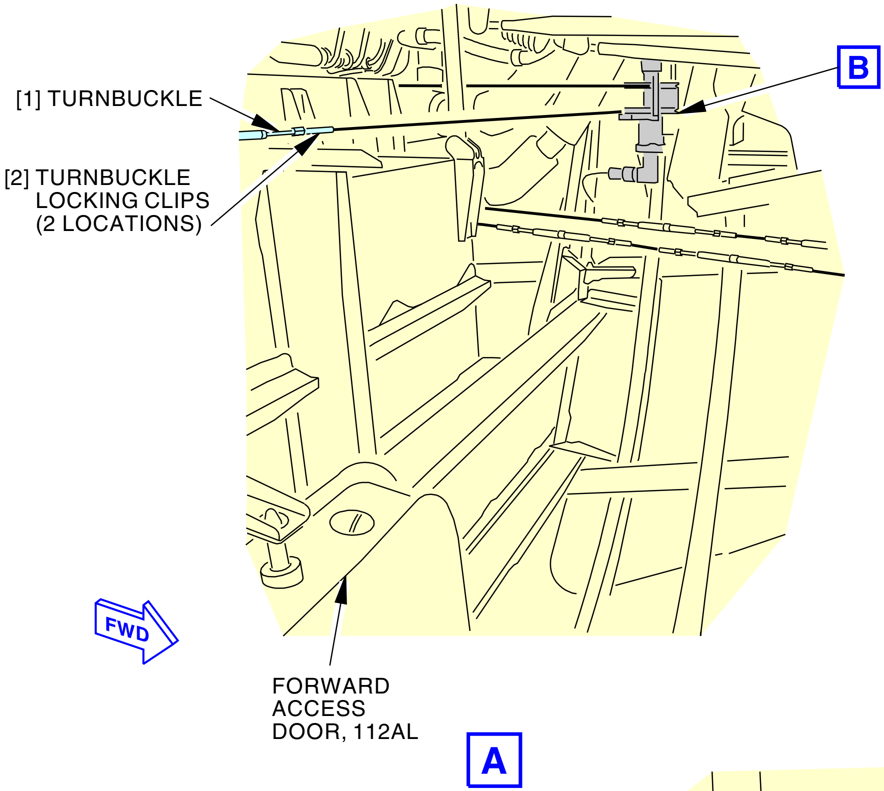
SUBTASK 32-51-03-100-001

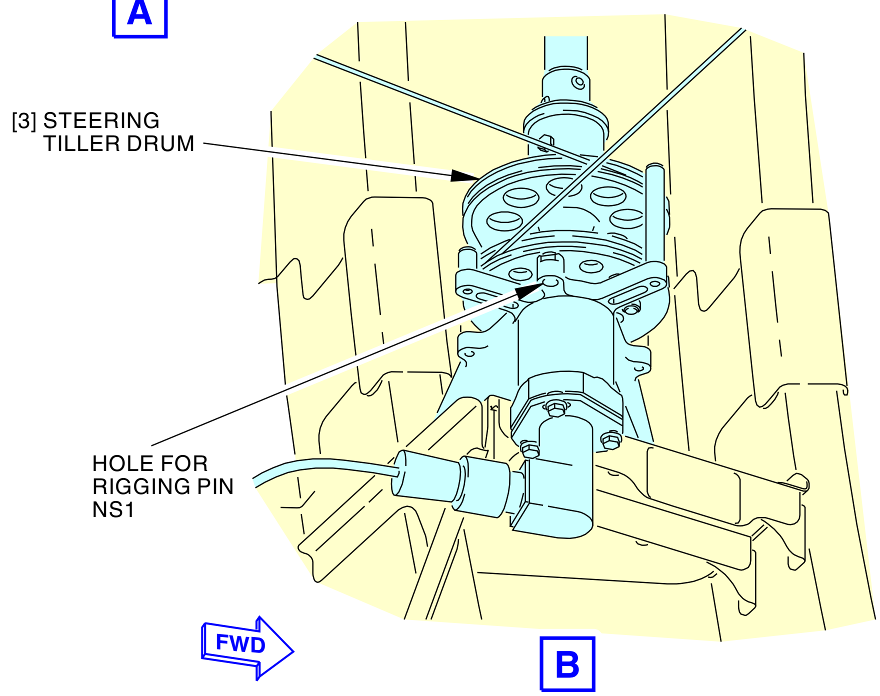
(8) Remove the sealant material from the bulkhead [9].

END OF TASK



Nose Landing Gear Steering Broken Cable Compensator Installation
Figure 401/32-51-03-990-801 (Sheet 1 of 5)





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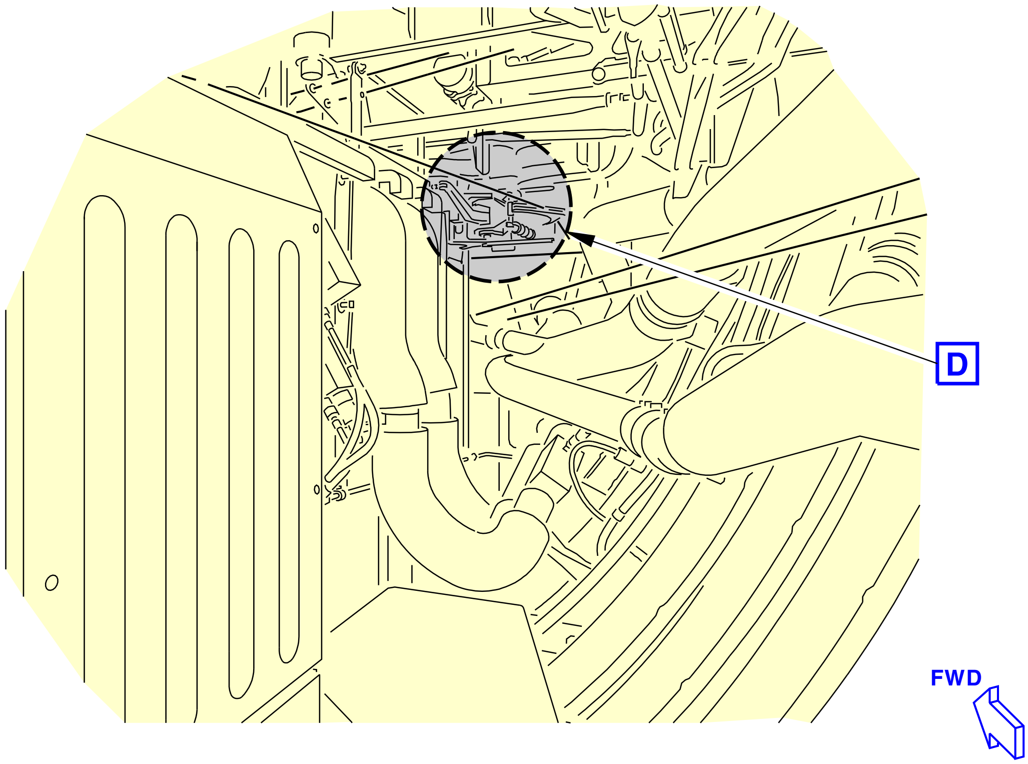
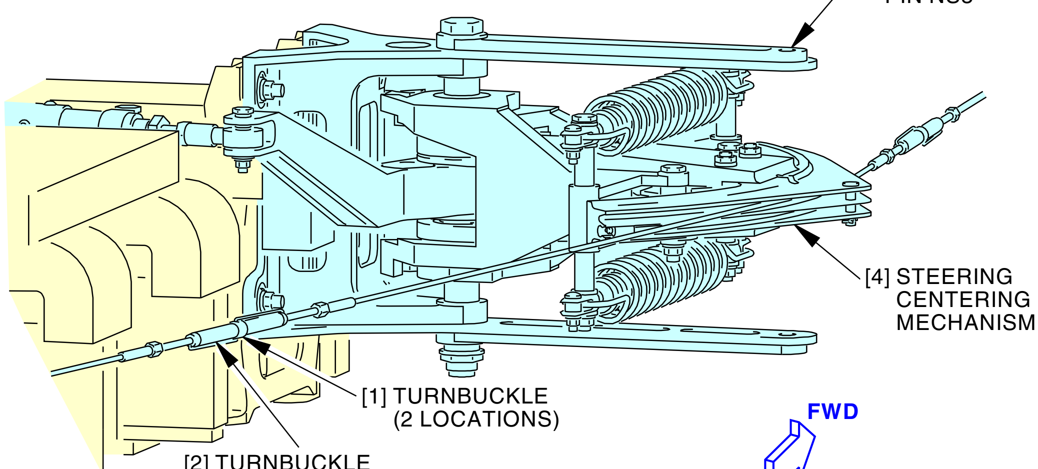
Nose Landing Gear Steering Broken Cable Compensator Installation
Figure 401/32-51-03-990-801 (Sheet 2 of 5)



AREA OUTBOARD OF THE NOSE LANDING GEAR WHEEL WELL
(RIGHT SIDE)
C



D

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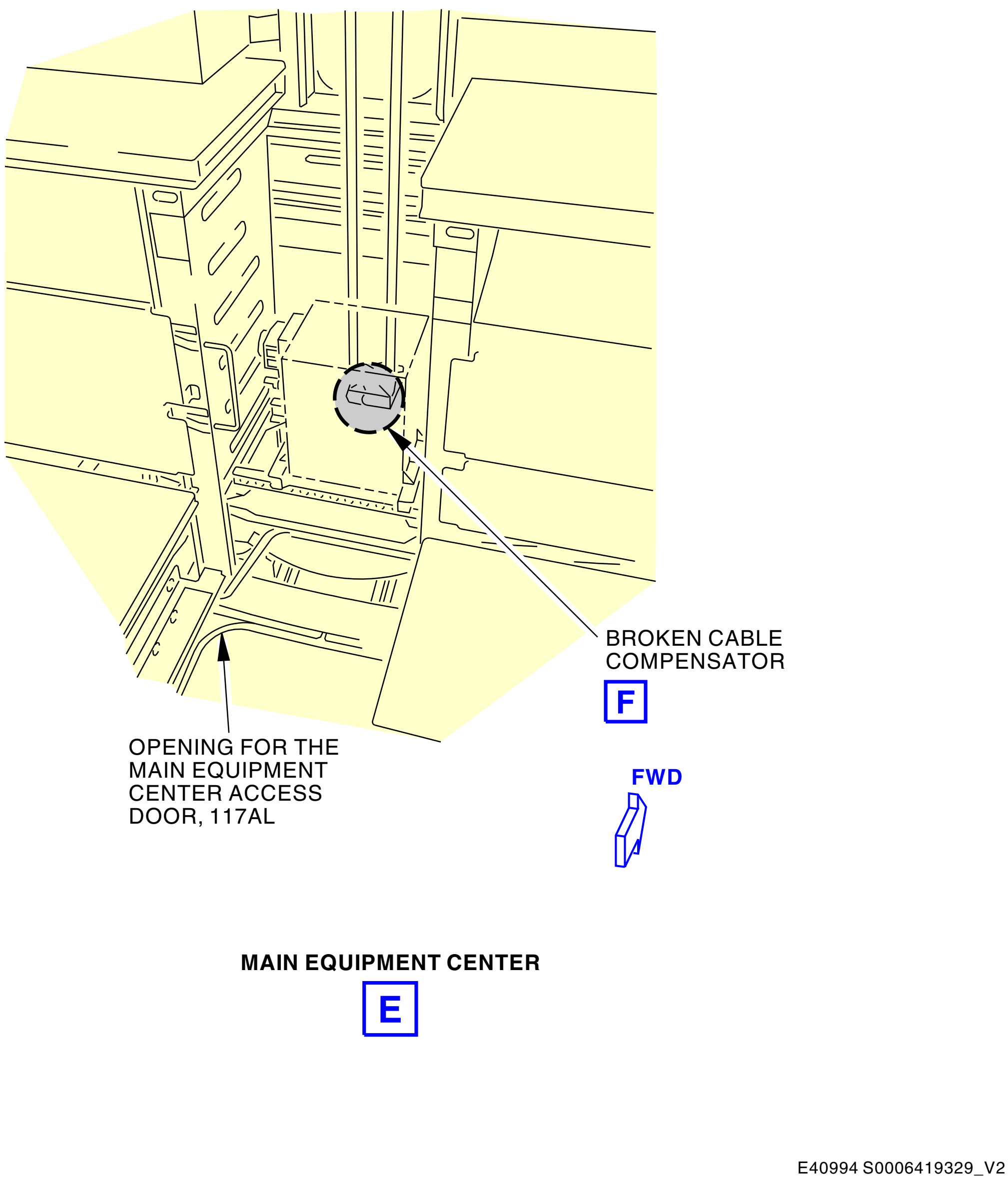
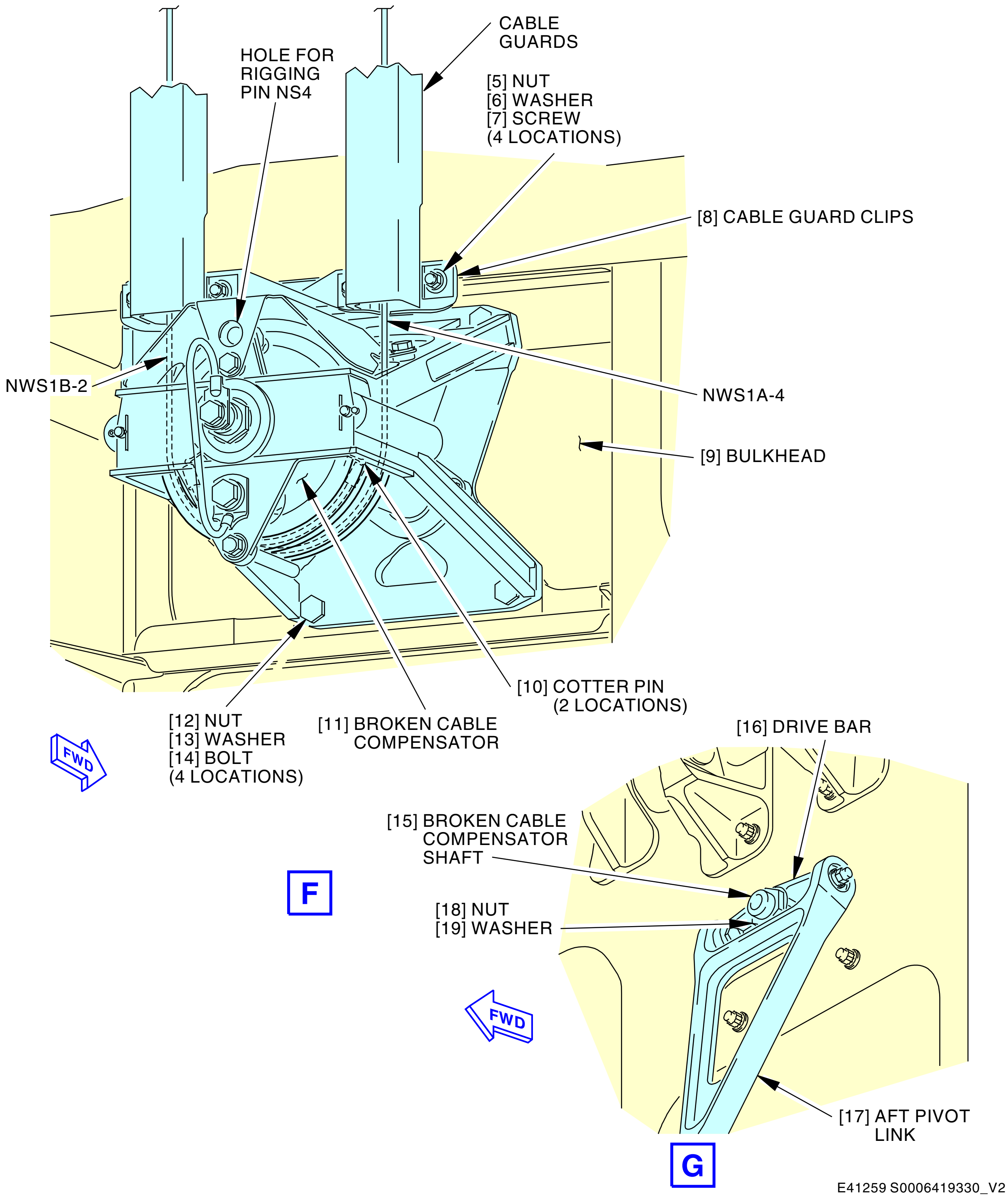
Nose Landing Gear Steering Broken Cable Compensator Installation
Figure 401/32-51-03-990-801 (Sheet 3 of 5)



**Nose Landing Gear Steering Broken Cable Compensator Installation
Figure 401/32-51-03-990-801 (Sheet 4 of 5)**



Nose Landing Gear Steering Broken Cable Compensator Installation
Figure 401/32-51-03-990-801 (Sheet 5 of 5)

TASK 32-51-03-420-801

3. Broken Cable Compensator Installation

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-21-11-000-803	Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage (P/B 201)
32-21-11-400-803	Nose Landing Gear Torsion Link Connection (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1553	Tensiometer - Cable, Low Tension (200 lbs and below) Part #: 102-03108 Supplier: 21844 Part #: 102-03120 Supplier: 21844 Part #: ACX-250 Supplier: 13331 Part #: T60-1001-C8-1A Supplier: 0N8U4 Opt Part #: 102-03110 Supplier: 21844 Opt Part #: ACM-200 Supplier: 13331
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1569	Clamp - Control Cable Part #: A20005-9 Supplier: 81205
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
10	Pin	32-51-03-01-055	ARO ALL
11	Compensator assembly	32-51-03-02-170	ARO ALL
16	Drive bar	32-51-04-01-050	ARO ALL
17	Link assembly	32-51-03-02-190	ARO ALL

E. Location Zones

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
116	Area Outboard and Above Nose Landing Gear Wheel Well, Right
118	Main Equipment Center, Right
211	Flight Compartment, Left
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Access Panels

Number	Name/Location
112AL	Forward Access Door
117AL	Main Equipment Center Access Door

G. Broken Cable Compensator Installation

SUBTASK 32-51-03-480-003

(1) Make sure these rigging pins, which are part of rigging pin set, SPL-2532, are installed:

NOTE: The placard on the inside of the box for the pin set identifies the different rigging pins.

(a) Rigging pin in the captain`s steering tiller drum [3].

(b) Rigging pin in the steering centering mechanism [4].

(c) Rigging pin in the replacement compensator assembly [11].

SUBTASK 32-51-03-100-002

(2) Clean the surfaces on the bulkhead [9] where the compensator assembly [11] will be attached.

SUBTASK 32-51-03-420-001

(3) Do these steps to install the compensator assembly [11]:

(a) Apply sealant, A00247, to the faying surface of the two top feet of the compensator assembly [11].

(b) Apply sealant, A00247, to the faying surface of the housing around the broken cable compensator shaft [15] of the compensator assembly [11] where the shaft goes through the bulkhead [9].

(c) Put the broken cable compensator shaft [15] of the compensator assembly [11] through the bulkhead [9].

(d) Apply sealant, A00247, to the four bolts [14].

(e) Install the bolt [14], washer [13], and nut [12] to connect the compensator assembly [11] to the bulkhead [9].

(f) Tighten the nut [12].

SUBTASK 32-51-03-420-002

WARNING

USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(WARNING PRECEDES)

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(4) Do these steps to connect the link assembly [17] to the broken cable compensator shaft [15] of the compensator assembly [11]:

(a) Apply Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913, to the washer [19], nut [18] and the broken cable compensator shaft [15].

(b) Install the drive bar [16] and link assembly [17] on the broken cable compensator shaft [15].

(c) Install the nut [18] and washer [19].

(d) Tighten the nut [18]:

1) If Cor-Ban 27L Compound, G50237 is used, then tighten to 95 in-lb (11 N·m)-140 in-lb (16 N·m) plus run-on torque.

2) If Mastinox 6856 K, C00913 is used, then tighten to 100 in-lb (11 N·m)-150 in-lb (17 N·m) plus run-on torque.

SUBTASK 32-51-03-420-003

(5) Do these steps to connect the cables NWS1A-4 and NWS1B-2 to the compensator assembly [11]:

(a) Disconnect the control cable clamp, SPL-1569 from the airplane structure.

(b) Remove the control cable clamp, SPL-1569 from the cable.

(c) Connect the control cable to the compensator assembly [11].

(d) Install the pin [10] at the end of the cable in the compensator assembly [11].

(e) Use the low tension cable tensiometer, COM-1553 to tighten the turnbuckle [1] to put tension in the cable (Figure 402).

(f) Install the two turnbuckle locking clips [2] on the turnbuckle [1].

(g) Hold the clip [8] in their position.

(h) Install the screw [7], washer [6], and nut [5].

H. Broken Cable Compensator Installation Test

NOTE: In this test:

Use the position indicator at the base of the Captain's steering tiller to measure the angular position of the steering tiller.

Use the protractor on the steering collar to measure the angular position of the steering collar.

The 0 ° position is referred to as the neutral position.

SUBTASK 32-51-03-710-001

(1) Do the steps below to prepare for the test:

(a) Remove the rigging pin from the captain`s steering tiller drum [3].

(b) Close this access panel:

Number	Name/Location
112AL	Forward Access Door

(c) Remove these rigging pins:

1) The rigging pin from the compensator assembly [11]

2) The rigging pin from the steering centering mechanism [4].

(d) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

(e) Do this task: Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage, TASK 32-21-11-000-803.

(f) Remove the NLG towing lever pin, SPL-1499, from the towing lever.

(g) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

(h) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(i) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-51-03-860-003

(2) Turn the Captain's steering tiller clockwise to its stop and hold it there.

NOTE: You must turn the Captain's steering tiller approximately 350 ° to get to the stop.

SUBTASK 32-51-03-210-002

(3) Make sure the steering collar turns to the right 69 ° to 71 °.

SUBTASK 32-51-03-860-004

(4) Release the Captain's steering tiller.

SUBTASK 32-51-03-210-003

(5) Make sure the Captain's steering tiller moves back to the neutral position without manual help.

SUBTASK 32-51-03-210-004

(6) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

SUBTASK 32-51-03-860-005

(7) Turn the Captain's steering tiller counterclockwise to its stop and hold it there.

NOTE: You must turn the Captain's steering tiller approximately 350 ° to get to the stop.

SUBTASK 32-51-03-210-005

(8) Make sure the steering collar turns to the left 69 ° to 71 °.

SUBTASK 32-51-03-860-006

(9) Release the Captain's steering tiller.

SUBTASK 32-51-03-210-006

(10) Make sure the Captain's steering tiller moves back to the neutral position without manual help.

SUBTASK 32-51-03-210-007

(11) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 32-51-03-860-007

(1) Use the Captain's steering tiller to align the upper torsion link with the lower torsion link.

SUBTASK 32-51-03-860-008

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-51-03-420-004

(3) Do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-11-400-803.

SUBTASK 32-51-03-860-010

WARNING: MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

END OF TASK

TEMPERATURE CORRECTION FACTORS FOR UPPER CABLE LOOP TENSION

TEMPERATURE ˚F (˚C)	CORRECTION FACTOR FOR OUTSIDE TEMPERATURE LBS. (kgs)	CORRECTION FACTOR FOR INSIDE TEMPERATURE LBS. (kgs)
130 (54.4)	24 (10.8)	-12 (-5.4)
120 (48.8)	20 (9.1)	-10 (-4.5)
110 (43.3)	16 (7.3)	-8 (-3.6)
100 (37.7)	12 (5.4)	-6 (-2.7)
90 (32.2)	8 (3.6)	-4 (-1.8)
80 (26.6)	4 (1.8)	-2 (-0.9)
70 (21.1)	0 (0)	0 (0)
60 (15.5)	-4 (-1.8)	2 (0.9)
50 (10)	-8 (-3.6)	4 (1.8)
40 (44)	-12 (-5.4)	6 (2.7)
30 (-1.1)	-16 (-7.3)	8 (3.6)
20 (-6.7)	-20 (-9.1)	10 (4.5)
10 (-12.2)	-24 (-10.8)	12 (5.4)
0 (-17.8)	-28 (-12.7)	14 (6.4)
-10 (-23.3)	-32 (-14.2)	16 (7.3)
-20 (-28.9)	-36 (-16.3)	18 (8.2)
-30 (-34.5)	-40 (-18.4)	20 (9.1)

HOW TO CALCULATE THE CORRECT CABLE TENSION:
· MEASURE THE OUTSIDE TEMPERATURE IN THE NOSE WHEEL WELL
· MEASURE THE INSIDE TEMPERATURE ABOVE THE NOSE WHEEL WELL

CABLE TENSION = [(75 LBS (34 KG) ± OUTSIDE TEMPERATURE CORRECTION FACTOR ± INSIDE TEMPERATURE CORRECTION FACTOR)] ±10 LBS (4.5 KG)

EXAMPLE: IF OUTSIDE TEMPERATURE = 80˚ (26.6), AND INSIDE TEMPERATURE = 100˚;

CABLE TENSION = (75 LBS + 4 LBS - 6 LBS) ±10 LBS = 73 ±10 LBS
= (34 KG + 1.8 KG - 0.9 KG) ± 4.5 KG = 35.7 ± 4.5 KG.

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Nose Landing Gear Steering System - Control Cable Tension
Figure 402/32-51-03-990-802

NOSE LANDING GEAR STEERING PIVOT LINKS - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the pivot links for the steering system for the nose landing gear

(2) An installation of the pivot links for the steering system for the nose landing gear.

B. In this procedure, the pivot links for the steering system are referred to as the forward pivot link [14] and aft pivot link [16].

TASK 32-51-04-020-801

2. Steering Pivot Links Removal

(Figure 401)

A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
118	Main Equipment Center, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. Prepare for the Removal

SUBTASK 32-51-04-480-001

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-51-04-210-001

(2) Make sure the wheels of the nose landing gear are in the centered position.

NOTE: The protractor on the steering collar shows the angular position of the wheels.

SUBTASK 32-51-04-860-001

(3) Move the towing lever, on the forward side of the nose landing gear, to the TOW position.

NOTE: This isolates the steering system for the nose landing gear from hydraulic power.

SUBTASK 32-51-04-480-002

WARNING	ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(4) Install the NLG towing lever pin, SPL-1499, through the towing lever.

NOTE: You use the NLG towing lever pin, SPL-1499, to hold the towing lever in the TOW position.

SUBTASK 32-51-04-860-002

WARNING	MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-51-04-010-001

(6) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-51-04-480-003

(7) Install these rigging pins which are from rigging pin set, SPL-2532:

NOTE: The placard on the inside of the box for the rigging pin set, SPL-2532, identifies the different rigging pins.

(a) Rigging pin NS4 in the broken cable compensator [1].

(b) Rigging pin NS5 in the drum assembly [6] on the gear up centering mechanism [5].

F. Steering Pivot Links Removal

SUBTASK 32-51-04-020-001

(1) Remove the nut [2], washer [3] and bolt [4] that connect the forward pivot link [14] to the drum assembly [6] on the gear up centering mechanism [5].

SUBTASK 32-51-04-020-002

(2) Remove the nut [17] and washer [18] from the broken cable compensator shaft [15].

SUBTASK 32-51-04-000-001

(3) Remove the aft pivot link [16] and drive bar assembly [7].

SUBTASK 32-51-04-020-003

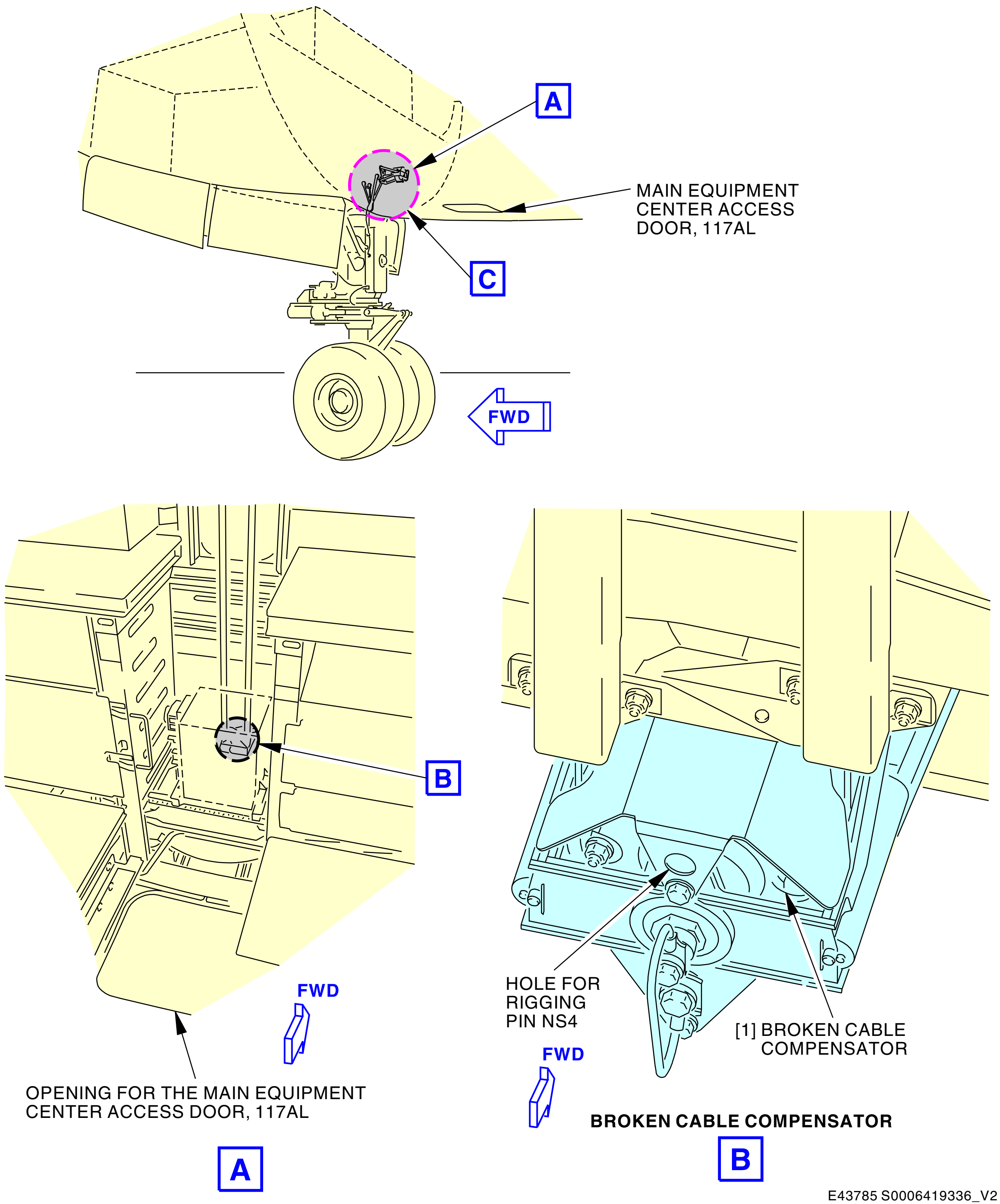
(4) If more disassembly of the pivot links is necessary, do the steps below as appropriate:

(a) Remove the nut [8], washer [9] and bolt [10] that hold the drive bar assembly [7] to the aft pivot link [16].

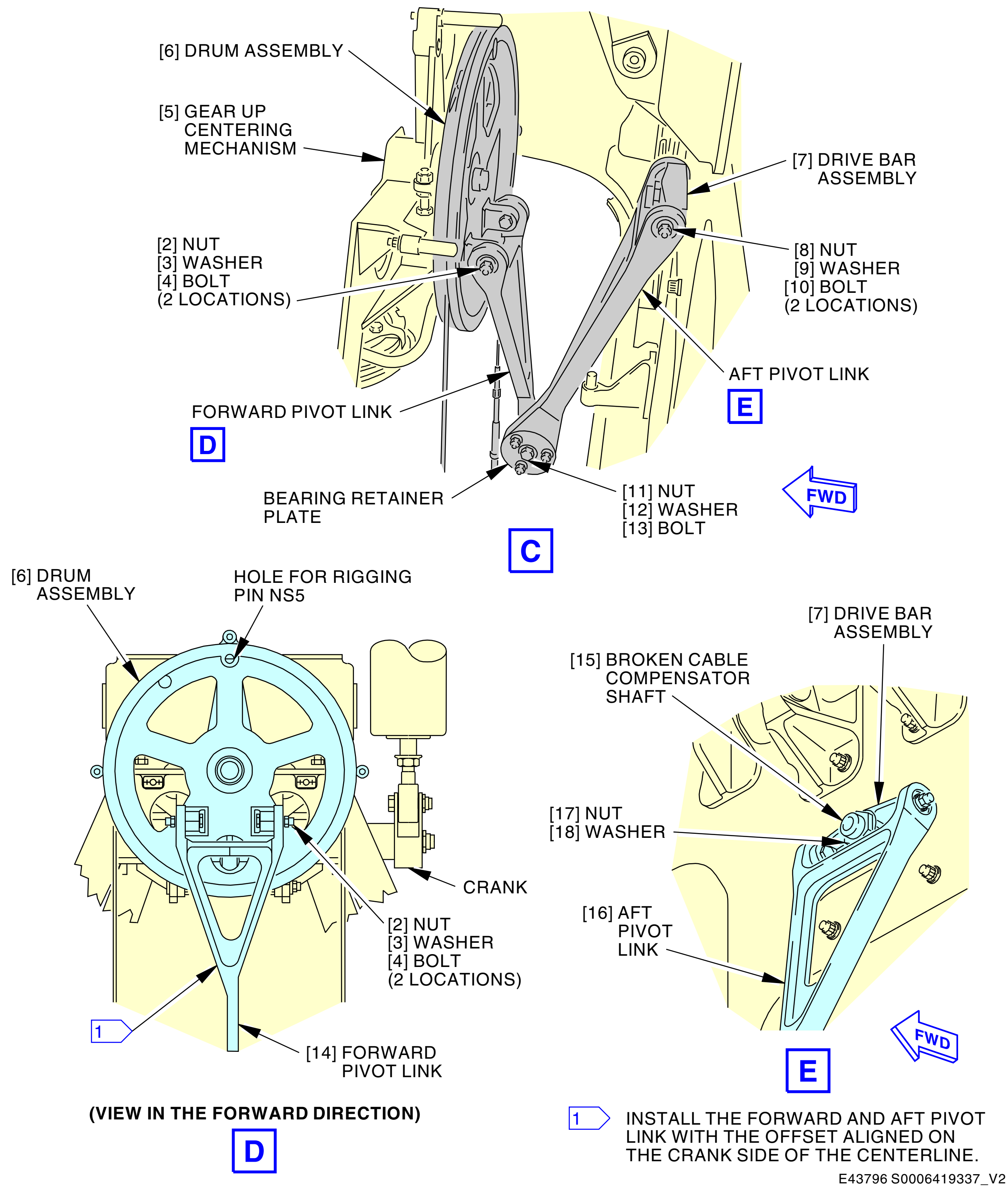
(b) Remove the drive bar assembly [7] from the aft pivot link [16].

(c) Remove the nut [11], washer [12], and bolt [13] to separate the aft pivot link [16] and the forward pivot link [14].

END OF TASK



Nose Landing Gear Steering Pivot Links Installation
Figure 401/32-51-04-990-801 (Sheet 1 of 2)



Nose Landing Gear Steering Pivot Links Installation
Figure 401/32-51-04-990-801 (Sheet 2 of 2)

TASK 32-51-04-420-801

3. Steering Pivot Links Installation

(Figure 401)

A. References

Reference	Title
20-11-00-910-801	Standard Torque Values (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-21-11-000-803	Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage (P/B 201)
32-21-11-400-803	Nose Landing Gear Torsion Link Connection (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
7	Drive bar assembly	32-51-04-01-050	ARO ALL
14	Forward pivot link	32-51-05-02-075	ARO ALL

E. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
118	Main Equipment Center, Right
211	Flight Compartment, Left
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

G. Steering Pivot Links Installation

SUBTASK 32-51-04-210-002

(1) Make sure the wheels of the nose landing gear are in the centered position.

NOTE: The protractor on the steering collar shows the angular position of the wheels.

SUBTASK 32-51-04-480-004

(2) Make sure these rigging pins, which are from rigging pin set, SPL-2532, are installed:

(a) Rigging pin NS4 in the broken cable compensator [1].

(b) Rigging pin NS5 in the drum assembly [6] on the gear up centering mechanism [5].

SUBTASK 32-51-04-420-001

WARNING

DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING

USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(3) If the pivot links were separated, do the steps below to assemble the links:

(a) Apply Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237, to the bolt [13], washer [12] and nut [11] that will connect the forward pivot link [14] and aft pivot link [16].

(b) Install the bolt [13] with the head on the same side as the bearing retainer plate on the aft pivot link [16].

(c) Install the washer [12] and nut [11]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

SUBTASK 32-51-04-420-002

(4) If the drive bar assembly [7] was separated from the aft pivot link [16], do the step below to install the drive bar assembly [7].

(a) Install the bolt [10], washer [9] and nut [8] that attach the aft pivot link [16] to the drive bar assembly [7].

SUBTASK 32-51-04-420-003

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(5) Do the steps below to install the aft pivot link [16] on the mating splines of the broken cable compensator shaft [15]:

NOTE: The offset on the aft pivot link [16] must be on the opposite side of the crank for the spring cartridge.

(a) Apply Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237 to the splines of the broken cable compensator shaft [15] and the mating splines of the drive bar assembly [7].

(b) Install the drive bar assembly [7] on the broken cable compensator shaft [15]

(c) Apply Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237 to the nut [17] and washer [18].

(d) Install the nut [17] and washer [18].

1) If using Mastinox 6856 K, C00913, tighten the nut [17] to 100 in-lb (11 N·m)-150 in-lb (17 N·m) plus run-on torque.

2) If using Cor-Ban 27L Compound, G50237, tighten the nut [17] to 95 in-lb (11 N·m)-140 in-lb (16 N·m) plus run-on torque.

SUBTASK 32-51-04-420-004

(6) Do the steps below to connect the forward pivot link [14] to the drum assembly [6] on the gear up centering mechanism [5]:

NOTE: Make sure the offset on the forward pivot link is aligned on the crank side of the centerline as shown in the illustration.

(a) Hold the forward pivot link [14] in its position on the drum assembly [6].

(b) Install the bolt [4], washer [3] and nut [2] that attach the forward pivot link [14] to the drum assembly [6].

(c) Tighten the nut [2] to 20 in-lb (2 N·m)-50 in-lb (6 N·m) plus run-on torque.

H. Steering Pivot Links Installation Test

NOTE: In this test:

Use the position indicator at the base of the Captain's steering tiller to measure the angular position of the steering tiller.

Use the protractor on the steering collar to measure the angular position of the steering collar.

The 0 ° position is referred to as the neutral position.

SUBTASK 32-51-04-710-001

(1) Do the steps below to prepare for the test:

(a) Remove these rigging pins which are from rigging pin set, SPL-2532:

1) The rigging pin from the broken cable compensator [1].

2) The rigging pin from the gear up centering mechanism [5].

(b) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

(c) Do this task: Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage, TASK 32-21-11-000-803.

(d) Remove the NLG towing lever pin, SPL-1499, from the towing lever.

(e) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

(f) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(g) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-51-04-860-003

(2) Turn the Captain's steering tiller clockwise to its stop and hold it there.

NOTE: You must turn the Captain's steering tiller approximately 350 ° to get to the stop.

SUBTASK 32-51-04-210-003

(3) Make sure the steering collar turns to the right 69 ° to 71 °.

SUBTASK 32-51-04-860-004

(4) Release the Captain's steering tiller.

SUBTASK 32-51-04-210-004

(5) Make sure the Captain's steering tiller moves back to the neutral position without manual help.

SUBTASK 32-51-04-210-005

(6) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

SUBTASK 32-51-04-860-005

(7) Turn the Captain's steering tiller counterclockwise to its stop and hold it there.

NOTE: You must turn the Captain's steering tiller approximately 350 ° to get to the stop.

SUBTASK 32-51-04-210-006

(8) Make sure the steering collar turns to the left 69 ° to 71 °.

SUBTASK 32-51-04-860-006

(9) Release the Captain's steering tiller.

SUBTASK 32-51-04-210-007

(10) Make sure the Captain's steering tiller moves back to the neutral position without manual help.

SUBTASK 32-51-04-210-008

(11) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

SUBTASK 32-51-04-860-007

(12) Push the Captain's right rudder pedal to its stop and hold it there.

NOTE: Do not hold the Captain's or the First Officer's steering tiller when you do this.

SUBTASK 32-51-04-210-009

(13) Make sure the steering collar turns to the right 6 ° to 9 °.

SUBTASK 32-51-04-860-008

(14) Release the Captain's right rudder pedal.

SUBTASK 32-51-04-210-010

(15) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

SUBTASK 32-51-04-860-009

(16) Push the Captain's left rudder pedal to its stop and hold it there.

NOTE: Do not hold the Captain's or the First Officer's steering tiller when you do this.

SUBTASK 32-51-04-210-011

(17) Make sure the steering collar turns to the left 6 ° to 9 °.

SUBTASK 32-51-04-860-010

(18) Release the Captain's left rudder pedal.

SUBTASK 32-51-04-210-012

(19) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 32-51-04-860-011

(1) Use the Captain's steering tiller to align the upper torsion link with the lower torsion link.

SUBTASK 32-51-04-860-012

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-51-04-420-005

(3) Do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-11-400-803.

SUBTASK 32-51-04-860-014

WARNING MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

END OF TASK

NOSE LANDING GEAR STEERING GEAR UP CENTERING MECHANISM - REMOVAL/INSTALLATION

1. **General**
   A. This procedure has two tasks:
      (1) A removal of the gear up centering mechanism for the steering system for the nose landing gear
      (2) An installation of the gear up centering mechanism for the steering system for the nose landing gear.

TASK 32-51-05-000-801

2. **Gear Up Centering Mechanism Removal**
   (Figure 401)

   A. **References**

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)

   B. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1569	Clamp - Control Cable Part #: A20005-9 Supplier: 81205
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

   C. **Location Zones**

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
118	Main Equipment Center, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

   D. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door

E. Prepare for the Removal

SUBTASK 32-51-05-480-001

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-51-05-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Open the doors for the landing gear and do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-51-05-210-001

(3) Make sure the wheels of the nose landing gear are in the centered position (Figure 402).

NOTE: There are two scales with graduations on the steering collar. When the wheels of the nose landing gear are turned 0 °, the scales are on the left and right side of the airplane. There are also three arrows on the lower support plate for the steering actuators. The arrows are on the left, aft, and right sides of the support plate. The wheels of the nose landing gear are in the centered position when the 0 ° graduation on the left and right scales is aligned with the left and right arrow, respectively, on the support plate.

SUBTASK 32-51-05-860-001

(4) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-51-05-860-002

(5) Move the towing lever, on the forward side of the nose landing gear, to the TOW position.

NOTE: This isolates the steering system for the nose landing gear from hydraulic power.

SUBTASK 32-51-05-480-002

WARNING	ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(6) Install the NLG towing lever pin, SPL-1499, through the towing lever.

NOTE: You use the NLG Towing Lever Lock Pin to hold the towing lever in the TOW position.

SUBTASK 32-51-05-010-002

(7) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-51-05-860-003

WARNING	MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(8) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-51-05-480-003

(9) Install these rigging pins from rigging pin set, SPL-2532:

NOTE: The placard on the inside of the box for the Rigging Pin Set identifies the different rigging pins.

(a) Rigging pin NS4 in the broken cable compensator [1].

(b) Rigging pin NS5 in the drum assembly [5] on the gear up centering mechanism [7].

(c) Rigging pin NS6 in the summing mechanism [2].

F. Gear Up Centering Mechanism Removal

SUBTASK 32-51-05-020-001

(1) Remove the bolt [4] from the cover assembly [3].

SUBTASK 32-51-05-010-003

(2) Remove the cover assembly [3].

SUBTASK 32-51-05-020-002

(3) Do the steps below for the two cables NWS2A and NWS2B to disconnect them from the drum assembly [5] on the gear up centering mechanism [7]:

(a) Remove the two turnbuckle locking clips [8] from the turnbuckle [9].

(b) Remove the cotter pin [6], at the end of the cable, from the drum assembly [5].

(c) Disconnect the cable from the drum assembly [5] on the gear up centering mechanism [7].

(d) Attach a control cable clamp, SPL-1569, to the cable.

(e) Attach the opposite end of the control cable clamp, SPL-1569, to a piece of the airplane structure to make sure the cable has tension in it.

NOTE: This is necessary to keep the cable on the pulleys.

SUBTASK 32-51-05-020-003

(4) Remove the nuts [11], washers [12], and bolts [13] that connect the forward pivot link [10] to the drum assembly [5] on the gear up centering mechanism [7].

SUBTASK 32-51-05-020-004

(5) Remove the nut [22], washer [24], bushing [26], and bolt [27] that connects the spring cartridge [16] to the gear up centering mechanism [7].

SUBTASK 32-51-05-020-005

(6) Remove the nuts [21], washers [19], washers [20], and bolts [18] from the two forward base fittings on the gear up centering mechanism [7].

SUBTASK 32-51-05-020-006

(7) Remove the nut [21], washer [19], washer [20], and bolt [23] from the right aft base fitting on the gear up centering mechanism [7].

SUBTASK 32-51-05-020-007

(8) For the left aft base fitting do the steps that follow:

(a) Remove the nut [21], washer [19], washer [20], and bolt [35].

(b) Remove the nuts [28], washers [33], and screws [32] from the clip [34].

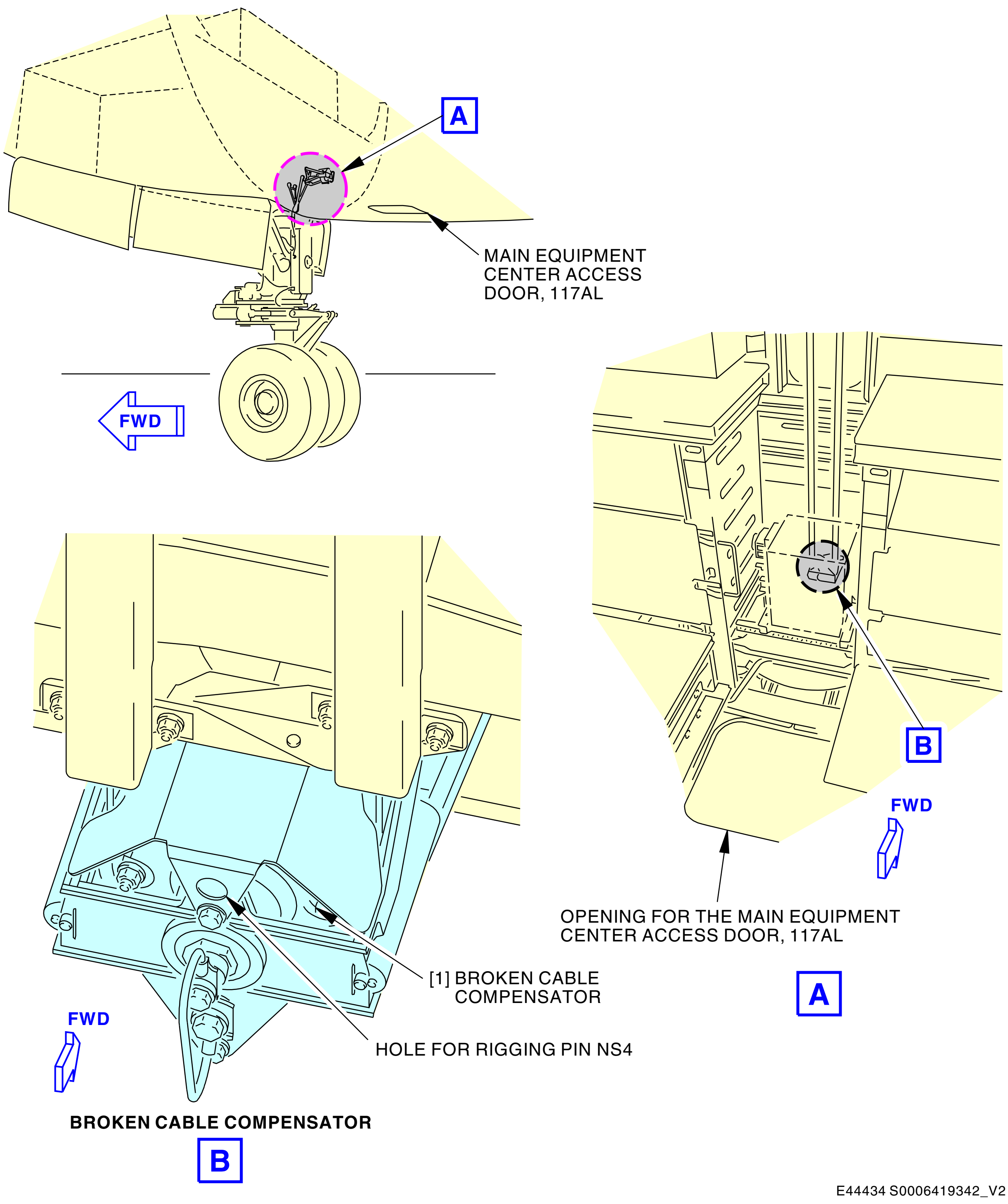
(c) Remove the clip [34] and washers [31].

(d) Remove the screws [30] and washers [36] from the bracket [29].

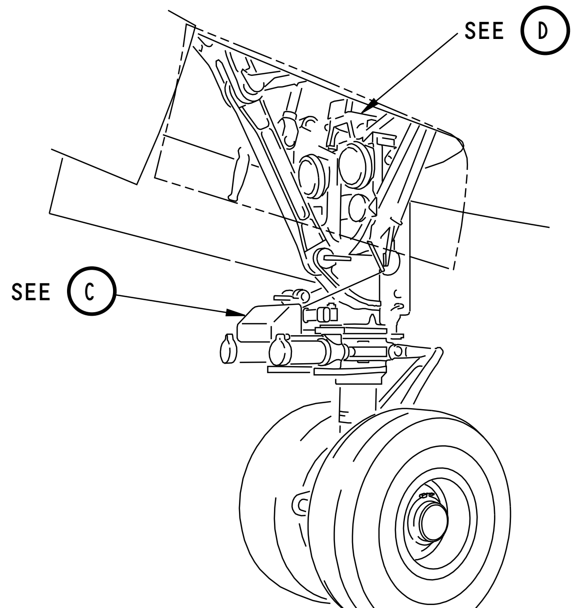
SUBTASK 32-51-05-020-008

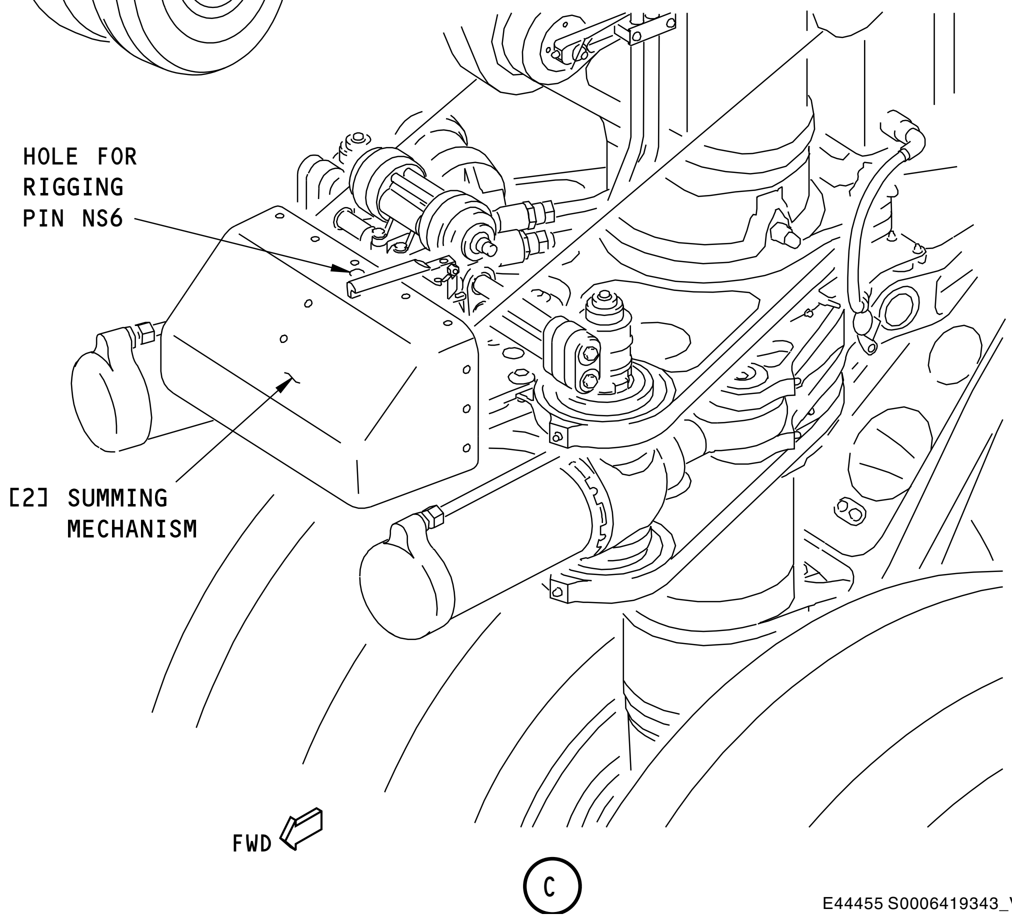
(9) Remove the gear up centering mechanism [7].

END OF TASK



Nose Landing Gear Steering Gear Up Centering Mechanism Installation
Figure 401/32-51-05-990-801 (Sheet 1 of 6)





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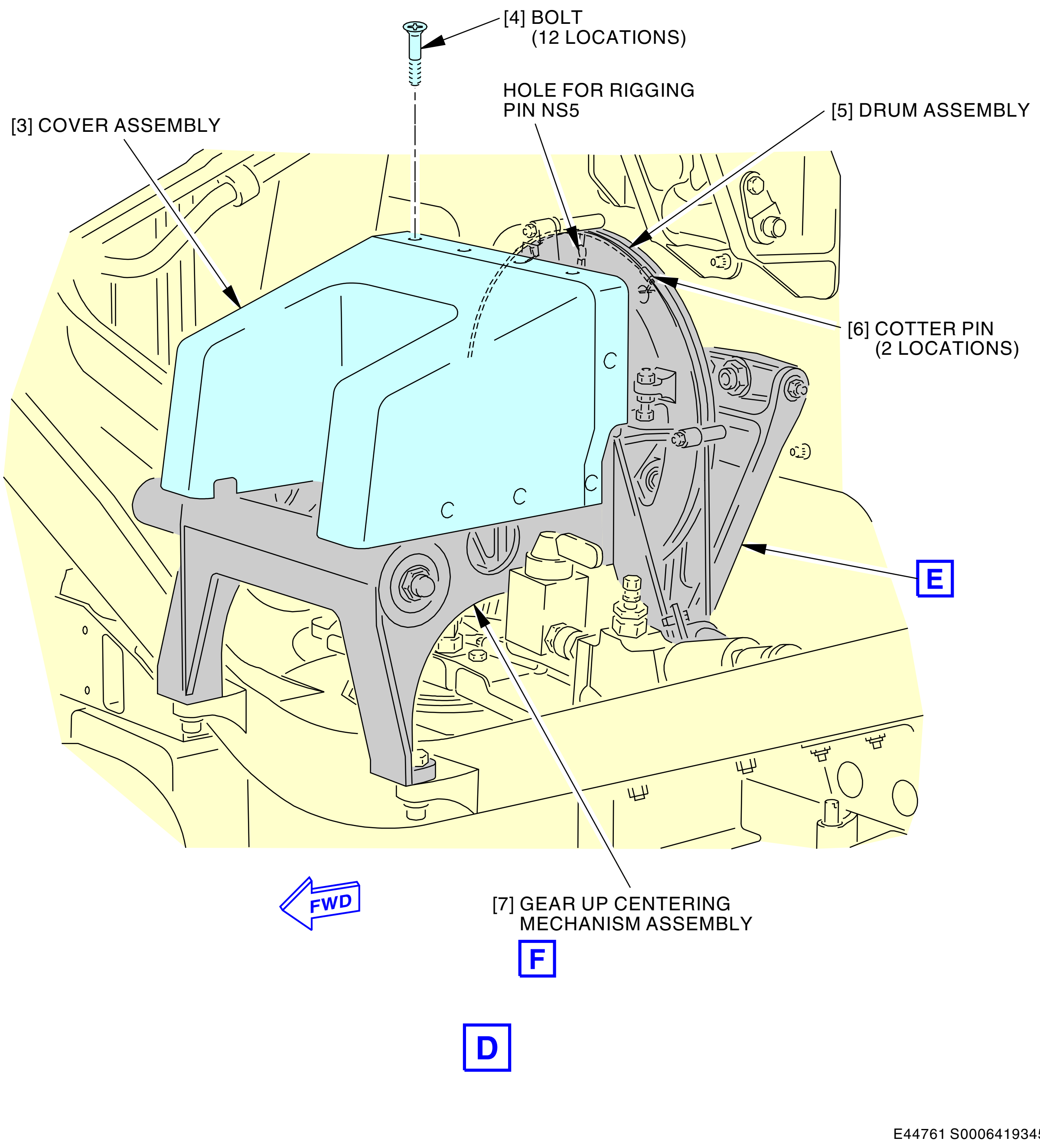
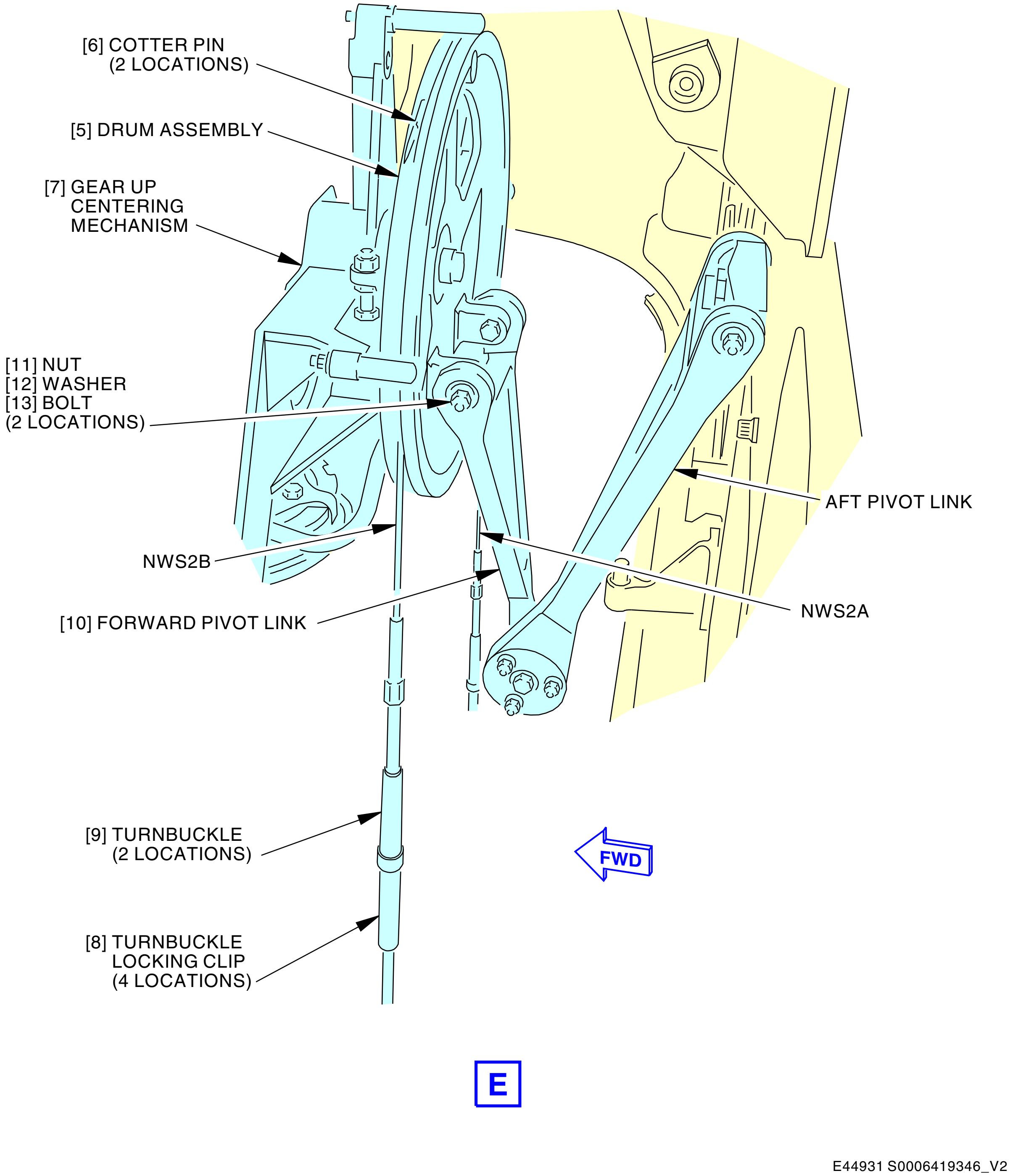
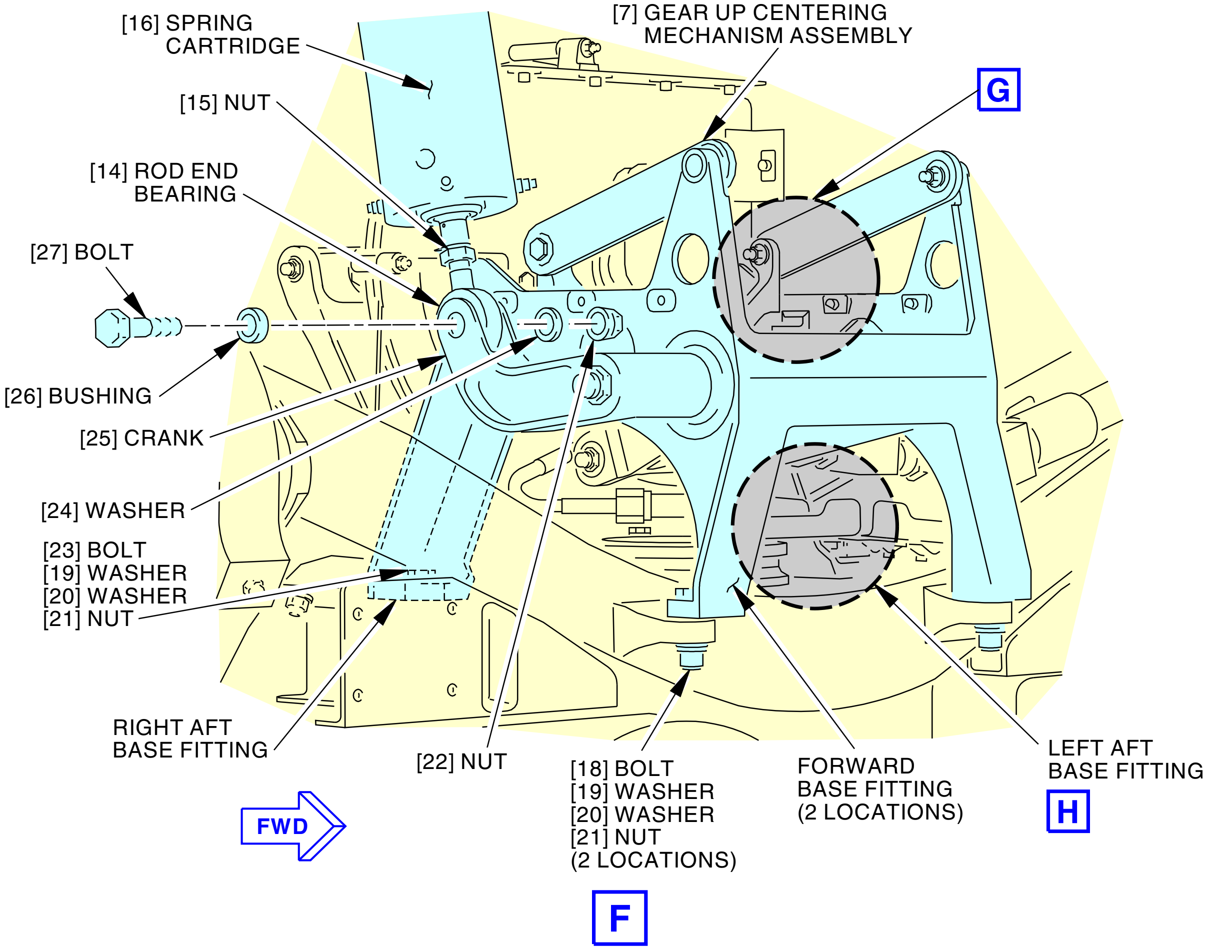
Nose Landing Gear Steering Gear Up Centering Mechanism Installation
Figure 401/32-51-05-990-801 (Sheet 2 of 6)

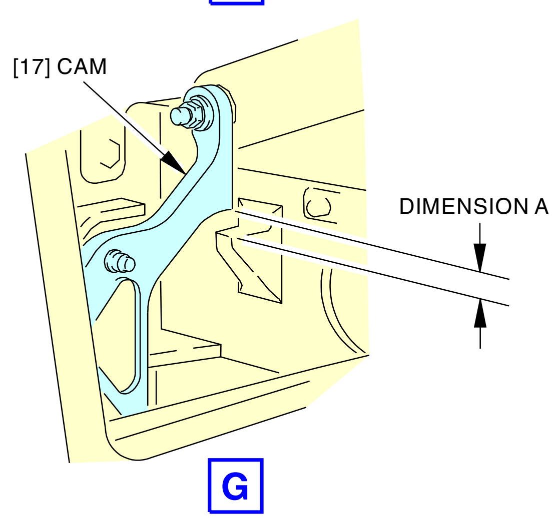


Nose Landing Gear Steering Gear Up Centering Mechanism Installation
Figure 401/32-51-05-990-801 (Sheet 3 of 6)



Nose Landing Gear Steering Gear Up Centering Mechanism Installation
Figure 401/32-51-05-990-801 (Sheet 4 of 6)





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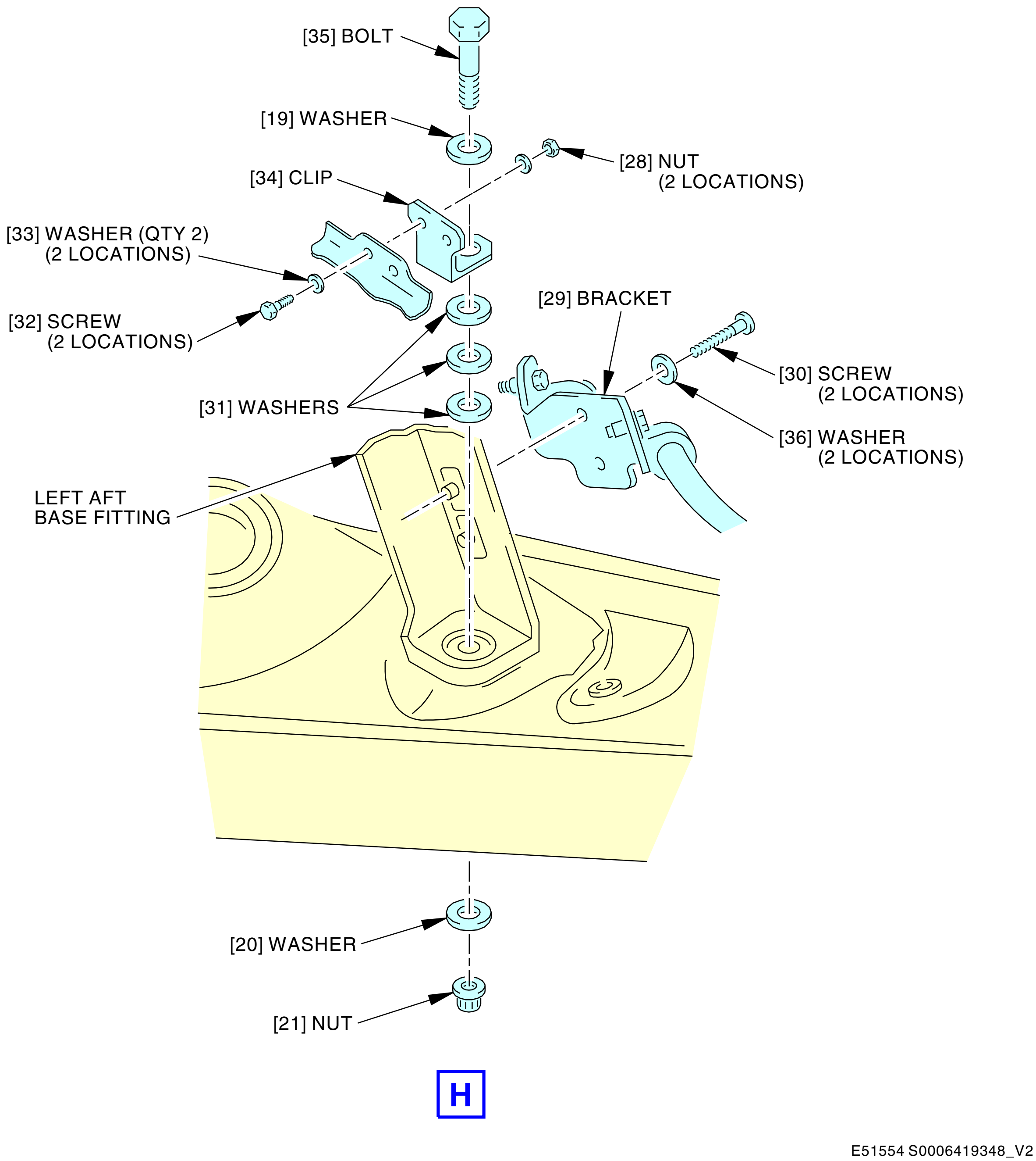
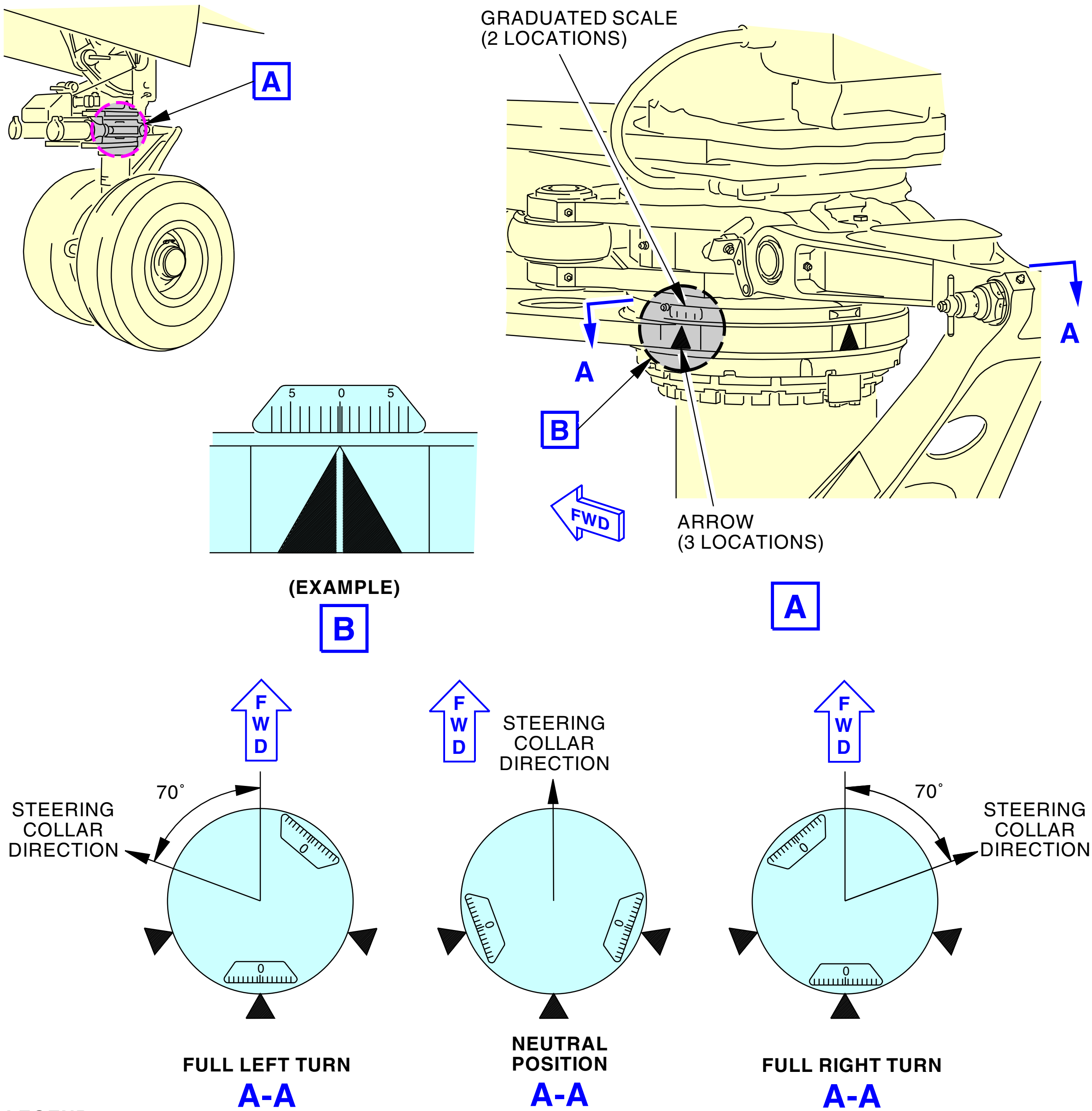
Nose Landing Gear Steering Gear Up Centering Mechanism Installation
Figure 401/32-51-05-990-801 (Sheet 5 of 6)



Nose Landing Gear Steering Gear Up Centering Mechanism Installation
Figure 401/32-51-05-990-801 (Sheet 6 of 6)



LEGEND:

GRADUATED SCALE

ARROW

NOTE:

FOR A FULL LEFT TURN OR A FULL RIGHT TURN THE ZERO GRADUATION ON THE APPLICABLE GRADUATED SCALE ALIGNS WITH THE AFT ARROW.

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Nose Landing Gear Steering Angle Indication
Figure 402/32-51-05-990-802

TASK 32-51-05-400-801

3. Gear Up Centering Mechanism Installation

(Figure 401)

A. References

Reference	Title
07-11-01-580-805	Lower the Airplane Off of the Jacks (P/B 201)
07-11-02-580-801	Lift the Airplane Nose on Jacks (P/B 201)
20-11-00-910-801	Standard Torque Values (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-21-11-000-803	Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage (P/B 201)
32-21-11-400-803	Nose Landing Gear Torsion Link Connection (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1553	Tensiometer - Cable, Low Tension (200 lbs and below) Part #: 102-03108 Supplier: 21844 Part #: 102-03120 Supplier: 21844 Part #: ACX-250 Supplier: 13331 Part #: T60-1001-C8-1A Supplier: 0N8U4 Opt Part #: 102-03110 Supplier: 21844 Opt Part #: ACM-200 Supplier: 13331
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1569	Clamp - Control Cable Part #: A20005-9 Supplier: 81205
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Cover assembly	32-51-03-02-220	ARO ALL

(Continued)

AMM Item	Description	AIPC Reference	AIPC Effectivity
6	Pin	32-51-03-02-565	ARO ALL
7	Gear up centering mechanism	32-51-05-03-005	ARO ALL

E. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
118	Main Equipment Center, Right
211	Flight Compartment, Left
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

G. Gear Up Centering Mechanism Installation

(Figure 401)

SUBTASK 32-51-05-480-004

(1) Make sure these rigging pins from rigging pin set, SPL-2532, are installed:

NOTE: The placard on the inside of the box for the Rigging Pin Set identifies the different rigging pins.

(a) Rigging pin NS4 in the broken cable compensator [1].

(b) Rigging pin NS5 in the drum assembly [5] on the gear up centering mechanism [7].

(c) Rigging pin NS6 in the summing mechanism [2].

SUBTASK 32-51-05-420-001

(2) Do the steps that follow to install the steering gear up centering mechanism [7] on the nose landing gear:

(a) Put the gear up centering mechanism [7] in its position on the nose landing gear.

(b) Install the screws [30] and washers [36] to attach the bracket [29] to the left aft base fitting.

(c) Install the washers [31] and clip [34] on the left aft base fitting.

(d) Install the screws [32], washers [33], and nuts [28].

WARNING

DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(WARNING PRECEDES)

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(e) Apply Mastinox 6856 K, C00913, or Cor-Ban 27L Compound, G50237, to the bolts [18], bolt [23], and bolt [35], and to the washers [19], washers [20], and washers [31], and to the nuts [21].

(f) Install the bolt [23], bolt [35], washers [19], washers [20], and nuts [21] in the two aft base fittings of the gear up centering mechanism [7].

(g) Do not tighten the fasteners yet.

(h) Install the bolt [18], washer [19], washer [20] and nut [21] in the forward fitting of the gear up centering mechanism [7] that has the smallest clearance.

(i) Do not tighten the fasteners yet.

(j) Make sure the clearance at the other forward fitting is not more than 0.10 in. (2.54 mm).

(k) If the clearance at the forward fitting with the largest clearance is more than 0.10 in. (2.54 mm) add shim to the fitting to make the fitting level.

NOTE: Remove laminates on the shim as necessary to get a 0.005 in. (0.127 mm) or less clearance before you tighten the bolt [18].

(l) Install the bolt [18], washer [19], washer [20] and nut [21] in the second forward fitting of the gear up centering mechanism [7].

(m) Tighten the nuts [21] on the forward and aft base fittings of the gear up centering mechanism [7] (TASK 20-11-00-910-801).

SUBTASK 32-51-05-420-002

(3) Do the steps below for the two cables NWS2A and NWS2B to connect them to the drum assembly [5] on the gear up centering mechanism [7]:

(a) Disconnect the control cable clamp, SPL-1569, from the airplane structure.

(b) Remove the control cable clamp, SPL-1569, from the cable.

(c) Connect the cable to the drum assembly [5] on the gear up centering mechanism [7].

(d) Install the cotter pin [6] at the end of the cable on the drum assembly [5].

(e) Tighten the turnbuckle [9] to put 60 ±10 lbf (267 ±45 N) tension in the cable. Use the low tension cable tensiometer, COM-1553, to measure cable tension.

(f) Install the two turnbuckle locking clips [8] on the turnbuckle [9] (Figure 401).

SUBTASK 32-51-05-420-003

(4) Install the bolts [13], washers [12], and nuts [11] to connect the forward pivot link [10] to the drum assembly [5] on the gear up centering mechanism [7].

SUBTASK 32-51-05-420-004

(5) Do the steps that follow to connect the spring cartridge [16] to the gear up centering mechanism [7]:

WARNING

DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING

USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(a) Apply Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237, to the bolt [27], washer [24], and nut [22].

(b) Install the bolt [27], bushing [26], washer [24], and nut [22] to connect the spring cartridge [16] to the crank [25] on the gear up centering mechanism [7] (TASK 20-11-00-910-801).

(c) Make sure dimension "A" (Figure 401) is as follows:

1) If the airplane is on the ground, 0.29 in. (7.37 mm) to 0.35 in. (8.89 mm).

2) If the airplane is on jacks, 0.33 in. (8.38 mm) to 0.37 in. (9.40 mm).

SUBTASK 32-51-05-820-001

(6) If dimension "A" is not correct, do the steps below to adjust the spring cartridge [16]:

(a) Loosen the nut [15].

(b) Remove the nut [22] and the washer [24] from the bolt [27].

(c) Remove the bolt [27], with the bushing [26], from the rod end bearing [14] and the crank [25].

(d) Turn the crank [25] until dimension "A" is correct.

NOTE: You must hold the crank [25] in this position until the rod end bearing [14] is adjusted.

(e) Adjust the rod end bearing [14] so that, when it is connected to the crank [25], it holds the cam [17] in a position where dimension "A" is correct.

NOTE: You turn the rod end bearing [14] to adjust its length.

WARNING

DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(WARNING PRECEDES)

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(f) Apply Mastinox 6856 K, C00913, or Cor-Ban 27L Compound, G50237, to the threads and shank of the bolt [27].

(g) Install the bolt [27] and the bushing [26] through the crank [25] and the rod end bearing [14].

(h) Measure dimension "A" again and make sure it is correct.

(i) Install the washer [24] and the nut [22] on the bolt [27].

(j) Tighten the nut [22] and install lockwire (TASK 20-11-00-910-801).

SUBTASK 32-51-05-410-001

(7) Install the cover assembly [3] and the bolts [4].

H. Gear Up Centering Mechanism Installation Test

NOTE: In this test:

Use the position indicator at the base of the Captain's steering tiller to measure the angular position of the steering tiller.

The 0 ° position is referred to as the neutral position.

SUBTASK 32-51-05-860-004

(1) Do the steps below to prepare for the test:

(a) Remove these rigging pins:

NOTE: The placard on the inside of the box for the Rigging Pin Set identifies the different rigging pins.

1) Rigging pin NS4 from the broken cable compensator [1].

2) Rigging pin NS5 from the gear up centering mechanism [7].

3) Rigging pin NS6 from the summing mechanism [2].

(b) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

(c) Do this task: Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage, TASK 32-21-11-000-803.

(d) Remove the NLG towing lever pin, SPL-1499, from the towing lever.

(e) Make sure the control lever for the landing gear is in the DOWN position.

(f) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

(g) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

(h) Move the towing lever to the TOWING position.

WARNING	ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(i) Install the NLG towing lever pin, SPL-1499, through the towing lever.

SUBTASK 32-51-05-700-001

(2) Do the steps that follow for a check of nose gear steering clearances:

(a) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Use the top torsion link to turn the steering collar in the direction of a right turn (clockwise) until the steering actuators reach the end of their travel. This will backdrive the nose gear steering system.

(c) Make sure the steering collar moves at least 71 ° from neutral.

(d) Make sure the cables, turnbuckles, pulleys, quadrants, summing mechanism, tiller and steering actuators all move freely.

(e) Make sure there is no binding, galling or interference during travel.

(f) Move the steering collar to the neutral position.

(g) Use the top torsion link to turn the steering collar in the direction of a left turn (counterclockwise) until the steering actuators reach the end of their travel. This will backdrive the nose gear steering system.

(h) Make sure the steering collar moves at least 71 ° from neutral.

(i) Make sure the cables, turnbuckles, pulleys, quadrants, summing mechanism, tiller and steering actuators all move freely.

(j) Make sure there is no binding, galling or interference during travel.

(k) Move the steering collar to the neutral position.

SUBTASK 32-51-05-710-001

(3) Do the steps that follow to do a check of system travel and rate:

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Remove the NLG towing lever pin, SPL-1499, from the towing lever.

(c) Make sure the towing lever moves to the NORMAL position.

(d) Turn the Captain's steering tiller clockwise to its stop and hold it there.

NOTE: You must turn the Captain's steering tiller approximately 350 ° to get to the stop.

(e) Make sure the steering collar turns to the right 69 ° to 71 °.

(f) Release the Captain's steering tiller.

(g) Make sure the Captain's steering tiller moves back to the neutral position in 4 seconds or less without manual help.

(h) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

(i) Turn the Captain's steering tiller counterclockwise to its stop and hold it there.

NOTE: You must turn the Captain's steering tiller approximately 350 ° to get to the stop.

(j) Make sure the steering collar turns to the left 69 ° to 71 °.

(k) Release the Captain's steering tiller.

(l) Make sure the Captain's steering tiller moves back to the neutral position in 4 seconds or less without manual help.

(m) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

(n) Make sure there are no hydraulic leaks at the steering metering valve.

WARNING	ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(o) Move the towing lever to the TOWING position and install the NLG towing lever pin, SPL-1499.

SUBTASK 32-51-05-720-001

(4) Do the steps that follow to make sure the gear up centering mechanism operates correctly:

(a) Use the Captain's steering tiller to align the upper torsion link with the lower torsion link.

(b) Do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-11-400-803.

(c) Do this task: Lift the Airplane Nose on Jacks, TASK 07-11-02-580-801.

(d) For the nose landing gear doors, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(e) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(f) Push the Captain's right rudder pedal to the stop and hold it there.

(g) Make sure the nose landing gear turned right from neutral.

(h) Move the control lever for the landing gear to the UP position.

(i) Make sure the nose landing gear automatically goes to the neutral position before the landing gear moves approximately 5 degrees from the fully down position.

NOTE: The force necessary to hold the rudder pedal can increase during landing gear retraction.

(j) Release the Captain's right rudder pedal and let it go to the neutral position.

(k) Move the control lever for the landing gear to the DOWN position.

(l) Make sure the nose landing gear is within 1.5 degrees of the neutral position on the graduated scale.

(m) Push the Captain's left rudder pedal to the stop and hold it there.

(n) Make sure the nose landing gear turned left from neutral.

(o) Move the control lever for the landing gear to the UP position.

(p) Make sure the nose landing gear automatically goes to the neutral position before the landing gear moves approximately 5 degrees from the fully down position.

NOTE: The force necessary to hold the rudder pedal can increase during landing gear retraction.

(q) Release the Captain's left rudder pedal and let it go to the neutral position.

(r) Move the control lever for the landing gear to the DOWN position.

(s) Make sure the nose landing gear is within 1.5 degrees of the neutral position on the graduated scale.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 32-51-05-480-005

(1) For the nose landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-51-05-580-001

(2) Do this task: Lower the Airplane Off of the Jacks, TASK 07-11-01-580-805.

SUBTASK 32-51-05-860-005

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-51-05-860-007

WARNING: MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

——— END OF TASK ———

NOSE LANDING GEAR STEERING SUMMING MECHANISM - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the summing mechanism for the steering system for the nose landing gear

(2) An installation of the summing mechanism for the steering system for the nose landing gear.

TASK 32-51-06-020-801

2. Summing Mechanism Removal

(Figure 401, Figure 402)

A. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for the Removal

SUBTASK 32-51-06-480-001

WARNING: MAKE SURE THAT YOU INSTALL THE DOWNLOCK PINS ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-51-06-210-001

(2) Make sure the wheels of the nose landing gear are in the centered position (Figure 402).

NOTE: The graduated scales on the steering collar and arrows on the lower plate show the angular position of the wheels when the torsion links are connected.

SUBTASK 32-51-06-860-001

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-51-06-860-002

(4) Move the towing lever, on the forward side of the nose landing gear, to the TOW position.

NOTE: This isolates the steering system for the nose landing gear from hydraulic power.

SUBTASK 32-51-06-480-002

WARNING	ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(5) Install the NLG towing lever pin, SPL-1499, through the towing lever.

NOTE: You use the NLG Towing Lever Lock Pin to hold the towing lever in the TOW position.

SUBTASK 32-51-06-860-003

WARNING	MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-51-06-010-001

(7) Remove the bolt [4] that attach the summing mechanism cover assembly [5] to the summing mechanism assembly.

SUBTASK 32-51-06-010-002

(8) Remove the summing mechanism cover assembly [5].

SUBTASK 32-51-06-480-003

(9) Install these rigging pins from rigging pin set, SPL-2532:

NOTE: The placard on the inside of the box for the rigging pin set identifies the different rigging pins.

(a) Rigging pin NS5 in the gear up centering mechanism.

(b) Rigging pin NS7 in the steering metering valve [8].

E. Nose Landing Gear Steering Summing Mechanism Removal

SUBTASK 32-51-06-020-001

(1) Remove the locking clip [7] and loosen the cables NWS2A and NWS2B at the turn buckles [6].

SUBTASK 32-51-06-020-002

(2) Remove the nut [19], washer [11], bushing [18], and bolt [17] to remove the pulley [25] from the pulley bracket [3] on the two ends of the summing lever [1].

SUBTASK 32-51-06-020-003

(3) Remove the nut [12], washer [11],bushing [20], bolt [21] and washer [27] to disconnect the rod [2] from the summing lever [1].

SUBTASK 32-51-06-020-004

(4) Remove the nut [12], nut [15], washer [11], washer [14], bushing [13], bushing [16], bolt [9], bolt [10], washer [26] and washer [27] to disconnect the summing lever [1] from the plate [22].

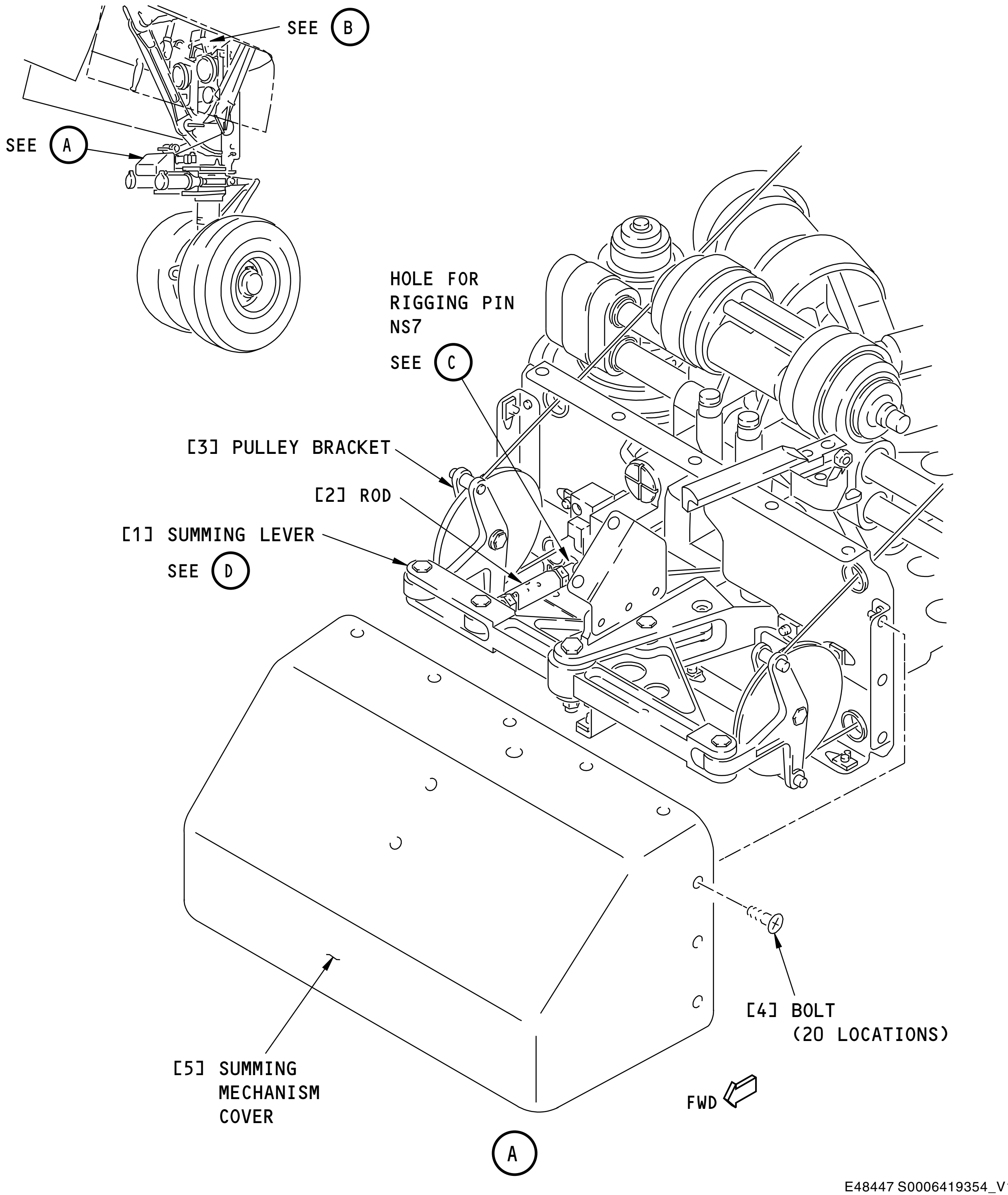
SUBTASK 32-51-06-000-001

(5) Remove the summing lever [1].

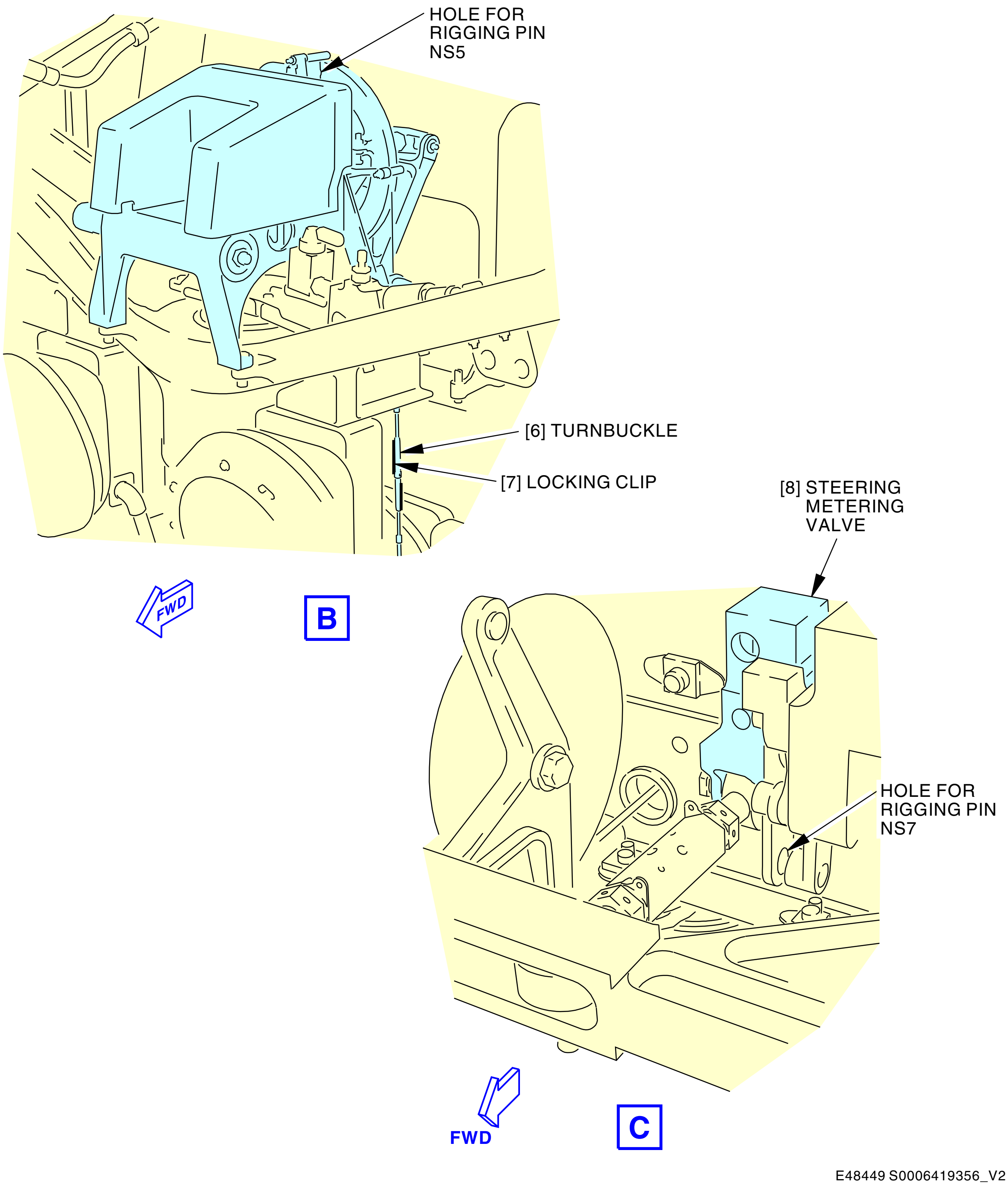
SUBTASK 32-51-06-020-005

(6) If it is necessary to remove the pulley brackets [3] from the summing lever [1] remove the nut [12], washer [11], bushing [20], bolt [21] and washer [29].

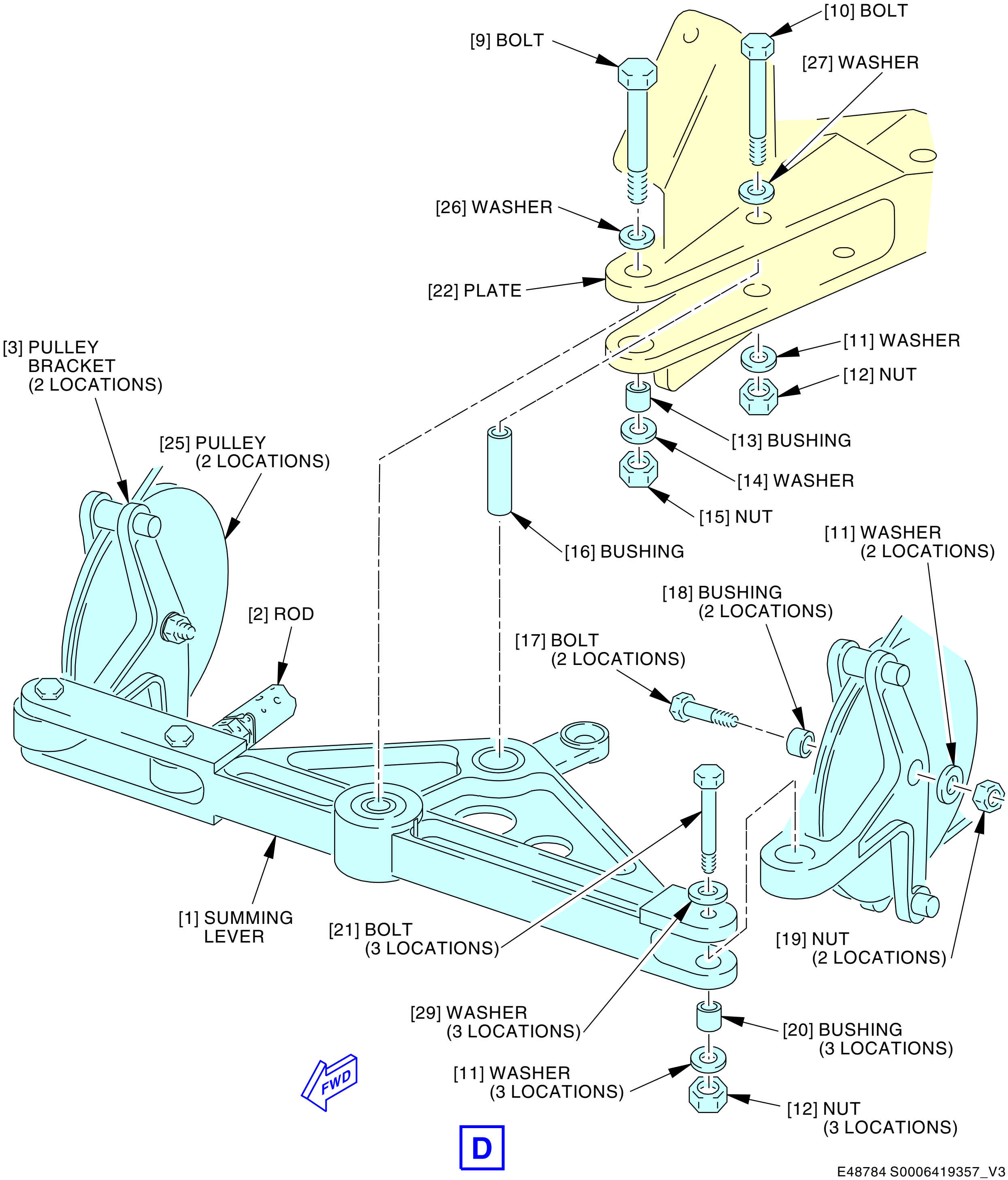
END OF TASK



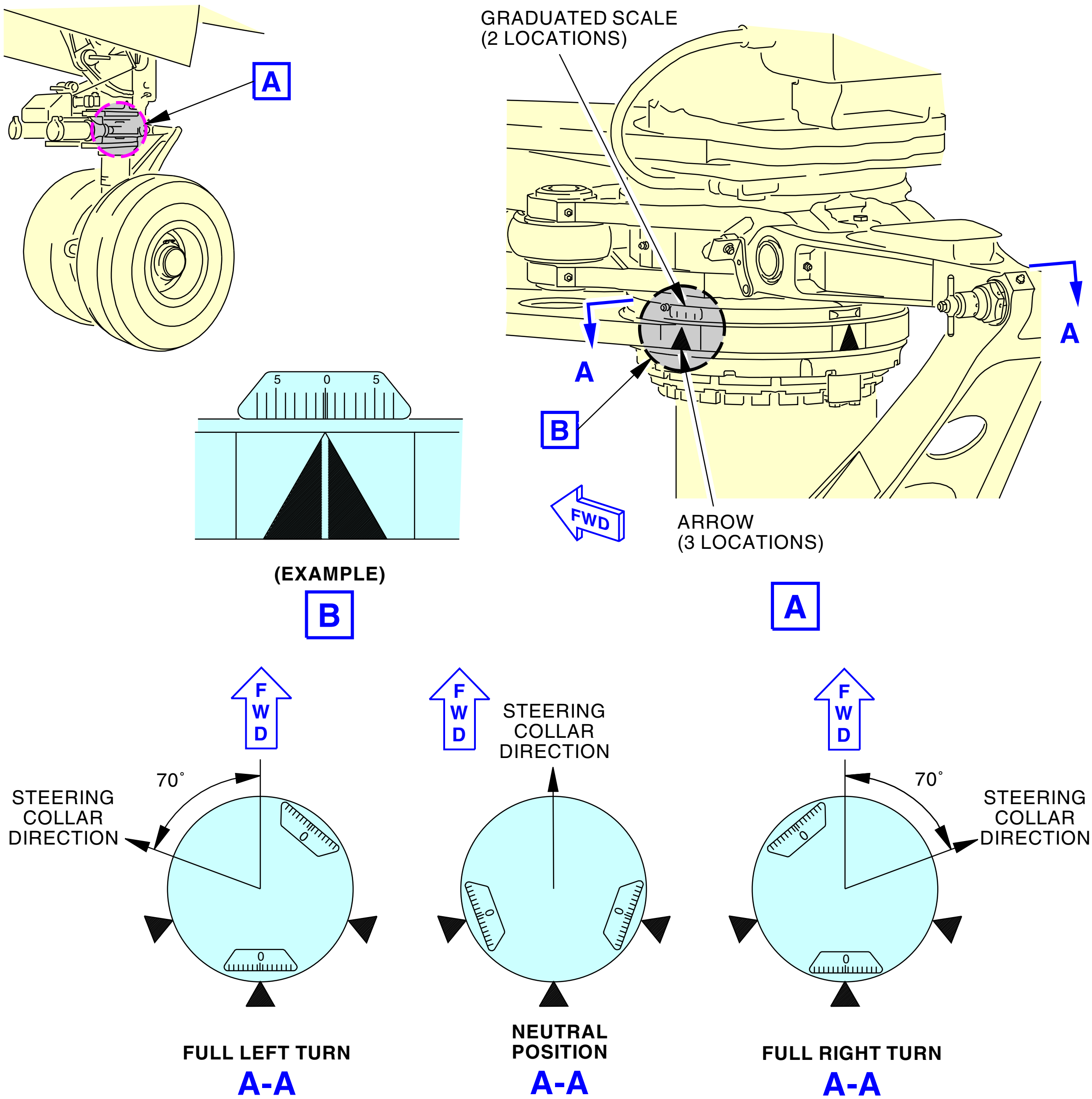
Nose Landing Gear Steering Summing Mechanism Installation
Figure 401/32-51-06-990-801 (Sheet 1 of 3)



Nose Landing Gear Steering Summing Mechanism Installation
Figure 401/32-51-06-990-801 (Sheet 2 of 3)



Nose Landing Gear Steering Summing Mechanism Installation
Figure 401/32-51-06-990-801 (Sheet 3 of 3)



LEGEND:

GRADUATED SCALE

ARROW

NOTE:

FOR A FULL LEFT TURN OR A FULL RIGHT TURN THE ZERO GRADUATION ON THE APPLICABLE GRADUATED SCALE ALIGNS WITH THE AFT ARROW.

E55777 S0006419358_V2

Nose Landing Gear Steering Angle Indication
Figure 402/32-51-06-990-802

TASK 32-51-06-420-801

3. Summing Mechanism Installation

(Figure 401, Figure 402)

A. References

Reference	Title
20-11-00-910-801	Standard Torque Values (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-21-11-000-803	Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage (P/B 201)
32-21-11-400-803	Nose Landing Gear Torsion Link Connection (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1553	Tensiometer - Cable, Low Tension (200 lbs and below) Part #: 102-03108 Supplier: 21844 Part #: 102-03120 Supplier: 21844 Part #: ACX-250 Supplier: 13331 Part #: T60-1001-C8-1A Supplier: 0N8U4 Opt Part #: 102-03110 Supplier: 21844 Opt Part #: ACM-200 Supplier: 13331
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Summing lever	32-51-06-01-110	ARO ALL
5	Cover assembly	32-51-51-04-205	ARO ALL
		32-51-51-04-220	ARO ALL
25	Pulley	32-51-03-02-620	ARO 001-011

E. **Location Zones**

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
211	Flight Compartment, Left
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

F. **Summing Mechanism Installation**

SUBTASK 32-51-06-210-002

(1) Make sure the wheels of the nose landing gear are in the centered position (Figure 402).

NOTE: The graduated scales on the steering collar and arrows on the lower plate show the angular position of the wheels when the torsion links are connected.

SUBTASK 32-51-06-480-004

WARNING: ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(2) Make sure the NLG towing lever pin, SPL-1499, is installed through the towing lever.

SUBTASK 32-51-06-480-005

(3) Make sure these rigging pins from rigging pin set, SPL-2532, are installed:

NOTE: The placard on the inside of the box for the rigging pin set identifies the different rigging pins.

(a) Rigging pin NS5 in the gear up centering mechanism.

(b) Rigging pin NS7 in the steering metering valve [8].

SUBTASK 32-51-06-400-001

(4) Do the steps below to attach the summing lever [1] to the plate [22]:

(a) Apply sealant, A00247, to outer diameter of the bushing [20].

(b) Install the bushing [20] in the summing lever [1].

(c) Apply sealant, A00247, on the outer diameter of the bushing [13].

(d) Install the bushing [13] in the plate [22].

WARNING: DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(WARNING PRECEDES)

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(e) Apply Mastinox 6856 K, C00913, or Cor-Ban 27L Compound, G50237, to the bolt [9] and bolt [10].

(f) Align the summing lever [1] with the plate [22].

(g) Install the bolt [9] and bolt [10] with bushing [16], to connect the summing lever [1] to the plate [22].

1) If it is necessary, install a washer [26] or washer [27] below the head of the bolt [9] or bolt [10] for thread relief.

(h) Install washer [14] and nut [15] on bolt [9].

1) Refer to Standard Torque Values, TASK 20-11-00-910-801.

(i) Install washer [11] and nut [12] on bolt [10].

1) Refer to Standard Torque Values, TASK 20-11-00-910-801.

SUBTASK 32-51-06-420-001

(5) Do the steps below to install the pulley brackets [3] and the rod [2]:

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(a) Apply Mastinox 6856 K, C00913 or Cor-Ban 27L Compound, G50237, to the bolt [21].

(b) Put the pulley brackets [3] in its location.

(c) Install the bolt [21].

1) If it is necessary, install a washer [29] below the head of the bolt [21] for thread relief.

(d) Install the washer [11] and nut [12].

1) Refer to Standard Torque Values, TASK 20-11-00-910-801.

SUBTASK 32-51-06-420-002

(6) If it is necessary to install the pulleys [25] on the pulley brackets [3], do the steps below:

(a) Install the bushing [18].

(b) Align the pulley [25] with the pulley bracket [3].

(c) Install the bolt [17].

(d) Install the washer [11] and nut [19].

SUBTASK 32-51-06-420-003

(7) Tighten the turn buckle [6] to put 60 lbf (267 N)+/-10 lbf (44 N) of tension in the cables NWS2A and NWS2B.

(a) Use the low tension cable tensiometer, COM-1553, to make sure the tension is correct.

SUBTASK 32-51-06-420-004

(8) Install the two turnbuckle locking clip [7] on the turn buckle [6].

G. Summing Mechanism Installation Test

NOTE: In this test:

Use the position indicator at the base of the Captain's steering tiller to measure the angular position of the steering tiller.

Use the graduated scales and pointers on the steering collar and lower support plate to measure the angular position of the steering collar.

The 0 ° position is referred to as the neutral position.

SUBTASK 32-51-06-710-001

(1) Do the steps below to prepare for the test:

(a) Remove these rigging pins:

1) The rigging pin from the steering centering mechanism.

2) The rigging pin from the steering metering valve [8].

(b) Do this task: Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage, TASK 32-21-11-000-803.

(c) Remove the NLG towing lever pin, SPL-1499, from the towing lever.

(d) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

(e) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

WARNING: KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(f) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-51-06-860-004

(2) Turn the Captain's steering tiller clockwise to its stop and hold it there.

NOTE: You must turn the Captain's steering tiller approximately

350 ° to get to the stop.

SUBTASK 32-51-06-210-003

(3) Make sure the steering collar turns to the right 69 ° to 71 °.

SUBTASK 32-51-06-860-005

(4) Release the Captain's steering tiller.

SUBTASK 32-51-06-210-004

(5) Make sure the Captain's steering tiller moves back to the neutral position without manual help.

SUBTASK 32-51-06-210-005

(6) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

SUBTASK 32-51-06-860-006

(7) Turn the Captain's steering tiller counterclockwise to its stop and hold it there.

NOTE: You must turn the Captain's steering tiller approximately 350 ° to get to the stop.

SUBTASK 32-51-06-210-006

(8) Make sure the steering collar turns to the left 69 ° to 71 °.

SUBTASK 32-51-06-860-007

(9) Release the Captain's steering tiller.

SUBTASK 32-51-06-210-007

(10) Make sure the Captain's steering tiller moves back to the neutral position without manual help.

SUBTASK 32-51-06-210-008

(11) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

SUBTASK 32-51-06-710-002

(12) Do the steps below to make sure the summing mechanism and steering metering valve operates correctly:

WARNING	MAKE SURE THAT HANDS AND CLOTHING ARE CLEAR OF CABLES, PULLEYS, THE STEERING COLLAR, AND ACTUATORS. BE CAREFUL WHEN YOU USE THE SUMMING LEVER TO OPERATE THE NOSE-GEAR STEERING SYSTEM. WHEN THE STEERING SYSTEM IS SUPPLIED WITH POWER, THE MOVABLE SURFACES CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) Push the left side of the summing lever full travel to move the input lever on the metering valve forward. Hold the summing lever in this position until the steering collar begins to move.

(b) Release the summing lever slowly.

(c) Make sure the input lever for the metering valve automatically goes to the centered position and steering collar movement stops. The steering collar will not move back to the center position.

(d) Install rigging pin NS7 in the input lever for the metering valve.

(e) Make sure the rigging pin NS7 can be move freely.

(f) Remove the rigging pin from the input lever for the metering valve.

(g) Push the right side of the summing lever full travel to move the input lever on the metering valve aft. Hold the summing lever in this position until the steering collar begins to move.

(h) Release the summing lever slowly.

(i) Make sure the input lever for the metering valve automatically goes to the centered position and steering collar movement stops. The steering collar will not move back to the center position.

(j) Install rigging pin NS7 in the input lever for the metering valve.

(k) Make sure the rigging pin NS7 can be move freely.

(l) Remove the rigging pin from the input lever for the metering valve.

(m) Push the left side of the summing lever and hold it until the steering collar goes to the center position.

SUBTASK 32-51-06-410-001

(13) Install the bolt [4] to connect the summing mechanism cover assembly [5] to the summing mechanism assembly.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-51-06-860-008

(1) Use the Captain's steering tiller to align the upper torsion link with the lower torsion link.

SUBTASK 32-51-06-860-009

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-51-06-420-005

(3) Do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-11-400-803.

SUBTASK 32-51-06-860-011

WARNING: MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

END OF TASK

NOSE LANDING GEAR STEERING METERING VALVE MODULE - REMOVAL/INSTALLATION

1. General

A. This procedure has these two tasks:

(1) A removal of the metering valve module for the steering system for the nose landing gear

(2) An installation of the metering valve module for the steering system for the nose landing gear.

TASK 32-51-07-020-801

2. Steering Metering Valve Removal

(Figure 401)

A. References

Reference	Title
20-10-05-000-801	Turnbuckle Locking Clips Removal (P/B 401)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205
SPL-4834	Spanner Wrench - AN Standard Type Part #: F72959-35 Supplier: 81205 Opt Part #: F72959-6 Supplier: 81205

C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. **Prepare for the Removal**

SUBTASK 32-51-07-480-001

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-51-07-210-001

(2) Make sure the wheels of the nose landing gear are in the centered position (Figure 402).

NOTE: There are two scales with graduations on the steering collar. When the wheels of the nose landing gear are turned 0 °, the scales are on the left and right side of the airplane.

NOTE: There are also three arrows on the lower support plate for the steering actuators. The arrows are on the left, aft, and right sides of the support plate.

NOTE: The wheels of the nose landing gear are in the centered position when the 0 ° graduation on the left and right scales is aligned with the left and right arrow, respectively, on the support plate.

SUBTASK 32-51-07-860-001

(3) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-51-07-860-002

(4) Move the towing lever, on the forward side of the nose landing gear, to the TOW position.

NOTE: This isolates the steering system for the nose landing gear from hydraulic power.

SUBTASK 32-51-07-480-002

WARNING	ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(5) Install the NLG towing lever pin, SPL-1499, through the towing lever.

NOTE: You use the NLG Towing Lever Lock Pin to hold the towing lever in the TOW position.

SUBTASK 32-51-07-860-003

WARNING	MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-51-07-480-003

(7) Install these rigging pins from rigging pin set, SPL-2532:

NOTE: The placard on the inside of the box for the Rigging Pin Set, J20003, identifies the different rigging pins.

(a) Rigging pin NS5 in the gear up centering mechanism

(b) Rigging pin NS6 in the summing mechanism [1].

(c) Rigging pin NS7 in the metering valve module [2].

E. Steering Metering Valve Module Removal

SUBTASK 32-51-07-010-001

(1) Remove the bolts [3] that hold the summing mechanism cover assembly [4] to the summing mechanism assembly.

SUBTASK 32-51-07-020-006

(2) Remove the locking clips [6] from the turnbuckles [5] (TASK 20-10-05-000-801).

SUBTASK 32-51-07-020-001

(3) Loosen the cables NWS2A and NWS2B at the turnbuckles [5].

SUBTASK 32-51-07-020-002

(4) Remove the nut [14], washer [13], bushing [12], and bolt [11] to disconnect the input lever [10] from the summing mechanism [1].

SUBTASK 32-51-07-020-003

(5) Disconnect the hydraulic lines [17] from the metering valve module [2].

SUBTASK 32-51-07-480-004

(6) Install caps in the hydraulic lines [17] and plugs in the ports on the metering valve module [2].

SUBTASK 32-51-07-020-004

(7) Remove the nuts [21], washers [22], washers [23], and the bolts [24] that hold the metering valve module [2] to the support plate [25].

SUBTASK 32-51-07-000-001

(8) Remove the sealant and use the spanner wrench, SPL-4834 to loosen the retainer nuts [9] for the swivel valves [8].

(a) Loosen the retainer nuts [9] equally at the two ends of the metering valve module [2].

(b) Be careful when you remove the metering valve module [2] to prevent contamination of the open hydraulic ports.

NOTE: The hydraulic ports will be open when you remove the swivel valves [8] from the actuator trunnions [7]. Make sure the area around and in the trunnions is clean before the hydraulic ports are open to prevent contamination.

SUBTASK 32-51-07-480-005

(9) Install caps in the open hydraulic ports for the swivel valves [8] (which is part of the metering valve module [2]) and the actuator trunnions [7].

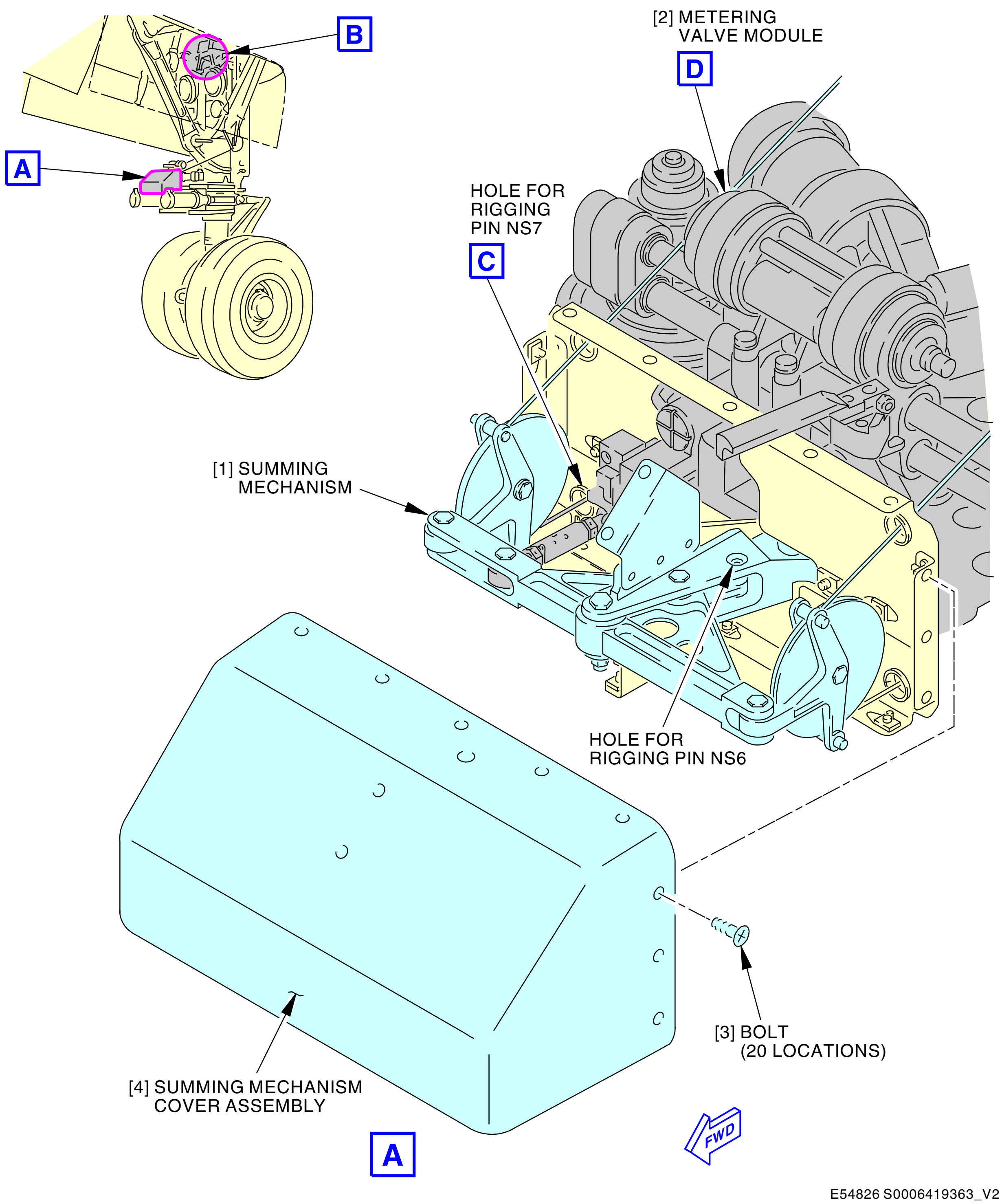
SUBTASK 32-51-07-020-005

(10) Disconnect the unions [18] from the metering valve module [2].

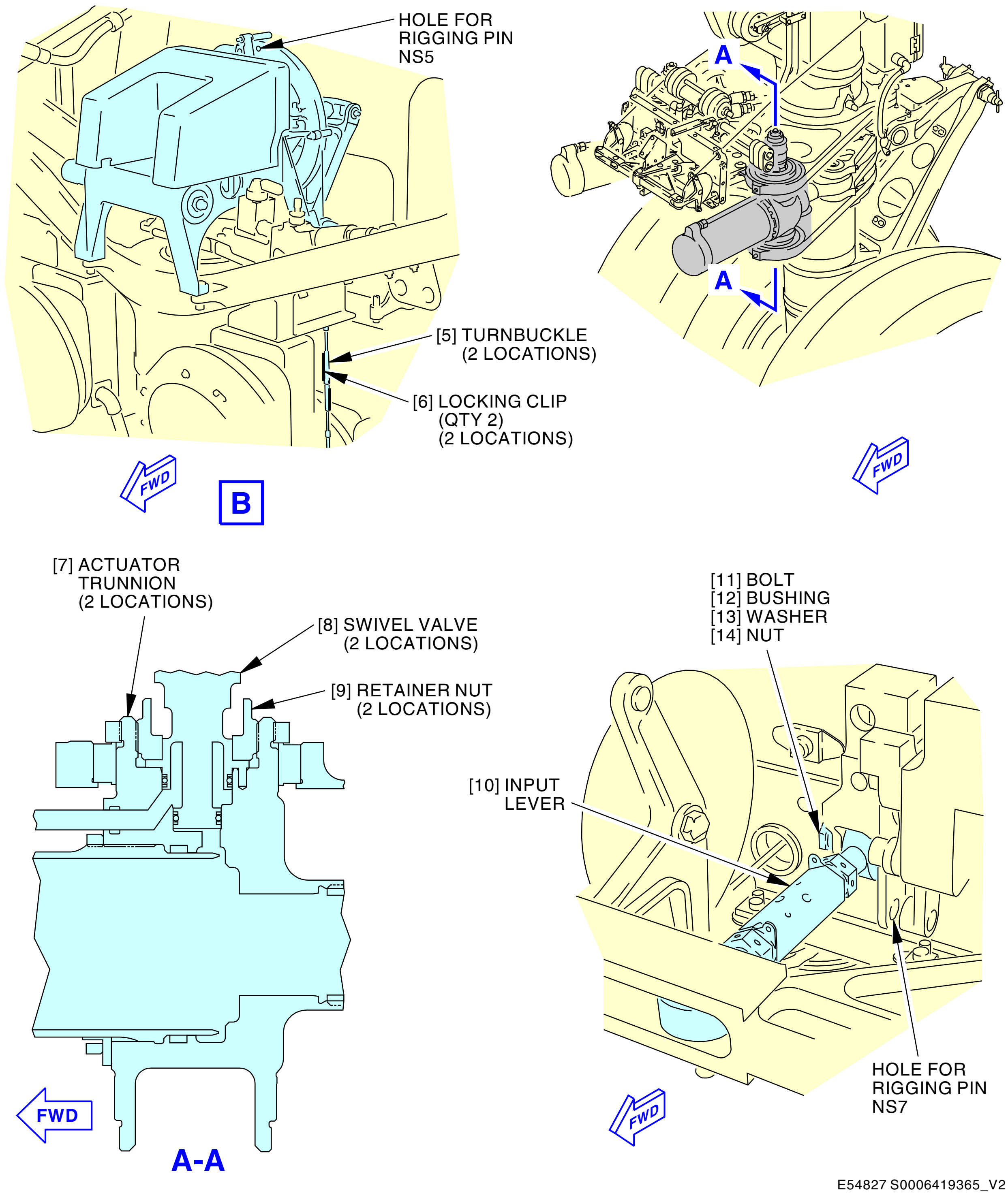
SUBTASK 32-51-07-480-006

(11) Install plugs in the ports.

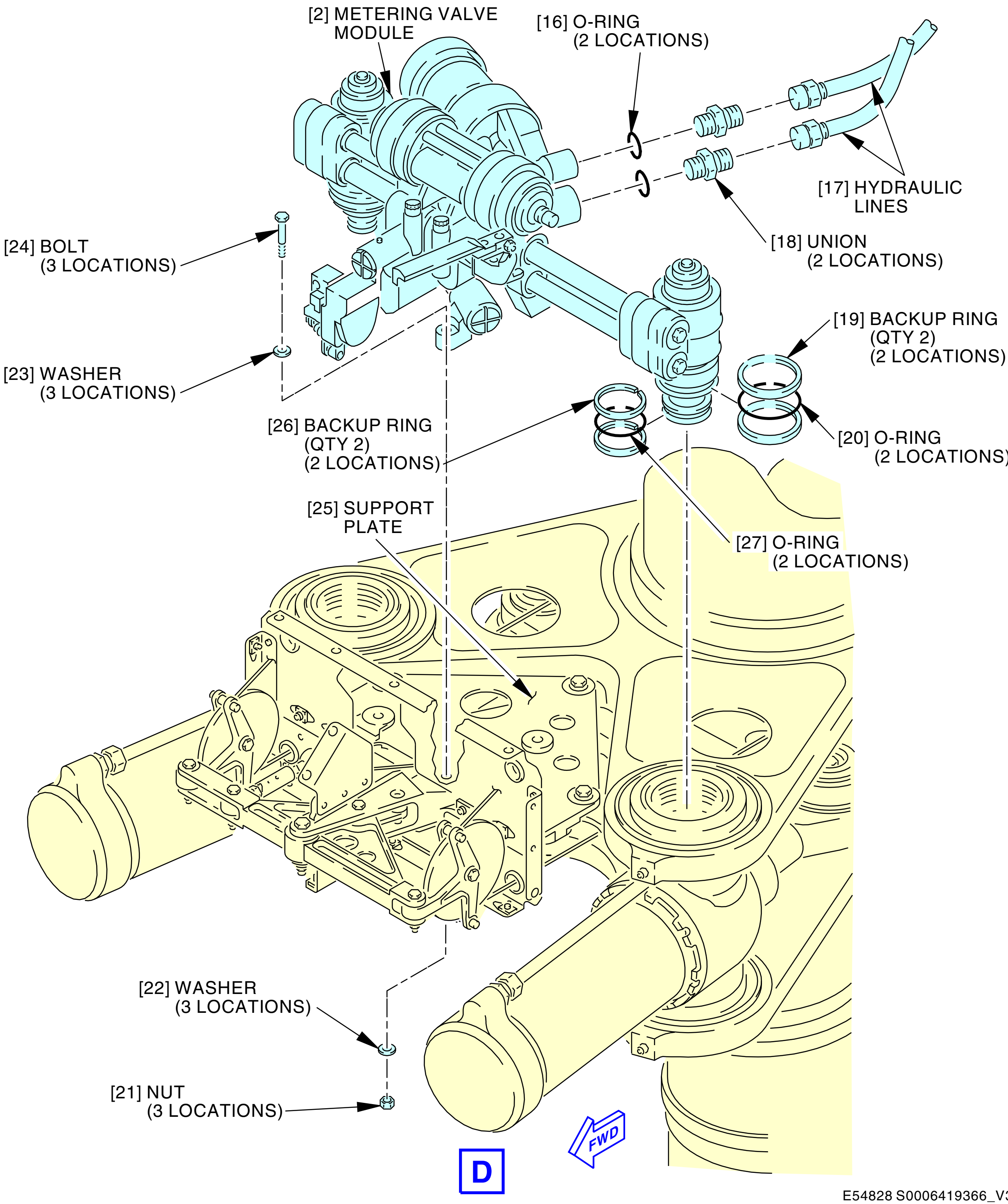
——— END OF TASK ———



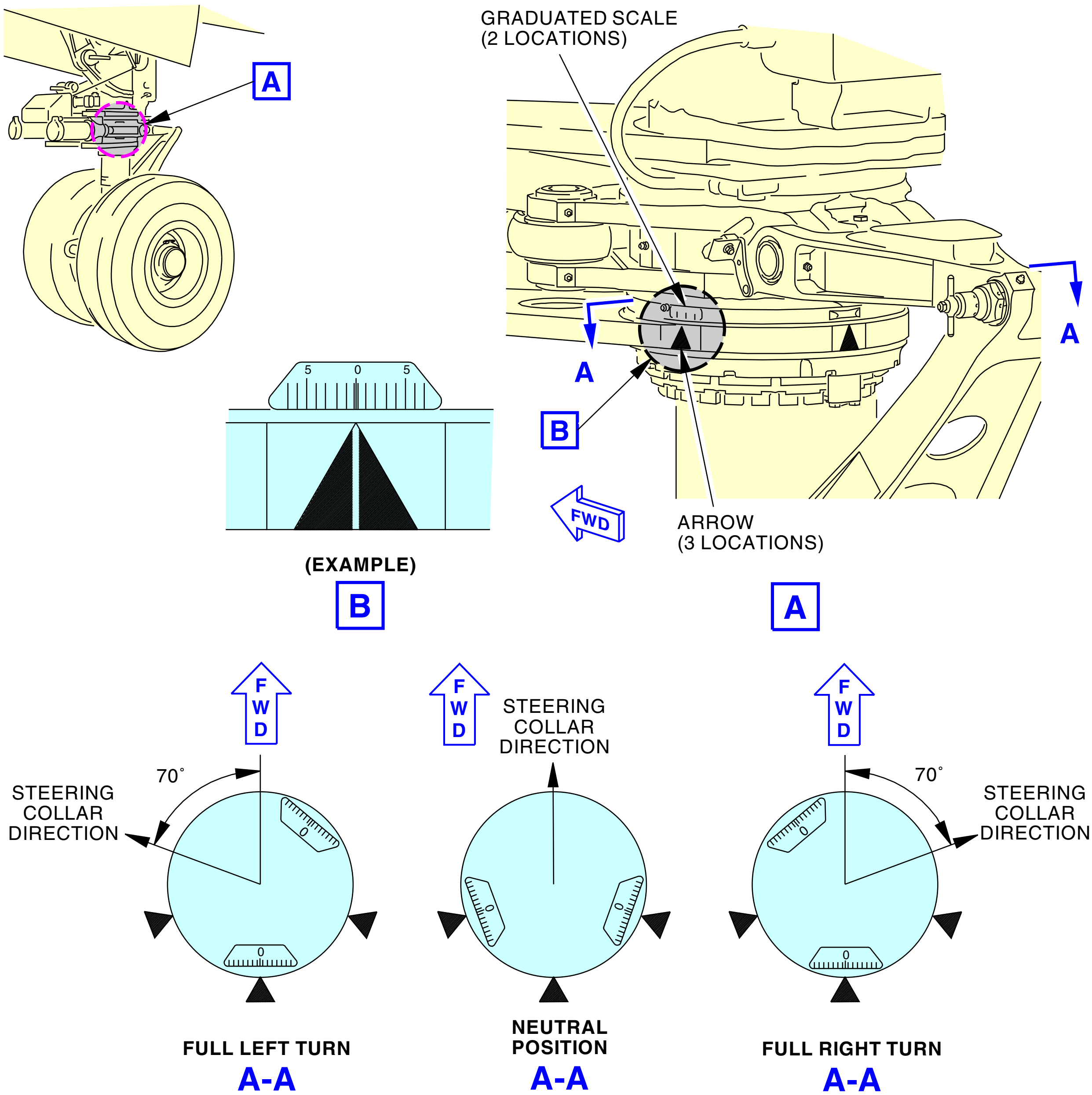
Nose Landing Gear Steering Metering Valve Module Installation
Figure 401/32-51-07-990-801 (Sheet 1 of 3)



Nose Landing Gear Steering Metering Valve Module Installation
Figure 401/32-51-07-990-801 (Sheet 2 of 3)



Nose Landing Gear Steering Metering Valve Module Installation
Figure 401/32-51-07-990-801 (Sheet 3 of 3)



LEGEND:

GRADUATED SCALE

ARROW

NOTE:

FOR A FULL LEFT TURN OR A FULL RIGHT TURN THE ZERO GRADUATION ON THE APPLICABLE GRADUATED SCALE ALIGNS WITH THE AFT ARROW.

E56801 S0006419367_V2

Nose Landing Gear Steering Angle Indication
Figure 402/32-51-07-990-802

TASK 32-51-07-400-801

3. Steering Metering Valve Installation

(Figure 401)

A. References

Reference	Title
20-10-05-400-801	Turnbuckle Locking Clips Installation (P/B 401)
20-11-00-910-801	Standard Torque Values (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-21-11-000-803	Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage (P/B 201)
32-21-11-400-803	Nose Landing Gear Torsion Link Connection (P/B 201)
32-51-04-020-801	Steering Pivot Links Removal (P/B 401)
32-51-04-420-801	Steering Pivot Links Installation (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1553	Tensiometer - Cable, Low Tension (200 lbs and below) Part #: 102-03108 Supplier: 21844 Part #: 102-03120 Supplier: 21844 Part #: ACX-250 Supplier: 13331 Part #: T60-1001-C8-1A Supplier: 0N8U4 Opt Part #: 102-03110 Supplier: 21844 Opt Part #: ACM-200 Supplier: 13331
COM-9453	Wrench - Crowfoot, Open End with Side Lock, 1 5/8"
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1910	Bar - Torsion, NLG Steering Part #: J32052-1 Supplier: 81205
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
A00436	Sealant - Fuel Tank	BMS5-45 (Supersedes BMS5-26)
C50056	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27

(Continued)

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Metering valve module	32-51-51-02-040	ARO ALL
4	Cover assembly	32-51-51-04-205	ARO ALL
		32-51-51-04-220	ARO ALL
16	O-ring	32-51-51-02-050	ARO ALL
19	Backup ring	32-51-51-02-060	ARO ALL
20	O-ring	32-51-51-02-065	ARO ALL
26	Backup ring	32-51-51-02-070	ARO ALL
27	O-ring	32-51-51-02-075	ARO ALL

E. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
211	Flight Compartment, Left
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Steering Metering Valve Installation

SUBTASK 32-51-07-600-001

WARNING: DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(1) Do these steps to prepare the metering valve module [2] for installation:

(a) Lubricate new backup rings [19], the new O-rings [20], new backup rings [26] and the new O-rings [27] with hydraulic fluid, D00153.

(b) Install new backup rings [19], the new O-rings [20], new backup rings [26] and the new O-rings [27] on the swivel valve [8].

(c) Lubricate the union [18] and O-rings [16] with hydraulic fluid, D00153.

(d) Install the O-rings [16] and union [18] in the metering valve module [2].

(e) Fill the metering valve module [2] with hydraulic fluid, D00153, until it is full.

(f) Apply corrosion inhibiting material, G50136 (preferred) or Mastinox 6856 K, C50056 (alternate), to the threads, mating surfaces and thread relief area of the swivel valve [8] where the retainer nut [9] will be installed.

(g) Put a thin layer of corrosion inhibiting material, G50136 (preferred) or Mastinox 6856 K, C50056 (alternate), on the pins and mating flange of the swivel valve [8].

SUBTASK 32-51-07-400-001

CAUTION	CORRECTLY ALIGN THE INDEX PINS ON THE SWIVEL VALVES WITH THE MATING HOLES IN THE ACTUATOR TRUNNION. IF YOU DO NOT, YOU CAN CAUSE DAMAGE TO THE STEERING SYSTEM.

(2) To adjust the index pins, use a crowfoot wrench, COM-9453 to carefully turn the nut on top of the swivel assembly at each end of the metering valve.

NOTE: When turning counterclockwise, turn the nut slowly to make sure the nut is not loosened.

SUBTASK 32-51-07-400-002

(3) Put the swivel valves [8] for the metering valve module [2] into the steering actuator trunnions [7].

(a) Make sure the valve index pins are installed in the locator pin holes in the left and right trunnions.

SUBTASK 32-51-07-600-002

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(4) Apply corrosion inhibiting material, G50136 (preferred) or Mastinox 6856 K, C50056 (alternate), to the threads on the left and right retainer nuts [9] for the metering valve module [2].

SUBTASK 32-51-07-420-001

CAUTION	KEEP THE TWO ENDS OF THE METERING VALVE ASSEMBLY LEVEL DURING INSTALLATION. IF YOU DO NOT TIGHTEN THE RETAINER NUTS EQUALLY, THIS CAN CAUSE DAMAGE TO THE VALVE ASSEMBLY TUBE.

(5) Tighten the retainer nuts [9] for the metering valve module [2] equally on each side. Tighten the retainer nuts [9] to 700 in-lb (79 N·m) - 750 in-lb (85 N·m).

SUBTASK 32-51-07-390-001

(6) Apply a fillet seal of sealant, A00436, between the retainer nuts [9] for the swivel valve [8] and the actuator trunnions [7].

SUBTASK 32-51-07-620-001

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(7) Apply corrosion inhibiting material, G50136 (preferred) or Mastinox 6856 K, C50056 (alternate) to the nuts [21], the washers [22], the washers [23], and the bolts [24] that will attach the metering valve module [2] to the support plate [25].

(a) Apply corrosion inhibiting material, G50136 (preferred) or Mastinox 6856 K, C50056 (alternate) to the face of the nuts [21] that touches the washers [22].

SUBTASK 32-51-07-420-002

(8) Install the bolts [24], washers [23], washers [22], and nuts [21] to attach the metering valve module [2] to the support plate [25]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

SUBTASK 32-51-07-080-001

(9) Remove the caps from the hydraulic lines [17] and the ports on the metering valve module [2].

SUBTASK 32-51-07-420-003

(10) Connect the hydraulic lines [17] for RETURN and SUPPLY to the metering valve module [2].

(a) Tighten the B-nuts on the hydraulic lines [17] to 700 ±35 in-lb (79 ±4 N·m).

SUBTASK 32-51-07-480-007

(11) Make sure these rigging pins, from rigging pin set, SPL-2532, are installed:

NOTE: The placard on the inside of the box for the pin set identifies the different rigging pins.

(a) Rigging pin NS5 in the gear up centering mechanism.

(b) Rigging pin NS6 in the summing mechanism [1].

(c) Rigging pin NS7 in the metering valve module [2].

SUBTASK 32-51-07-420-004

(12) Tighten the turnbuckles [5] to put 60 +/-10 pounds (266 +/- 44 newtons) of tension in the cables NWS2A and NWS2B. Use the low tension cable tensiometer, COM-1553, to make sure the tension is correct.

SUBTASK 32-51-07-480-008

(13) Make sure the rigging pins NS5 and NS6 can be easily installed.

SUBTASK 32-51-07-420-005

(14) Install the two turnbuckle locking clip [6] on the turnbuckle [5] (TASK 20-10-05-400-801).

SUBTASK 32-51-07-420-006

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(15) Do the steps that follow to connect the input lever of the metering valve module [2] to the input lever [10]:

(a) Apply a thin layer of sealant, A00247, to the outside diameter of the bushing [12].

(b) Install the bushing [12] in the input lever of the metering valve module [2].

(c) Apply Cor-Ban 27L Compound, G50237 (preferred) or Mastinox 6856 K, C50056 (alternate) to the bolt [11], washer [13] and nut [14] that will attach the input lever of the metering valve module [2] to the input control rod of the summing mechanism [1].

(d) Apply Cor-Ban 27L Compound, G50237 (preferred) or Mastinox 6856 K, C50056 (alternate) to the face of the nut [14] that touches the washer [13].

(e) Install the bolt [11], washer [13], and nut [14] that attach the input lever of the metering valve module [2] to the input control rod of the summing mechanism [1]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

(f) Adjust the input lever [10] until you can easily install rigging pins NS6 and NS7.

(g) Make sure more than half of the inspection holes on the input lever [10] is covered by the rod ends.

(h) Tighten the jamnuts on the rod ends of the input lever [10]. Safety the jamnuts with lockwire.

G. Steering Metering Valve Installation Test

NOTE: Use the position indicator at the base of the Captain's steering tiller to measure the angular position of the steering tiller.

NOTE: Use the protractor on the steering collar to measure the angular position of the steering collar.

NOTE: The 0 ° position is referred to as the neutral position.

SUBTASK 32-51-07-860-005

(1) Do the steps below to prepare for the test:

(a) Remove these rigging pins:

1) Rigging pin NS5 in the gear up centering mechanism

2) Rigging pin NS6 in the summing mechanism [1].

3) Rigging pin NS7 in the steering metering valve module [2].

(b) Do this task: Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage, TASK 32-21-11-000-803.

(c) Remove the NLG towing lever pin, SPL-1499, from the towing lever.

(d) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

(e) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(f) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(g) Turn the Captain's steering tiller through at least 10 full cycles of slow, gradual operation. This will remove air that is caught in the metering valve and steering actuators.

(h) Move the towing lever to the TOWING position.

WARNING ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(i) Install the NLG towing lever pin, SPL-1499, through the towing lever.

SUBTASK 32-51-07-700-002

(2) Do the steps that follow to make sure the steering collar can be turned manually and check the nose gear steering clearances:

(a) Make sure the Captain's steering tiller is in the NEUTRAL position.

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(b) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(c) Make sure the towing lever is in the TOWING position.

CAUTION MAKE SURE THAT YOU SUPPORT THE NLG STEERING TORSION BAR, SPL-1910, AT ALL TIMES AFTER YOU CONNECT IT TO THE UPPER TORSION LINK. IF YOU DO NOT DO THIS, YOU CAN CAUSE DAMAGE TO THE RESTRAINT MECHANISM FOR THE UPPER TORSION LINK.

(d) Connect the NLG steering torsion bar, SPL-1910, to the upper torsion link.

(e) Use the NLG steering torsion bar, SPL-1910, to manually turn the steering collar to the right and to the left 10 to 20 degrees from the neutral.

(f) Use the NLG steering torsion bar, SPL-1910, to manually turn the steering collar back to the neutral position.

(g) Use the NLG steering torsion bar, SPL-1910, to manually turn the steering collar in the direction of a right turn (clockwise) until the steering actuators reach the end of their travel.

NOTE: This will back drive the nose gear steering system.

(h) Make sure the steering collar moves at least 71 degrees from neutral.

(i) Make sure the cables, turnbuckles, pulleys, quadrants, summing mechanism, tiller and steering actuators all move freely.

(j) Use the NLG steering torsion bar, SPL-1910, to manually turn the steering collar back to the neutral position.

(k) Use the NLG steering torsion bar, SPL-1910, and repeat steps (g) through (j) above for a left turn (counterclockwise).

(l) Disconnect the NLG steering torsion bar, SPL-1910, from the upper torsion link.

SUBTASK 32-51-07-710-002

(3) Do the steps that follow to do a check of system travel and rate:

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Remove the NLG towing lever pin, SPL-1499, from the towing lever.

(c) Make sure the towing lever moves to the NORMAL position.

(d) Turn the Captain's steering tiller clockwise to its stop and hold it there.

NOTE: You must turn the Captain's steering tiller approximately 350 ° to get to the stop.

(e) Make sure the steering collar turns to the right 69 ° to 71 °.

(f) Release the Captain's steering tiller.

(g) Make sure the Captain's steering tiller moves back to the neutral position in 4 seconds or less without manual help.

(h) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

(i) Turn the Captain's steering tiller counterclockwise to its stop and hold it there.

NOTE: You must turn the Captain's steering tiller approximately 350 ° to get to the stop.

(j) Make sure the steering collar turns to the left 69 ° to 71 °.

(k) Release the Captain's steering tiller.

(l) Make sure the Captain's steering tiller moves back to the neutral position in 4 seconds or less without manual help.

(m) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

(n) Make sure there are no hydraulic leaks at the steering metering valve.

WARNING	ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(o) Move the towing lever to the TOWING position and install the NLG towing lever pin, SPL-1499.

SUBTASK 32-51-07-710-003

(4) Do the steps that follow to do a check of metering valve operation:

WARNING	ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) Make sure the towing lever is in the TOWING position and the NLG towing lever pin, SPL-1499, is installed.

(b) Disconnect the forward and aft pivot links where they are attached, do this task: Steering Pivot Links Removal, TASK 32-51-04-020-801.

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(c) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

WARNING	MAKE SURE THAT THE STEERING COLLAR IS IN THE NEUTRAL POSITION. THE TOP TORSION LINK AND STEERING COLLAR QUICKLY TURN TO THE NEUTRAL POSITION WHEN YOU PUT THE TOWING LEVER TO THE "NORMAL" POSITION IF THE STEERING COLLAR IS NOT IN THE CENTER. THIS CAN CAUSE INJURY TO PERSONS.

(d) Remove the NLG towing lever pin, SPL-1499, and permit the towing lever to go to the NORMAL position.

WARNING	MAKE SURE THAT HANDS AND CLOTHING ARE CLEAR OF CABLES, PULLEYS, THE STEERING COLLAR, AND ACTUATORS. BE CAREFUL WHEN YOU USE THE SUMMING LEVER TO OPERATE THE NOSE-GEAR STEERING SYSTEM. WHEN THE STEERING SYSTEM IS SUPPLIED WITH POWER, THE MOVABLE SURFACES CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(e) Push the left side of the summing lever full travel to move the metering valve input lever forward. Hold the lever in this position until the steering collar begins to move.

(f) Slowly release the summing mechanism lever.

(g) Make sure the input lever for the metering valve goes back to the center position without assistance. Make sure the movement of the steering collar stops.

NOTE: The steering collar will not go back to the neutral position.

(h) Install rigging pin NS7 in the input lever for the metering valve.

(i) Make sure the rigging pin can move freely.

(j) Remove the rigging pin NS7 from the input lever for the metering valve.

(k) Push the right side of the summing lever and hold it to put the steering collar to the neutral position.

(l) Push the right side of the summing lever full travel to move the metering valve input lever aft. Hold the lever in this position until the steering collar begins to move.

(m) Slowly release the summing mechanism lever.

(n) Make sure the input lever for the metering valve goes back to the center position without assistance. Make sure the movement of the steering collar stops.

NOTE: The steering collar will not go back to the neutral position.

(o) Install rigging pin NS7 in the input lever for the metering valve.

(p) Make sure the rigging pin can move freely.

(q) Remove the rigging pin NS7 from the input lever for the metering valve.

(r) Push the left side of the summing lever and hold it to put the steering collar to the neutral position.

WARNING ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(s) Move the towing lever to the TOWING position and install the NLG towing lever pin, SPL-1499.

(t) Connect the forward and aft pivot links, do this task: Steering Pivot Links Installation, TASK 32-51-04-420-801.

(u) Install rigging pins NS5 and NS6.

(v) Make sure the rigging pins can move freely.

(w) Remove the rigging pins NS5 and NS6.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-51-07-860-006

(1) Use the Captain's steering tiller to align the upper torsion link with the lower torsion link.

SUBTASK 32-51-07-860-007

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-51-07-410-001

(3) Install the bolts [3] to attach the summing mechanism cover assembly [4] to the summing mechanism [1].

SUBTASK 32-51-07-420-007

(4) Do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-11-400-803.

SUBTASK 32-51-07-860-009

WARNING	MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

END OF TASK

NOSE LANDING GEAR STEERING ACTUATOR - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the steering actuator for the nose landing gear

(2) An installation of the steering actuator for the nose landing gear.

B. The steering actuator weighs 49 pounds.

C. In this procedure, the steering actuator for the nose landing gear is referred to as the actuator assembly [10].

TASK 32-51-08-000-801

2. Nose Landing Gear Steering Actuator Removal

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-21-11-000-803	Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1825	Wrench - Actuator, NLG steering Part #: A32035-1 Supplier: 81205
SPL-1834	Wrench - Spanner, NLG Steering Nut Part #: A32045-93 Supplier: 81205
SPL-1910	Bar - Torsion, NLG Steering Part #: J32052-1 Supplier: 81205
SPL-4834	Spanner Wrench - AN Standard Type Part #: F72959-35 Supplier: 81205 Opt Part #: F72959-6 Supplier: 81205
STD-1092	Sling - Nylon, 6-8 Foot Length, 3400 Lb Lift Capacity

C. Location Zones

Zone	Area
711	Nose Landing Gear

D. Prepare for the Removal

SUBTASK 32-51-08-480-001

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-51-08-860-011

WARNING	MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-51-08-210-001

(3) Make sure the wheels of the nose landing gear are in the neutral position.

NOTE: The graduated scales on the steering collar and the arrows on the lower support plate show the angular position of the wheels (Figure 401).

SUBTASK 32-51-08-860-002

(4) Move the towing lever, on the forward side of the nose landing gear, to the TOW position.

NOTE: This isolates the steering system for the nose landing gear from hydraulic power.

SUBTASK 32-51-08-480-002

WARNING	ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(5) Install the NLG towing lever pin, SPL-1499, through the towing lever.

NOTE: You use the NLG towing lever pin, SPL-1499, to hold the towing lever in the TOW position.

SUBTASK 32-51-08-860-004

(6) Do this task: Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage, TASK 32-21-11-000-803.

SUBTASK 32-51-08-860-012

(7) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

E. Steering Actuator Removal

(Figure 402)

SUBTASK 32-51-08-480-003

CAUTION	MAKE SURE YOU SUPPORT THE NLG STEERING TORSION BAR, SPL-1910, AT ALL TIMES AFTER YOU CONNECT IT TO THE UPPER TORSION LINK. IF YOU DO NOT DO THIS, YOU CAN CAUSE DAMAGE TO THE RESTRAINT MECHANISM FOR THE UPPER TORSION LINK.

(1) Connect the NLG steering torsion bar, SPL-1910, to the upper torsion link.

SUBTASK 32-51-08-980-003

(2) Use the NLG steering torsion bar, SPL-1910, to turn the steering collar [5] until the connection between the actuator assembly [10] and the steering collar [5] is clear of the upper support plate [23].

SUBTASK 32-51-08-080-001

(3) Disconnect the NLG steering torsion bar, SPL-1910, from the upper torsion link.

SUBTASK 32-51-08-020-011

(4) Do the steps below to disconnect the actuator assembly [10] from the steering collar [5]:

(a) Remove the cotter pin [9], nut [8], and the washer [7] from the bolt [2].

(b) Remove the lower steering pin cap [4] from the steering pin [6].

(c) Remove the bolt [2], with the washer [3], from the upper steering pin cap [4].

(d) Remove the upper steering pin cap [4] from the steering pin [6].

(e) Remove the steering pin [6] from the steering collar [5].

(f) Manually turn the actuator assembly [10] and remove the alignment washer [1].

SUBTASK 32-51-08-020-012

(5) Do the steps below to disconnect the actuator assembly [10] from the lower support plate [21]:

(a) Follow precautions to keep the lower trunnion bearing [22] in their position against the lower support plate [21].

CAUTION	THE UPPER TRUNNION BEARING [26] AND THE LOWER TRUNNION BEARING [22] ARE PRECISION BEARINGS THAT ARE EASILY DAMAGED. DURING THE REMOVAL OF THE ACTUATOR ASSY [10], YOU MUST FOLLOW THESE PRECAUTIONS TO PREVENT DAMAGE TO THE UPPER TRUNNION BEARING [26] AND THE LOWER TRUNNION BEARING [22]: MISALIGNMENT OF MORE THAN 2 ° BETWEEN THE INNER AND OUTER RACES OF THE UPPER TRUNNION BEARING [26] AND THE LOWER TRUNNION BEARING [22] IS NOT PERMITTED. DO NOT HIT (NOT EVEN LIGHTLY) THE UPPER TRUNNION BEARING [26] OR THE LOWER TRUNNION BEARING [22] WITH A HAMMER OR OTHER TOOL. DO NOT LET THE UPPER TRUNNION NUT [25] OR THE LOWER TRUNNION NUT [20] TOUCH THE SEALS OR SHIELDS OF THE UPPER TRUNNION BEARING [26] OR THE LOWER TRUNNION BEARING [22].

(CAUTION PRECEDES)

> **CAUTION**
> THE LOWER TRUNNION BEARING [22] ARE PRECISION BEARINGS THAT ARE EASILY DAMAGED. THE LOWER TRUNNION NUT [20] HOLD THE LOWER TRUNNION BEARING [22] IN THEIR POSITION AGAINST THE LOWER SUPPORT PLATE [21]. WHEN YOU REMOVE THE LOWER TRUNNION NUT [20], THE LOWER TRUNNION BEARING [22] CAN FALL. THIS CAN CAUSE DAMAGE TO THE LOWER TRUNNION BEARING [22].

(b) Use the actuator wrench, SPL-1825, to remove the lower trunnion nut [20] from the two actuator assemblies [10].

(c) Remove the lockwire [12] from the bolt [14].

(d) Remove the bolt [14], the washer [13], the lock plate [15], and the lock plate [11] from the steering nut [19].

(e) Use the NLG steering nut spanner wrench, SPL-1834, to remove the steering nut [19] from the upper support plate [23].

NOTE: This will release the lower support plate [21].

(f) Carefully move the lower support plate [21] down away from the upper support plate [23].

SUBTASK 32-51-08-480-004

(6) Use the nylon sling - 6-8 Foot Length, 3400 Lb Lift Capacity, STD-1092 and the hoist, SPL-1556, to supply a support for the actuator assembly [10].

SUBTASK 32-51-08-020-013

(7) Do the steps below to disconnect the actuator assembly [10] from the valve [17] and the upper support plate [23]:

(a) Use the spanner wrench, SPL-4834, to remove the retainer nut [24] from the valve [17] and the actuator assembly [10].

(b) Use the actuator wrench, SPL-1825 to remove the upper trunnion nut [25] from the actuator assembly [10].

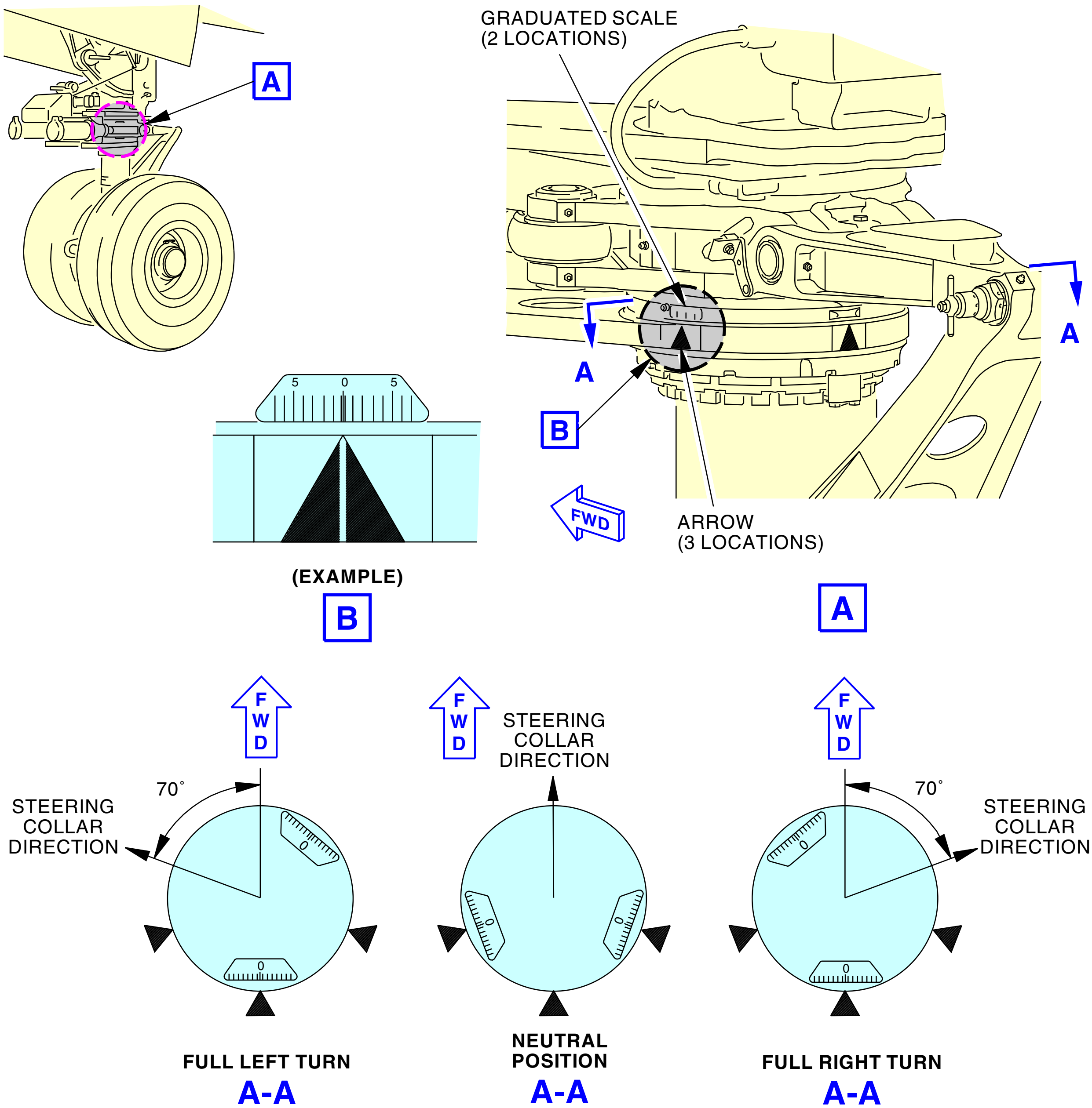
NOTE: The actuator assembly [10] can fall when you do this.

(c) Carefully move the actuator assembly [10] down away from the valve [17] and the upper support plate [23].

SUBTASK 32-51-08-020-014

(8) Remove the backup rings [27], the o-ring [28], the backup rings [29], and the o-ring [30] from the valve [17] and discard them.

END OF TASK



LEGEND:

GRADUATED SCALE

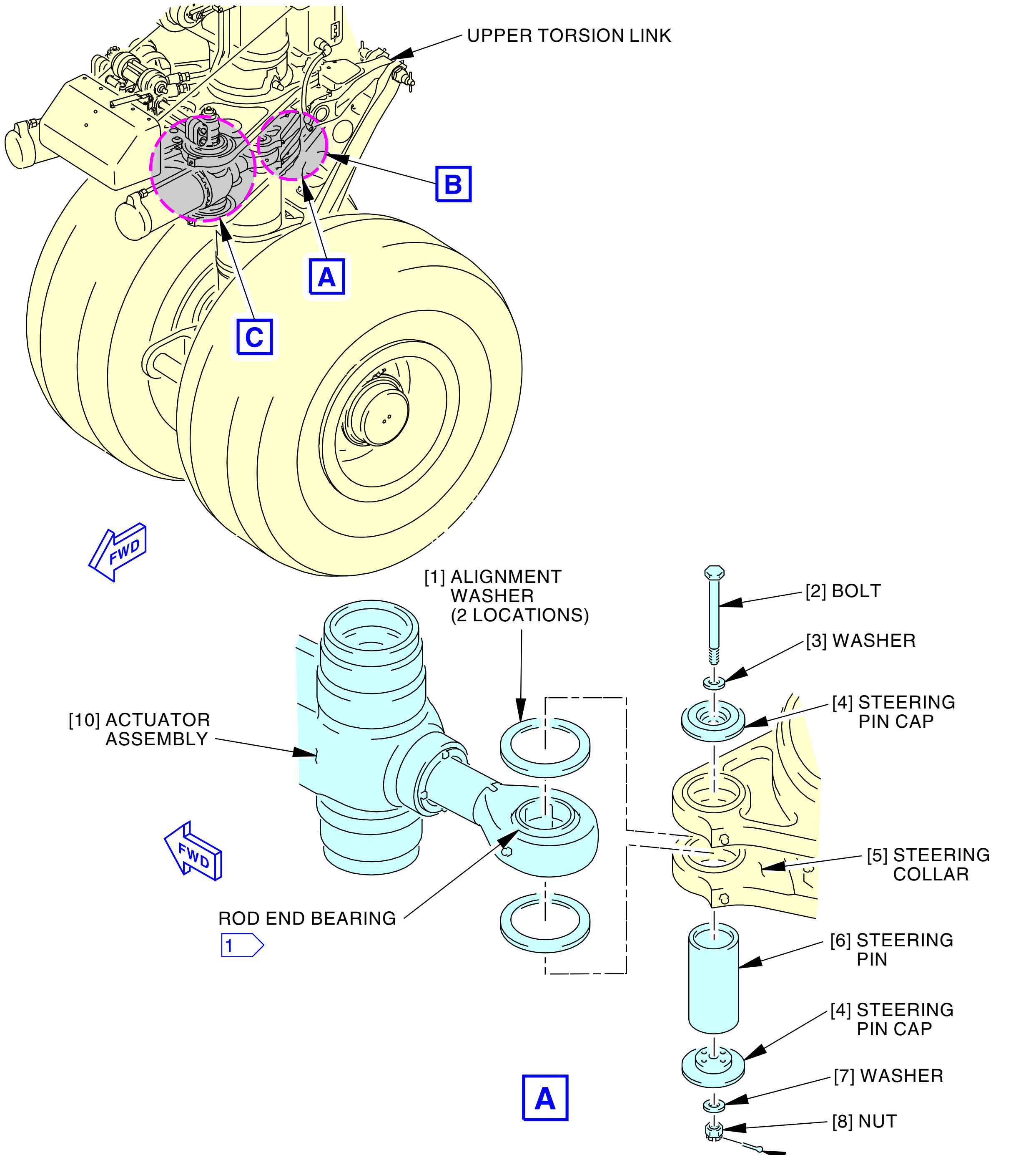
ARROW

NOTE:

FOR A FULL LEFT TURN OR A FULL RIGHT TURN THE ZERO GRADUATION ON THE APPLICABLE GRADUATED SCALE ALIGNS WITH THE AFT ARROW.

E50500 S0006419372_V2

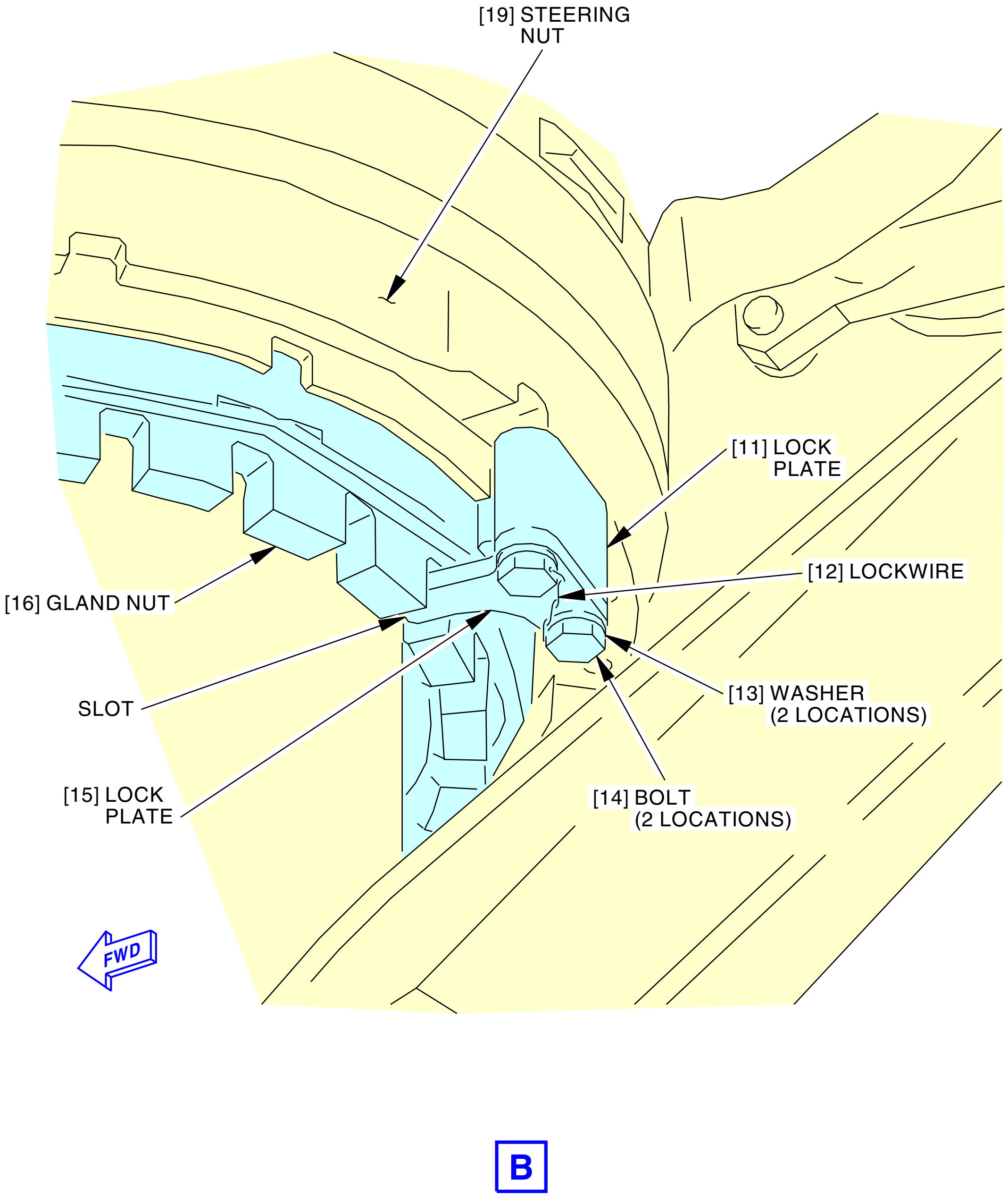
Nose Landing Gear Steering Angle Indication
Figure 401/32-51-08-990-801



1 THE CLEARANCE BETWEEN THE UPPER AND LOWER FACES OF THE ROD END BEARING AND THE BUSHINGS IN THE STEERING COLLAR MUST BE EQUAL WITHIN 0.003 INCHES (0.0762 mm).

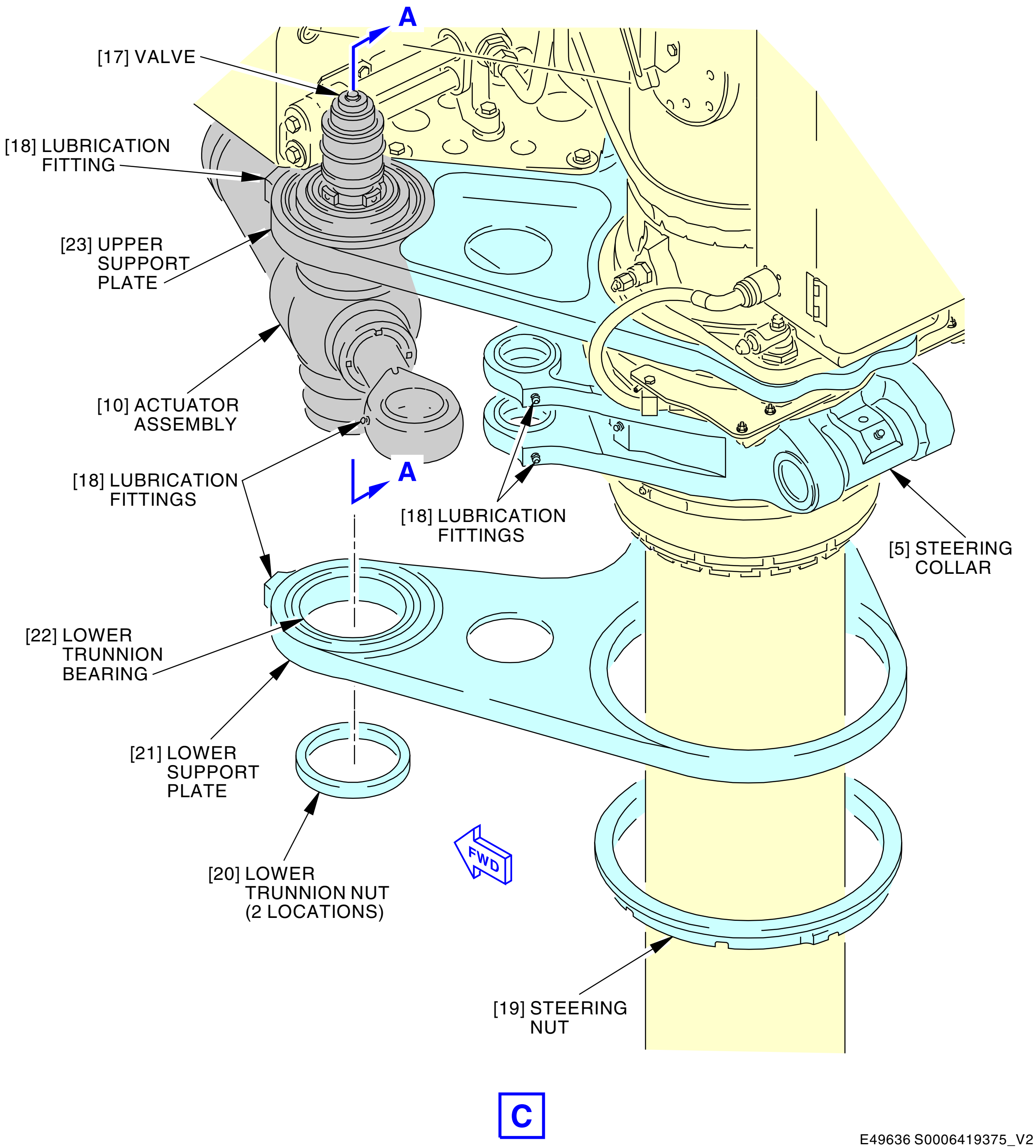
E49638 S0006419373_V3

Nose Landing Gear Steering Actuator Installation
Figure 402/32-51-08-990-802 (Sheet 1 of 4)

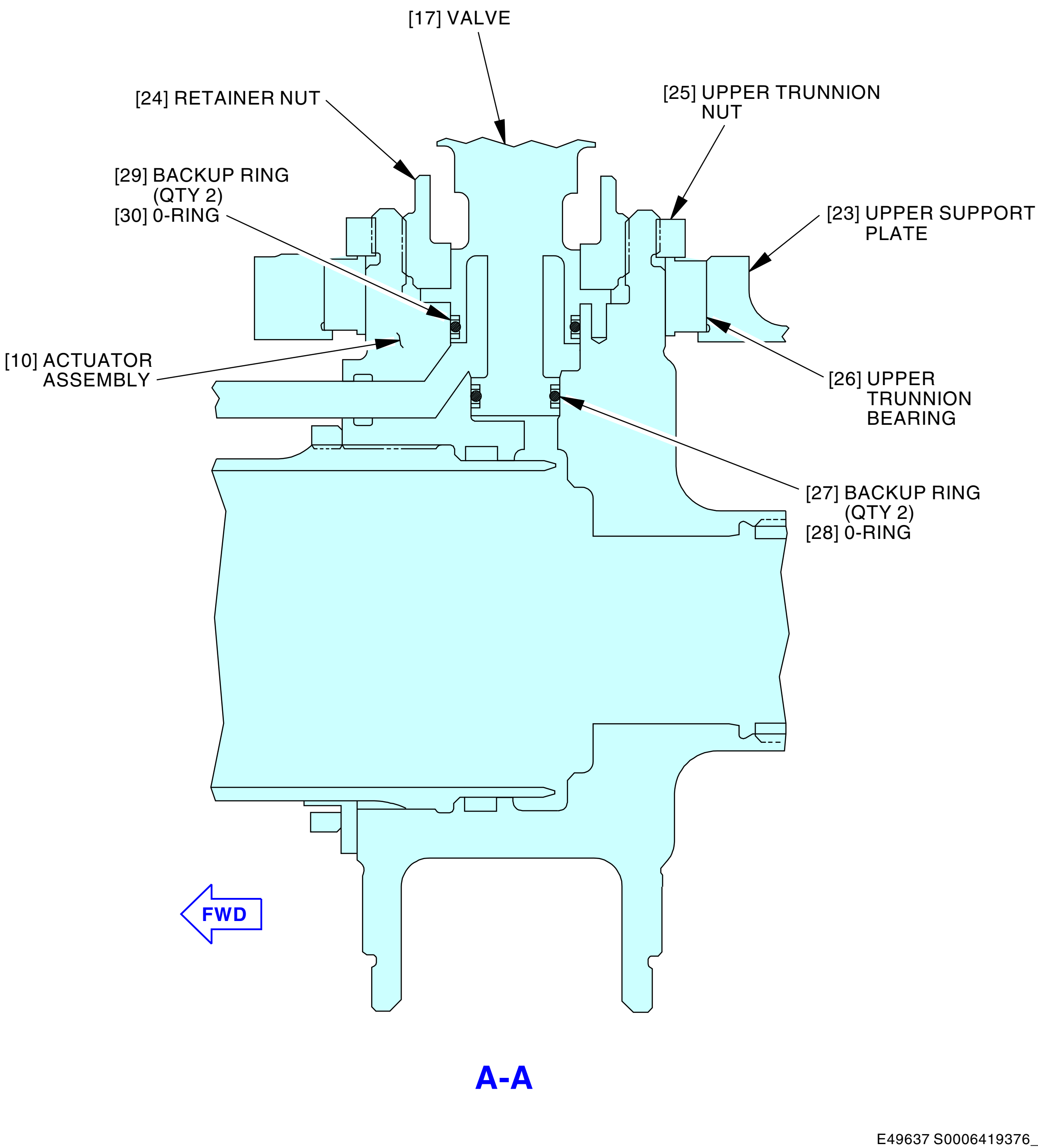


F04636 S0006419374_V2

Nose Landing Gear Steering Actuator Installation
Figure 402/32-51-08-990-802 (Sheet 2 of 4)



Nose Landing Gear Steering Actuator Installation
Figure 402/32-51-08-990-802 (Sheet 3 of 4)



Nose Landing Gear Steering Actuator Installation
Figure 402/32-51-08-990-802 (Sheet 4 of 4)

TASK 32-51-08-400-801

3. Nose Landing Gear Steering Actuator Installation

(Figure 402)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-21-11-400-803	Nose Landing Gear Torsion Link Connection (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1825	Wrench - Actuator, NLG steering Part #: A32035-1 Supplier: 81205
SPL-1834	Wrench - Spanner, NLG Steering Nut Part #: A32045-93 Supplier: 81205
SPL-4834	Spanner Wrench - AN Standard Type Part #: F72959-35 Supplier: 81205 Opt Part #: F72959-6 Supplier: 81205
STD-1092	Sling - Nylon, 6-8 Foot Length, 3400 Lb Lift Capacity
STD-1139	Timer - Stop Watch, Accurate to 1 Second

C. Consumable Materials

Reference	Description	Specification
A00436	Sealant - Fuel Tank	BMS5-45 (Supersedes BMS5-26)
B00571	Coating - Clear Skydrol Resistant Topcoating	BAC5710 Type 41
C50056	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

(Continued)

Reference	Description	Specification
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. **Expendables/Parts**

AMM Item	Description	AIPC Reference	AIPC Effectivity
10	Actuator assembly	32-51-51-02-090	ARO ALL
27	Backup ring	32-51-51-02-070	ARO ALL
28	O-ring	32-51-51-02-075	ARO ALL
29	Backup ring	32-51-51-02-060	ARO ALL
30	O-ring	32-51-51-02-065	ARO ALL

E. **Location Zones**

Zone	Area
211	Flight Compartment, Left
711	Nose Landing Gear

F. **Steering Actuator Installation**

SUBTASK 32-51-08-640-005

(1) Lubricate the new o-ring [30], the new backup rings [29], the new o-ring [28], and the new backup rings [27] with hydraulic fluid, D00153.

SUBTASK 32-51-08-420-016

(2) Install the new o-ring [30], the new backup rings [29], the new o-ring [28], and the new backup rings [27] on the valve [17].

SUBTASK 32-51-08-480-005

(3) Use the nylon sling - 6-8 Foot Length, 3400 Lb Lift Capacity, STD-1092 and the hoist, SPL-1556, to supply a support for the actuator assembly [10].

SUBTASK 32-51-08-420-017

(4) Do the steps below to connect the actuator assembly [10] to the valve [17] and the upper support plate [23]:

WARNING USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(WARNING PRECEDES)

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) Apply a thin layer of Cor-Ban 27L Compound, G50237 (preferred) or Mastinox 6856 K, C50056 (alternate), to these areas:

NOTE: Do not let Cor-Ban 27L Compound, G50237 (preferred) or Mastinox 6856 K, C50056 (alternate), get into the upper trunnion bearing [26] or into the groove for the backup ring [27] or the backup ring [29].

1) The inner diameter of the upper trunnion bearing [26].

2) The index pin and the mating surface of the valve [17].

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(b) Apply corrosion inhibiting material, G50136 (preferred) or Mastinox 6856 K, C50056 (alternate), to the threads and mating surface of the retainer nut [24].

CAUTION	IT IS EASY TO CAUSE DAMAGE TO THE UPPER TRUNNION BEARING AND THE LOWER TRUNNION BEARING. THEY ARE PRECISION BEARINGS. WHEN YOU INSTALL THE ACTUATOR ASSEMBLY, YOU MUST FOLLOW THESE PRECAUTIONS TO PREVENT DAMAGE. MISALIGNMENT OF MORE THAN 2 DEGREES BETWEEN THE INNER AND OUTER RACES OF THE UPPER TRUNNION BEARING AND THE LOWER TRUNNION BEARING IS NOT PERMITTED. DO NOT HIT OR TAP THE UPPER TRUNNION BEARING OR THE LOWER TRUNNION BEARING WITH A HAMMER OR OTHER TOOL. DO NOT LET THE UPPER TRUNNION NUT OR THE LOWER TRUNNION NUT TOUCH THE SEALS OR SHIELDS OF THE UPPER TRUNNION BEARING OR THE LOWER TRUNNION BEARING.

(c) Carefully put the actuator assembly [10] through the upper trunnion bearing [26] and into its position against the valve [17].

NOTE: Make sure you align the hole in the actuator assembly [10] with the index pin of the valve [17].

(d) Make sure the mating surface of the actuator assembly [10] and the mating surface of the valve [17] touch.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(e) Apply Cor-Ban 27L Compound, G50237 (preferred) or Mastinox 6856 K, C50056 (alternate), to the empty space between the flange of the valve [17] and the thread relief of the actuator assembly [10].

(f) Install the retainer nut [24] on the actuator assembly [10] and the valve [17].

(g) Use the spanner wrench, SPL-4834, to tighten the retainer nut [24] until the mating surfaces of the actuator assembly [10] and the valve [17] are tightly held together.

(h) Loosely install the upper trunnion nut [25] to hold the actuator assembly [10] in its position.

(i) Use the spanner wrench, SPL-4834, to tighten the retainer nut [24] to 700 in-lb (79.1 N·m)-750 in-lb (84.7 N·m).

SUBTASK 32-51-08-080-002

(5) Remove the nylon sling - 6-8 Foot Length, 3400 Lb Lift Capacity, STD-1092 from the actuator assembly [10].

SUBTASK 32-51-08-420-018

(6) Do the steps below to install the lower support plate [21]:

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(WARNING PRECEDES)

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) Apply a thin layer of Cor-Ban 27L Compound, G50237 (preferred) or Mastinox 6856 K, C50056 (alternate), to these areas:

NOTE: Do not let Cor-Ban 27L Compound, G50237 (preferred) or Mastinox 6856 K, C50056 (alternate), get into the lower trunnion bearing [22].

1) The threads and the thread relief of the steering nut [19].

2) The inner diameter of the lower trunnion bearing [22].

(b) Push the steering collar [5] up into its position against the upper support plate [23].

(c) Carefully move the lower support plate [21] up into its position against the steering collar [5] and the groove of the upper support plate [23].

NOTE: Make sure to align the lower trunnion bearing [22], in the lower support plate [21], with the two actuator assemblies [10] when you do this.

(d) Install the steering nut [19] on the upper support plate [23].

(e) Loosely install the lower trunnion nut [20] so that the lower trunnion bearing [22] do not fall out of the lower support plate [21].

(f) Use the NLG steering nut spanner wrench, SPL-1834, to tighten the steering nut [19] to 75 ft-lb (101.7 N·m)-100 ft-lb (135.6 N·m).

(g) Apply a thin layer of grease, D00013, to these areas:

1) The shank and threads of the bolt [14].

2) The faces of the washer [13].

3) The mating surfaces of the lock plate [11] and the lock plate [15].

(h) Install the lock plate [11], the lock plate [15], the washer [13], and the bolt [14], on the steering nut [19].

NOTE: The lock plate [15] must align with a slot on the gland nut [16]. If it is necessary, loosen the steering nut [19] a small amount to align the lock plate [15] with a slot on the gland nut [16].

(i) Tighten the bolt [14] to 67 in-lb (7.6 N·m)-82 in-lb (9.3 N·m).

(j) Install the lockwire [12] on the bolt [14].

SUBTASK 32-51-08-420-019

(7) Do the steps below to connect the actuator assembly [10] (that you did not remove) to the lower support plate [21]:

(a) Make sure the lower trunnion bearing [22] is fully against the lower support plate [21].

CAUTION	THE LOWER TRUNNION BEARING [22] IS A PRECISION BEARING THAT IS EASILY DAMAGED. YOU MUST FOLLOW THESE PRECAUTIONS TO PREVENT DAMAGE TO THE LOWER TRUNNION BEARING [22]: DO NOT LET THE LOWER TRUNNION NUT [20] TOUCH THE SEALS OR SHIELDS OF THE LOWER TRUNNION BEARING [22]. DO NOT TURN THE LOWER TRUNNION NUT [20] MORE THAN 8 ° AFTER IT FIRST TOUCHES THE LOWER TRUNNION BEARING [22].

(b) Use the actuator wrench, SPL-1825, to tighten the lower trunnion nut [20] until it touches the inner race of the lower trunnion bearing [22].

SUBTASK 32-51-08-820-001

(8) Do the steps below to adjust the actuator assembly [10] (that you did remove) and connect it to the lower support plate [21]:

(a) Manually turn the actuator assembly [10] until its rod end bearing aligns with the clevis of the steering collar [5].

NOTE: Make sure the lubrication fitting [18] on the rod end of the actuator assembly [10] points outboard before you do this.

(b) Use the actuator wrench, SPL-1825, to turn the upper trunnion nut [25] until you get these results:

1) The clearance between the face of rod end spherical bearing and face of steering collar clevis bushing of the steering collar [5] are equal within 0.003 in. (0.076 mm) at top and bottom.

(c) Make sure the lower trunnion bearing [22] is fully against the lower support plate [21].

CAUTION	THE LOWER TRUNNION BEARING [22] IS A PRECISION BEARING THAT IS EASILY DAMAGED. YOU MUST FOLLOW THESE PRECAUTIONS TO PREVENT DAMAGE TO THE LOWER TRUNNION BEARING [22]: DO NOT LET THE LOWER TRUNNION NUT [20] TOUCH THE SEALS OR SHIELDS OF THE LOWER TRUNNION BEARING [22]. DO NOT TURN THE LOWER TRUNNION NUT [20] MORE THAN 8 ° AFTER IT FIRST TOUCHES THE LOWER TRUNNION BEARING [22].

(d) Use the actuator wrench, SPL-1825, to tighten the lower trunnion nut [20] until it touches the inner race of the lower trunnion bearing [22].

SUBTASK 32-51-08-390-003

(9) Use sealant, A00436, to apply a fillet seal to the joint between the actuator assembly [10] and the retainer nut [24].

SUBTASK 32-51-08-390-004

(10) Apply coating, B00571, to the fillet seal.

NOTE: Do not apply the coating, B00571, until the sealant, A00436, is not tacky.

SUBTASK 32-51-08-420-020

(11) Do the steps below to connect the actuator assembly [10] to the steering collar [5]:

(a) Manually turn the actuator assembly [10] until its rod end bearing is clear of the steering collar [5].

(b) Install the alignment washer [1] on the actuator assembly [10].

(c) Manually turn the actuator assembly [10] until its rod end bearing aligns with the clevis of the steering collar [5].

NOTE: You must hold the lower alignment washer [1] in its position on the actuator assembly [10] while you do this.

(d) Apply a thin layer of grease, D00013, to the chrome surfaces of the steering pin [6].

(e) Install the steering pin [6] through the steering collar [5] and the actuator assembly [10].

(f) Install the upper steering pin cap [4] on the steering pin [6].

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(g) Apply a thin layer of or Cor-Ban 27L Compound, G50237 (preferred) or Mastinox 6856 K, C50056, (alternate) to these areas:

1) The shank and threads of the bolt [2].

2) The faces of the washer [3] and the washer [7].

(h) Install the washer [3] on the bolt [2].

(i) Install the bolt [2] through the upper steering pin cap [4].

(j) Install the lower steering pin cap [4] on the steering pin [6].

(k) Install the washer [7] and the nut [8] on the bolt [2].

(l) Tighten the nut [8] to 95 in-lb (10.7 N·m)-160 in-lb (18.1 N·m).

(m) Install the cotter pin [9] through the nut [8].

NOTE: If it is necessary, loosen the nut [8] a small amount to install the cotter pin [9].

SUBTASK 32-51-08-640-006

(12) Apply grease, D00013, to the five lubrication fitting [18] to lubricate these items:

NOTE: If you lubricate the upper trunnion bearing [26] or the lower trunnion bearing [22] with a power grease gun, do not use a flow larger than 0.62 lb/min (0.3 kg/min).

(a) The upper trunnion bearing [26] and the lower trunnion bearing [22].

(b) The rod end bearing of the actuator assembly [10]

(c) The clevis of the steering collar [5].

G. Steering Actuator Installation Test

SUBTASK 32-51-08-080-003

(1) Remove the NLG towing lever pin, SPL-1499, from the towing lever.

SUBTASK 32-51-08-860-013

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-51-08-860-014

(3) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-51-08-860-015

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-51-08-710-003

(5) Slowly turn the Captain's steering tiller through 10 full cycles to bleed the air from the actuator assembly [10].

NOTE: One cycle is from the neutral position, counterclockwise approximately 350 ° to the left stop, back to the neutral position, clockwise approximately 350 ° to the right stop, and back to the neutral position.

This will cause the upper torsion link of the nose landing gear to turn through its full travel.

SUBTASK 32-51-08-720-001

(6) Do the steps below to do a check of the steering system's rate and travel:

(a) Turn the Captain's steering tiller counterclockwise to its stop and hold it there.

NOTE: You must turn the Captain's steering tiller approximately 350 ° to get to the stop.

(b) Make sure the steering collar turns to the left 69 ° to 71 °.

NOTE: Use the graduated scales on the steering collar and the arrows on the lower support plate to measure the angular position of the steering collar (Figure 401).

(c) Release the Captain's steering tiller.

(d) Make sure the Captain's steering tiller moves back to the neutral position without manual help in 4 seconds or less.

NOTE: Use the stopwatch, STD-1139 to measure the time. Start the stopwatch, STD-1139 when you release the Captain's steering tiller. Stop the stopwatch, STD-1139 when the Captain's steering tiller gets to the neutral position.

(e) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

(f) Turn the Captain's steering tiller clockwise to its stop and hold it there.

NOTE: You must turn the Captain's steering tiller approximately 350 ° to get to the stop.

(g) Make sure the steering collar turns to the right 69 ° to 71 °.

(h) Release the Captain's steering tiller.

(i) Make sure the Captain's steering tiller moves back to the neutral position without manual help in 4 seconds or less.

NOTE: Use the stopwatch, STD-1139 to measure the time. Start the stopwatch, STD-1139 when you release the Captain's steering tiller. Stop the stopwatch, STD-1139 when the Captain's steering tiller gets to the neutral position.

(j) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

SUBTASK 32-51-08-790-001

(7) Examine the actuator assembly [10] for leaks.

NOTE: Leakage at the valve [17] and the rod of the actuator assembly [10] must not be more than 2 drops for 25 full cycles. Wet seals are permitted.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-51-08-860-007

(1) Use the Captain's steering tiller to align the upper torsion link with the lower torsion link.

SUBTASK 32-51-08-860-008

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-51-08-420-015

(3) Do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-11-400-803.

SUBTASK 32-51-08-860-010

WARNING	MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER, THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

END OF TASK

NOSE LANDING GEAR STEERING COLLAR - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

(1) A removal of the steering collar for the nose landing gear

(2) An installation of the steering collar for the nose landing gear.

TASK 32-51-09-020-801

2. Nose Landing Gear Steering Collar Removal

(Figure 401)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-21-25-960-807-002	Replace the Active Seals, Spare Seals and the Gland Nut Scraper Ring (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1569	Clamp - Control Cable Part #: A20005-9 Supplier: 81205
SPL-1825	Wrench - Actuator, NLG steering Part #: A32035-1 Supplier: 81205
SPL-1834	Wrench - Spanner, NLG Steering Nut Part #: A32045-93 Supplier: 81205
SPL-2532	Pin Set - Rigging Part #: J20003-34 Supplier: 81205

C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for the Removal

SUBTASK 32-51-09-480-001

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-51-09-860-001

(2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-51-09-860-002

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-51-09-210-001

(4) Make sure the wheels of the nose landing gear are in the centered position (Figure 402).

NOTE: There are two graduated scales on the steering collar. When the wheels of the nose landing gear are turned 0 °, the graduated scales are on the left and right side of the airplane.

There are also three arrows on the lower support plate for the steering actuators. The arrows are on the left, aft, and right sides of the support plate.

The wheels of the nose landing gear are in the centered position when the 0 ° graduation on the left and right graduated scales is aligned with the left and right arrow, respectively, on the support plate.

SUBTASK 32-51-09-480-002

(5) Make sure these rigging pins from rigging pin set, SPL-2532, are installed:

NOTE: The placard on the inside of the box for the pin set identifies the different rigging pins.

(a) Rigging pin NS5 in the gear up centering mechanism [2].

(b) Rigging pin NS6 in the summing mechanism.

SUBTASK 32-51-09-860-003

(6) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-51-09-860-004

(7) Move the towing lever, on the forward side of the nose landing gear, to the TOW position.

NOTE: This isolates the steering system for the nose landing gear from hydraulic power.

SUBTASK 32-51-09-480-003

WARNING	ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(8) Install the NLG towing lever pin, SPL-1499, through the towing lever.

NOTE: You use the NLG Towing Lever Lock Pin to hold the towing lever in the TOW position.

SUBTASK 32-51-09-860-005

WARNING	MAKE SURE THAT ALL PERSONS AND EQUIPMENT ARE CLEAR OF THE MOVABLE SURFACES OF THE STEERING SYSTEM FOR THE NOSE WHEEL. WHEN THE STEERING SYSTEM IS SUPPLIED WITH POWER, THE MOVABLE SURFACES CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(9) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

E. Nose Landing Gear Steering Collar Removal

SUBTASK 32-51-09-020-001

(1) Do the steps below for the cables NWS2A and NWS2B to disconnect them from the steering collar [7]:

(a) Remove the two turnbuckle locking locking clips [3] from the turnbuckle [4].

(b) Loosen the turnbuckle [4] for cables NWS2A and NWS2B.

(c) Disconnect the cables NWS2A and NWS2B from the steering collar [7].

(d) Attach a control cable clamp, SPL-1569, to the cable.

(e) Attach the opposite end of the control cable clamp, SPL-1569, to the outer cylinder of the shock strut to make sure the cable has tension in it.

NOTE: This is necessary so that the cable does not fall off its pulleys.

SUBTASK 32-51-09-020-002

(2) Remove the inner cylinder of the shock strut from the outer cylinder of the shock strut, do this task: Replace the Active Seals, Spare Seals and the Gland Nut Scraper Ring, TASK 32-21-25-960-807-002.

SUBTASK 32-51-09-020-003

(3) Remove the top torsion link [1] from the steering collar [7], do this task: Replace the Active Seals, Spare Seals and the Gland Nut Scraper Ring, TASK 32-21-25-960-807-002.

SUBTASK 32-51-09-980-001

(4) Turn the steering actuators [14] until the actuator rod ends are clear of the top support plate [15] and lower lower support plate [16].

SUBTASK 32-51-09-020-004

(5) Remove the parts that follow to disconnect the actuator rod ends from the steering collar [7]:

(a) cotter pin [10]

(b) nut [11]

(c) washer [12]

(d) bolt [5]

(e) washer [6]

(f) pin cap [9]

(g) pin [8]

(h) washer [13]

SUBTASK 32-51-09-020-005

(6) Use the actuator wrench, SPL-1825, to remove the retainer nut [18] which hold the steering actuators [14] to the lower lower support plate [16].

SUBTASK 32-51-09-020-006

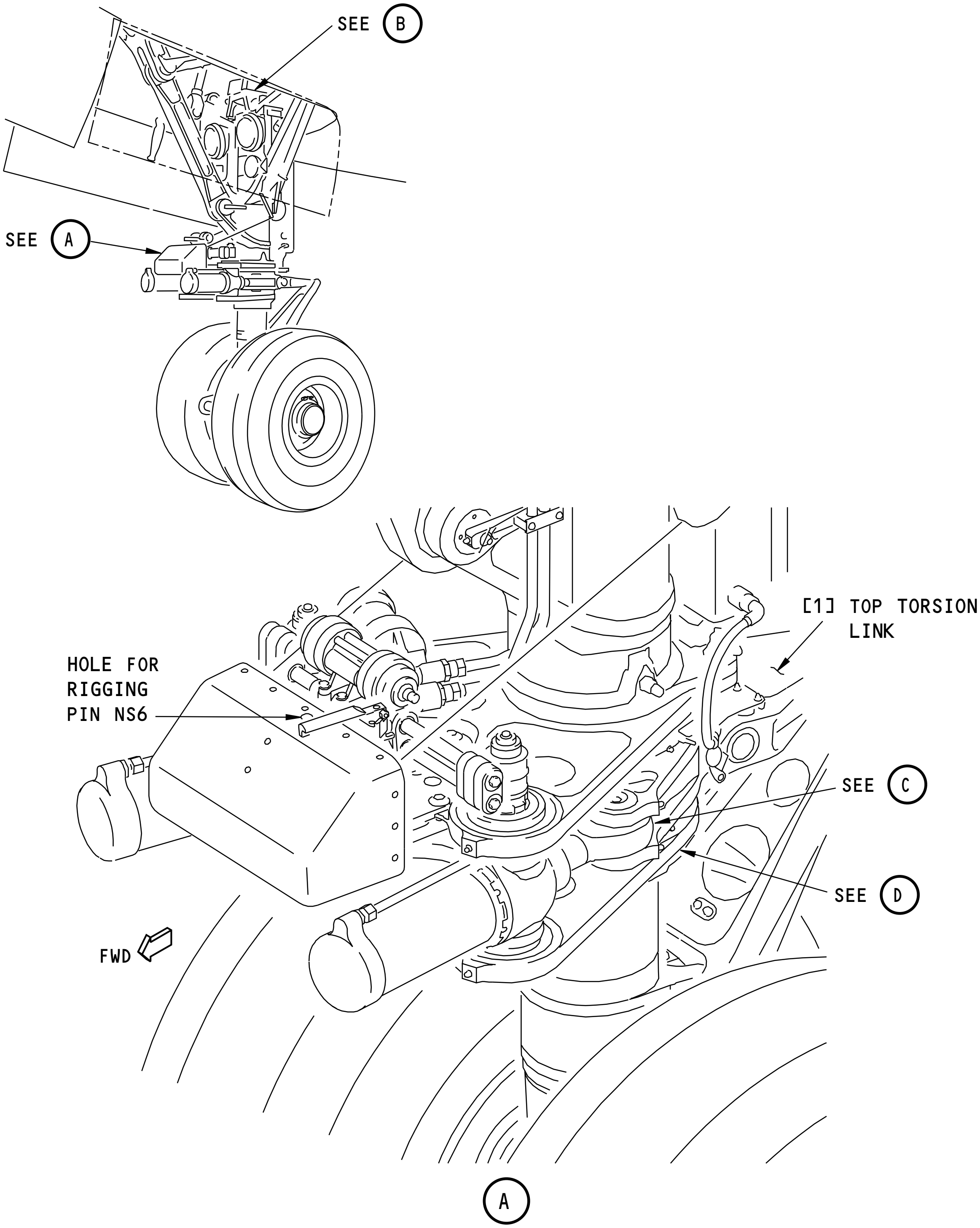
(7) Hold the lower support plate [16] and the steering collar [7] to do the steps that follow:

(a) Use the NLG steering nut spanner wrench, SPL-1834, to remove the steering nut [17].

(b) Remove the lower support lower support plate [16].

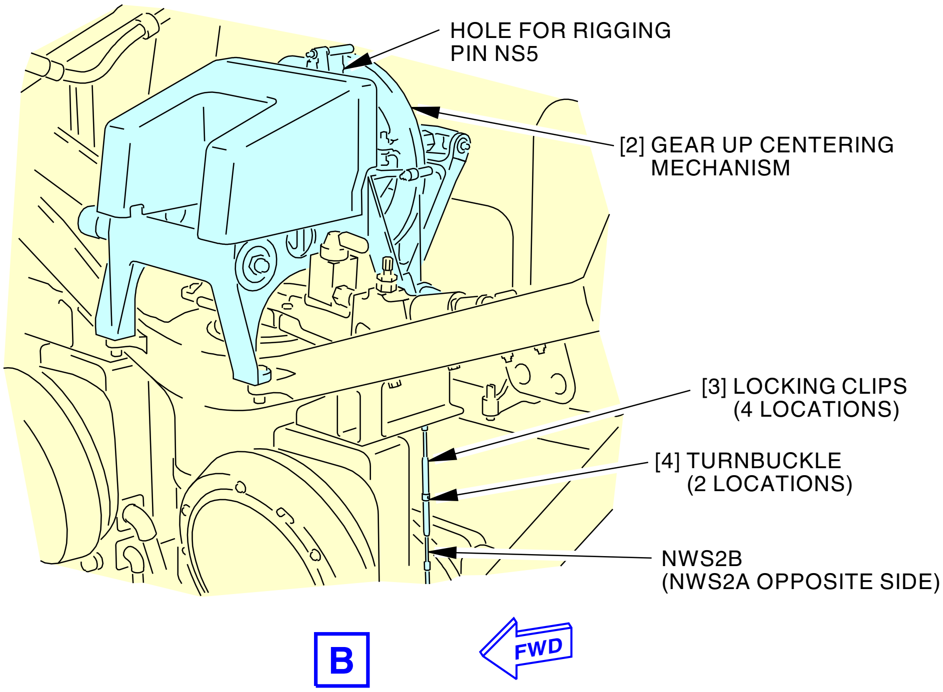
(c) Remove the steering collar [7].

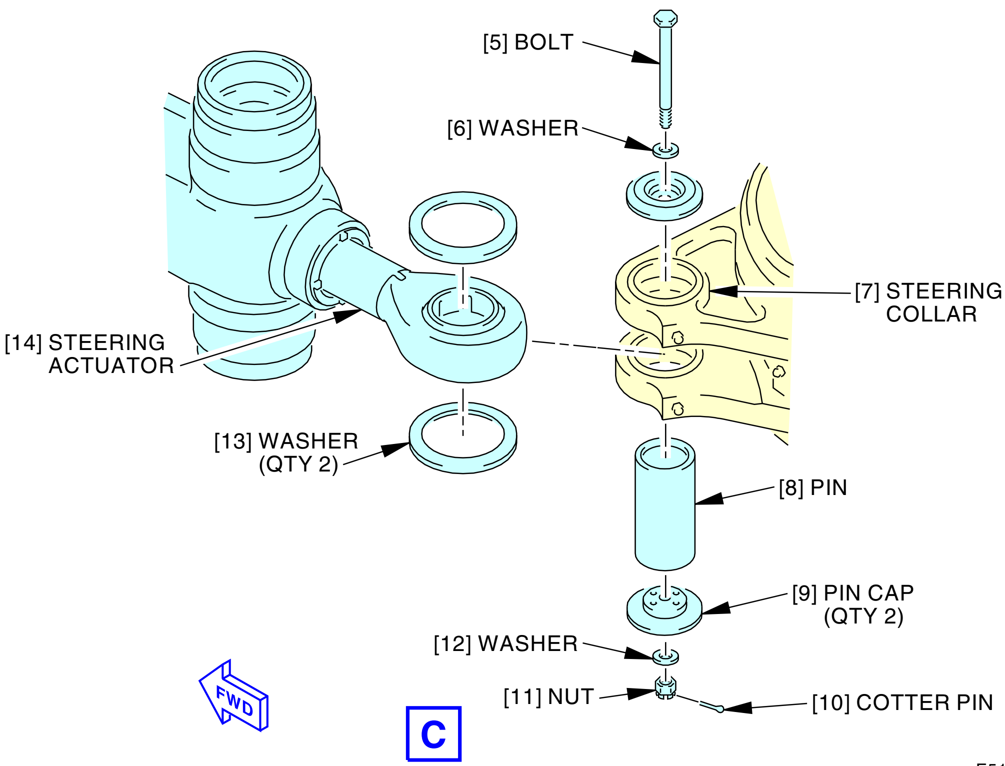
END OF TASK



E51167 S0006419381_V1

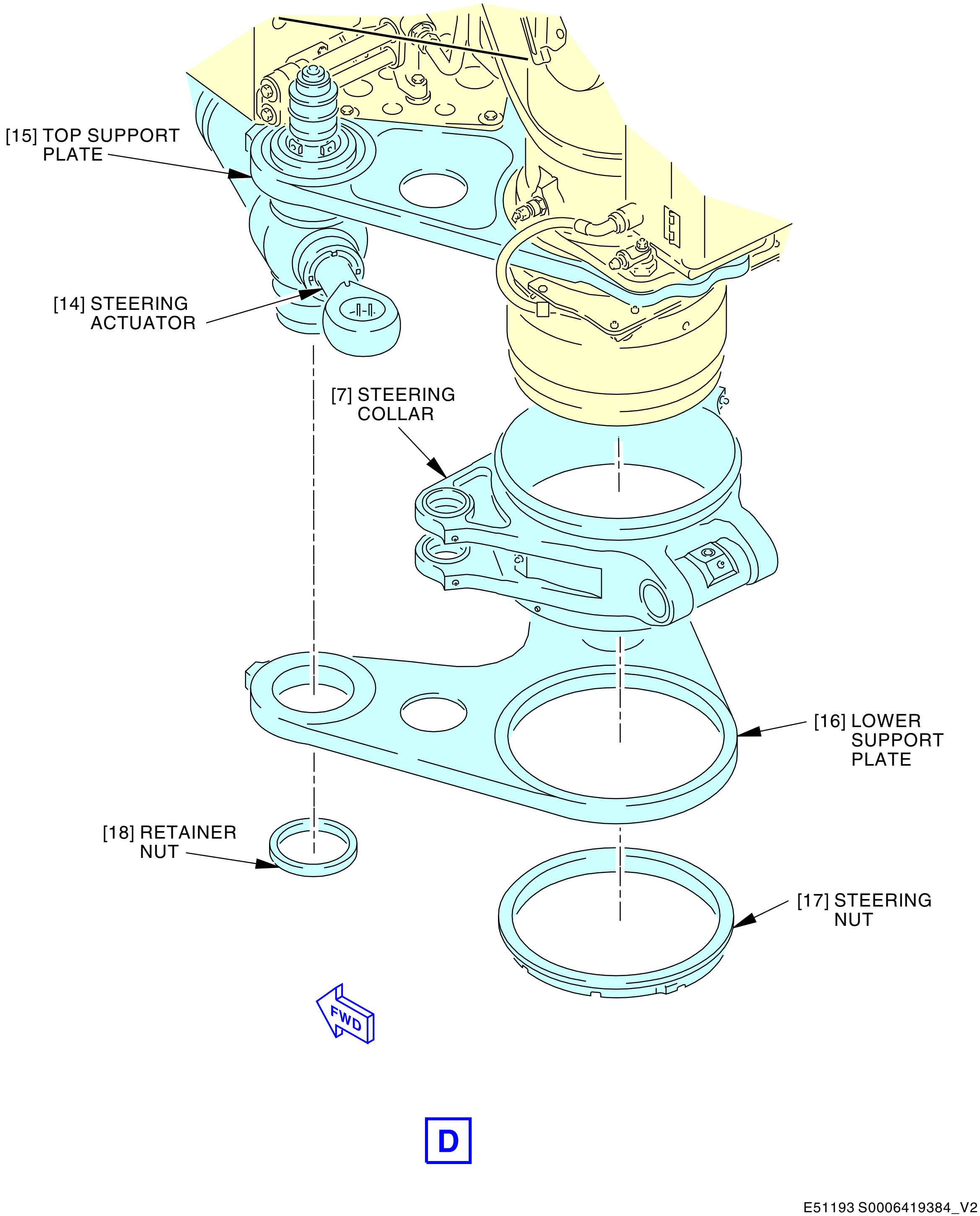
Nose Landing Gear Steering Collar Installation
Figure 401/32-51-09-990-801 (Sheet 1 of 3)



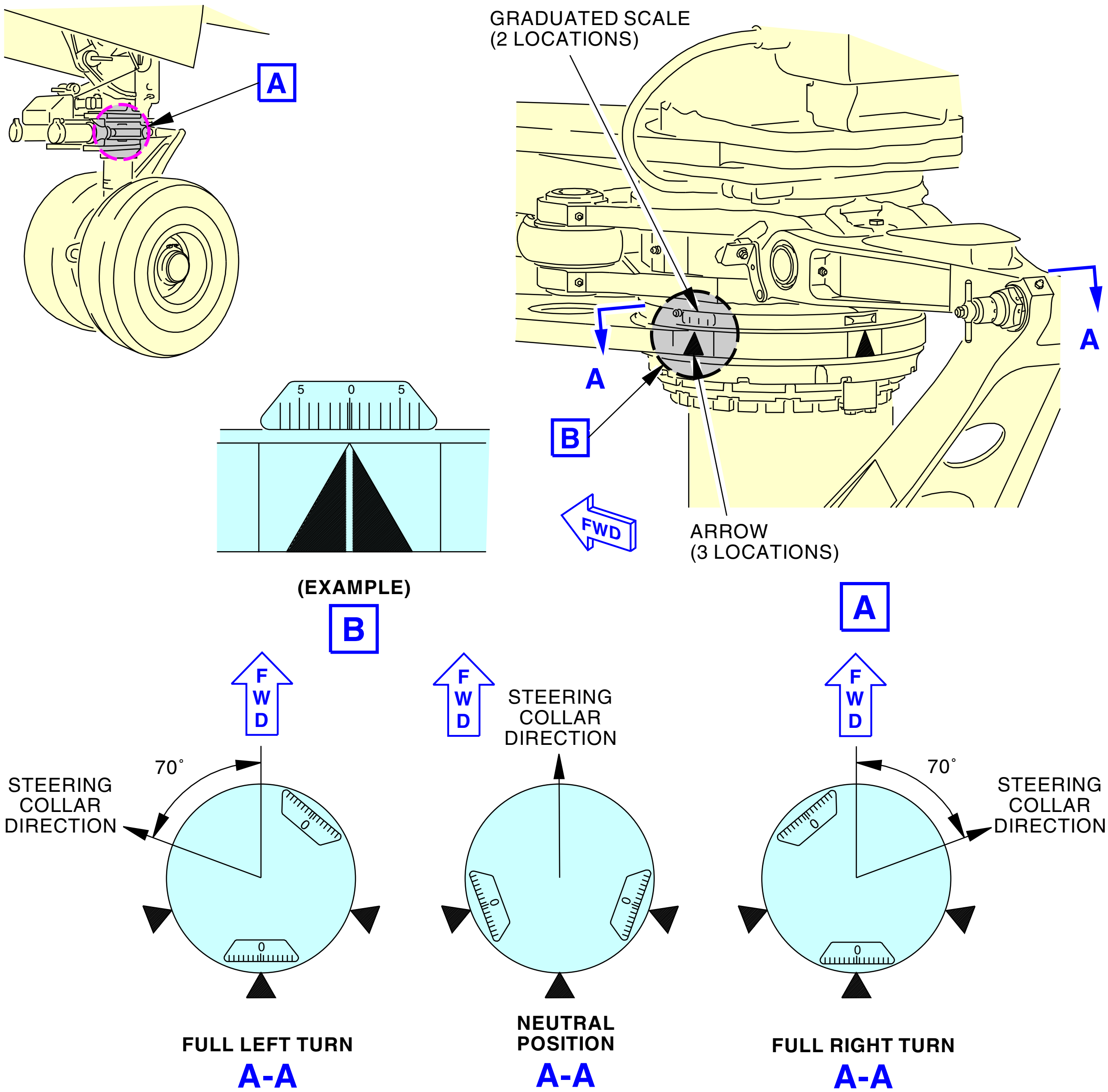


E51172 S0006419383_V2

Nose Landing Gear Steering Collar Installation
Figure 401/32-51-09-990-801 (Sheet 2 of 3)



Nose Landing Gear Steering Collar Installation
Figure 401/32-51-09-990-801 (Sheet 3 of 3)



LEGEND:

GRADUATED SCALE

ARROW

NOTE:

FOR A FULL LEFT TURN OR A FULL RIGHT TURN THE ZERO GRADUATION ON THE APPLICABLE GRADUATED SCALE ALIGNS WITH THE AFT ARROW.

E51195 S0006419385_V2

Nose Landing Gear Steering Angle Indication
Figure 402/32-51-09-990-802

TASK 32-51-09-400-801

3. Nose Landing Gear Steering Collar Installation

(Figure 401)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-21-11-000-803	Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage (P/B 201)
32-21-11-400-801	Nose Landing Gear Upper Torsion Link Installation (P/B 201)
32-21-11-400-803	Nose Landing Gear Torsion Link Connection (P/B 201)
32-21-25-960-807-002	Replace the Active Seals, Spare Seals and the Gland Nut Scraper Ring (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1553	Tensiometer - Cable, Low Tension (200 lbs and below) Part #: 102-03108 Supplier: 21844 Part #: 102-03120 Supplier: 21844 Part #: ACX-250 Supplier: 13331 Part #: T60-1001-C8-1A Supplier: 0N8U4 Opt Part #: 102-03110 Supplier: 21844 Opt Part #: ACM-200 Supplier: 13331
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1569	Clamp - Control Cable Part #: A20005-9 Supplier: 81205
SPL-1825	Wrench - Actuator, NLG steering Part #: A32035-1 Supplier: 81205
SPL-1834	Wrench - Spanner, NLG Steering Nut Part #: A32045-93 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
A00436	Sealant - Fuel Tank	BMS5-45 (Supersedes BMS5-26)
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)

(Continued)

Reference	Description	Specification
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
7	Steering collar	32-21-02-02C-770	ARO ALL
10	Cotter pin	32-21-02-02C-365	ARO ALL
16	Lower support plate	32-21-02-02C-765	ARO ALL
		32-51-08-02-070	ARO ALL

E. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
211	Flight Compartment, Left
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Prepare for the Installation

SUBTASK 32-51-09-210-002

(1) Make sure the wheels of the nose landing gear are in the centered position.

NOTE: There are two graduated scales on the steering collar. When the wheels of the nose landing gear are turned 0 °, the graduated scales are on the left and right side of the airplane.

There are also three arrows on the lower support plate for the steering actuators. The arrows are on the left, aft, and right sides of the support plate.

The wheels of the nose landing gear are in the centered position when the 0 ° graduation on the left and right graduated scales is aligned with the left and right arrow, respectively, on the support plate.

SUBTASK 32-51-09-860-006

(2) Make sure the towing lever, on the forward side of the nose landing gear, is in the TOW position.

NOTE: This isolates the steering system for the nose landing gear from hydraulic power.

SUBTASK 32-51-09-480-004

WARNING: ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) Make sure the NLG towing lever pin, SPL-1499, is installed through the towing lever.

NOTE: The NLG Towing Lever Lock Pin (NLG towing lever pin, SPL-1499), holds the towing lever in the TOW position.

SUBTASK 32-51-09-480-005

(4) Make sure a rig pin is installed in the steering drum of the gear up centering mechanism [2].

G. Steering Collar Installation

SUBTASK 32-51-09-640-001

(1) Apply a thin layer of grease, D00013, to the bushings on the steering collar [7] and the mating surfaces on the support torque tube.

SUBTASK 32-51-09-420-001

(2) Put the steering collar [7] on the torque tube.

(a) Use a rope to support the steering collar [7] in its position.

SUBTASK 32-51-09-640-002

(3) Apply a thin layer of grease, D00013, to the spline surfaces on the lower support plate [16].

SUBTASK 32-51-09-640-003

(4) Apply a layer of grease, D00013, to the top shock strut and the mating threads of the steering nut [17].

SUBTASK 32-51-09-420-016

(5) Align the missing spline tooth on the lower support plate [16] with the index tooth on the torque tube.

SUBTASK 32-51-09-420-002

(6) Put the lower support plate [16] into its position against the steering collar [7].

SUBTASK 32-51-09-420-003

(7) Install the steering nut [17] on the top shock strut.

SUBTASK 32-51-09-420-004

(8) Use the NLG steering nut spanner wrench, SPL-1834, to tighten the steering nut [17] only until the lower support plate [16] seats against the shoulder of the steering collar [7].

SUBTASK 32-51-09-420-005

(9) Tighten the steering nut [17] to 75 ft-lb (101.7 N·m)-100 ft-lb (135.6 N·m).

SUBTASK 32-51-09-710-001

(10) Release the support for the steering collar [7] and make sure the steering collar [7] turns freely.

SUBTASK 32-51-09-020-007

(11) Remove the top and lower retainer nuts [18].

SUBTASK 32-51-09-390-001

(12) Apply sealant, A00436, to the threads on the top and lower trunnions of the steering actuators [14].

SUBTASK 32-51-09-980-002

(13) Turn the steering collar [7] until the holes in the actuator rods for the steering actuators [14] and steering collar [7] are aligned. Do not install the pin [8] in this step.

SUBTASK 32-51-09-420-006

CAUTION: DO NOT TIGHTEN THE TRUNNION NUTS MORE THAN 8 DEGREES AFTER THE SURFACES FIRST TOUCH. THIS WILL PREVENT DAMAGE TO THE BEARINGS.

(CAUTION PRECEDES)

CAUTION

IT IS EASY TO CAUSE DAMAGE TO THE UPPER TRUNNION BEARING AND THE LOWER TRUNNION BEARING. THEY ARE PRECISION BEARINGS. WHEN YOU INSTALL THE ACTUATOR ASSEMBLY, YOU MUST FOLLOW THESE PRECAUTIONS TO PREVENT DAMAGE. MISALIGNMENT OF MORE THAN 2 DEGREES BETWEEN THE INNER AND OUTER RACES OF THE UPPER TRUNNION BEARING AND THE LOWER TRUNNION BEARING IS NOT PERMITTED. DO NOT HIT OR TAP THE UPPER TRUNNION BEARING OR THE LOWER TRUNNION BEARING WITH A HAMMER OR OTHER TOOL. DO NOT LET THE UPPER TRUNNION NUT OR THE LOWER TRUNNION NUT TOUCH THE SEALS OR SHIELDS OF THE UPPER TRUNNION BEARING OR THE LOWER TRUNNION BEARING.

(14) Make sure the conditions that follow occur when you use the actuator wrench, SPL-1825, to install and tighten the top and lower retainer nut [18]:

(a) The threads that come out of the top and lower ends of the trunnion are equal.

(b) The clearance between the faces of the rod end bearings on the steering actuators [14] and the faces of the clevis bushings on the steering collar [7] have less than 0.003 in. (0.0762 mm) difference. If these two conditions do not occur you must seat the bearings again.

SUBTASK 32-51-09-420-017

(15) Install the top retainer nut [18].

SUBTASK 32-51-09-420-007

(16) Use the actuator wrench, SPL-1825 to tighten the top retainer nut [18].

SUBTASK 32-51-09-420-018

(17) Install the lower retainer nut [18] last until they touch the inner races of the trunnion bearings.

SUBTASK 32-51-09-420-008

(18) Use the actuator wrench, SPL-1825 to tighten the lower retainer nut [18].

SUBTASK 32-51-09-640-004

(19) Apply a thin layer of grease, D00013, to the shank and threads of the bolt [5], the faces of the washer [6], the chromed surface of the pin [8] and the mating surfaces of the steering collar [7].

SUBTASK 32-51-09-620-001

WARNING

USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING

DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(20) Apply a thin layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913, to the threads and thread reliefs of the bolt [5], and the faces of the washer [12].

SUBTASK 32-51-09-620-002

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(21) Apply a thin layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913, to the mating surfaces of the pin [8].

SUBTASK 32-51-09-420-009

(22) Install the washer [13], the pin [8], the pin cap [9], the bolt [5], the washer [6], the washer [12] and the nut [11] to connect the rod end of the steering actuators [14] to the steering collar [7].

SUBTASK 32-51-09-420-010

(23) Tighten the nut [11] to 95 in-lb (10.7 N·m)-160 in-lb (18.1 N·m).

SUBTASK 32-51-09-420-011

(24) Loosen the nut [11] to the nearest lock position and install the cotter pins [10].

SUBTASK 32-51-09-710-002

(25) Make sure the steering collar [7] can turn freely in each direction.

SUBTASK 32-51-09-640-005

(26) Use the grease fitting to lubricate the rod end of the actuators with grease, D00013.

SUBTASK 32-51-09-420-012

(27) Install the inner cylinder of the shock strut in the outer cylinder of the shock strut, do this task: Replace the Active Seals, Spare Seals and the Gland Nut Scraper Ring, TASK 32-21-25-960-807-002.

SUBTASK 32-51-09-420-013

(28) Install the top torsion link [1] on the steering collar [7], do this task: Nose Landing Gear Upper Torsion Link Installation, TASK 32-21-11-400-801.

NOTE: Do not connect the top and lower torsion links at this time.

SUBTASK 32-51-09-420-014

(29) Do the steps below to connect the cables NWS2A and NWS2B to the steering collar [7]:

(a) Disconnect the control cable clamp, SPL-1569, from the outer cylinder of the shock strut.

(b) Remove the control cable clamp, SPL-1569, from the cable.

(c) Connect the cables NWS2A and NWS2B to the steering collar [7].

(d) Tighten the turnbuckles [4] to put 60 ±10 lb (27.2 ±4.6 kg) of tension in the cables NWS2A and NWS2B.

1) Use the low tension cable tensiometer, COM-1553, to make sure the tension is correct.

(e) Install the turnbuckle locking clips [3] on the turnbuckles [4].

SUBTASK 32-51-09-080-001

(30) Remove the rigging pin from the steering drum of the gear up centering mechanism [2].

H. Steering Collar Installation Test

NOTE: In this test:

Use the position indicator at the base of the Captain's steering tiller to measure the angular position of the steering tiller.

Use the protractor on the steering collar to measure the angular position of the steering collar.

The 0 ° position is referred to as the neutral position.

SUBTASK 32-51-09-860-007

(1) Do the steps below to prepare for the test:

(a) Do this task: Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage, TASK 32-21-11-000-803.

(b) Remove the NLG towing lever pin, SPL-1499, from the towing lever.

(c) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

(d) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

WARNING KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(e) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-51-09-710-003

(2) Do the steps that follow to do a check of system travel and rate:

(a) Make sure the towing lever is in the NORMAL position.

(b) Turn the Captain's steering tiller clockwise to its stop and hold it there.

NOTE: You must turn the Captain's steering tiller approximately 350 ° to get to the stop.

(c) Make sure the steering collar turns to the right 69 ° to 71 °.

(d) Release the Captain's steering tiller.

(e) Make sure the Captain's steering tiller moves back to the neutral position in 4 seconds or less without manual help.

(f) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

(g) Turn the Captain's steering tiller counterclockwise to its stop and hold it there.

NOTE: You must turn the Captain's steering tiller approximately

350 ° to get to the stop.

(h) Make sure the steering collar turns to the left 69 ° to 71 °.

(i) Release the Captain's steering tiller.

(j) Make sure the Captain's steering tiller moves back to the neutral position in 4 seconds or less without manual help.

(k) Make sure the steering collar moves back to a position ± 1.5 ° from the neutral position.

(l) Make sure there are no hydraulic leaks at the steering actuators.

WARNING ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(m) Move the towing lever to the TOWING position and install the NLG towing lever pin, SPL-1499.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 32-51-09-860-008

(1) Use the Captain's steering tiller to align the upper torsion link with the lower torsion link.

SUBTASK 32-51-09-860-009

(2) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-51-09-420-015

(3) Do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-11-400-803.

SUBTASK 32-51-09-860-011

WARNING MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

END OF TASK

NOSE LANDING GEAR STEERING TILLER - REMOVAL/INSTALLATION

1. **General**
   A. This procedure has two tasks:
      (1) A removal of the tiller for the steering system for the nose landing gear
      (2) An installation of the tiller for the steering system for the nose landing gear.
   B. This procedure shows the Captain's steering tiller. This procedure also applies to the First Officer's steering tiller.

TASK 32-51-10-000-801

2. **Nose Landing Gear Steering Tiller Removal**
(Figure 401)

   A. **References**

Reference	Title
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)

   B. **Tools/Equipment**

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205

   C. **Location Zones**

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
211	Flight Compartment, Left
212	Flight Compartment, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

   D. **Access Panels**

Number	Name/Location
112AL	Forward Access Door

   E. **Prepare for the Removal**

   SUBTASK 32-51-10-867-001

   (1) Make sure the wheels of the nose landing gear are in the centered position.

   NOTE: The protractor on the steering collar shows the angular position of the wheels.

   SUBTASK 32-51-10-860-001

   (2) Move the towing lever, on the forward side of the nose landing gear, to the TOW position.

   NOTE: This isolates the steering system for the nose landing gear from hydraulic power.

SUBTASK 32-51-10-480-001

(3) Install the NLG towing lever pin, SPL-1499, through the towing lever.

NOTE: You use the NLG towing lever pin, SPL-1499, to hold the towing lever in the TOW position.

SUBTASK 32-51-10-040-001

WARNING

MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-51-10-010-001

(5) Open this access panel:

Number	Name/Location
112AL	Forward Access Door

F. Tiller Removal

SUBTASK 32-51-10-020-001

(1) Do these steps to remove the tiller handle [1] from the pinion shaft [5]:

(a) Remove the plug button [2] from the tiller handle [1].

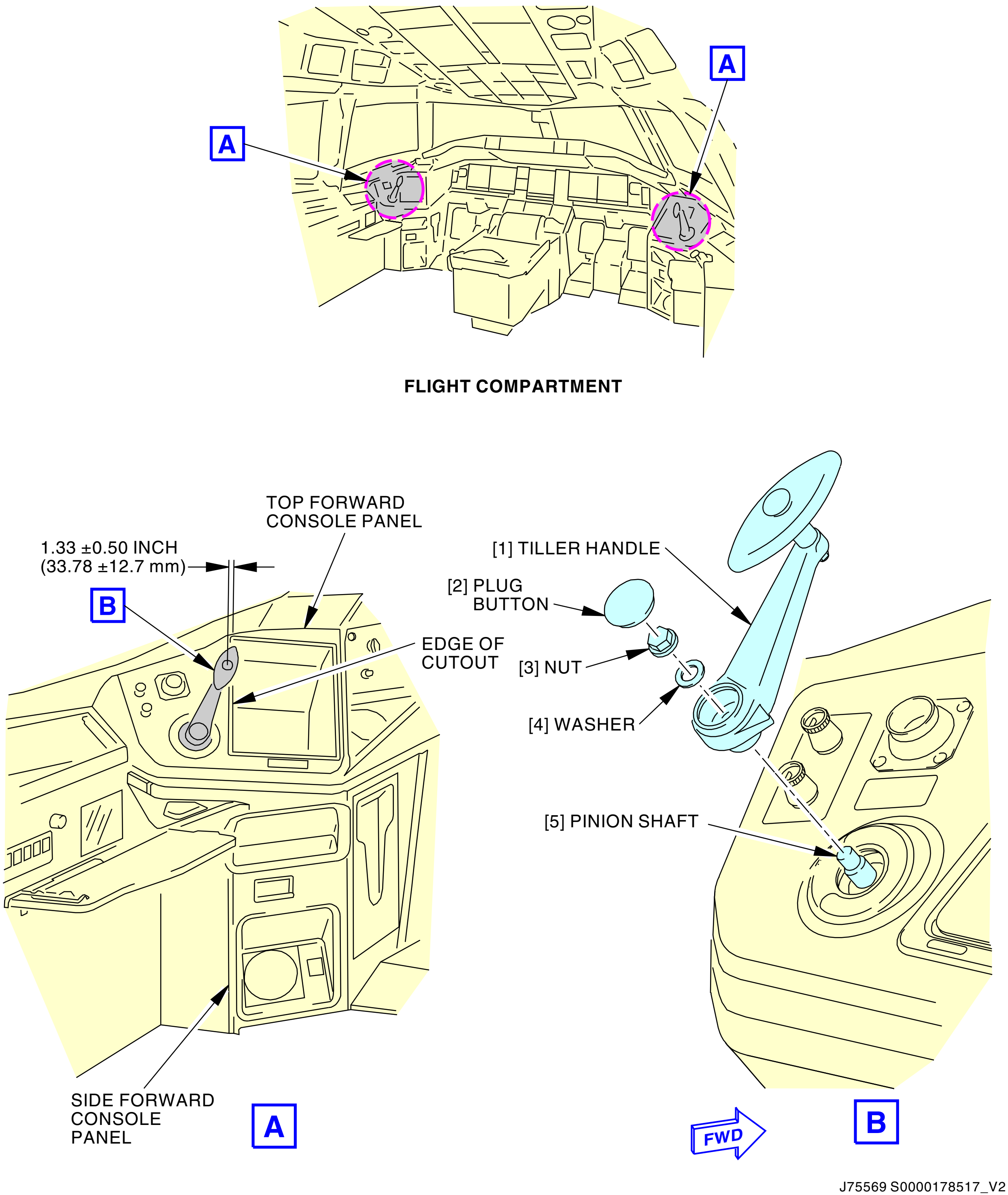
(b) Remove the nut [3] and washer [4] from the pinion shaft [5] on the gearbox assembly [6].

(c) Remove the tiller handle [1] from the pinion shaft [5].

SUBTASK 32-51-10-020-002

(2) Remove the top and side panels on the pilot's forward console. This will give access to the gearbox assembly.

END OF TASK



Nose Landing Gear Steering Tiller
Figure 401/32-51-10-990-801

TASK 32-51-10-400-801

3. Nose Landing Gear Steering Tiller Installation

(Figure 401)

A. References

Reference	Title
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)

D. Location Zones

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
211	Flight Compartment, Left
212	Flight Compartment, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for the Installation

SUBTASK 32-51-10-867-002

(1) Make sure the wheels of the nose landing gear are in the centered position.

NOTE: The protractor on the steering collar shows the angular position of the wheels.

SUBTASK 32-51-10-860-002

(2) Make sure the towing lever, on the forward side of the nose landing gear, is in the TOW position.

NOTE: This isolates the steering system for the nose landing gear from hydraulic power.

SUBTASK 32-51-10-480-003

(3) Make sure the NLG towing lever pin, SPL-1499, is installed through the towing lever.

NOTE: The NLG towing lever pin, SPL-1499, holds the towing lever in the TOW position.

F. Install the Tiller

SUBTASK 32-51-10-420-001

(1) Install the top and side panels on the pilot's forward console.

SUBTASK 32-51-10-420-002

(2) Do the steps below to install the tiller handle [1] on the pinion shaft [5]:

(a) Apply the grease, D00013, to the splines on the pinion shaft [5].

(b) Install the tiller handle [1] on the pinion shaft [5] with the center of the knob 1.33 ±0.50 in. (33.78 ±12.70 mm) from the edge of the cutout on the pilot's forward console.

(c) Install the washer [4] and nut [3] that attach the tiller handle [1] to the pinion shaft [5].

(d) Tighten the nut [3] to engage the lock feature. Then tighten the nut [3] to 50 in-lb (6 N·m) plus run-on torque.

NOTE: The washer [4] may be omitted to obtain good thread engagement for the nut [3].

(e) Install the plug button [2] on the tiller handle [1].

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-51-10-440-001

WARNING MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) For the steering/locking power control actuator of each main landing gear, do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

END OF TASK

MAIN LANDING GEAR STEERING SYSTEM - MAINTENANCE PRACTICES

1. **General**

   A. This procedure has these tasks:

   (1) Main Landing Gear Steering System - Deactivation

   (2) Main Landing Gear Steering System - Activation

TASK 32-53-00-040-801

2. **Main Landing Gear Steering System - Deactivation**

   (Figure 201)

   A. General

   (1) This task will deactivate the Main Landing Gear Steering System.

   B. References

Reference	Title
10-11-05-500-801	Chock Installation in Winds or Wind Gusts to a Maximum of 35 Knots (P/B 201)
10-11-05-500-802	Chock Installation in Winds of More than 35 Knots (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   C. Tools/Equipment

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
STD-858	Tag - DO NOT OPERATE

   D. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
710	Subzone 710 - Nose Landing Gear and Landing Gear Doors
730	Subzone 730 - Left Main Landing Gear and Landing Gear Doors
740	Subzone 740 - Right Main Landing Gear and Landing Gear Doors

E. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door

F. **Procedure**

SUBTASK 32-53-00-860-012

WARNING MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE FLIGHT CONTROLS SURFACES. MAKE SURE THAT THE INBOARD FAN DUCT COWL AND THE INBOARD AND OUTBOARD THRUST REVERSERS ARE CLOSED. THE FLIGHT CONTROL SURFACES CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure clearance zones are established at the following areas of flight control surfaces:

(a) Ailerons

(b) Rudders

(c) Elevators

(d) Flaps

(e) Slats

(f) Spoilers

ARO 005-999

(g) Landing Gear

ARO 001-004

(h) Landing Gear and Tail Skid

ARO ALL

(i) Thrust Reversers

(j) Drive mechanisms

SUBTASK 32-53-00-210-003

WARNING MAKE SURE THAT ALL PERSONNEL AND EQUIPMENT ARE AWAY FROM THE AREA AROUND THE LANDING GEAR. IF THE LANDING GEAR MOVES, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(2) Make sure that the control lever for the landing gear is in the DN position.

SUBTASK 32-53-00-860-013

(3) Depressurize the Center Hydraulic System, do this task: (Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807).

SUBTASK 32-53-00-480-003

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(WARNING PRECEDES)

WARNING	MAKE SURE THAT ALL PERSONNEL AND EQUIPMENT ARE AWAY FROM THE AREA AROUND THE LANDING GEAR. IF THE LANDING GEAR MOVES, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

ARO 001-004

WARNING	MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE AREA AROUND THE TAIL SKID. THE MOVEMENT OF THE TAIL SKID CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

ARO ALL

(4) If the downlock pins are not installed in the nose and main landing gear, do this task: (Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801).

SUBTASK 32-53-00-480-006

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE AREA AROUND THE DOORS FOR THE NOSE AND MAIN LANDING GEAR. THE DOORS OPEN, AND CLOSE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-53-00-860-014

(6) Make sure the wheels of the nose landing gear are in the centered position.

NOTE: The protractor on the steering collar shows the angular position of the wheels.

SUBTASK 32-53-00-860-015

(7) Make sure the NLG towing lever is in the TOW position.

NOTE: This isolates the steering system for the nose landing gear from hydraulic power and prevents input to the main gear steering.

SUBTASK 32-53-00-480-004

WARNING	ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(8) Install NLG towing lever pin, SPL-1499 through towing lever on FWD side of NLG.

NOTE: You use the NLG Towing Lever Lock Pin to hold the towing lever in the TOW position.

SUBTASK 32-53-00-860-016

(9) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-53-00-010-002

(10) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-53-00-860-017

(11) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

SUBTASK 32-53-00-500-001

(12) Install chocks around the forward or center tires of the main landing gear (Chock Installation in Winds or Wind Gusts to a Maximum of 35 Knots, TASK 10-11-05-500-801 or Chock Installation in Winds of More than 35 Knots, TASK 10-11-05-500-802).

NOTE: Do not install chocks around the tires of the aft axles.

G. Main Landing Gear Steering System - Tryout

NOTE: This tryout is to make sure the Main Landing Gear Steering System is in a zero energy state.

SUBTASK 32-53-00-860-018

WARNING MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE FLIGHT CONTROLS SURFACES. MAKE SURE THAT THE INBOARD FAN DUCT COWL AND THE INBOARD AND OUTBOARD THRUST REVERSERS ARE CLOSED. THE FLIGHT CONTROL SURFACES CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

WARNING MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-53-00-700-001

(2) Make sure the towing lever is in the TOW position and the towing lever pin has been inserted through the towing lever on the forward side of the nose landing gear.

SUBTASK 32-53-00-700-002

WARNING	MAKE SURE THAT ALL PERSONNEL AND EQUIPMENT ARE AWAY FROM THE AREA AROUND THE LANDING GEAR. IF THE LANDING GEAR MOVES, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(3) Rotate the steering tillers to left and then to right..

NOTE: Do not force the steering tillers as damage to the tiller handle, mechanism and cables may occur.

NOTE: The Main Gear Steering signals start when Nose Gear has rotated about 10 degrees from the center position. Once the Nose Gear has turned beyond the 10 degrees, the Main Gear Steering will turn proportionately.

(a) Make sure that the nose landing gear wheels do not turn.

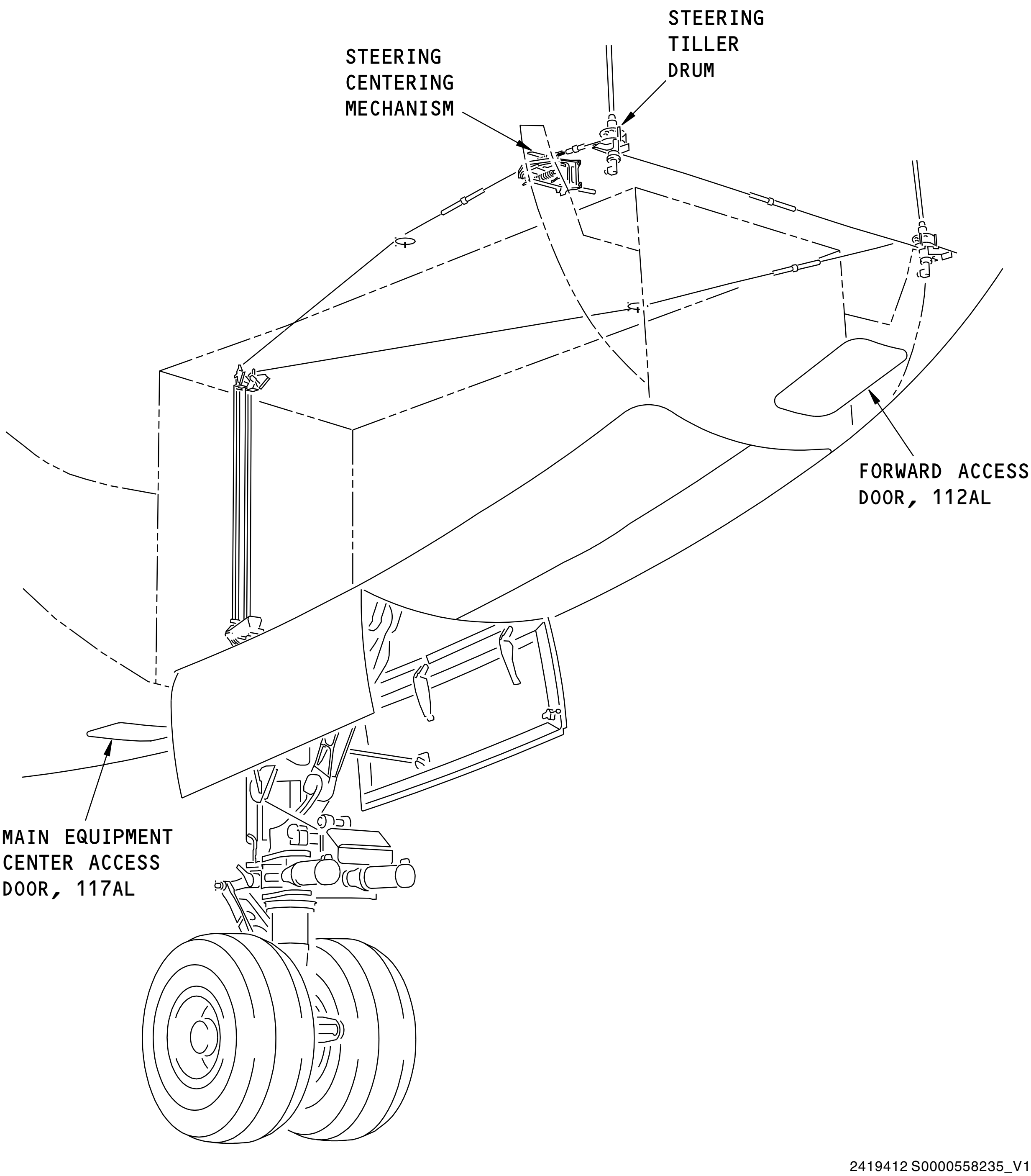
SUBTASK 32-53-00-480-005

(4) Attach a DO NOT OPERATE tag, STD-858 on the Pilot's and First Officer's steering tillers and rudder pedals.

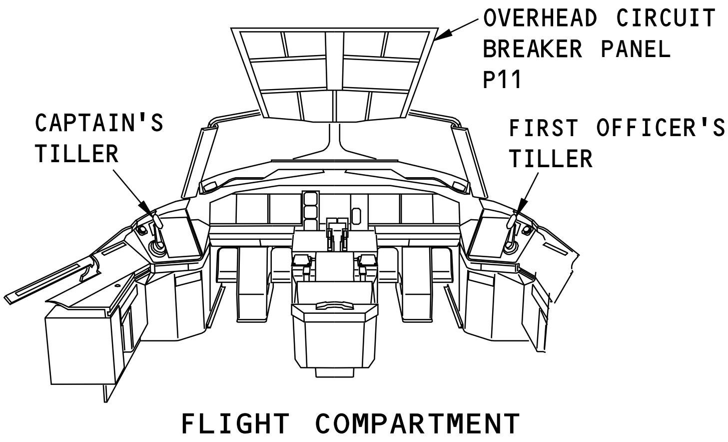
SUBTASK 32-53-00-860-019

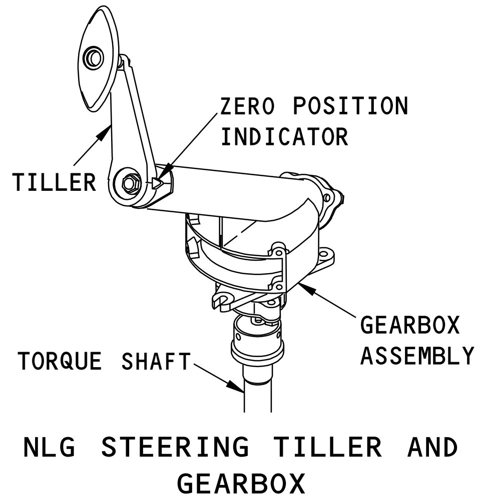
(5) Depressurize the Center Hydraulic System, do this task: (Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807).

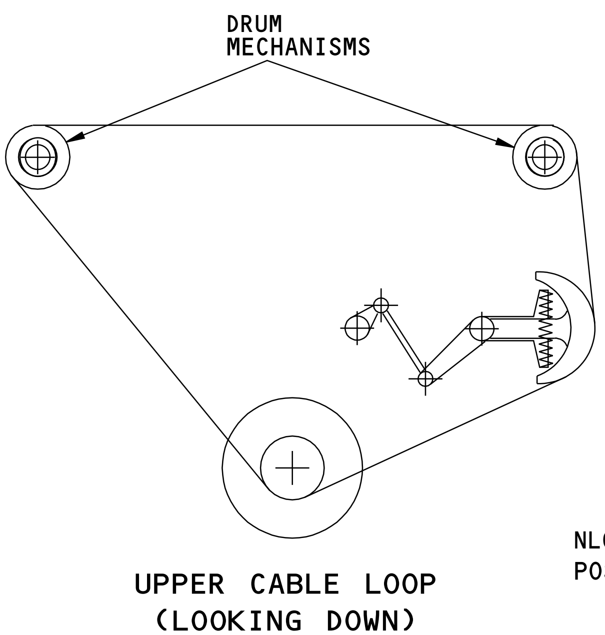
——— END OF TASK ———

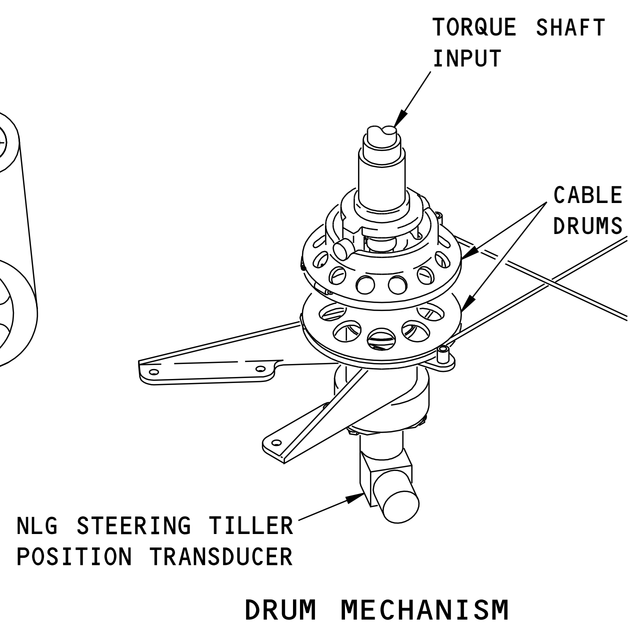


Nose Landing Gear Steering Angle Indication
Figure 201/32-53-00-990-801 (Sheet 1 of 4)



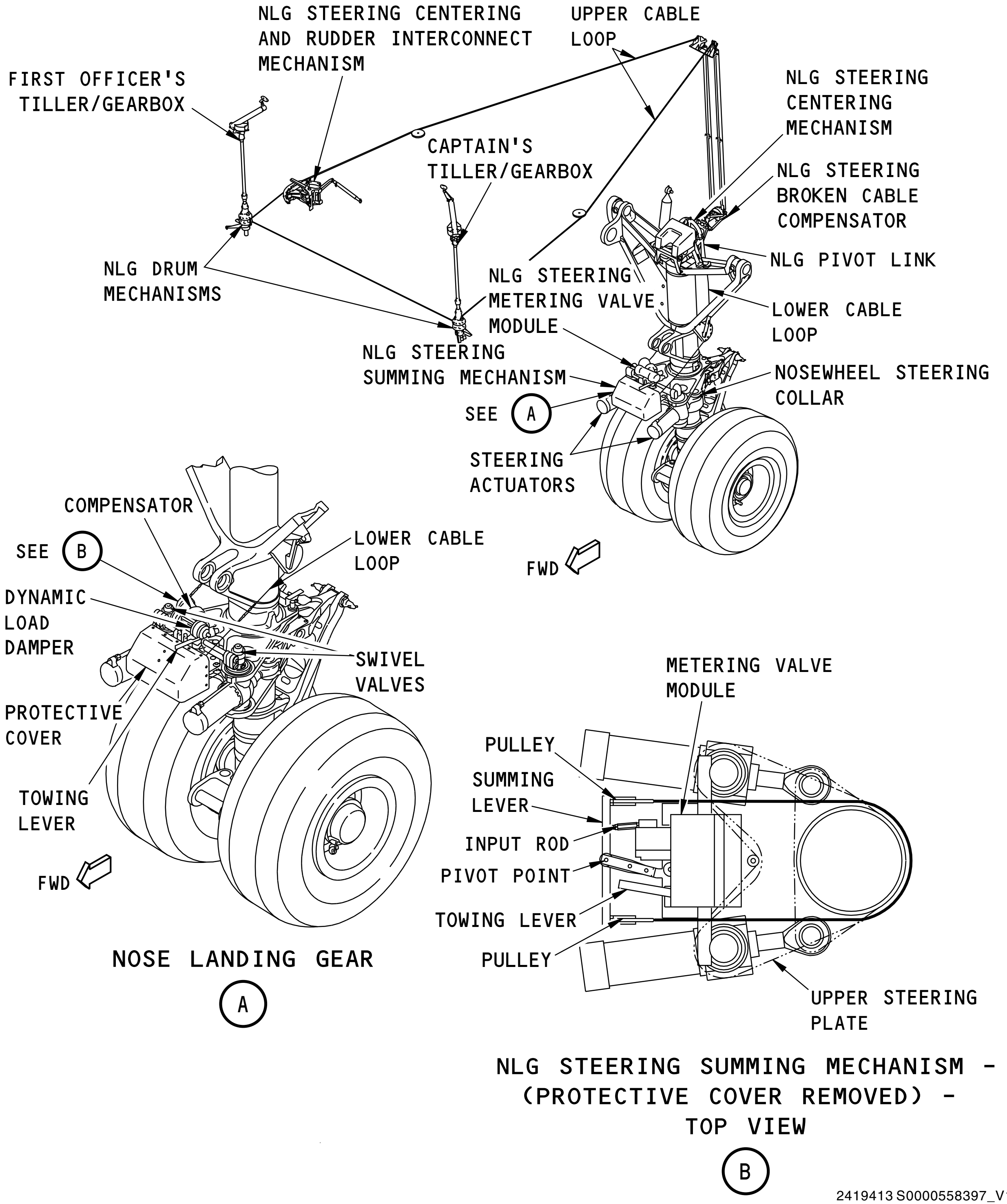




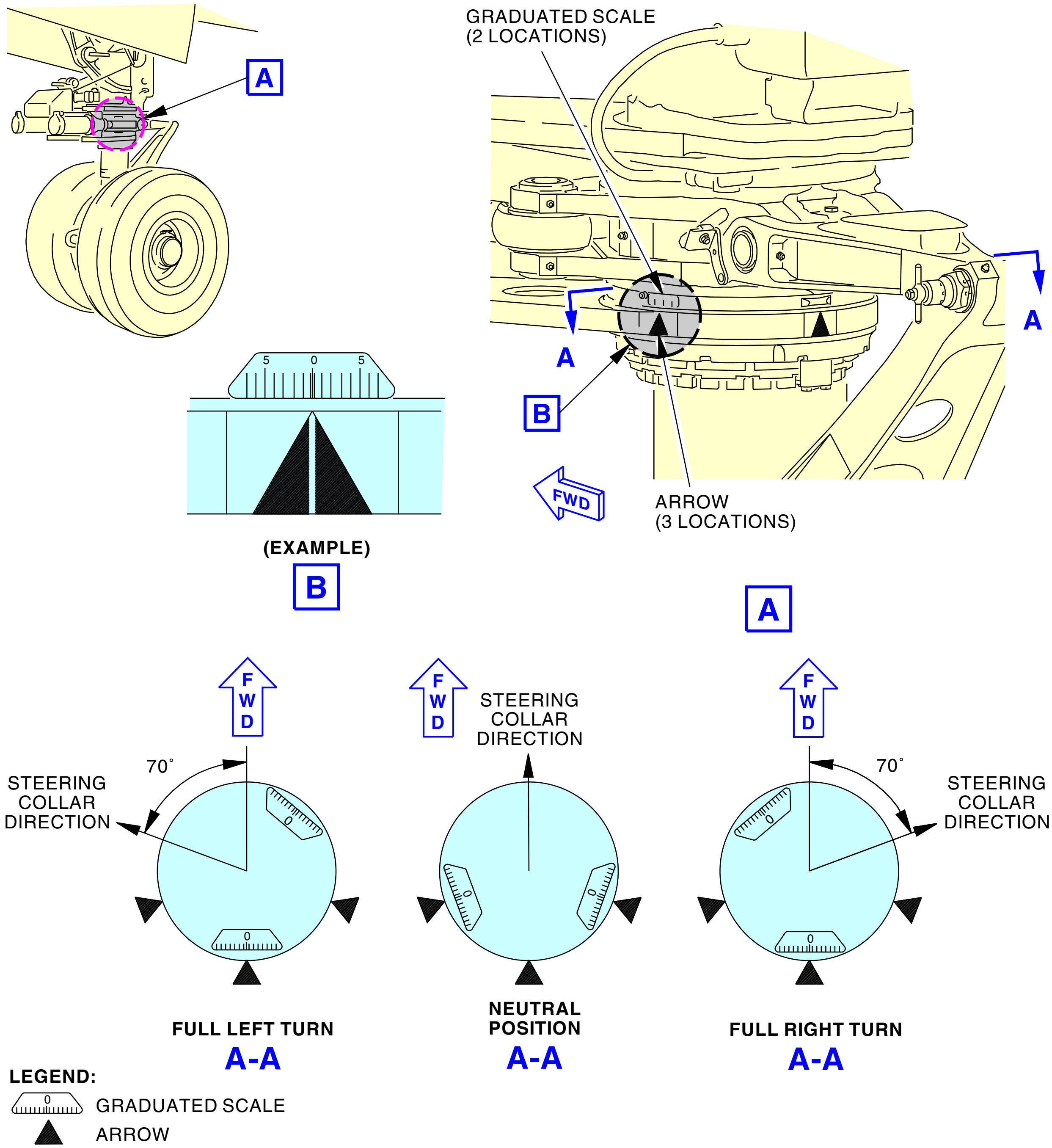


2419535 S0000559042_V1

Nose Landing Gear Steering Angle Indication
Figure 201/32-53-00-990-801 (Sheet 2 of 4)



Nose Landing Gear Steering Angle Indication
Figure 201/32-53-00-990-801 (Sheet 3 of 4)



NOTE:

FOR A FULL LEFT TURN OR A FULL RIGHT TURN THE ZERO GRADUATION ON THE APPLICABLE GRADUATED SCALE ALIGNS WITH THE AFT ARROW.

E55285 S0006419289_V2

Nose Landing Gear Steering Angle Indication
Figure 201/32-53-00-990-801 (Sheet 4 of 4)

TASK 32-53-00-440-801

3. Main Landing Gear Steering System - Activation

(Figure 201)

A. General

(1) This task will activate the Main Landing Gear Steering System.

B. References

Reference	Title
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1505	Chocks - Wheel Part #: AC6820-LR Supplier: 032T9 Part #: PF10-010 Supplier: 3D5B2 Part #: W88 Supplier: 9L752
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
STD-858	Tag - DO NOT OPERATE

D. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
710	Subzone 710 - Nose Landing Gear and Landing Gear Doors
730	Subzone 730 - Left Main Landing Gear and Landing Gear Doors
740	Subzone 740 - Right Main Landing Gear and Landing Gear Doors

E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

F. Procedure

SUBTASK 32-53-00-860-020

WARNING: MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE FLIGHT CONTROLS SURFACES. MAKE SURE THAT THE INBOARD FAN DUCT COWL AND THE INBOARD AND OUTBOARD THRUST REVERSERS ARE CLOSED. THE FLIGHT CONTROL SURFACES CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure clearance zones are established at the following areas of flight control surfaces:

(a) Ailerons

(b) Rudders

(c) Elevators

(d) Flaps

(e) Slats

(f) Spoilers

ARO 005-999

(g) Landing Gear

ARO 001-004

(h) Landing Gear and Tail Skid

ARO ALL

(i) Thrust Reversers

(j) Drive mechanisms

SUBTASK 32-53-00-210-002

WARNING

MAKE SURE THAT ALL PERSONNEL AND EQUIPMENT ARE AWAY FROM THE AREA AROUND THE LANDING GEAR. IF THE LANDING GEAR MOVES, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

(2) Make sure that the control lever for the landing gear is in the DN position.

SUBTASK 32-53-00-860-021

(3) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

SUBTASK 32-53-00-410-002

(4) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-53-00-080-002

(5) Remove NLG towing lever pin, SPL-1499 from towing lever on FWD side of NLG.

SUBTASK 32-53-00-080-005

(6) Remove the wheel chocks, COM-1505 from around the forward or center tires of the main landing gear.

SUBTASK 32-53-00-080-003

WARNING	MAKE SURE THAT ALL PERSONNEL AND EQUIPMENT ARE AWAY FROM THE AREA AROUND THE LANDING GEAR. IF THE LANDING GEAR MOVES, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

ARO 001-004

WARNING	MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE AREA AROUND THE TAIL SKID. THE MOVEMENT OF THE TAIL SKID CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

ARO ALL

(7) If necessary, remove the downlock pins from the nose and main landing gear, do this task: (Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801).

SUBTASK 32-53-00-080-004

(8) Remove the DO NOT OPERATE tag, STD-858 from the Pilot's and First Officer's steering tillers and rudder pedals.

END OF TASK

MAIN LANDING GEAR STEERING SYSTEM - ADJUSTMENT/TEST

1. **General**
   A. This procedure has one task:
      (1) A functional test of the steering system for the main landing gear.
   B. This procedure does not contain an adjustment of the steering system for the main landing gear. An adjustment of the steering system for the main landing gear is not necessary.

TASK 32-53-00-720-801

2. **Main Landing Gear Steering System - Functional Test**

   A. General
      (1) This task does a functional test of the steering system for the main landing gear. The functional test has two parts:
         (a) The first part of the functional test does a check of the steering system's indication and travel.
         (b) The second part of the functional test does a check of the steering system's fault detection.
      (2) The functional test does a check to make sure that all of the transducers, electrical circuits, control units, actuators, and mechanisms in the steering system for the main landing gear operate correctly.

   B. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
31-61-00-800-813	Showing Status Messages (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-21-11-000-803	Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage (P/B 201)
32-21-11-400-803	Nose Landing Gear Torsion Link Connection (P/B 201)

   C. Location Zones

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
117	Main Equipment Center, Left
211	Flight Compartment, Left
212	Flight Compartment, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Access Panels

Number	Name/Location
112AL	Forward Access Door
117AL	Main Equipment Center Access Door

E. Prepare for the Test

SUBTASK 32-53-00-480-001

> **WARNING**
> MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-53-00-480-002

(2) Install chocks around the tires of the main landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

NOTE: Do not install chocks around the tires of the aft axles.

SUBTASK 32-53-00-860-001

(3) Do the step below for the steering/locking power control actuator of each main landing gear:

(a) Make sure the manual shutoff valve handle is in the STEER position, (TASK 32-00-50-440-801).

SUBTASK 32-53-00-010-001

(4) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-53-00-860-002

(5) Make sure that this circuit breaker is closed:

Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

SUBTASK 32-53-00-020-001

> **CAUTION**
> FAILURE TO PROPERLY DISCONNECT AND STOW THE ELECTRICAL HARNESS CAN CAUSE DAMAGE TO THE HARNESS EQUIPMENT.

(6) Do this task: Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage, TASK 32-21-11-000-803.

SUBTASK 32-53-00-860-003

(7) Make sure the towing lever, on the forward side of the nose landing gear, is in the NORMAL position.

SUBTASK 32-53-00-860-004

(8) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-53-00-860-005

(9) Show the LANDING GEAR BRKS/STRNG maintenance page on the left inboard display unit (TASK 31-61-00-800-804).

NOTE: Use one of the control display units (CDUs) in the flight compartment to show the LANDING GEAR BRKS/STRNG maintenance page.

SUBTASK 32-53-00-860-006

(10) Show the Engine Indicating and Crew Alerting System (EICAS) status page on the lower center display unit (TASK 31-61-00-800-813).

NOTE: Use the display select panel in the flight compartment to show the EICAS status page.

SUBTASK 32-53-00-860-007

WARNING: KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(11) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

NOTE: Make sure you have more than one Alternating Current Motor Pump (ACMP) in operation. The hydraulic demand for steering operations tests can exceed the 6 GPM capacity of a single ACMP.

SUBTASK 32-53-00-860-008

(12) Make sure the parking brake is released.

SUBTASK 32-53-00-210-001

WARNING: MAKE SURE THE AREA AROUND THE MAIN LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. IN THIS TEST, WHEN THE STEERING COLLAR TURNS MORE THAN 10 DEGREES, THE AFT AXLES OF THE MAIN LANDING GEAR WILL TURN. THIS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(13) Make sure the area around the main landing gear is clear of persons and equipment.

F. Main Landing Gear Steering System - Functional Test

NOTE: In this test, the 0 ° position is referred to as the neutral position.

SUBTASK 32-53-00-720-001

(1) Do the steps below to do a check of the steering system's indication and travel:

(a) Make sure the Captain's steering tiller is in the neutral position.

(b) Make sure these indications show on the LANDING GEAR BRKS/STRNG maintenance page:

1) The STEERED ANGLE for each steering tiller is between 1 °L and 1 °R.

2) The position of the aft axles is between 0.5 °L and 0.5 °R.

(c) Turn the Captain's steering tiller clockwise until the STEERED ANGLE indications on the LANDING GEAR BRKS/STRNG maintenance page show between 69 °R and 71 °R.

(d) Do a visual check to make sure the aft axles of the main landing gear turn counterclockwise.

(e) Make sure there is not interference between the steering mechanism parts while the axles turn.

(f) Wait 5 seconds.

(g) Make sure these indications show on the LANDING GEAR BRKS/STRNG maintenance page:

1) The position of the aft axles is 6.5°L .

2) The aft axles are UNLOCKED.

3) There are not indications directly below the UNLOCKED indications.

NOTE: This shows that the aft axles are enabled. Other indications that can show directly below the UNLOCKED indications are DISABLED and FAILED.

(h) Release the Captain's steering tiller and allow it to move back to the neutral position.

(i) Wait 5 seconds.

(j) Make sure these indications show on the LANDING GEAR BRKS/STRNG maintenance page:

1) The position of the aft axles is between 0.5 °L and 0.5 °R.

2) The aft axles are LOCKED.

3) There are not indications directly below the LOCKED indications.

NOTE: This shows that the aft axles are enabled. Other indications that can show directly below the LOCKED indications are DISABLED AND FAILED.

(k) Turn the Captain's steering tiller counterclockwise until the STEERED ANGLE indications on the LANDING GEAR BRKS/STRNG maintenance page show between 69 °L and 71 °L.

(l) Do a visual check to make sure the aft axles of the main landing gear turn clockwise.

(m) Make sure there is not interference between the steering mechanism parts while the axles turn.

(n) Wait 5 seconds.

(o) Make sure these indications show on the LANDING GEAR BRKS/STRNG maintenance page:

1) The position of the aft axles is 6.5 °R .

2) The aft axles are UNLOCKED.

3) There are not indications directly below the UNLOCKED indications.

NOTE: This shows that the aft axles are enabled. Other indications that can show directly below the UNLOCKED indications are DISABLED and FAILED.

(p) Release the Captain's steering tiller and allow it to move back to the neutral position.

(q) Wait 5 seconds.

(r) Make sure these indications show on the LANDING GEAR BRKS/STRNG maintenance page:

1) The position of the aft axles is between 0.5 °L and 0.5 °R.

2) The aft axles are LOCKED.

3) There are not indications directly below the LOCKED indications.

NOTE: This shows that the aft axles are enabled. Other indications that can show directly below the LOCKED indications are DISABLED and FAILED.

(s) For the steering/locking power control actuator of the left main landing gear, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801

(t) Make sure the LANDING GEAR BRKS/STRNG maintenance page shows these results:

1) The aft axle of the left main landing gear is DISABLED.

2) The aft axle of the right main landing gear is not DISABLED.

(u) For the steering/locking power control actuator of the left main landing gear, do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801

(v) For the steering/locking power control actuator of the right main landing gear, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801

(w) Make sure the LANDING GEAR BRKS/STRNG maintenance page shows these results:

1) The aft axle of the left main landing gear is not DISABLED.

2) The aft axle of the right main landing gear is DISABLED.

(x) For the steering/locking power control actuator of the right main landing gear, do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801

(y) Make sure the LANDING GEAR BRKS/STRNG maintenance page shows these results:

1) The aft axle of the left main landing gear is not DISABLED.

2) The aft axle of the right main landing gear is not DISABLED.

SUBTASK 32-53-00-720-002

(2) Do the steps below to do a check of the steering system's fault detection:

(a) Wait 30 seconds.

(b) Make sure the MAIN GEAR STEERING advisory message is not shown on the EICAS (upper center display unit).

(c) Make sure the MAIN GEAR STEERING status message is not shown on the EICAS (lower center display unit).

(d) OPTIONAL: Make sure none of the following maintenance messages are ACTIVE or LATCHED on the MAT Existing Faults page:

1) Any maintenance messages from ATA 32, Main Gear Steering System.

2) 31-69451 from ATA 31, L AIMS

3) 31-69452 from ATA 31, R AIMS

4) 31-78130 or 31-78131 through 31-78136 from ATA 31, Warning Electronics System

(e) OPTIONAL: Make sure maintenance memo 325 480 00, MAIN GEAR STEERING is not ACTIVE on the MAT Existing Maintenance Memos page.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-53-00-860-009

(1) Use the Captain's steering tiller to align the upper torsion link with the lower torsion link.

SUBTASK 32-53-00-860-010

(2) Set the parking brake.

SUBTASK 32-53-00-860-011

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-53-00-420-001

(4) Do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-11-400-803.

SUBTASK 32-53-00-410-001

(5) Close these access panels:

Number	Name/Location
112AL	Forward Access Door
117AL	Main Equipment Center Access Door

SUBTASK 32-53-00-080-001

(6) Remove the chocks from the tires of the main landing gear.

END OF TASK

NOSE LANDING GEAR STEERING TILLER POSITION TRANSDUCER - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the position transducer for the steering tiller

(2) An installation of the position transducer for the steering tiller.

B. This procedure shows the position transducer for the captain's steering tiller. This procedure also applies to the position transducer for the first officer's steering tiller.

TASK 32-53-01-020-801

2. Nose Landing Gear Steering Tiller Position Transducer Removal

(Figure 401)

A. Location Zones

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well

B. Access Panels

Number	Name/Location
112AL	Forward Access Door

C. Prepare for the Removal

SUBTASK 32-53-01-860-001

(1) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

SUBTASK 32-53-01-010-001

(2) To get access to the position transducer [3], do this step:

(a) Open this access panel:

Number	Name/Location
112AL	Forward Access Door

D. Nose Landing Gear Steering Tiller Position Transducer Removal

SUBTASK 32-53-01-020-001

(1) Disconnect the electrical connecctor [4].

SUBTASK 32-53-01-020-002

(2) Loosen the bolt [2], bolt [5], and bolt [6] which hold the position transducer [3] to the tiller drum [1].

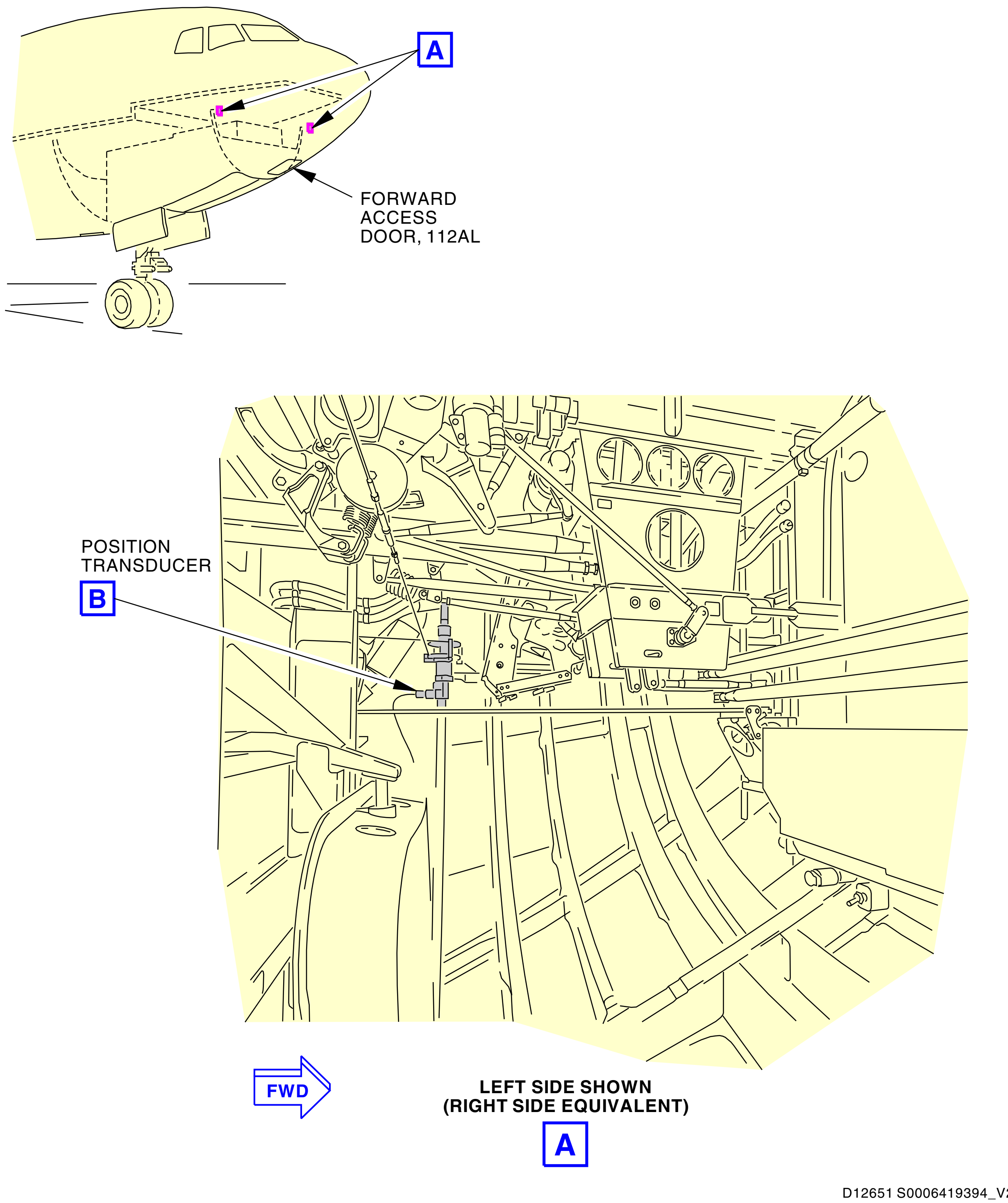
(a) Do not try to remove them from the position transducer [3].

NOTE: These bolts are captive bolts.

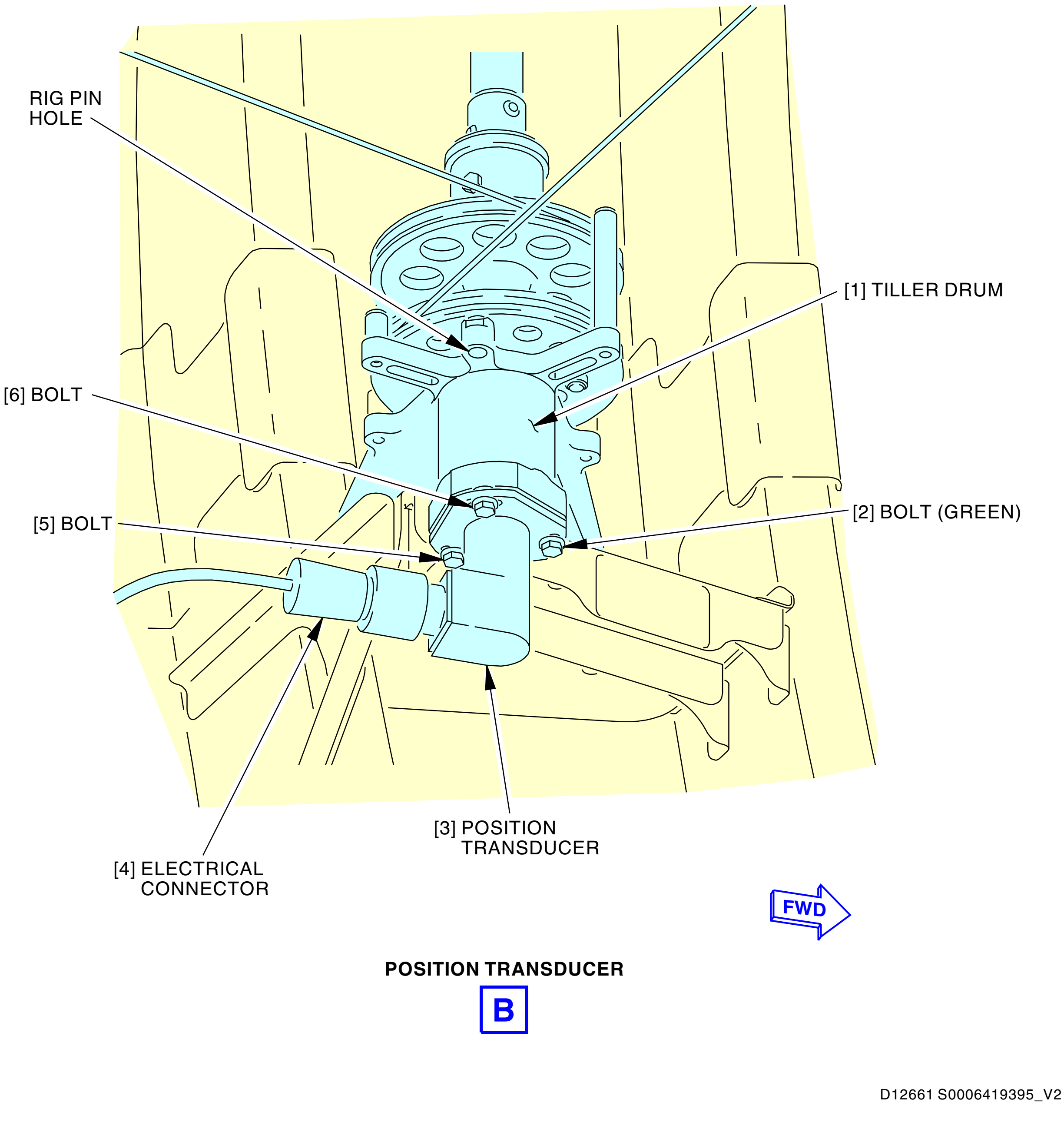
SUBTASK 32-53-01-020-003

(3) Remove the position transducer [3] from the airplane.

——— END OF TASK ———



Nose Landing Gear Steering Tiller Position Transducer Installation
Figure 401/32-53-01-990-801 (Sheet 1 of 2)



Nose Landing Gear Steering Tiller Position Transducer Installation
Figure 401/32-53-01-990-801 (Sheet 2 of 2)

TASK 32-53-01-420-801

3. Nose Landing Gear Steering Tiller Position Transducer Installation

(Figure 401)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
32-21-11-000-803	Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage (P/B 201)
32-21-11-400-803	Nose Landing Gear Torsion Link Connection (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-2534	Pin - Rig (J20003-8 Assembly Included in Kit J20003-34) Part #: J20003-34 Supplier: 81205

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Position transducer	32-53-01-02-005	ARO ALL

D. Location Zones

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
211	Flight Compartment, Left
212	Flight Compartment, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Access Panels

Number	Name/Location
112AL	Forward Access Door

F. Nose Landing Gear Steering Tiller Position Transducer Installation

SUBTASK 32-53-01-480-001

(1) Install the rig pin (J20003-8 assembly), SPL-2534, in the tiller drum [1].

SUBTASK 32-53-01-840-001

(2) Do these steps to make sure the shaft on the position transducer [3] is aligned:

(a) Make sure the pin on the shaft is engaged in the slot on the tab of the position transducer [3].

1) If the pin is not engaged, turn the shaft until the pin is engaged.

(b) Look through the window on the position transducer [3] and make sure the red dot on the shaft is in the green band.

1) Keep the shaft in this position while you install the position transducer [3].

2) If the red dot on the shaft is not in the green band, turn the shaft 1 or 2 complete turns until the red dot is in the green band and the pin is engaged.

SUBTASK 32-53-01-420-001

(3) Install the position transducer [3] on the tiller drum [1].

(a) Do not turn the position transducer [3] after the shaft has been inserted into the tiller drum [1].

SUBTASK 32-53-01-420-002

(4) Tighten the bolt [6] and bolt [5].

SUBTASK 32-53-01-420-004

(5) Tighten the bolt [2].

NOTE: When you tighten the bolt [2] you release the shaft from its rigged position.

SUBTASK 32-53-01-420-003

(6) Connect the electrical connecctor [4] to the position transducer [3].

SUBTASK 32-53-01-080-001

(7) Remove the rig pin (J20003-8 assembly), SPL-2534, from the tiller drum [1].

SUBTASK 32-53-01-860-002

(8) Remove the safety tag and close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

G. Nose Landing Gear Steering Tiller Position Transducer Installation Test

SUBTASK 32-53-01-860-004

(1) Make sure the towing lever, on the forward side of the nose landing gear, is set to the NORMAL position.

SUBTASK 32-53-01-480-002

(2) Make sure the main landing gear tires are chocked (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-53-01-480-005

(3) Do this task: Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage, TASK 32-21-11-000-803.

(a) Make sure the nose landing gear upper and lower torsion links are secured, separated from each other.

SUBTASK 32-53-01-860-005

(4) Do the steps below for the steering/locking power control actuator on each main landing gear:

(a) Pull the ball-lock pin, on the handle for the manual shutoff valve, aft.

NOTE: The ball-lock pin holds the handle for the manual shutoff valve in its position.

(b) Move the handle for the manual shutoff valve to the horizontal position.

NOTE: This isolates the steering/locking power control actuator from hydraulic power.

(c) Release the ball-lock pin to hold the handle for the manual shutoff valve in the horizontal position.

SUBTASK 32-53-01-860-007

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-53-01-840-002

(6) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-53-01-710-001

(7) Do these steps to do a test of the position transducer [3]:

(a) Push the GEAR button on the Multi Function Display (MFD) select panel.

NOTE: The MFD is above the control lever for the landing gear in the flight compartment.

(b) Make sure the Captain's and First Officer's tiller handles are positioned at zero (0) degree steering, as marked on the tiller placard.

(c) Make sure that the STEERED ANGLE on the MFD LANDING GEAR BRKS/STRNG Maintenance Page displays the following data for the steered angle:

NOTE: A blank tiller angle is not acceptable because it indicates the presence of a fault.

NOTE: An out-of-range tiller value can result from mis-rigging of the position transducer.

Table 401/32-53-01-993-801

L TILLER:	0
R TILLER:	0
Tiller angles can be +/- 1 (L or R)	

CAUTION	DO NOT FORCE THE TILLER HANDLES TO MOVE. IF YOU FORCE THE TILLER HANDLES TO MOVE, DAMAGE TO EQUIPMENT CAN OCCUR.

(d) Move the captain's tiller handle fully clockwise.

NOTE: Too much resistance shows that the nose gear steering actuators are not receiving hydraulic pressure.

(e) Wait approximately 5 seconds.

(f) Slowly move the captain's tiller handle a small amount counterclockwise until the STEERED ANGLE on the Maintenance Page displays a L TILLER value of 70 R plus or minus 1.

(g) Make sure that the STEERED ANGLE on the Maintenance Page displays the following data for the two tiller angles:

NOTE: A blank tiller angle is not acceptable because it indicates the presence of a fault.

Table 402/32-53-01-993-802

L TILLER:	70 R
R TILLER:	70 R
Tiller angles can be +/- 1	

(h) Move the Captain's tiller handle so that the tiller handle marker aligns with tiller console placard for zero (0) steering input.

(i) Move the Captain's tiller handle fully counterclockwise.

(j) Wait approximately 5 seconds.

(k) Slowly move the captain's tiller handle a small amount clockwise until the STEERED ANGLE on the Maintenance Page displays a L TILLER value of 70 L plus or minus 1.

(l) Make sure that the STEERED ANGLE on the Maintenance Page displays the following data for the two tiller angles:

NOTE: A blank tiller angle is not acceptable because it indicates the presence of a fault.

Table 403/32-53-01-993-803

L TILLER:	70 L
R TILLER:	70 L
Tiller angles can be +/- 1	

(m) Move the Captain's tiller handle so that the tiller handle marker aligns with tiller console placard for zero (0) steering input.

(n) Make sure that the STEERED ANGLE on the Maintenance Page displays the following data for the two tiller angles:

NOTE: A blank tiller angle is not acceptable because it indicates the presence of a fault.

Table 404/32-53-01-993-804

L TILLER:	0
R TILLER:	0
Tiller angles can be +/- 1 (L or R)	

(o) Wait approximately 30 seconds.

(p) Make sure on the MAT Existing Faults display that the following maintenance messages from ATA 32 Main Gear Steering System are not ACTIVE or LATCHED:

1) 32-62010, NG Steering Position Transducer (FO) circuit is open or shorted.
2) 32-62020, NG Steering Position Transducer (Capt) circuit is open or shorted.
3) 32-62030, Position signals from NG Steering Position Transducer (FO) and NG Steering Position Transducer (Capt) do not agree.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-53-01-480-006

(1) Do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-11-400-803.

SUBTASK 32-53-01-840-003

(2) Remove the NLG towing lever pin, SPL-1499, from the towing lever.

SUBTASK 32-53-01-860-006

(3) Do the steps below for the steering/locking power control actuator on each main landing gear:

(a) Pull the ball-lock pin, on the handle for the manual shutoff valve, aft.

(b) Move the handle for the manual shutoff valve to the vertical position.

(c) Release the ball-lock pin to hold the handle for the manual shutoff valve in the vertical position.

SUBTASK 32-53-01-410-002

(4) Close this access panel:

Number	Name/Location
112AL	Forward Access Door

END OF TASK

MAIN LANDING GEAR STEERING CONTROL UNIT (MGSCU) - REMOVAL/INSTALLATION

1. **General**
   A. This procedure has these tasks:
      (1) A removal of the main landing gear steering control unit (MGSCU).
      (2) An installation of the main landing gear steering control unit (MGSCU).
   B. In this procedure the main landing gear steering control unit (MGSCU) is called the unit [1].

TASK 32-53-02-020-801

2. **Main Landing Gear Steering Control Unit (MGSCU) Removal**
(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
20-10-01-000-801	E/E Box Removal (P/B 401)
20-41-01-000-802	Conductive Dust Cap and Connector Cover Installation (P/B 201)

B. Location Zones

Zone	Area
152	Aft Cargo Compartment, Right

C. Prepare for the Removal

SUBTASK 32-53-02-860-001

(1) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

D. Main Gear Steering Control Unit (MGSCU) Removal

SUBTASK 32-53-02-840-001

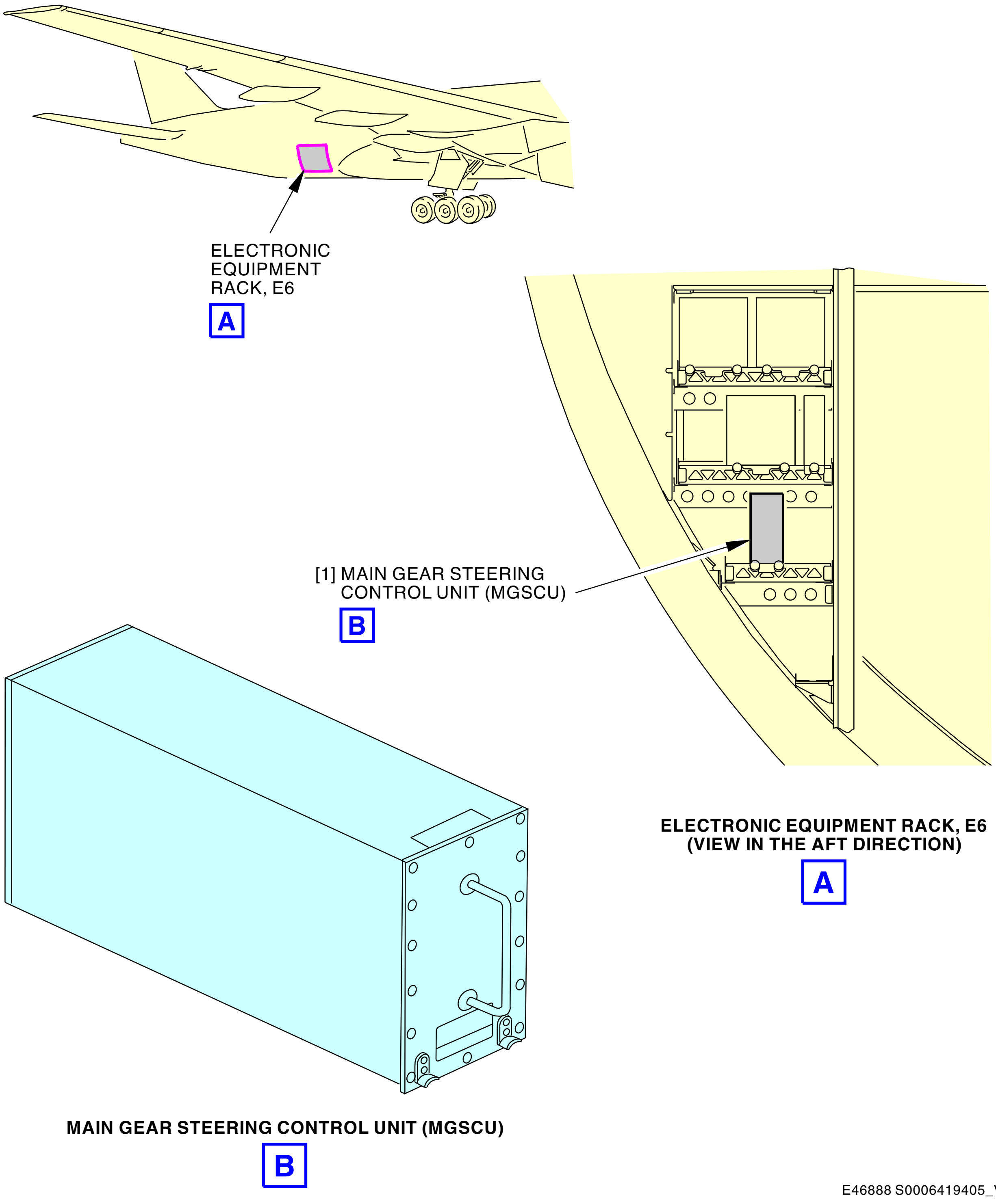
CAUTION: DO NOT TOUCH THE MAIN GEAR STEERING CONTROL UNIT [1] BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE CONTROL UNIT [1].

(1) Do this task: Conductive Dust Cap and Connector Cover Installation, TASK 20-41-01-000-802.

SUBTASK 32-53-02-020-001

(2) Remove the unit [1] from the airplane, do this task: E/E Box Removal, TASK 20-10-01-000-801.

END OF TASK



Main Landing Gear Steering Control Unit (MGSCU) Installation
Figure 401/32-53-02-990-801

TASK 32-53-02-420-801

3. Main Landing Gear Steering Control Unit (MGSCU) Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
20-10-01-400-801	E/E Box Installation (P/B 401)
20-41-01-400-802	Conductive Dust Cap and Connector Cover Removal (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
31-61-00-800-813	Showing Status Messages (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-21-11-000-803	Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage (P/B 201)
32-21-11-400-803	Nose Landing Gear Torsion Link Connection (P/B 201)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Unit	32-53-02-01-025	ARO ALL

C. Location Zones

Zone	Area
112	Area Forward of Nose Landing Gear Wheel Well
117	Main Equipment Center, Left
152	Aft Cargo Compartment, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Main Landing Gear Steering Control Unit (MGSCU) Installation

SUBTASK 32-53-02-840-002

CAUTION DO NOT TOUCH THE MAIN GEAR STEERING CONTROL UNIT [1] BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE CONTROL UNIT [1].

(1) Do this task: Conductive Dust Cap and Connector Cover Removal, TASK 20-41-01-400-802.

SUBTASK 32-53-02-420-001

(2) Install the unit [1], do this task: E/E Box Installation, TASK 20-10-01-400-801.

SUBTASK 32-53-02-860-002

(3) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

E. Main Gear Steering Control Unit (MGSCU) Installation Test

SUBTASK 32-53-02-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED IN ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in all the landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-53-02-480-002

(2) Install chocks around the tires of the main landing gear (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

NOTE: Do not install chocks around the tires of the aft axles.

SUBTASK 32-53-02-860-003

(3) Do the step below for the steering/locking power control actuator of each main landing gear:

(a) Make sure the manual shutoff valve handle is in the STEER position, (TASK 32-00-50-440-801).

SUBTASK 32-53-02-860-004

(4) Make sure that this circuit breaker is closed:

Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

SUBTASK 32-53-02-020-002

(5) Do this task: Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage, TASK 32-21-11-000-803.

SUBTASK 32-53-02-860-005

(6) Make sure the towing lever, on the forward side of the nose landing gear, is in the NORMAL position.

SUBTASK 32-53-02-860-006

(7) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-53-02-860-007

(8) Show the LANDING GEAR BRKS/STRNG maintenance page on the left inboard display unit (TASK 31-61-00-800-804).

NOTE: Use one of the control display units (CDUs) in the flight compartment to show the LANDING GEAR BRKS/STRNG maintenance page.

SUBTASK 32-53-02-860-008

(9) Show the Engine Indicating and Crew Alerting System (EICAS) status page on the lower center display unit (TASK 31-61-00-800-813).

NOTE: Use the display select panel in the flight compartment to show the EICAS status page.

SUBTASK 32-53-02-860-009

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(10) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-53-02-860-010

(11) Make sure the parking brake is released.

SUBTASK 32-53-02-210-001

WARNING	MAKE SURE THE AREA AROUND THE MAIN LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. IN THIS TEST, WHEN THE STEERING COLLAR TURNS MORE THAN 10 DEGREES, THE AFT AXLES OF THE MAIN LANDING GEAR WILL TURN. THIS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(12) Make sure the area around the main landing gear is clear of persons and equipment.

SUBTASK 32-53-02-720-001

(13) Do the steps below to do a check of the steering system's indication and travel:

(a) Make sure the Captain's steering tiller is in the neutral position.

(b) Make sure these indications show on the LANDING GEAR BRKS/STRNG maintenance page:

1) The STEERED ANGLE for each steering tiller is between 1 °L and 1 °R.

2) The position of the aft axles is between 0.5 °L and 0.5 °R.

3) The aft axles are LOCKED.

(c) Turn the Captain's steering tiller clockwise until the STEERED ANGLE indications on the LANDING GEAR BRKS/STRNG maintenance page show between 69 °R and 71 °R.

(d) Do a visual check to make sure the aft axles of the main landing gear turn counterclockwise.

(e) Make sure there is clearance between the steering mechanism parts while the axles turn.

(f) Make sure these indications show on the LANDING GEAR BRKS/STRNG maintenance page:

1) The position of the aft axles is 6.5 °L.

2) The aft axles are UNLOCKED.

3) There are not indications directly below the UNLOCKED indications.

NOTE: This shows that the aft axles are enabled. Other indications that can show directly below the UNLOCKED indications are DISABLED and FAILED.

(g) Release the Captain's steering tiller.

(h) Make sure the Captain's steering tiller moves back to the neutral position without manual aid.

(i) Make sure these indications show on the LANDING GEAR BRKS/STRNG maintenance page:

1) The position of the aft axles is between 0.5 °L and 0.5 °R.

2) The aft axles are LOCKED.

(j) Turn the Captain's steering tiller counterclockwise until the STEERED ANGLE indications on the LANDING GEAR BRKS/STRNG maintenance page show between 69 °L and 71 °L.

(k) Do a visual check to make sure the aft axles of the main landing gear turn clockwise.

(l) Make sure there is clearance between the steering mechanism parts while the axles turn.

(m) Make sure these indications show on the LANDING GEAR BRKS/STRNG maintenance page:

1) The position of the aft axles is 6.5 °R.

2) The aft axles are UNLOCKED.

3) There are not indications directly below the UNLOCKED indications.

NOTE: This shows that the aft axles are enabled. Other indications that can show directly below the UNLOCKED indications are DISABLED and FAILED.

(n) Release the Captain's steering tiller.

(o) Make sure the Captain's steering tiller moves back to the neutral position without manual aid.

(p) Make sure these indications show on the LANDING GEAR BRKS/STRNG maintenance page:

1) The position of the aft axles is between 0.5 °L and 0.5 °R.

2) The aft axles are LOCKED.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-53-02-860-011

(1) Use the Captain's steering tiller to align the top torsion link with the lower torsion link.

SUBTASK 32-53-02-860-012

(2) Set the parking brake.

SUBTASK 32-53-02-860-013

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-53-02-420-002

(4) Do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-11-400-803.

SUBTASK 32-53-02-080-001

(5) Remove the chocks from the tires of the main landing gear.

END OF TASK

MAIN LANDING GEAR STEERING/LOCKING POWER CONTROL ACTUATOR - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has these tasks:

      (1) A removal of the steering/locking power control actuator for the main landing gear steering system.

      (2) An installation of the steering/locking power control actuator for the main landing gear steering system.

   B. This procedure shows the steering/locking power control actuator on the left main landing gear. This procedure also applies to the steering/locking power control actuator on the right main landing gear.

   C. In this procedure, the Main Landing Gear Steering/Locking Power Control Actuator will be referred to as the actuator.

   D. The actuator weighs approximately 65 pounds.

TASK 32-53-03-000-801

2. **Main Landing Gear Steering/Locking Power Control Actuator Removal**

   (Figure 401)

   NOTE: This procedure is a scheduled maintenance task.

   A. **References**

Reference	Title
07-11-03-580-801	Lift the Airplane with Axle Jacks (P/B 201)
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   B. **Tools/Equipment**

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1852	Sling - Actuator, MLG Part #: J32020-14 Supplier: 81205 Part #: J32020-15 Supplier: 81205 Opt Part #: J32020-1 Supplier: 81205 Opt Part #: J32020-10 Supplier: 81205

   C. **Location Zones**

Zone	Area
117	Main Equipment Center, Left
731	Left Main Landing Gear

(Continued)

Zone	Area
741	Right Main Landing Gear

D. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door

E. **Prepare for the Removal**

SUBTASK 32-53-03-860-003

(1) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-53-03-040-001

(2) Move the towing lever, on the forward side of the nose landing gear, to the TOW position.

NOTE: This isolates the steering system for the nose landing gear from hydraulic power and prevents input to the main gear steering.

SUBTASK 32-53-03-040-002

WARNING ONLY USE THE CORRECT PIN FOR THE AIRPLANE MODEL. IF YOU USE AN INCORRECT PIN, THE HYDRAULIC STEERING CAN OPERATE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) Install the NLG towing lever pin, SPL-1499, through the towing lever.

NOTE: You use the NLG Towing Lever Lock Pin to hold the towing lever in the TOW position.

SUBTASK 32-53-03-860-008

(4) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-53-03-860-001

(5) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

SUBTASK 32-53-03-480-006

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-53-03-860-009

(7) Install chocks around the forward or center tires of the main landing gear (PAGEBLOCK 10-11-05/201).

NOTE: Do not install the chocks around the aft tires. The aft axle will turn during the test.

F. Main Landing Gear Steering/Locking Power Control Actuator Removal

SUBTASK 32-53-03-020-007

(1) Do these steps to remove the bracket [22]:

(a) Remove the screw [21] and clamp [20].

(b) Remove the nut [19], washer [18] and bolt [17].

SUBTASK 32-53-03-020-001

(2) Disconnect the electrical connector [2].

SUBTASK 32-53-03-020-002

WARNING	RELEASE THE HYDRAULIC SYSTEM PRESSURE BEFORE YOU OPEN THE HYDRAULIC SYSTEM. HYDRAULIC FLUID THAT HAS PRESSURE CAN CAUSE INJURIES TO PERSONNEL.

(3) Disconnect the center hydraulic system pressure line [4] and center hydraulic system return line [7].

SUBTASK 32-53-03-480-001

(4) Install caps or plugs on the center hydraulic system pressure line [4] and center hydraulic system return line [7].

SUBTASK 32-53-03-480-002

(5) Put the MLG actuator sling, SPL-1852, around the actuator [3].

SUBTASK 32-53-03-480-003

(6) Connect the MLG actuator sling, SPL-1852, to the hoist, SPL-1556.

SUBTASK 32-53-03-020-003

(7) Do these steps to remove the pin [1] which holds the actuator [3] to the aft axle [16]:

(a) Remove the cotter pin [11], nut [12], washer [15], bolt [14], washer [23] and collar [13].

(b) Remove the pin [1] which holds the actuator [3] to the aft axle [16].

1) If it is difficult to remove the pin [1], for the aft axle [16], do this task: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801.

SUBTASK 32-53-03-020-004

(8) Do these steps to remove the pin [1] which holds the actuator [3] to the steering crank [10]:

(a) Remove the cotter pin [11], nut [12], washer [15], bolt [14], washer [23] and collar [13].

(b) Remove the pin [1] which holds the actuator [3] to the steering crank [10].

1) If it is difficult to remove the pin [1], for the aft axle [16], do this task: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801.

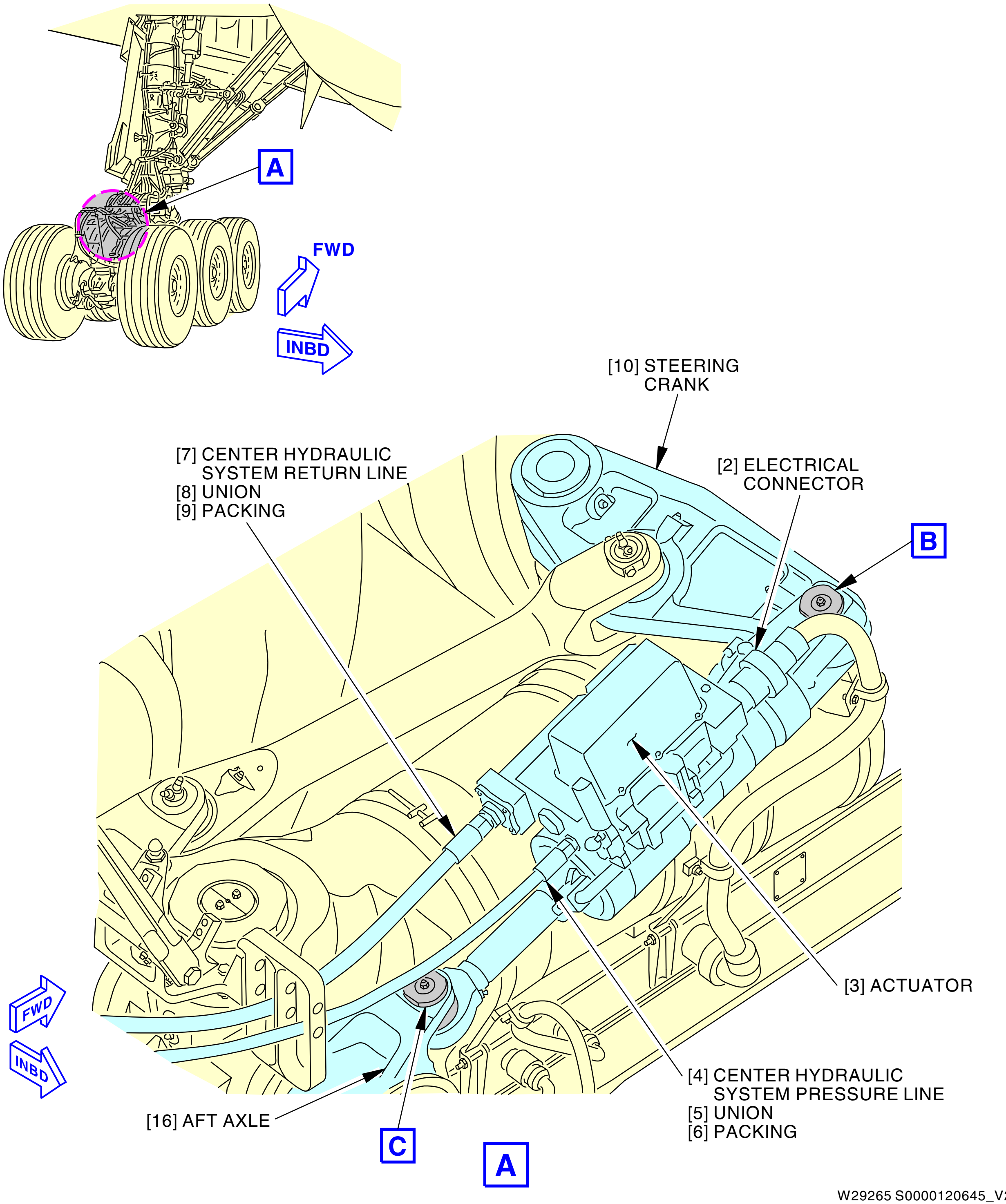
SUBTASK 32-53-03-020-005

(9) Remove the actuator [3].

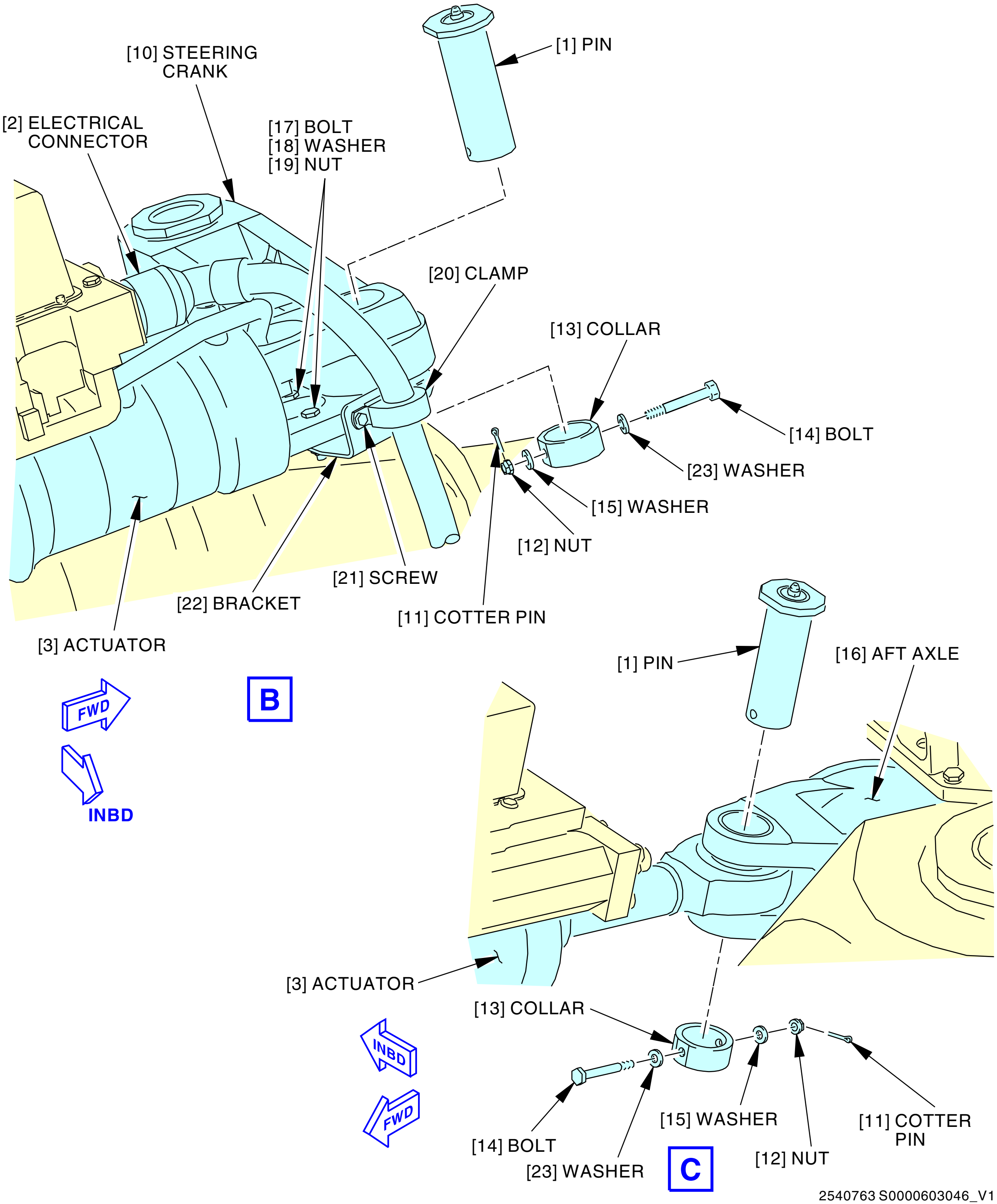
SUBTASK 32-53-03-480-004

(10) Put caps on the ports of the actuator [3].

END OF TASK



Main Landing Gear Steering/Locking Power Control Actuator Installation
Figure 401/32-53-03-990-801 (Sheet 1 of 2)



Main Landing Gear Steering/Locking Power Control Actuator Installation
Figure 401/32-53-03-990-801 (Sheet 2 of 2)

TASK 32-53-03-400-801

3. Main Landing Gear Steering/Locking Power Control Actuator Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
07-11-03-580-801	Lift the Airplane with Axle Jacks (P/B 201)
12-21-14-640-806-002	Lower Main Landing Gear and Actuating Mechanisms Lubrication (P/B 301)
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
32-21-11-000-803	Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage (P/B 201)
32-21-11-400-803	Nose Landing Gear Torsion Link Connection (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1499	Pin - Lock, NLG Towing Lever Part #: A09003-2 Supplier: 81205 Opt Part #: A09003-1 Supplier: 81205
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1852	Sling - Actuator, MLG Part #: J32020-14 Supplier: 81205 Part #: J32020-15 Supplier: 81205 Opt Part #: J32020-1 Supplier: 81205 Opt Part #: J32020-10 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV
D00633	Grease - Aircraft General Purpose	BMS3-33

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Actuator	32-53-03-01A-005	ARO ALL

E. **Location Zones**

Zone	Area
117	Main Equipment Center, Left
731	Left Main Landing Gear
741	Right Main Landing Gear

F. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door

G. **Prepare for Procedure**

SUBTASK 32-53-03-640-001

(1) Apply a thin layer of grease, D00633 (preferred) or grease, D00013 (alternative), to the pin [1].

SUBTASK 32-53-03-080-002

(2) Remove the caps from the ports of the actuator [3].

SUBTASK 32-53-03-420-004

(3) If the new actuator [3] does not have hydraulic fittings installed in the hydraulic ports, do these steps:

(a) Lubricate the union [5], union [8], packing [6], and packing [9] with hydraulic fluid, D00153.

(b) Install the union [5] and packing [6], and union [8] and packing [9] in the actuator [3].

H. **Main Landing Gear Steering/Locking Power Control Actuator Installation**

SUBTASK 32-53-03-480-005

(1) For the aft axle [16], do this task: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801 to lift the airplane.

(a) Use the jack pad located beneath the aft axle pivot pin, not the pad attached to the aft axle.

SUBTASK 32-53-03-420-001

(2) Use the MLG actuator sling, SPL-1852, and the hoist, SPL-1556, to lower the actuator [3] into position over the landing gear truck.

SUBTASK 32-53-03-420-002

(3) Do these steps to install the pin [1] which holds the actuator [3] to the steering crank [10]:

(a) Install the pin [1] to connect the actuator [3] and the steering crank [10].

1) If it is difficult to install the pin [1], for the aft axle [16], do this task: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801.

(b) Install the collar [13], bolt [14], washer [23], washer [15], nut [12], and cotter pin [11].

SUBTASK 32-53-03-420-006

(4) Do these steps to install the pin [1] which holds the actuator [3] to the aft axle [16]:

(a) Move the axle until you can install the pin [1].

1) If it is difficult to install the pin [1], for the aft axle [16], do this task: Lift the Airplane with Axle Jacks, TASK 07-11-03-580-801.

(b) Install the pin [1] to connect the actuator [3] to the aft axle [16].

(c) Install the collar [13], bolt [14], washer [23], washer [15], nut [12], and cotter pin [11].

SUBTASK 32-53-03-080-003

(5) Disconnect the MLG actuator sling, SPL-1852, from the hoist, SPL-1556.

SUBTASK 32-53-03-080-004

(6) Remove the MLG actuator sling, SPL-1852.

SUBTASK 32-53-03-480-007

(7) If you lifted the aft axle with a jack, lower the aft axle [16].

SUBTASK 32-53-03-480-008

(8) Remove the jack from under the aft axle [16].

SUBTASK 32-53-03-080-001

(9) Remove the caps or plugs from the center hydraulic system pressure line [4] and the center hydraulic system return line [7].

SUBTASK 32-53-03-420-003

(10) Connect the center hydraulic system pressure line [4] and the center hydraulic system return line [7] to the actuator [3].

(a) Tighten the B-nut on the center hydraulic system pressure line [4] to 270 ±14 in-lb (31 ±2 N·m).

(b) Tighten the B-nut on the center hydraulic system return line [7] to 500 ±25 in-lb (56 ±3 N·m).

SUBTASK 32-53-03-420-007

(11) Connect the electrical connector [2].

SUBTASK 32-53-03-020-008

(12) Do these steps to install the bracket [22]:

(a) Install the bolt [17], washer [18] and nut [19] to connect the bracket [22] to the actuator [3].

(b) Install the clamp [20] and screw [21] on the bracket [22].

SUBTASK 32-53-03-860-002

(13) Remove the safety tag and close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

SUBTASK 32-53-03-860-010

(14) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 32-53-03-020-010

(15) Do this task: Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage, TASK 32-21-11-000-803.

SUBTASK 32-53-03-020-011

(16) Remove the NLG towing lever pin, SPL-1499 from the towing lever.

SUBTASK 32-53-03-860-006

(17) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-53-03-860-007

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

CAUTION	MAKE SURE THAT THE LANDING GEAR IS CLEAR OF PERSONS AND EQUIPMENT. IN THIS TEST, THE AFT AXLE WILL TURN. THIS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(18) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-53-03-710-002

(19) Do these steps 15 times to bleed the actuator [3]:

NOTE: During the first of the 15 cycles, the aft axles may not move. When the aft axles move during subsequent cycles, it can be determined as normal.

(a) Make sure the parking brake is released.

(b) Rotate the Captain's tiller clockwise and hold for 5 seconds.

(c) Make sure the left and right aft axles turn smoothly.

(d) Release the Captain's tiller.

(e) Make sure the left and right aft axles move back to the centered position smoothly.

(f) Rotate the Captain's tiller counterclockwise and hold for 5 seconds.

(g) Make sure the left and right aft axles turn smoothly.

(h) Release the Captain's tiller.

(i) Make sure the left and right aft axles move back to the centered position smoothly.

SUBTASK 32-53-03-790-001

(20) Make sure there is no leakage from the actuator [3] and hydraulic lines.

SUBTASK 32-53-03-710-001

(21) Do these steps to do an installation test of the actuator [3]:

(a) Show the LANDING GEAR BRKS/STRNG maintenance page on the multi-function display (MFD) (TASK 31-61-00-800-804).

1) Use one of the control display units (CDUs) in the flight compartment to show the LANDING GEAR ACTN/INDN maintenance page.

(b) Make sure these indications show on the maintenance page:

1) The L TILLER and R TILLER angles are 1 °L - 1 °R.

2) The LEFT and RIGHT AFT AXLE angles are 0.5 °L - 0.5 °R.

3) The LEFT and RIGHT AFT AXLEs are LOCKED.

4) The LEFT and RIGHT AFT AXLEs are neither FAILED nor DISABLED.

(c) Rotate the Captain's tiller clockwise until the L TILLER angle on the maintenance page is 69 °R - 71 °R and hold it.

(d) Make sure these indications show on the maintenance page:

1) The L TILLER and R TILLER angles are 69 °R - 71 °R.

2) The LEFT and RIGHT AFT AXLE angles are 6 °L - 7 °L.

3) The LEFT and RIGHT AFT AXLEs are UNLOCKED.

4) The LEFT and RIGHT AFT AXLEs are neither FAILED nor DISABLED.

(e) Release the Captain's tiller.

(f) Make sure these indications show on the maintenance page:

1) The L TILLER and R TILLER angles are 1 °L - 1 °R.

2) The LEFT and RIGHT AFT AXLE angles are 0.5 °L - 0.5 °R.

3) The LEFT and RIGHT AFT AXLEs are LOCKED.

4) The LEFT and RIGHT AFT AXLEs are neither FAILED nor DISABLED.

(g) Rotate the Captain's tiller counter-clockwise until the L TILLER angle on the maintenance page is 69 °L - 71 °L and hold it.

(h) Make sure these indications show on the maintenance page:

1) The L TILLER and R TILLER angles are 69 °L - 71 °L.

2) The LEFT and RIGHT AFT AXLE angles are 6 °R - 7 °R.

3) The LEFT and RIGHT AFT AXLE's are UNLOCKED.

4) The LEFT and RIGHT AFT AXLE's are neither FAILED nor DISABLED.

(i) Release the Captain's tiller.

(j) Make sure these indications show on the maintenance page:

1) The L TILLER and R TILLER angles are 1 °L - 1 °R.

2) The LEFT and RIGHT AFT AXLE angles are 0.5 °L - 0.5 °R.

3) The LEFT and RIGHT AFT AXLE's are LOCKED.

4) The LEFT and RIGHT AFT AXLE's are neither FAILED nor DISABLED.

(k) After 30 seconds, make sure these EICAS messages are not shown on the EICAS.

1) MAIN GEAR STEERING (Advisory)

2) MAIN GEAR STEERING (Status)

(l) Look for the maintenance message on the Extended Maintenance, Existing Fault display (on the MAT).

(m) Make sure no faults are ACTIVE in (32) Main Gear Steering System faults.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 32-53-03-860-004

(1) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-53-03-640-002

(2) To lubricate the main gear steering actuator at the grease fittings, do this task: Lower Main Landing Gear and Actuating Mechanisms Lubrication, TASK 12-21-14-640-806-002.

SUBTASK 32-53-03-420-009

(3) Install the NLG towing lever pin, SPL-1499, through the towing lever.

SUBTASK 32-53-03-420-008

(4) To connect the torsion link, do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-11-400-803.

END OF TASK

MAIN LANDING GEAR STEERING/LOCKING POWER CONTROL ACTUATOR - INSPECTION/CHECK

1. General

A. This procedure only has illustrations and wear limit tables which show the data for wear limits. There are no procedures for access, removal, or installation of the parts. Refer to MAIN LANDING GEAR STEERING/LOCKING POWER CONTROL ACTUATOR - REMOVAL/INSTALLATION, PAGEBLOCK 32-53-03/401 for procedures to do these tasks.

TASK 32-53-03-200-801

2. Main Landing Gear Steering/Locking Power Control Actuator - Inspection/Check

(Figure 601)

A. References

Reference	Title
32-53-03 P/B 401	MAIN LANDING GEAR STEERING/LOCKING POWER CONTROL ACTUATOR - REMOVAL/INSTALLATION

B. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

C. General

SUBTASK 32-53-03-210-001

(1) This procedure only has illustrations and wear limit tables which show the data for wear limits. There are no procedures for access, removal, or installation of the parts. Refer to MAIN LANDING GEAR STEERING/LOCKING POWER CONTROL ACTUATOR - REMOVAL/INSTALLATION, PAGEBLOCK 32-53-03/401procedures to do these tasks.

SUBTASK 32-53-03-220-001

(2) Use the following table to see the permitted quantity of wear:

Main Landing Gear Steering/Locking Power Control Actuator Wear Limits

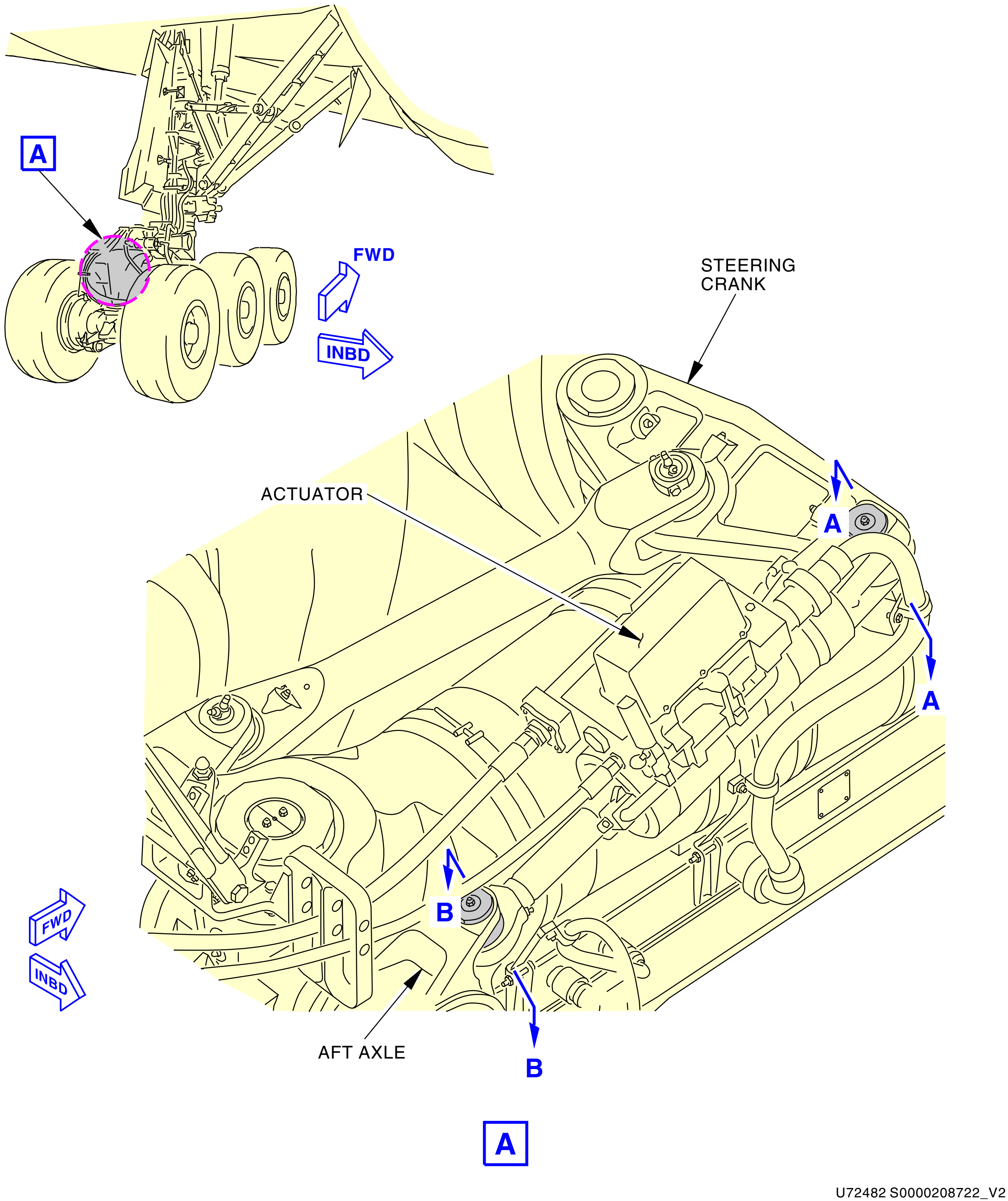
INDEX NO.	PART NAME	DIM.	DESIGN LIMITS DIAMETER inches (millimeters) MIN	DESIGN LIMITS DIAMETER inches (millimeters) MAX	WEAR LIMITS ALLOWED WEAR DIM. inches (millimeters)	WEAR LIMITS MAX CLEARANCE inches (millimeters)
1	Bushing	ID	1.3750 (34.925)	1.3765 (34.963)	1.3775 (34.989)	0.0058 (0.148)
	Pin	OD	1.3730 (34.874)	1.3740 (34.900)	1.3707 (34.815)	
2	Bearing	ID	1.3745 (34.912)	1.3750 (34.925)	1.3760 (34.950)	0.0043 (0.110)
	Pin	OD	1.3730 (34.874)	1.3740 (34.900)	1.3707 (34.815)	

Main Landing Gear Steering/Locking Power Control Actuator Wear Limits (Continued)

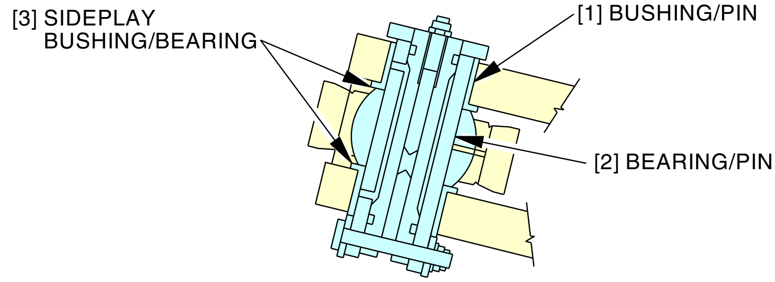
INDEX NO.	PART NAME	DIM.	DESIGN LIMITS DIAMETER inches (millimeters)		WEAR LIMITS	
			MIN	MAX	ALLOWED WEAR DIM. inches (millimeters)	MAX CLEARANCE inches (millimeters)
3*[1]	Bushing		1.3755 (34.938)	1.3865 (35.217)	1.3970 (35.484)	0.0220 (0.559)
	Bearing		1.3700 (34.798)	1.3750 (34.925)	1.3590 (34.519)	
4*[1]	Bushing		1.3760 (34.950)	1.3810 (35.077)	1.3970 (35.484)	0.0220 (0.559)
	Bearing		1.3700 (34.798)	1.3750 (34.925)	1.3590 (34.519)	
	Bearing end play		—	0.0500 (1.270)	—	—

*[1] These values represent the maximum sideplay bearing/bushing clearances for the head end and the rod end.

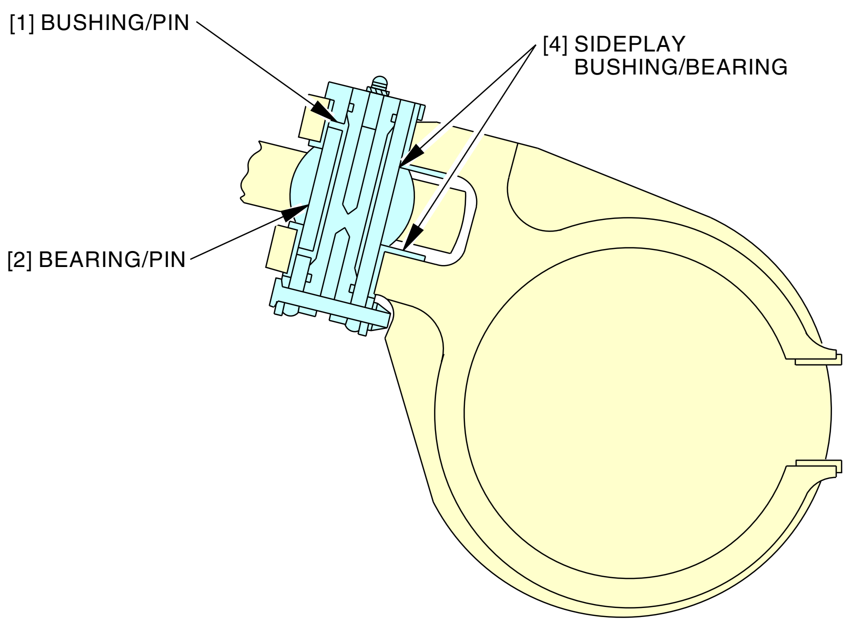
——— END OF TASK ———



Main Landing Gear Steering/Locking Power Control Actuator - Wear Limits
Figure 601/32-53-03-990-802 (Sheet 1 of 2)



HEAD END
A-A



ROD END
B-B

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Main Landing Gear Steering/Locking Power Control Actuator - Wear Limits
Figure 601/32-53-03-990-802 (Sheet 2 of 2)

MAIN LANDING GEAR STEERING HYDRAULIC FUSE - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has two tasks:

      (1) A removal of the hydraulic fuse for the steering system for the main landing gear

      (2) An installation of the hydraulic fuse for the steering system for the main landing gear.

   B. This procedure shows the hydraulic fuse for the steering system for the left main landing gear. This procedure also applies to the hydraulic fuse for the steering system for the right main landing gear.

TASK 32-53-04-020-801

2. **Main Landing Gear Steering Hydraulic Fuse Removal**
   (Figure 401)

   A. **References**

Reference	Title
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

   B. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

   C. **Prepare for the Removal**

SUBTASK 32-53-04-480-001

> **WARNING**
> MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-53-04-860-001

(2) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-53-04-480-002

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-53-04-860-002

(4) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

D. Removal

SUBTASK 32-53-04-020-001

(1) Disconnect the hydraulic lines from the fuse [1].

SUBTASK 32-53-04-480-003

(2) Install plugs in the lines and fittings.

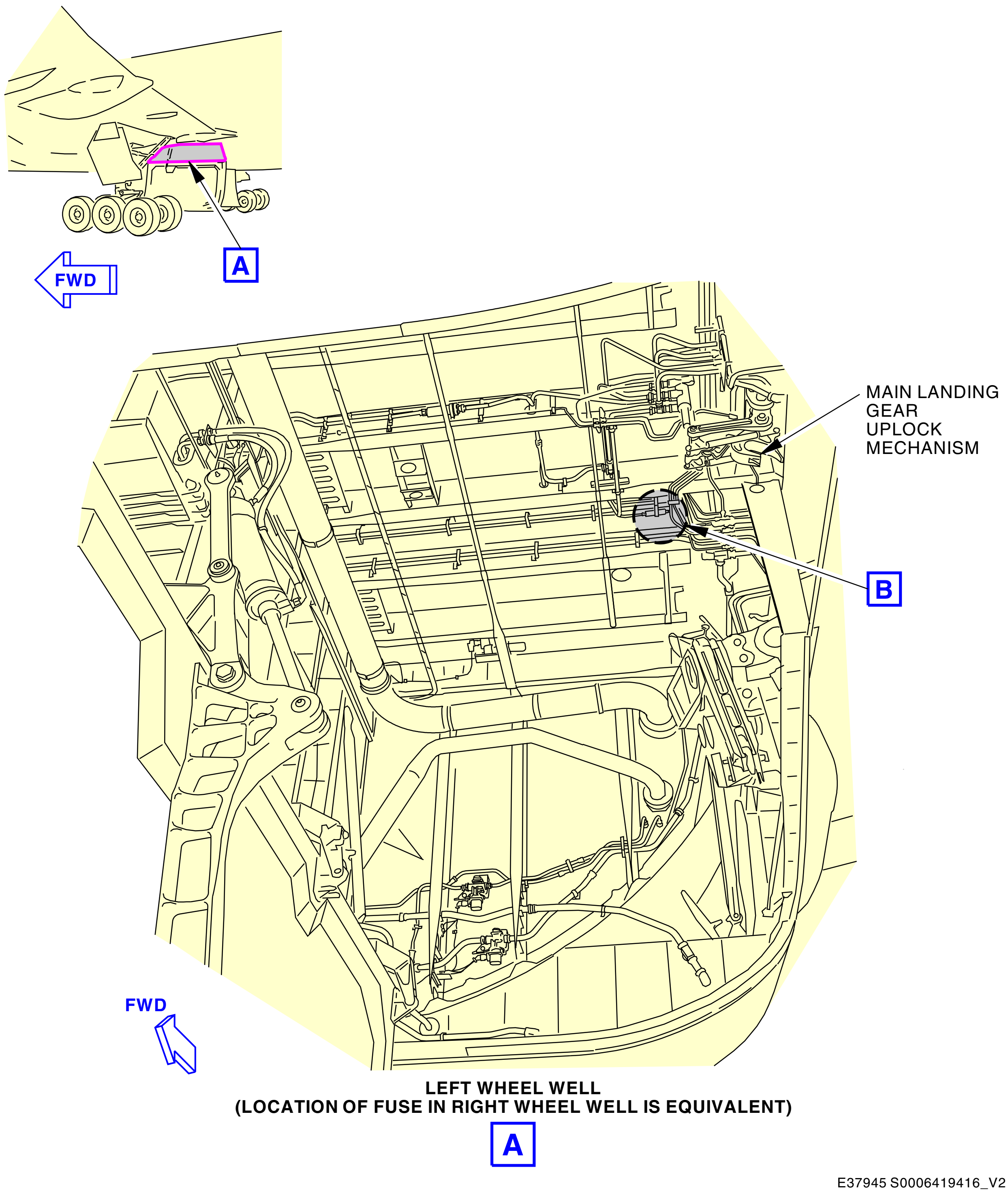
SUBTASK 32-53-04-020-002

(3) Remove the bolts [5], washers [4], spacers [6] and channel [3] from the clamp [2] that holds the fuse [1] to the structure.

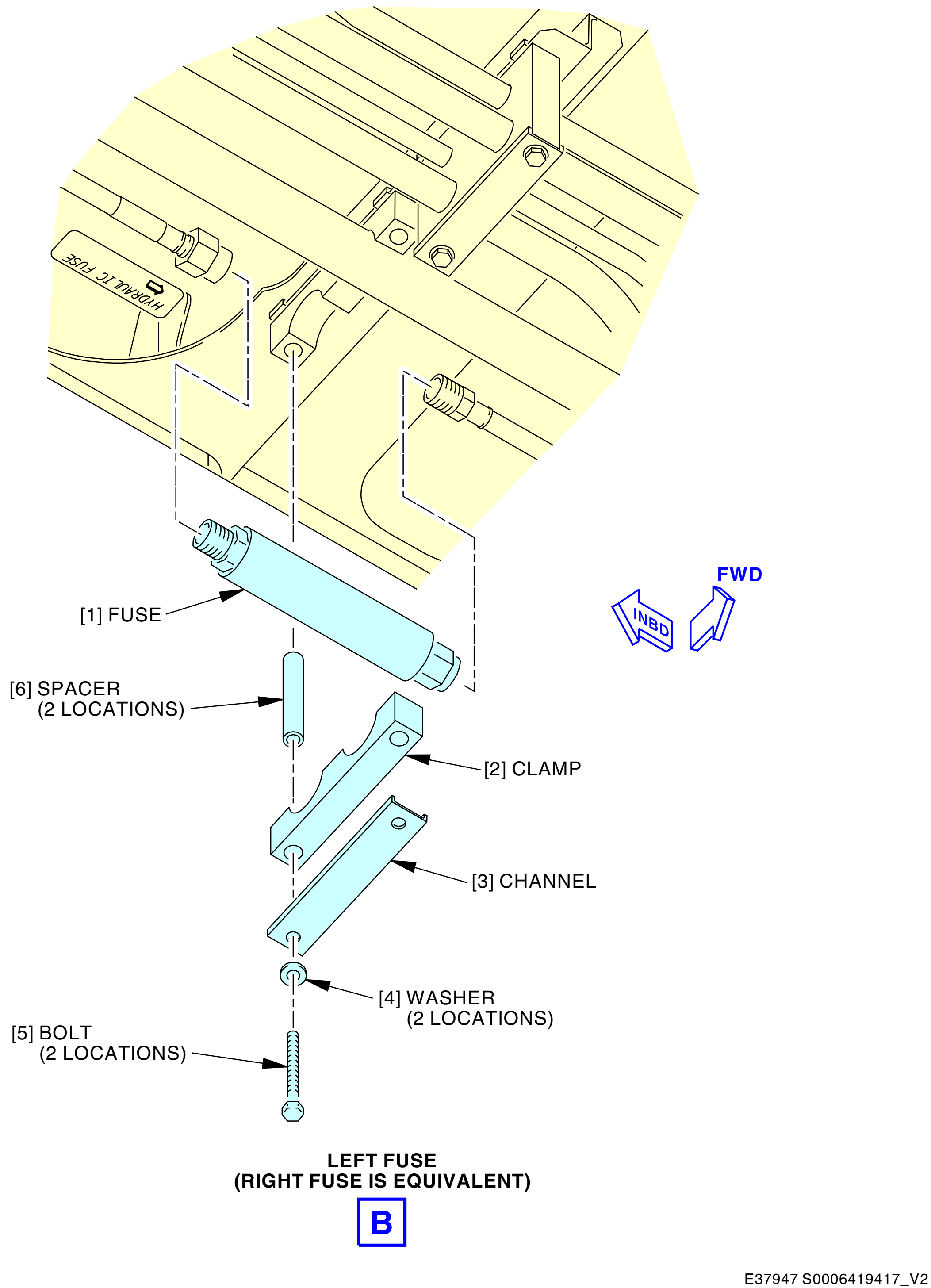
SUBTASK 32-53-04-020-003

(4) Remove the fuse [1].

END OF TASK



Main Landing Gear Steering Hydraulic Fuse Installation
Figure 401/32-53-04-990-801 (Sheet 1 of 2)



Main Landing Gear Steering Hydraulic Fuse Installation
Figure 401/32-53-04-990-801 (Sheet 2 of 2)

TASK 32-53-04-420-801

3. Main Landing Gear Steering Hydraulic Fuse Installation

A. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Fuse	32-53-51-01A-095	ARO ALL
		32-53-51-10-055	ARO ALL

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Installation

SUBTASK 32-53-04-480-004

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-53-04-860-003

(2) Do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-53-04-480-005

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-53-04-860-004

(4) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-53-04-420-001

(5) Hold the fuse [1] in its position and install the spacers [6], clamp [2], channel [3], washers [4] and bolts [5] to attach the fuse [1] to the structure.

SUBTASK 32-53-04-080-001

(6) Remove the plugs from the hydraulic lines and fittings.

SUBTASK 32-53-04-420-002

(7) Connect the hydraulic lines to the fuse [1].

(a) Tighten the B-nuts on the hydraulic lines to 270 ±14 in-lb (31 ±2 N·m).

E. Hydraulic Fuse Installation Test

SUBTASK 32-53-04-860-005

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-53-04-790-001

(2) Do a visual check of the fuse [1] for hydraulic leaks.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-53-04-080-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-53-04-860-006

(2) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

SUBTASK 32-53-04-860-007

(3) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

——— END OF TASK ———

MAIN LANDING GEAR STEERING CRANK - REMOVAL/INSTALLATION

1. **General**
   A. This procedure has these tasks:
      (1) A removal of the steering crank for the main landing gear.
      (2) An installation of the steering crank for the main landing gear.
   B. This procedure shows the steering crank for the left main landing gear. This procedure also applies to the steering crank for the right main landing gear.

TASK 32-53-06-020-801

2. **Main Landing Gear Steering Crank Removal**
   (Figure 401)

   A. **References**

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   B. **Tools/Equipment**

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1852	Sling - Actuator, MLG Part #: J32020-14 Supplier: 81205 Part #: J32020-15 Supplier: 81205 Opt Part #: J32020-1 Supplier: 81205 Opt Part #: J32020-10 Supplier: 81205

   C. **Location Zones**

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

   D. **Prepare for the Removal**

   SUBTASK 32-53-06-860-001

   (1) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

   SUBTASK 32-53-06-860-002

   (2) Open this circuit breaker and install safety tag:

   Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

SUBTASK 32-53-06-480-001

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

E. Main Landing Gear Steering Crank Removal

SUBTASK 32-53-06-480-004

(1) Put the MLG actuator sling, SPL-1852, around the steering actuator.

SUBTASK 32-53-06-480-003

(2) Connect the MLG actuator sling, SPL-1852, to the hoist, SPL-1556.

SUBTASK 32-53-06-020-005

(3) Do these steps to remove the pin [4] which holds the steering actuator to the steering crank [1]:

(a) Remove the pin [9], nut, washers, bolt, and collar.

(b) Remove the pin [4] which holds the steering actuator to the steering crank [1].

SUBTASK 32-53-06-020-006

(4) Do these steps to remove the pin [2] which holds the steering crank [1] to the truck:

(a) Remove the pin [9], nut, washers, bolt, and collar.

(b) Remove the pin [2] that holds the steering crank [1] to the truck.

SUBTASK 32-53-06-030-001

(5) Do these steps to remove the pin [3] which holds the reaction link to the steering crank [1]:

(a) Remove the pin [9], nut, washers, bolt, and collar.

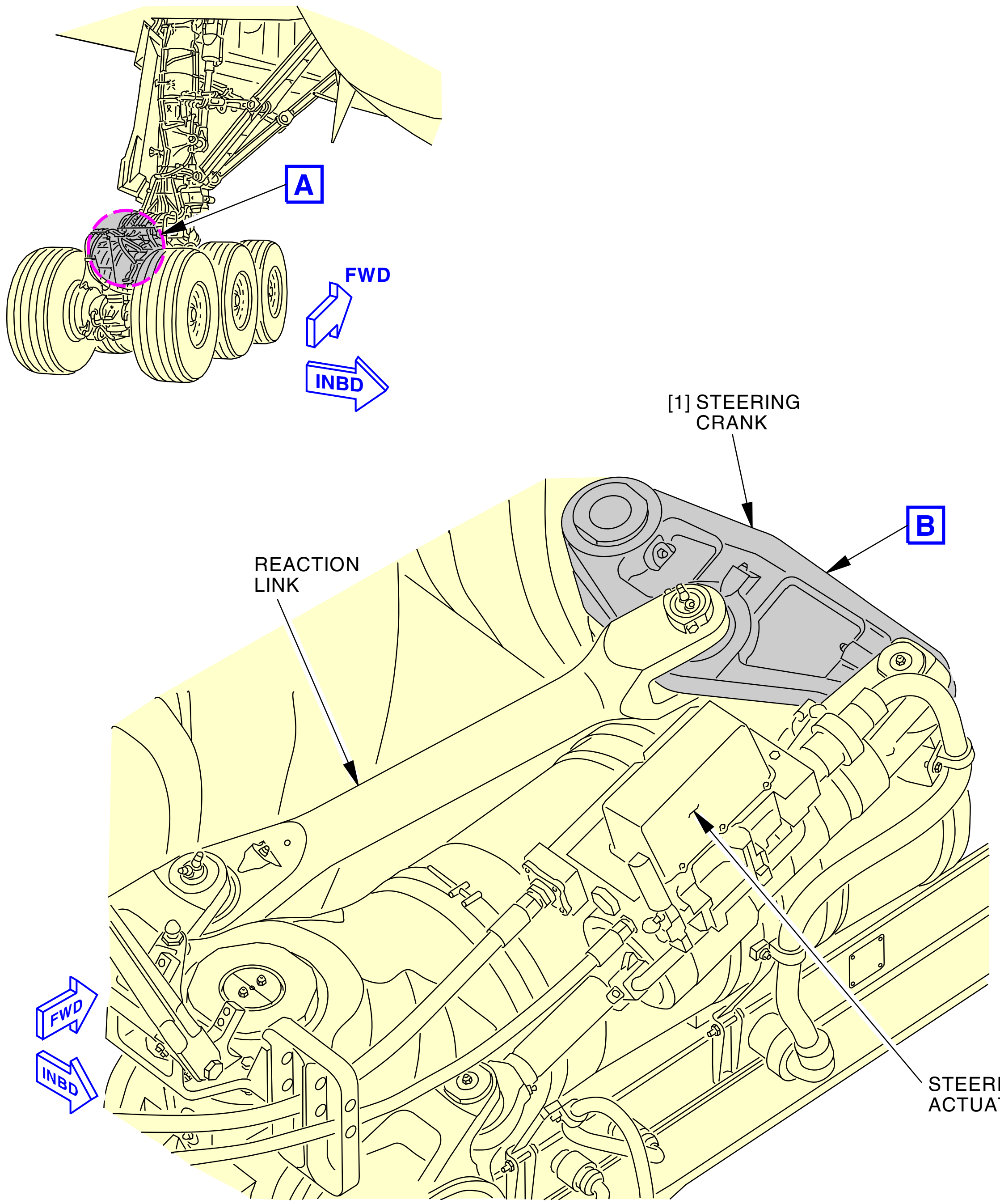
(b) Remove the pin [3] that holds the reaction link to the steering crank [1].

(c) Remove the alignment washers.

SUBTASK 32-53-06-020-004

(6) Remove the steering crank [1].

——— END OF TASK ———



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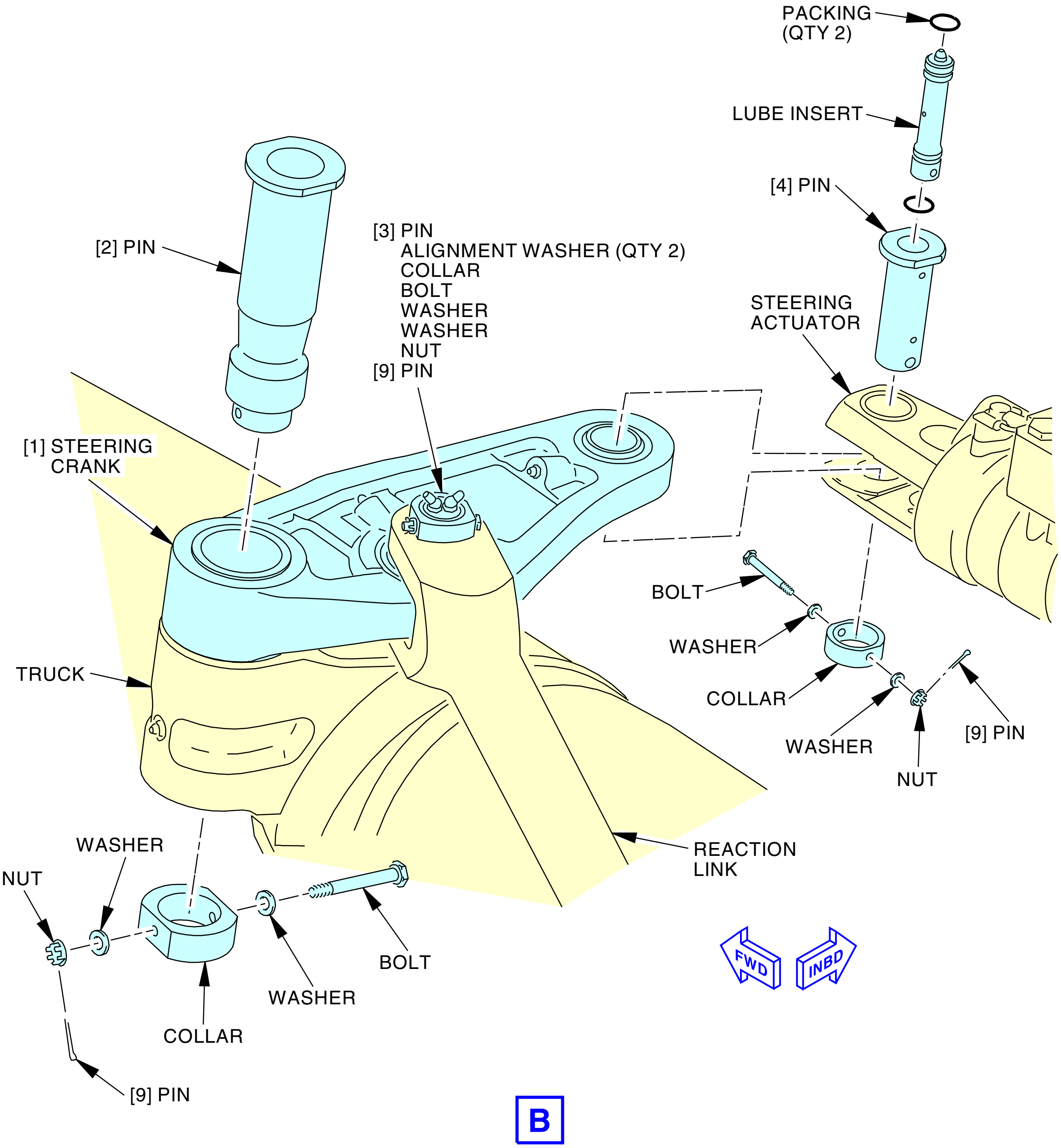
Main Landing Gear Steering Crank Installation
Figure 401/32-53-06-990-801 (Sheet 1 of 2)



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Main Landing Gear Steering Crank Installation
Figure 401/32-53-06-990-801 (Sheet 2 of 2)

TASK 32-53-06-420-801

3. Main Landing Gear Steering Crank Installation

(Figure 401)

A. References

Reference	Title
20-11-00-910-801	Standard Torque Values (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1556	Hoist - Boom, General, 400 Pound Maximum Capacity Part #: A20001-152 Supplier: 81205 Opt Part #: A20001-82 Supplier: 81205
SPL-1852	Sling - Actuator, MLG Part #: J32020-14 Supplier: 81205 Part #: J32020-15 Supplier: 81205 Opt Part #: J32020-1 Supplier: 81205 Opt Part #: J32020-10 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Steering crank	32-11-18-01A-195	ARO ALL
9	Pin	32-11-18-01A-005	ARO ALL
		32-11-18-01A-160	ARO ALL

E. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Main Landing Gear Steering Crank Installation

SUBTASK 32-53-06-640-002

(1) If the lube inserts are not installed in the pins, do these steps:

(a) Apply a layer of grease, D00633 (preferred), or grease, D00013 (alternative), to the new packings.

(b) Install the new packings on the lube inserts.

(c) Install the lube inserts in the pins.

(d) Apply sealant, A00247 between the lube insert and the pin on the top of each pin.

SUBTASK 32-53-06-640-003

(2) Apply a thin layer of grease, D00633 to the pin [2], pin [3], and pin [4].

SUBTASK 32-53-06-430-001

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(3) Do these steps to install the pin [3] that holds the reaction link to the steering crank [1]:

(a) Install the alignment washers and the pin [3] to connect the reaction link and the steering crank [1].

(b) Apply Cor-Ban 27L Compound, G50237, to the inside diameter of the collar.

(c) Apply a thin layer of Cor-Ban 27L Compound, G50237, to the washers and the shank and threads of the bolt.

(d) Install the collar, bolt, washers, nut, and pin [9] (TASK 20-11-00-910-801).

(e) Wipe off the excess Cor-Ban 27L Compound, G50237.

SUBTASK 32-53-06-980-001

(4) Put the steering crank [1] in position on the truck.

SUBTASK 32-53-06-430-002

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(5) Do these steps to install the pin [2] that holds the steering crank [1] to the truck:

(a) Install the pin [2] to connect the steering crank [1] to the truck.

(b) Apply Cor-Ban 27L Compound, G50237, to the inside diameter of the collar.

(c) Apply a thin layer of Cor-Ban 27L Compound, G50237, to the washers and the shank and threads of the bolt.

(d) Install the collar, bolt, washers, nut, and pin [9] (TASK 20-11-00-910-801).

(e) Wipe off the excess Cor-Ban 27L Compound, G50237.

SUBTASK 32-53-06-430-003

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(6) Do these steps to install the pin [4] that holds the steering actuator to the steering crank [1]:

(a) Install the pin [4] to connect the steering actuator and the steering crank [1].

(b) Apply Cor-Ban 27L Compound, G50237, to the inside diameter of the collar.

(c) Apply a thin layer of Cor-Ban 27L Compound, G50237, to the washers and the shank and threads of the bolt.

(d) Install the collar, bolt, washers, nut, and pin [9] (Standard Torque Values, TASK 20-11-00-910-801).

SUBTASK 32-53-06-080-001

(7) Disconnect the MLG actuator sling, SPL-1852, from the hoist, SPL-1556.

SUBTASK 32-53-06-080-002

(8) Remove the MLG actuator sling, SPL-1852, from the steering actuator.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-53-06-860-003

(1) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

——— END OF TASK ———

MAIN LANDING GEAR STEERING CRANK - INSPECTION/CHECK

1. **General**
   A. This procedure only has illustrations and wear limit tables which show the data for wear limits. There are no procedures for access, removal, or installation of the parts. Refer to MAIN LANDING GEAR STEERING CRANK - REMOVAL/INSTALLATION, PAGEBLOCK 32-53-06/401 for procedures to do these tasks.

TASK 32-53-06-200-801

2. **Main Landing Gear Steering Crank - Inspection/Check**
(Figure 601)

   A. **References**

Reference	Title
32-53-06 P/B 401	MAIN LANDING GEAR STEERING CRANK - REMOVAL/INSTALLATION

   B. **Location Zones**

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

   C. **General**

SUBTASK 32-53-06-210-001

(1) This procedure only has illustrations and wear limit tables which show the data for wear limits. There are no procedures for access, removal, or installation of the parts. Refer to MAIN LANDING GEAR STEERING CRANK - REMOVAL/INSTALLATION, PAGEBLOCK 32-53-06/401procedures to do these tasks.

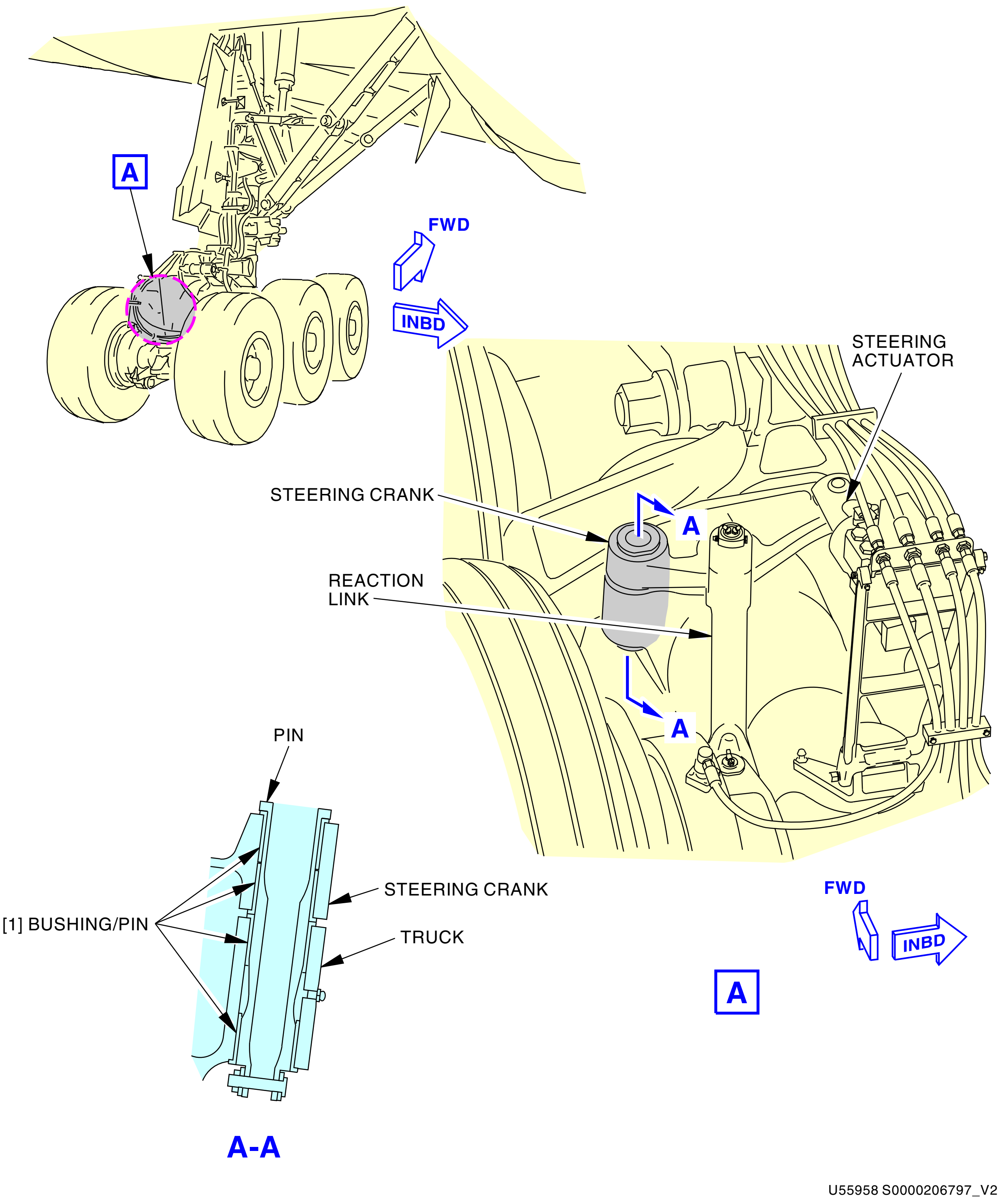
SUBTASK 32-53-06-220-001

(2) Use the following table to see the permitted quantity of wear:

Main Landing Gear Steering Crank Wear Limits

INDEX NO.	PART NAME	DIM.	DESIGN LIMITS DIAMETER inches (millimeters) MIN	MAX	WEAR LIMITS ALLOWED WEAR DIM. inches (millimeters)	MAX CLEARANCE inches (millimeters)
1	Bushing	ID	2.3750 (60.325)	2.3765 (60.363	2.3775 (60.389)	0.0066 (0.167)
	Pin	OD	2.3730 (60.274)	2.3740 (60.300)	2.3699 (60.196)	

END OF TASK



Main Landing Gear Steering Crank Wear Limits
Figure 601/32-53-06-990-802

MAIN LANDING GEAR STEERING REACTION LINK - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the steering reaction link for the main landing gear

(2) An installation of the steering reaction link for the main landing gear.

B. This procedure shows the steering reaction link for the left main landing gear. This procedure also applies to the steering reaction link for the right main landing gear.

C. In this procedure, the steering reaction link for the main landing gear is referred to as the link assembly [3].

TASK 32-53-07-020-801

2. Main Landing Gear Steering Reaction Link Removal

(Figure 401)

A. References

Reference	Title
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-53-06-020-801	Main Landing Gear Steering Crank Removal (P/B 401)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Link assembly	32-11-18-01A-155	ARO ALL

C. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for the Removal

SUBTASK 32-53-07-860-001

(1) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-53-07-860-002

(2) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

SUBTASK 32-53-07-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

E. Main Landing Gear Steering Reaction Link Removal

SUBTASK 32-53-07-030-001

(1) Remove the steering crank, Main Landing Gear Steering Crank Removal, TASK 32-53-06-020-801, and do these steps to remove the pin [1] that connects the link assembly [3] to the steering crank:

(a) Remove the pin [9], nut, washers, bolt, and collar.

(b) Remove the pin [1].

(c) Disconnect the link assembly [3] from the steering crank.

(d) Remove the alignment washers.

SUBTASK 32-53-07-020-004

(2) Do these steps to remove the pin [2] which holds the link assembly [3] to the aft axle:

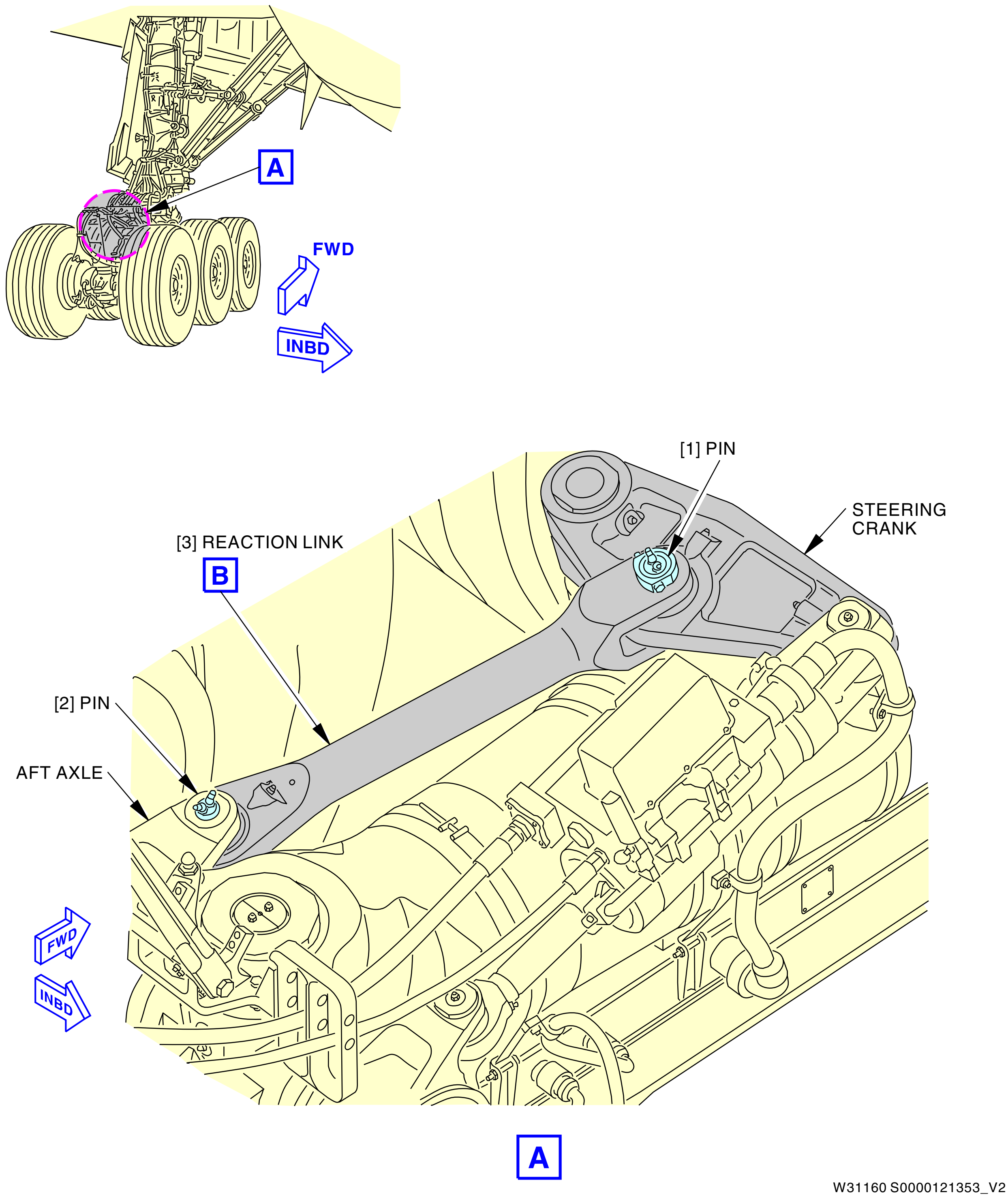
(a) Remove the cotter pin [9], nut, washers, bolt, and collar.

(b) Remove the pin [2] that holds the link assembly [3] to the aft axle.

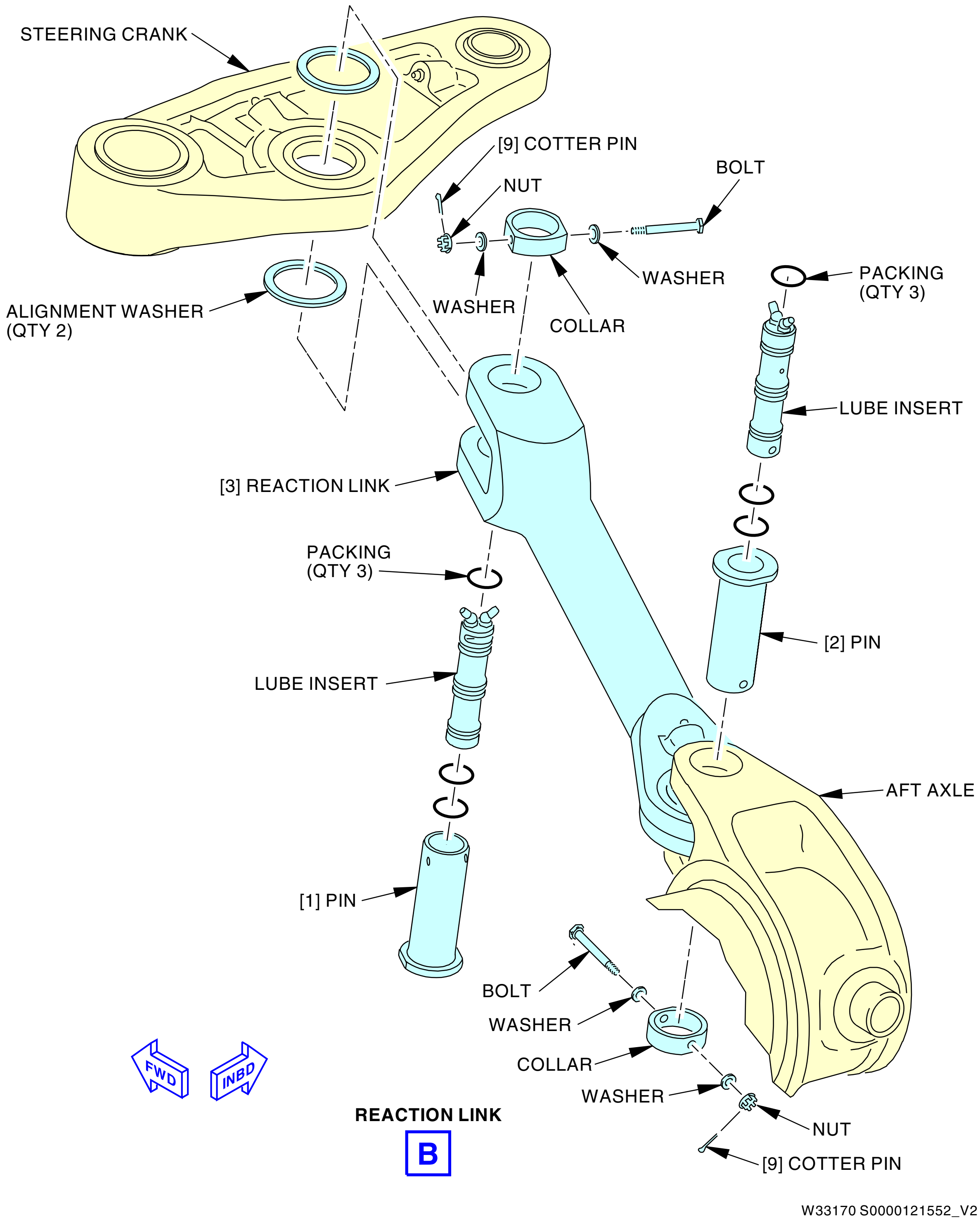
SUBTASK 32-53-07-020-003

(3) Remove the link assembly [3].

——— END OF TASK ———



Main Landing Gear Reaction Link Installation
Figure 401/32-53-07-990-801 (Sheet 1 of 2)



Main Landing Gear Reaction Link Installation
Figure 401/32-53-07-990-801 (Sheet 2 of 2)

TASK 32-53-07-420-801

3. Main Landing Gear Steering Reaction Link Installation

(Figure 401)

A. References

Reference	Title
20-11-00-910-801	Standard Torque Values (P/B 201)
32-53-06-420-801	Main Landing Gear Steering Crank Installation (P/B 401)

B. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
D00633	Grease - Aircraft General Purpose	BMS3-33
G50136	Compound - Corrosion Inhibiting, Non-drying Paste	BMS3-38
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Link assembly	32-11-18-01A-155	ARO ALL
9	Cotter pin	32-11-18-01A-060	ARO ALL

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Main Landing Gear Steering Reaction Link Installation

SUBTASK 32-53-07-640-002

(1) If the lube inserts are not installed in the pin [1] or pin [2], do these steps:

(a) Apply a layer of grease, D00633, to the new packings.

(b) Install the new packings on the lube inserts.

(c) Install the lube inserts in the pin [1] and pin [2].

(d) Apply sealant, A00247, between the lube insert, pin [1], and pin [2] on the top of the each pin.

SUBTASK 32-53-07-640-003

(2) Apply a thin layer of grease, D00633, to the pin [1] and pin [2].

SUBTASK 32-53-07-420-005

WARNING

USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(3) Do these steps to install the pin [1] to attach the link assembly [3] to the steering crank, and then install the steering crank, Main Landing Gear Steering Crank Installation, TASK 32-53-06-420-801:

(a) Install the alignment washers.

(b) Apply Cor-Ban 27L Compound, G50237, to the inside diameter of the collar.

(c) Apply Cor-Ban 27L Compound, G50237, to the washers and the shank and threads of the bolt.

(d) Install the pin [1].

(e) Install the collar, bolt, washers, nut, and new cotter pin [9]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

(f) Wipe off the excess corrosion inhibiting material, G50136.

SUBTASK 32-53-07-420-004

WARNING USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(4) Do these steps to install the pin [2] which holds the link assembly [3] to the aft axle [2]:

(a) Install the pin [2] to connect the link assembly [3] and the aft axle.

(b) Apply Cor-Ban 27L Compound, G50237, to the inside diameter of the collar.

(c) Apply Cor-Ban 27L Compound, G50237, to the shank and threads of the bolt, and to the washers.

(d) Install the collar [11], bolt [12], washer [10], nut [8] and cotter pin [9] (TASK 20-11-00-910-801).

(e) Wipe off the excess Cor-Ban 27L Compound, G50237.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-53-07-860-003

(1) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
N	27	C32619	LG MAIN GEAR STEERING

——— END OF TASK ———

MAIN LANDING GEAR STEERING REACTION LINK - INSPECTION/CHECK

1. General

A. This procedure only has illustrations and wear limit tables which show the data for wear limits. There are no procedures for access, removal, or installation of the parts. Refer to MAIN LANDING GEAR STEERING REACTION LINK - REMOVAL/INSTALLATION, PAGEBLOCK 32-53-07/401 for procedures to do these tasks.

TASK 32-53-07-200-801

2. Main Landing Gear Steering Reaction Link - Inspection/Check

(Figure 601)

A. References

Reference	Title
32-53-07 P/B 401	MAIN LANDING GEAR STEERING REACTION LINK - REMOVAL/INSTALLATION

B. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

C. General

SUBTASK 32-53-07-210-001

(1) This procedure only has illustrations and wear limit tables which show the data for wear limits. There are no procedures for access, removal, or installation of the parts. Refer to MAIN LANDING GEAR STEERING REACTION LINK - REMOVAL/INSTALLATION, PAGEBLOCK 32-53-07/401procedures to do these tasks.

SUBTASK 32-53-07-220-001

(2) Use the following table to see the permitted quantity of wear:

Table 601/32-53-07-993-802 Main Landing Gear Steering Reaction Link Wear Limits

INDEX NO.	PART NAME	DIM.	DESIGN LIMITS		WEAR LIMITS	
			DIAMETER inches (millimeters)		ALLOWED WEAR DIM. inches (millimeters)	MAX CLEARANCE inches (millimeters)
			MIN	MAX		
1	Bushing	ID	1.5000 (38.100)	1.5013 (38.133)	1.5047 (38.219)	0.0057 (0.145)
	Pin	OD	1.4980 (38.049)	1.4990 (38.075)	1.4956 (37.988)	
2	Bearing	ID	1.4995 (38.087)	1.5000 (38.100)	1.5034 (38.186)	0.0049 (0.124)
	Pin	OD	1.4980 (38.049)	1.4990 (38.075	1.4956 (37.988)	
3*[1]	Bushing	ID*[2]	1.5005 (38.113	1.5105 (38.367)	1.5260 (38.760)	0.0310 (0.787)
	Bearing	OD*[3]	1.4950 (37.973)	1.5000 (38.100)	1.4795 (37.579)	

Table 601/32-53-07-993-802 Main Landing Gear Steering Reaction Link Wear Limits (Continued)

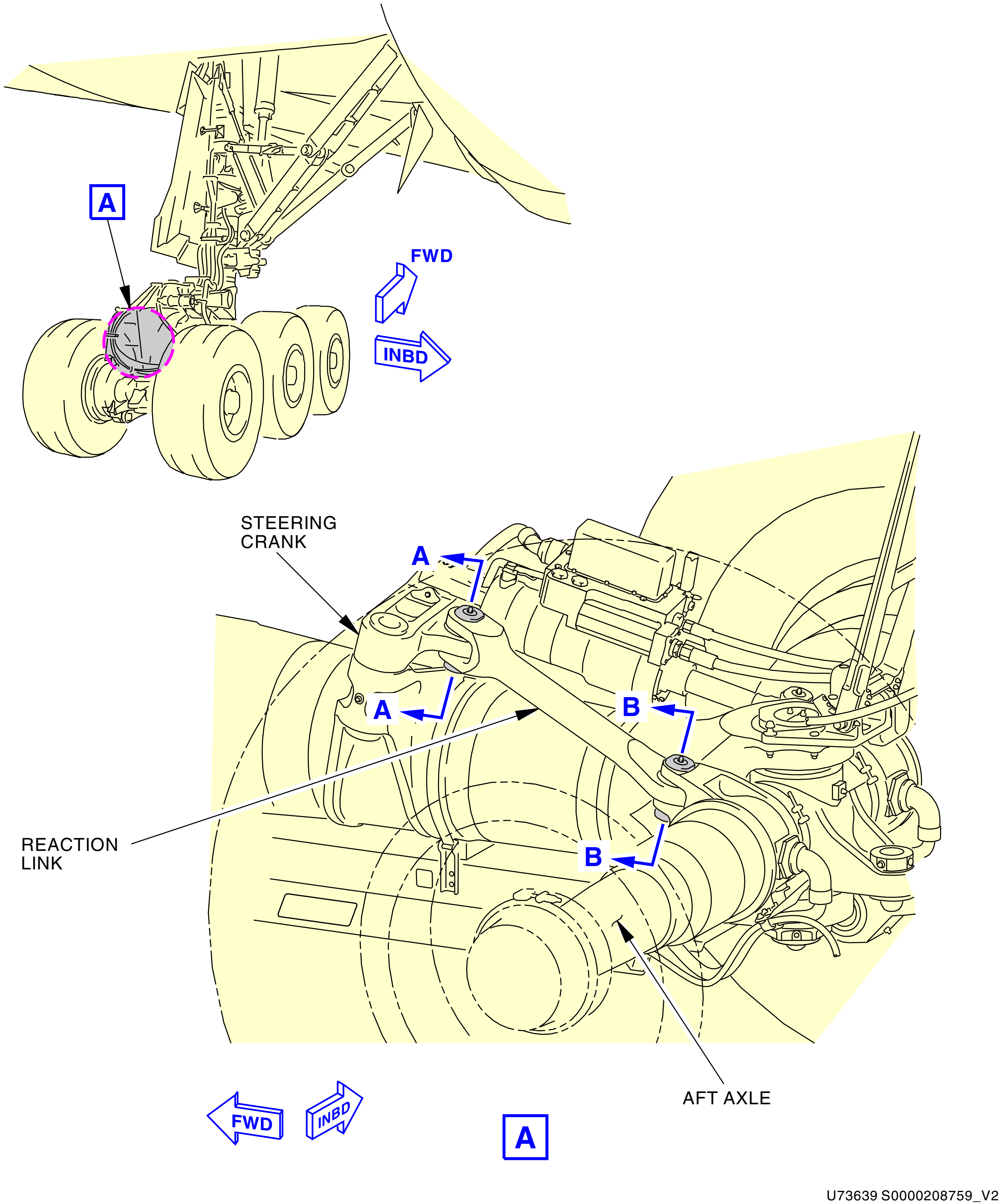
INDEX NO.	PART NAME	DIM.	DESIGN LIMITS DIAMETER inches (millimeters) MIN	DESIGN LIMITS DIAMETER inches (millimeters) MAX	WEAR LIMITS ALLOWED WEAR DIM. inches (millimeters)	WEAR LIMITS MAX CLEARANCE inches (millimeters)
4*[1]	Bushing	ID*[2]	1.5010 (38.125)	1.5060 (38.252)	1.5170 (38.532)	0.0220 (0.559)
	Bearing	OD*[3]	1.4950 (37.973)	1.5000 (38.100)	1.4840 (37.694)	

*[1] These represent sideplay values.

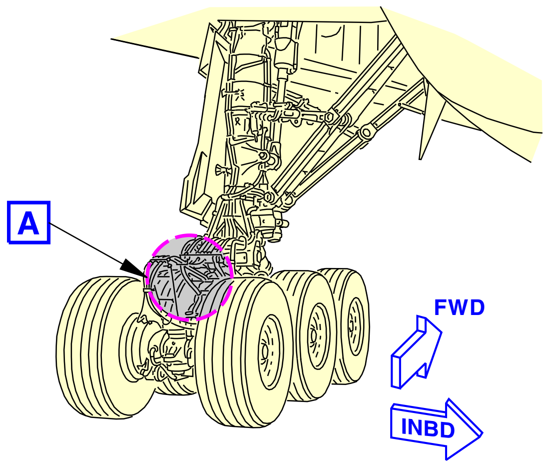
*[2] Represents Flange to Flange (between bushings)

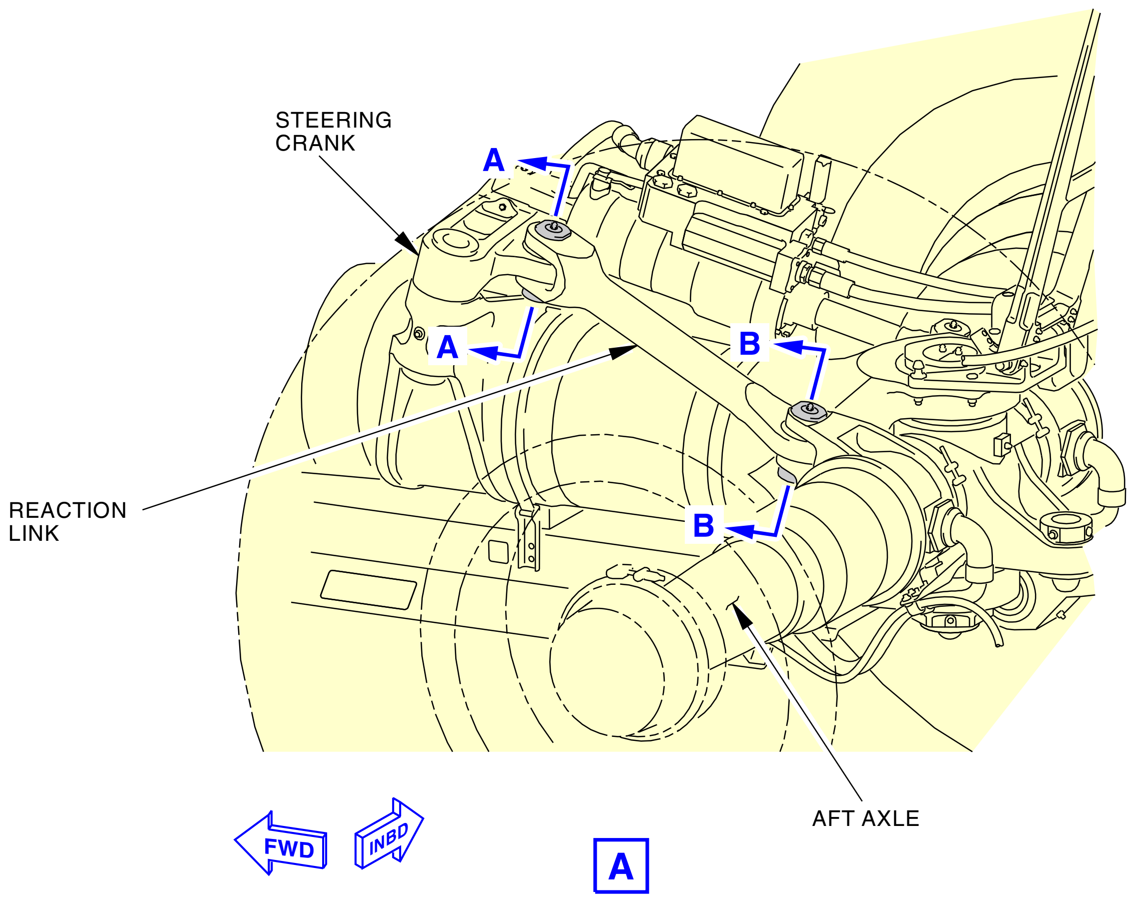
*[3] Represents width (of bearing) or similar

END OF TASK



Main Landing Gear Steering Reaction Link - Wear Limits
Figure 601/32-53-07-990-802 (Sheet 1 of 3)





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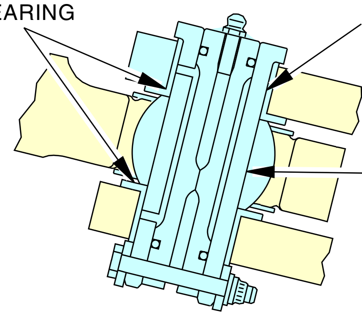
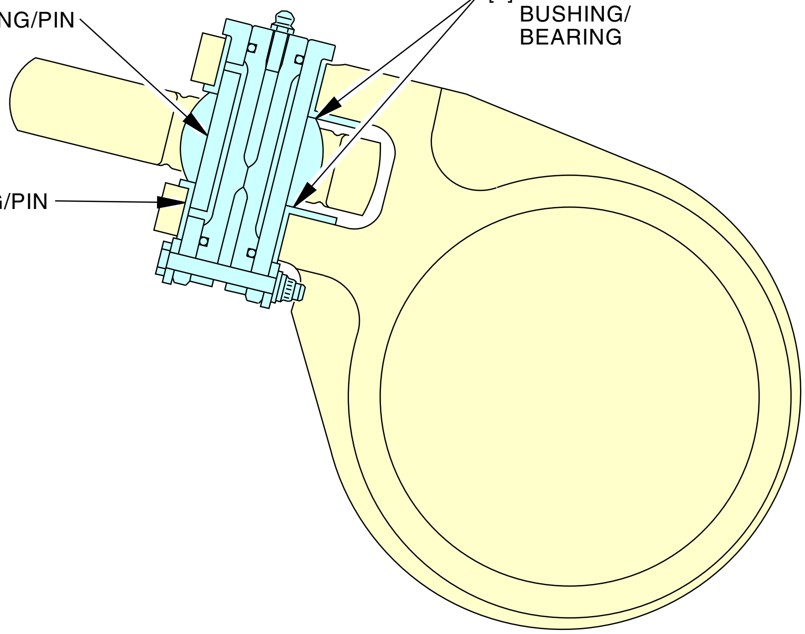
Main Landing Gear Steering Reaction Link - Wear Limits
Figure 601/32-53-07-990-802 (Sheet 2 of 3)



CRANK
A-A



AFT AXLE
B-B

U73813 S0000208762_V2

Main Landing Gear Steering Reaction Link - Wear Limits
Figure 601/32-53-07-990-802 (Sheet 3 of 3)

LANDING GEAR POSITION INDICATING AND WARNING SYSTEM - ADJUSTMENT/TEST

1. **General**

   A. This procedure contains scheduled maintenance task data.

   B. This procedure has this task:

      (1) System Test of the Landing Gear Position Indicating and Warning System.

TASK 32-61-00-700-801

2. **Landing Gear Position Indicating and Warning System - System Test**
   (Figure 501, Figure 502, Figure 503, Figure 504)

   A. General

   (1) The tests that follow make up the system test for the landing gear position indication and warning system. Each of these tests can be done by itself, or done together as a complete system test.

      (a) Test of the Landing gear control lever

      (b) Test of the Landing gear alternate extended switch

      (c) Test of the Left main landing gear position indication

      (d) Test of the Right main landing gear position indication

      (e) Test of the Nose landing gear position indication

   (2) The airplane is on the ground during the test.

   (3) The proximity sensors are actuated when an actuator is put tightly against the sensor face when the target is away from the sensor.

   (4) The proximity sensors are deactuated when a deactuator is put between the sensor face and the target. The deactuator must touch the target, but not the surface of the sensor.

   B. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-35-02-400-801	Alternate Extend Power Pack Installation (P/B 401)

   C. Tools/Equipment

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1690	Actuators/Deactuators Set - Proximity Sensor Part #: 8-758-01 Supplier: 08748 Part #: A27092-70 Supplier: 81205 Opt Part #: A32102-25 Supplier: 81205 Opt Part #: KHT8-758-01 Supplier: 08748

D. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
711	Nose Landing Gear
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for the Tests

SUBTASK 32-61-00-480-004

WARNING MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Deactivate the main landing gear steering system. To deactivate it, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-61-00-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Make sure the downlock pins are installed on the nose and main landing gear. If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-00-480-002

(3) Make sure the chocks are installed at the wheels (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-00-480-003

WARNING OBEY THE PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(4) Make sure the door safety pins are installed in the door release/safety valve modules. If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-00-200-001

(5) Make sure the control lever for the landing gear, on the P2 panel, is in the DN position.

SUBTASK 32-61-00-860-001

(6) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-61-00-860-002

(7) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

SUBTASK 32-61-00-700-001

(8) Do these steps to select the maintenance page (TASK 31-61-00-800-804):

(a) Set a Display Unit from the Display Select Panel on the glareshield center panel, P55.

(b) Set the CHKL on the Display Select Panel on the glareshield.

(c) Operate the Cursor Control Devise to move the cursor.

(d) Set the MAINT INFO DISPLAY prompt from the CHKL MENU.

(e) Make sure the Display Selection Menu is shown on the display.

(f) Set the REAL SHOW DISPLAY button for the ATA 32 System LANDING GEAR ACTN/INDN.

NOTE: The ATA 32 LANDING GEAR ACTN/INDN maintenance page selection is on the second page.

F. Test of Landing Gear Control Lever

SUBTASK 32-61-00-200-002

(1) Make sure the control lever for the landing gear, on the P2 panel (the Center Instrument panel), is in the DN position.

SUBTASK 32-61-00-700-002

(2) Use the LANDING GEAR ACTN/INDN Maintenance Display to do a check of the control lever:

(a) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 501/32-61-00-993-801

		PSEU 1	**PSEU 2**
Gear Lever	UP	NOT UP	NOT UP
	DOWN PWR	DOWN	DOWN
	DOWN GND	DOWN	DOWN

(b) Open this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

(c) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 502/32-61-00-993-802

		PSEU 1	PSEU 2
Gear Lever	UP	NOT UP	NOT UP
	DOWN PWR	NOT DN	DOWN
	DOWN GND	DOWN	DOWN

(d) Press the LOCK OVRD button on the P2-2 panel.

(e) Move the LANDING GEAR CONTROL LEVER to the UP position.

(f) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 503/32-61-00-993-803

		PSEU 1	PSEU 2
Gear Lever	UP	NOT UP	UP
	DOWN PWR	NOT DN	NOT DN
	DOWN GND	NOT DN	NOT DN

(g) Close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
G	10	C32607	LDG GEAR EXTD/RETR 1

(h) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 504/32-61-00-993-804

		PSEU 1	PSEU 2
Gear Lever	UP	UP	UP
	DOWN PWR	NOT DN	NOT DN
	DOWN GND	NOT DN	NOT DN

(i) Open this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

(j) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 505/32-61-00-993-805

		PSEU 1	PSEU 2
Gear Lever	UP	UP	NOT UP
	DOWN PWR	NOT DN	NOT DN
	DOWN GND	NOT DN	NOT DN

(k) Set the LOCK OVRD button on the P2-2.

(l) Move the LANDING GEAR CONTROL LEVER to the DOWN position.

(m) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 506/32-61-00-993-806

		PSEU 1	PSEU 2
Gear Lever	UP	NOT UP	NOT UP
	DOWN PWR	DOWN	NOT DN
	DOWN GND	DOWN	DOWN

(n) Close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	23	C32608	LDG GEAR EXTD/RETR 2

(o) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 507/32-61-00-993-807

		PSEU 1	PSEU 2
Gear Lever	UP	NOT UP	NOT UP
	DOWN PWR	DOWN	DOWN
	DOWN GND	DOWN	DOWN

G. Test of the Alternate Extend Switch

SUBTASK 32-61-00-700-003

(1) Do these steps to do a test of the Alternate Extend Switch:

(a) Make sure the Alternate Extend Motor Control System is not powered.

1) Disconnect the connector DB32001 from the alternate extend power pack.

(b) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 508/32-61-00-993-808

	PSEU 1	PSEU 2
ALTN EXT CMD	NORM	NORM

(c) Open these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR

(d) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

NOTE: A blank field on the maintenance page is equal to an invalid signal.

Table 509/32-61-00-993-809

	PSEU 1	PSEU 2
ALTN EXT CMD		NORM

(e) Open the ALTN EXT SWITCH guard and put the ALTN EXT SWITCH in the DOWN position momentarily.

(f) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

NOTE: A blank field on the maintenance page is equal to an invalid signal.

Table 510/32-61-00-993-810

	PSEU 1	PSEU 2
ALTN EXT CMD		DOWN

(g) Open this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

(h) Close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

(i) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

NOTE: This step is to make sure the operation of the ALTN EXT CTRL RLY B, K32010.

Table 511/32-61-00-993-811

	PSEU 1	PSEU 2
ALTN EXT CMD		NORM

(j) Close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR

(k) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 512/32-61-00-993-812

	PSEU 1	PSEU 2
ALTN EXT CMD	NORM	NORM

(l) Open these circuit breakers:

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	2	C32624	PSEU 2 ALTN PWR

(m) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

NOTE: A blank field on the maintenance page is equal to an invalid signal.

Table 513/32-61-00-993-813

	PSEU 1	PSEU 2
ALTN EXT CMD	NORM	

(n) Open the ALTN EXT SWITCH guard and put the ALTN EXT SWITCH in the DOWN position momentarily.

(o) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

NOTE: A blank field on the maintenance page is equal to an invalid signal.

Table 514/32-61-00-993-814

	PSEU 1	PSEU 2
ALTN EXT CMD	DOWN	

(p) Open this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

(q) Close this circuit breaker:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL

(r) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

NOTE: This step is to make sure of the operation of the ALTN EXT CTRL RLY A, K32010.

Table 515/32-61-00-993-815

	PSEU 1	PSEU 2
ALTN EXT CMD	NORM	

(s) Close these circuit breakers:

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	2	C32624	PSEU 2 ALTN PWR

(t) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 516/32-61-00-993-816

	PSEU 1	PSEU 2
ALTN EXT CMD	NORM	NORM

(u) Re-connect the connector DB32001 to the alternate extend power pack.

(v) Do a test of the alternate extend power pack. To do this, do the post installation test in this procedure: (TASK 32-35-02-400-801).

H. Test of the Left Main Landing Gear Position Indication

(Figure 501, Figure 502, Figure 503)

SUBTASK 32-61-00-700-004

(1) Use the LANDING GEAR ACTN/INDN Maintenance Display to do a check of the sensors:

(a) For the left truck tilt sensors:

1) Make sure you see the data that follows on the LANDING GEAR ACNT/INDN Maintenance Display:

Table 517/32-61-00-993-817

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: TRUCK TILT	FAR	FAR	FAR	FAR

2) Install the actuator of proximity sensor test set, SPL-1690 on the face of the left truck tilt sensor S32106 (PSEU 1).

3) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 518/32-61-00-993-818

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: TRUCK TILT	NEAR	FAR	FAR	FAR

4) Remove the actuator of proximity sensor test set, SPL-1690 from the left truck tilt sensor S32106.

5) Install the actuator of proximity sensor test set, SPL-1690 on the face of the left truck tilt sensor S32110 (PSEU 2).

6) Make sure you see the data that follows on the LANDING GEAR ACNT/INDN Maintenance Display:

Table 519/32-61-00-993-819

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: TRUCK TILT	FAR	FAR	NEAR	FAR

7) Remove the actuator of proximity sensor test set, SPL-1690 from the left truck tilt sensor S32110.

8) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 520/32-61-00-993-820

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: TRUCK TILT	FAR	FAR	FAR	FAR

(b) For the left side brace down sensors:

1) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 521/32-61-00-993-821

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: SIDE BRACE	NEAR	NEAR	NEAR	NEAR

2) Install the deactuator of proximity sensor test set, SPL-1690 on the left side brace down S32109 (PSEU 1).

3) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 522/32-61-00-993-822

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: SIDE BRACE	FAR	NEAR	NEAR	NEAR

4) Remove the deactuator of proximity sensor test set, SPL-1690 from the left side brace down sensor S32109.

5) Install the deactuator of proximity sensor test set, SPL-1690 on the face of the left side brace down sensor S32113 (PSEU 2).

6) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 523/32-61-00-993-823

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: SIDE BRACE	NEAR	NEAR	FAR	NEAR

7) Remove the deactuator of proximity sensor test set, SPL-1690 from the left side brace down sensor S32113.

8) Make sure this message show on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 524/32-61-00-993-824

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: SIDE BRACE	NEAR	NEAR	NEAR	NEAR

(c) For the left drag brace down sensors:

1) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 525/32-61-00-993-825

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: DRAG BRACE	NEAR	NEAR	NEAR	NEAR

2) Install the deactuator of proximity sensor test set, SPL-1690 on the face of the left side brace down sensor S32108 (PSEU 1).

3) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 526/32-61-00-993-826

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: DRAG BRACE	FAR	NEAR	NEAR	NEAR

4) Remove the deactuator of proximity sensor test set, SPL-1690 from the left side brace down sensor S32108.

5) Install the deactuator of proximity sensor test set, SPL-1690 on the face of the left side brace down sensor S32112 (PSEU 2).

6) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 527/32-61-00-993-827

	PSEU 1		PSEU 2	
	L	**R**	**L**	**R**
MAIN GEAR: DRAG BRACE	NEAR	NEAR	FAR	NEAR

7) Remove the deactuator of proximity sensor test set, SPL-1690 from the left side brace down sensor S32112.

8) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 528/32-61-00-993-828

	PSEU 1		PSEU 2	
	L	**R**	**L**	**R**
MAIN GEAR: DRAG BRACE	NEAR	NEAR	NEAR	NEAR

(d) For the left up and locked sensors:

1) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 529/32-61-00-993-829

	PSEU 1		PSEU 2	
	L	**R**	**L**	**R**
MAIN GEAR: UP LOCK	FAR	FAR	FAR	FAR

2) Install the actuator of proximity sensor test set, SPL-1690 on the face of the left up and locked sensor S32107 (PSEU 1).

3) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 530/32-61-00-993-830

	PSEU 1		PSEU 2	
	L	**R**	**L**	**R**
MAIN GEAR: UP LOCK	NEAR	FAR	FAR	FAR

4) Remove the actuator of proximity sensor test set, SPL-1690 from the left up and locked sensor S32107.

5) Install the actuator of proximity sensor test set, SPL-1690 on the face of the left up and locked sensor S32111 (PSEU 2).

6) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 531/32-61-00-993-831

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: UP LOCK	FAR	FAR	NEAR	FAR

7) Remove the actuator of proximity sensor test set, SPL-1690 from the left up and locked sensor S32111.

8) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 532/32-61-00-993-832

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: UP LOCK	FAR	FAR	FAR	FAR

(e) For the left door closed sensors:

1) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 533/32-61-00-993-833

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: DOOR	FAR	FAR	FAR	FAR

2) Install the actuator of proximity sensor test set, SPL-1690 on the face of the left door closed sensor S32114 (PSEU 1).

3) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 534/32-61-00-993-834

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: DOOR	NEAR	FAR	FAR	FAR

4) Remove the actuator of proximity sensor test set, SPL-1690 from the left door closed sensor S32114.

5) Install the actuator of proximity sensor test set, SPL-1690 on the face of the left door closed sensor S32115 (PSEU 2).

6) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 535/32-61-00-993-835

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: DOOR	FAR	FAR	NEAR	FAR

7) Remove the actuator of proximity sensor test set, SPL-1690 from the left door closed sensor S32115.

8) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 536/32-61-00-993-836

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: DOOR	FAR	FAR	FAR	FAR

I. Test of the Right Main Landing Gear Position Indication

(Figure 501, Figure 502, Figure 503)

SUBTASK 32-61-00-700-005

(1) Use the LANDING GEAR ACTN/INDN Maintenance Display to do a check of the sensors:

(a) For the right truck tilt sensors:

1) Make sure you see the data that follows on the LANDING GEAR ACNT/INDN Maintenance Display:

Table 537/32-61-00-993-837

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: TRUCK TILT	FAR	FAR	FAR	FAR

2) Install the actuator of proximity sensor test set, SPL-1690 on the face of the right truck tilt sensor S32206 (PSEU 1).

3) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 538/32-61-00-993-838

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: TRUCK TILT	FAR	NEAR	FAR	FAR

4) Remove the actuator of proximity sensor test set, SPL-1690 from the right truck tilt sensor S32206.

5) Install the actuator of proximity sensor test set, SPL-1690 on the face of the right truck tilt sensor S32210 (PSEU 2).

6) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 539/32-61-00-993-839

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: TRUCK TILT	FAR	FAR	FAR	NEAR

7) Remove the actuator of proximity sensor test set, SPL-1690 from the right truck tilt S32210.

8) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 540/32-61-00-993-840

	PSEU 1		PSEU 2	
	L	**R**	**L**	**R**
MAIN GEAR: TRUCK TILT	FAR	FAR	FAR	FAR

(b) For the right side brace down sensors:

1) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 541/32-61-00-993-841

	PSEU 1		PSEU 2	
	L	**R**	**L**	**R**
MAIN GEAR: SIDE BRACE	NEAR	NEAR	NEAR	NEAR

2) Install the deactuator of proximity sensor test set, SPL-1690 on the face of the right side brace down S32209 (PSEU 1).

3) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 542/32-61-00-993-842

	PSEU 1		PSEU 2	
	L	**R**	**L**	**R**
MAIN GEAR: SIDE BRACE	NEAR	FAR	NEAR	NEAR

4) Remove the deactuator of proximity sensor test set, SPL-1690 from the right side brace down sensor S32209.

5) Install the deactuator of proximity sensor test set, SPL-1690 on the face of the right side brace down sensor S32213 (PSEU 2).

6) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 543/32-61-00-993-843

	PSEU 1		PSEU 2	
	L	**R**	**L**	**R**
MAIN GEAR: SIDE BRACE	NEAR	NEAR	NEAR	FAR

7) Remove the deactuator of proximity sensor test set, SPL-1690 from the right side brace down sensor S32213.

8) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 544/32-61-00-993-844

	PSEU 1		PSEU 2	
	L	**R**	**L**	**R**
MAIN GEAR: SIDE BRACE	NEAR	NEAR	NEAR	NEAR

(c) For the right drag brace down sensors:

1) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 545/32-61-00-993-845

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: DRAG BRACE	NEAR	NEAR	NEAR	NEAR

2) Install the deactuator of proximity sensor test set, SPL-1690 on the face of the right drag brace down sensor S32208 (PSEU 1).

3) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 546/32-61-00-993-846

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: DRAG BRACE	NEAR	FAR	NEAR	NEAR

4) Remove the deactuator of proximity sensor test set, SPL-1690 from the right side brace down sensor S32208.

5) Install the deactuator of proximity sensor test set, SPL-1690 on the face of the right side brace down sensor S32212 (PSEU 2).

6) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 547/32-61-00-993-847

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: DRAG BRACE	NEAR	NEAR	NEAR	FAR

7) Remove the deactuator of proximity sensor test set, SPL-1690 from the right side brace down sensor S32212.

8) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 548/32-61-00-993-848

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: DRAG BRACE	NEAR	NEAR	NEAR	NEAR

(d) For the right up and locked sensors:

1) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 549/32-61-00-993-849

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: UP LOCK	FAR	FAR	FAR	FAR

2) Install the actuator of proximity sensor test set, SPL-1690 on the face of the right up and locked sensor S32207 (PSEU 1).

3) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 550/32-61-00-993-850

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: UP LOCK	FAR	NEAR	FAR	FAR

4) Remove the actuator of proximity sensor test set, SPL-1690 from the right up and locked sensor S32207.

5) Install the actuator of proximity sensor test set, SPL-1690 on the face of the right up and locked sensor S32211 (PSEU 2).

6) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 551/32-61-00-993-851

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: UP LOCK	FAR	FAR	FAR	NEAR

7) Remove the actuator of proximity sensor test set, SPL-1690 from the right up and locked sensor S32211 (PSEU 2).

8) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 552/32-61-00-993-852

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: UP LOCK	FAR	FAR	FAR	FAR

(e) For the right door closed sensors:

1) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 553/32-61-00-993-853

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: DOOR	FAR	FAR	FAR	FAR

2) Install the actuator of proximity sensor test set, SPL-1690 on the face of the right door closed sensor S32214 (PSEU 1).

3) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 554/32-61-00-993-854

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: DOOR	FAR	NEAR	FAR	FAR

4) Remove the actuator of proximity sensor test set, SPL-1690 from the face of the right door closed sensor S32214.

5) Install the actuator of proximity sensor test set, SPL-1690 on the face of the right door closed sensor S32215 (PSEU 2).

6) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 555/32-61-00-993-855

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: DOOR	FAR	FAR	FAR	NEAR

7) Remove the actuator of proximity sensor test set, SPL-1690 from the right door closed sensor S32215.

8) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 556/32-61-00-993-856

	PSEU 1		PSEU 2	
	L	R	L	R
MAIN GEAR: DOOR	FAR	FAR	FAR	FAR

J. Test of the Nose Landing Gear Position Indication

(Figure 504)

SUBTASK 32-61-00-700-006

(1) Use the LANDING GEAR ACTN/INDN Maintenance Display to do a check of the sensors:

(a) For the not compressed sensors:

1) Make sure you see the data that follows on the LANDING GEAR ACNT/INDN Maintenance Display:

Table 557/32-61-00-993-857

	PSEU 1	PSEU 2
NOSE GEAR: NOT COMPRESSED	FAR	FAR

2) Install the actuator of proximity sensor test set, SPL-1690 on the face of the not compressed sensor S32024 (PSEU 1).

3) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 558/32-61-00-993-858

	PSEU 1	PSEU 2
NOSE GEAR: NOT COMPRESSED	NEAR	FAR

4) Remove the actuator of proximity sensor test set, SPL-1690 from the not compressed sensor S32024.

5) Install the actuator of proximity sensor test set, SPL-1690 on the face of the not compressed sensor S32028 (PSEU 2).

6) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 559/32-61-00-993-859

	PSEU 1	PSEU 2
NOSE GEAR: NOT COMPRESSED	FAR	NEAR

7) Remove the actuator of proximity sensor test set, SPL-1690 from the not compressed S32028.

8) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 560/32-61-00-993-860

	PSEU 1	PSEU 2
NOSE GEAR: NOT COMPRESSED	FAR	FAR

(b) For the nose gear down sensors:

1) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 561/32-61-00-993-861

	PSEU 1	PSEU 2
NOSE GEAR: GEAR DOWN	NEAR	NEAR

2) Install the deactuator of proximity sensor test set, SPL-1690 on the face of the nose gear down S32023 (PSEU 1).

3) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 562/32-61-00-993-862

	PSEU 1	PSEU 2
NOSE GEAR: GEAR DOWN	FAR	NEAR

4) Remove the deactuator of proximity sensor test set, SPL-1690 from the nose gear down sensor S32023.

5) Install the deactuator of proximity sensor test set, SPL-1690 on the face of the nose gear down sensor S32027 (PSEU 2).

6) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 563/32-61-00-993-863

	PSEU 1	PSEU 2
NOSE GEAR: GEAR DOWN	NEAR	FAR

7) Remove the deactuator of proximity sensor test set, SPL-1690 from the nose gear down sensor S32027.

8) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 564/32-61-00-993-864

	PSEU 1	PSEU 2
NOSE GEAR: GEAR DOWN	NEAR	NEAR

(c) For the nose gear up sensors:

1) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 565/32-61-00-993-865

	PSEU 1	PSEU 2
NOSE GEAR: GEAR UP	FAR	FAR

2) Install the actuator of proximity sensor test set, SPL-1690 on the face of the nose gear up sensor S32021 (PSEU 1).

3) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 566/32-61-00-993-866

	PSEU 1	PSEU 2
NOSE GEAR: GEAR UP	NEAR	FAR

4) Remove the actuator of proximity sensor test set, SPL-1690 from the nose gear up sensor S32021.

5) Install the actuator of proximity sensor test set, SPL-1690 on the face of the nose gear up sensor S32025 (PSEU 2).

6) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 567/32-61-00-993-867

	PSEU 1	PSEU 2
NOSE GEAR: GEAR UP	FAR	NEAR

7) Remove the actuator of proximity sensor test set, SPL-1690 from the nose gear up sensor S32025.

8) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 568/32-61-00-993-868

	PSEU 1	PSEU 2
NOSE GEAR: GEAR UP	FAR	FAR

(d) For the nose gear locked sensors:

1) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 569/32-61-00-993-869

	PSEU 1	PSEU 2
NOSE GEAR: LOCKED	NEAR	NEAR

2) Install the deactuator of proximity sensor test set, SPL-1690 on the face of the nose gear locked sensor S32022 (PSEU 1).

3) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 570/32-61-00-993-870

	PSEU 1	PSEU 2
NOSE GEAR: LOCKED	FAR	NEAR

4) Remove the deactuator of proximity sensor test set, SPL-1690 from the nose gear locked sensor S32022.

5) Install the deactuator of proximity sensor test set, SPL-1690 on the face of the nose gear locked sensor S32026 (PSEU 2).

6) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 571/32-61-00-993-871

	PSEU 1	PSEU 2
NOSE GEAR: LOCKED	NEAR	FAR

7) Remove the deactuator of proximity sensor test set, SPL-1690 from the nose gear locked sensor S32026.

8) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 572/32-61-00-993-872

	PSEU 1	PSEU 2
NOSE GEAR: LOCKED	NEAR	NEAR

(e) For the door closed sensors of the nose gear:

1) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 573/32-61-00-993-873

	PSEU 1	PSEU 2
NOSE GEAR: DOOR	FAR	FAR

2) Install the actuator of proximity sensor test set, SPL-1690 on the face of the door closed sensor S32033 (PSEU 1).

3) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 574/32-61-00-993-874

	PSEU 1	PSEU 2
NOSE GEAR: DOOR	NEAR	FAR

4) Remove the actuator of proximity sensor test set, SPL-1690 from the door closed sensor S32033.

5) Install the actuator of proximity sensor test set, SPL-1690 on the face of the door closed sensor S32034 (PSEU 2).

6) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 575/32-61-00-993-875

	PSEU 1	PSEU 2
NOSE GEAR: DOOR	FAR	NEAR

7) Remove the actuator of proximity sensor test set, SPL-1690 from the door closed sensor S32034.

8) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 576/32-61-00-993-876

	PSEU 1	PSEU 2
NOSE GEAR: DOOR	FAR	FAR

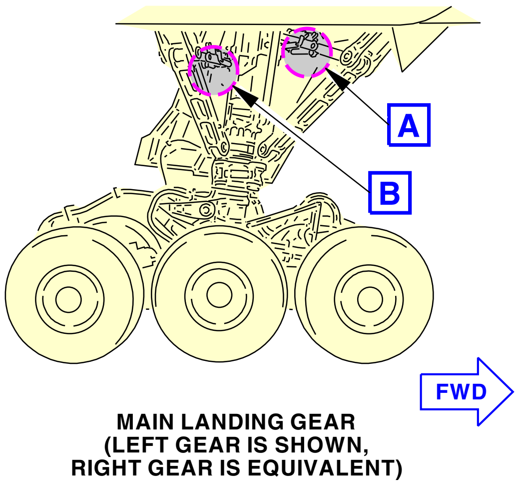
K. Put the Airplane Back to Its Usual Condition

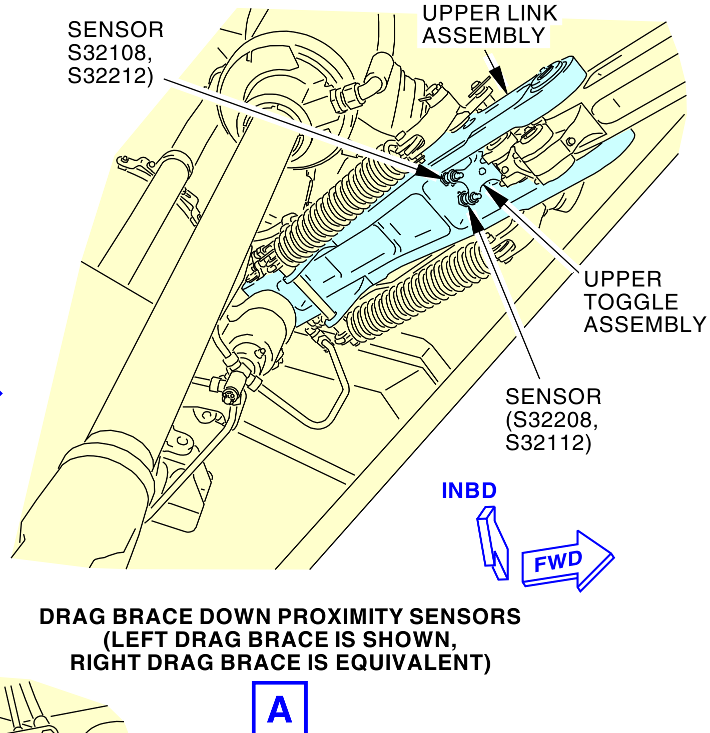
SUBTASK 32-61-00-480-005

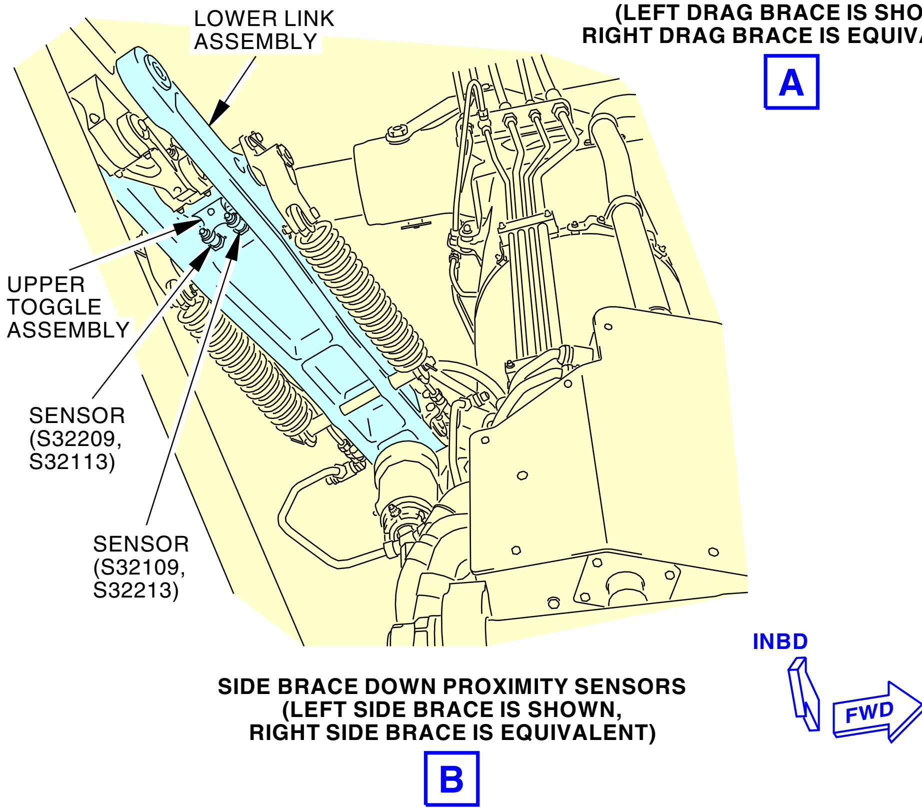
WARNING MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER, THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Activate the main landing gear steering system. To activate it, do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

END OF TASK







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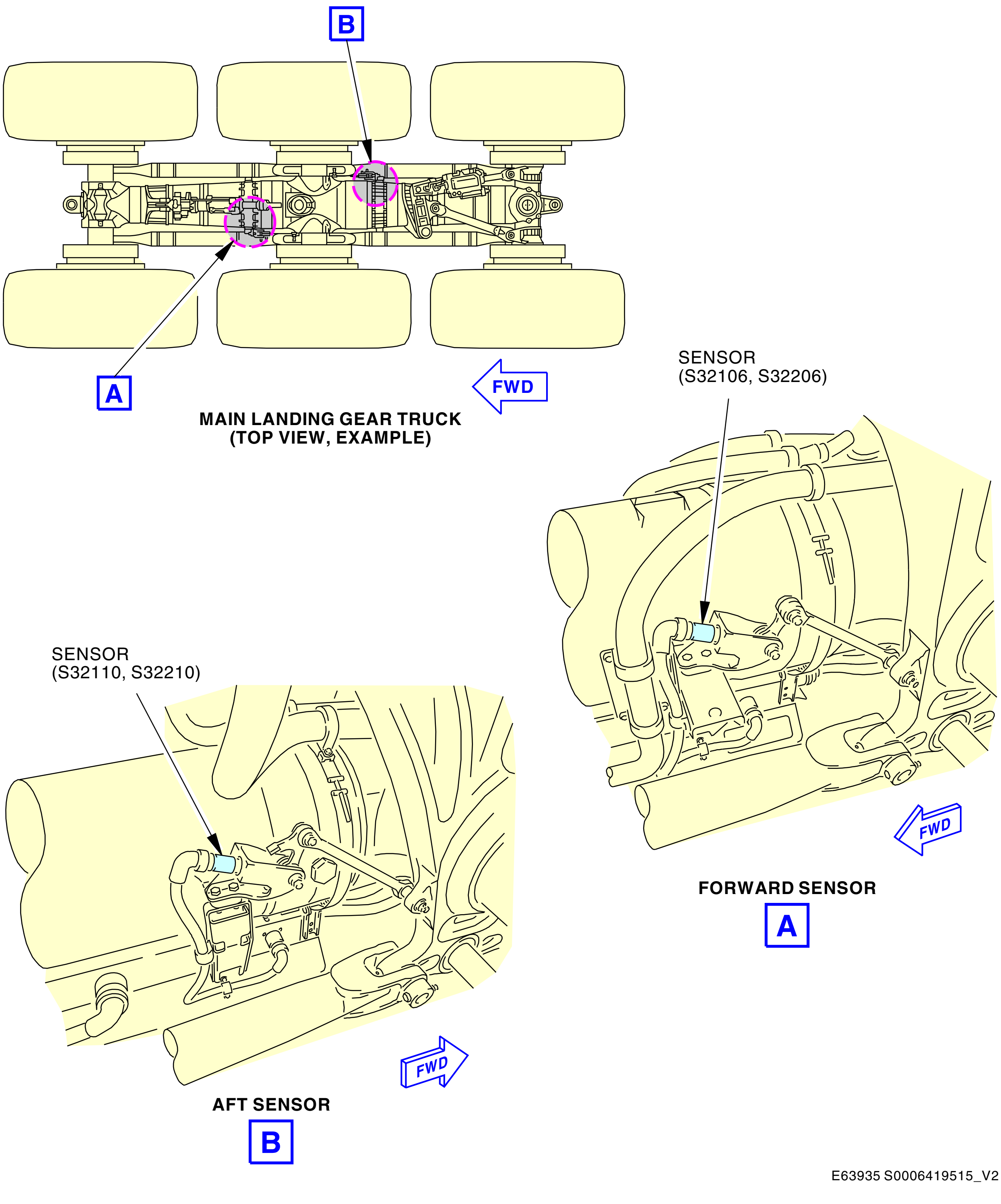
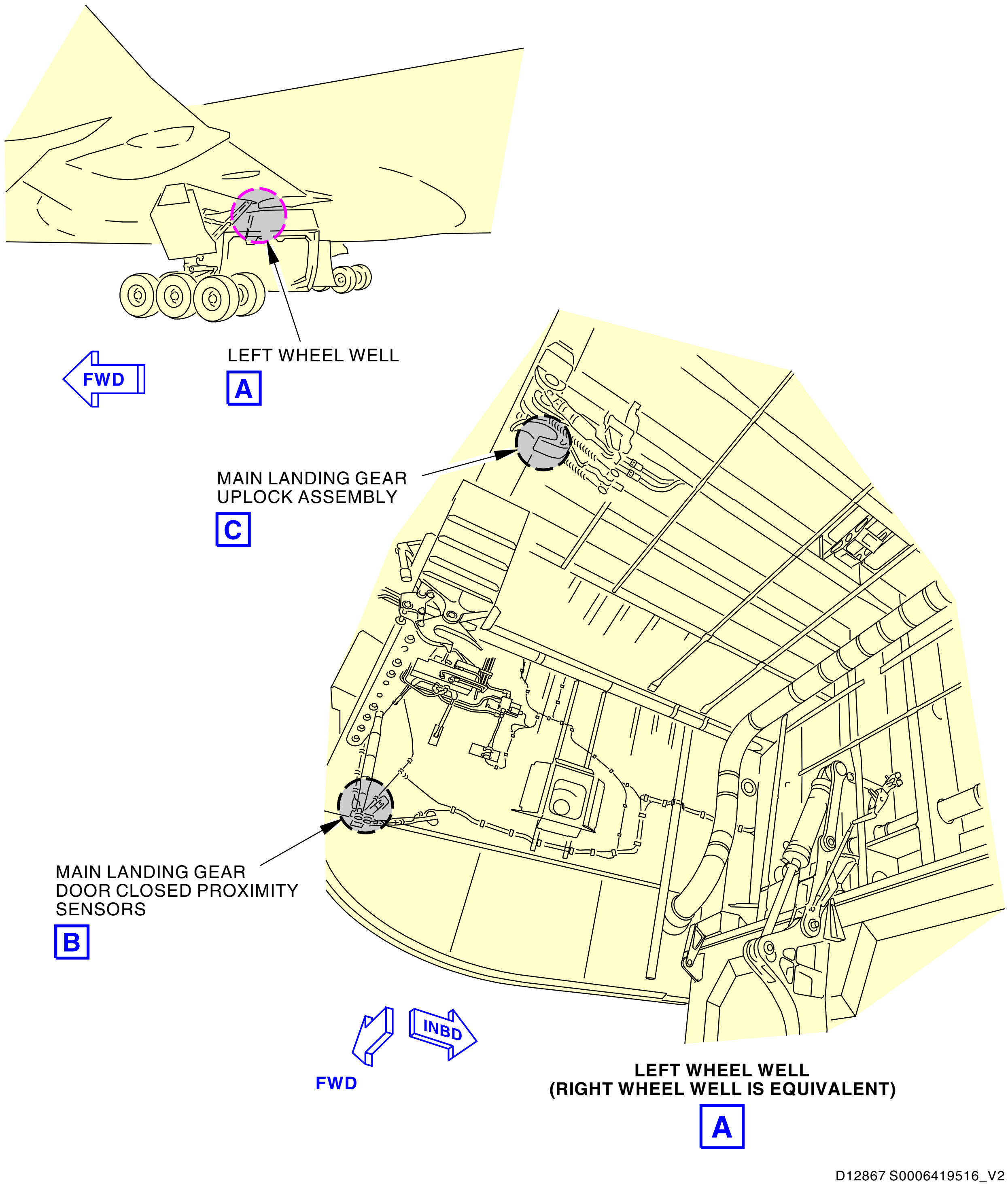
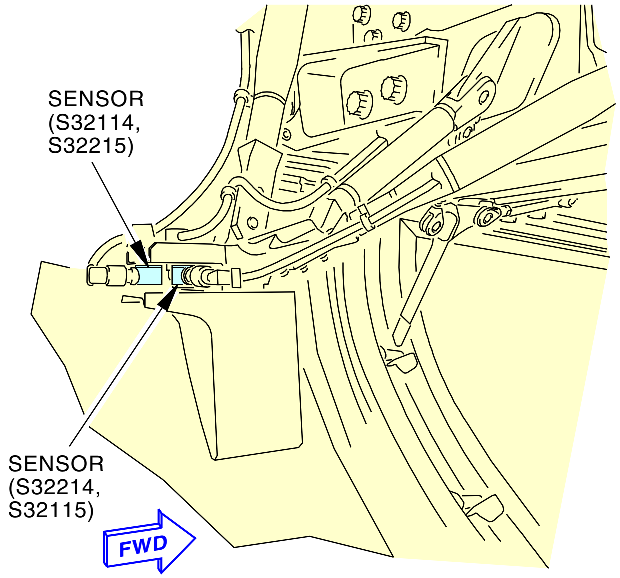
Main Landing Gear Drag and Side Brace Proximity Sensors Location
Figure 501/32-61-00-990-801



Main Landing Gear Truck Proximity Sensors Location
Figure 502/32-61-00-990-803

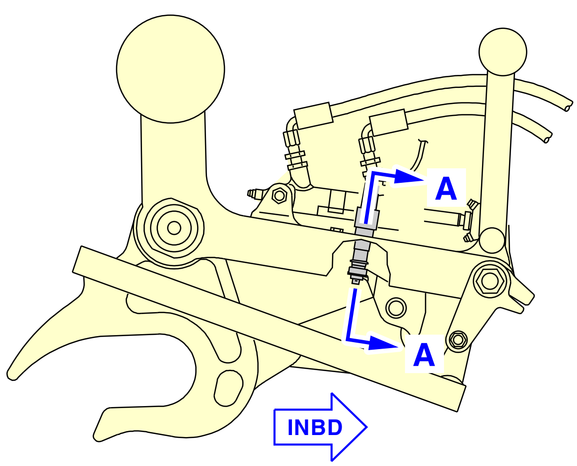


Main Landing Gear Uplock and Door Proximity Sensors Location
Figure 503/32-61-00-990-804 (Sheet 1 of 2)



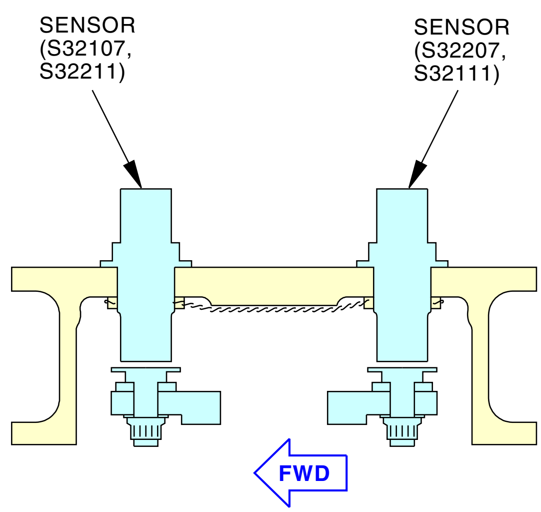
DOOR CLOSED PROXIMITY SENSORS
(LEFT DOOR CLOSED PROXIMITY SENSORS ARE SHOWN,
RIGHT DOOR CLOSED PROXIMITY SENSORS ARE EQUIVALENT)

B



UPLOCK ASSEMBLY
(LEFT UPLOCK ASSEMBLY IS SHOWN, RIGHT
UPLOCK ASSEMBLY IS EQUIVALENT)

C



UP AND LOCKED PROXIMITY SENSORS

A-A

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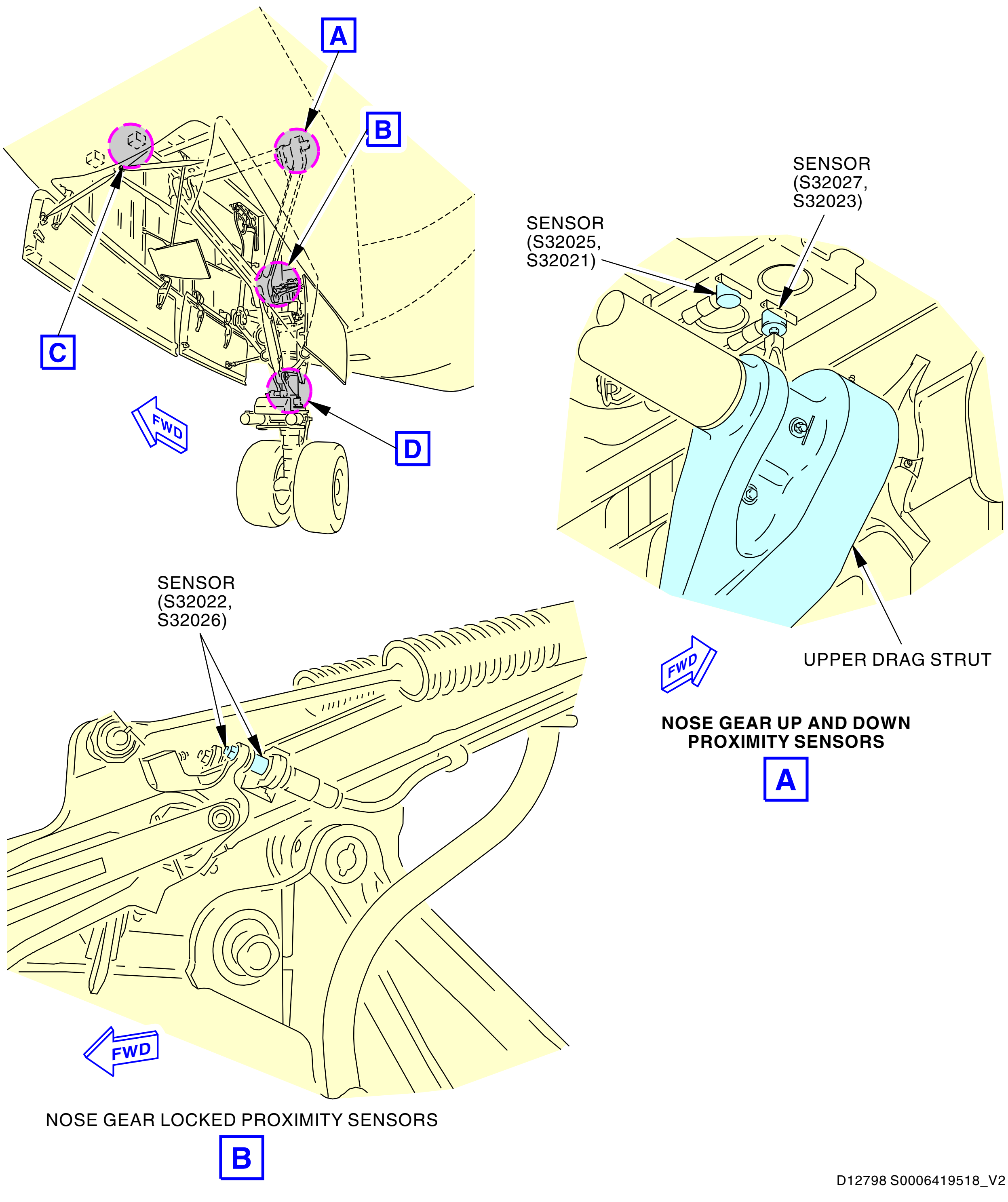
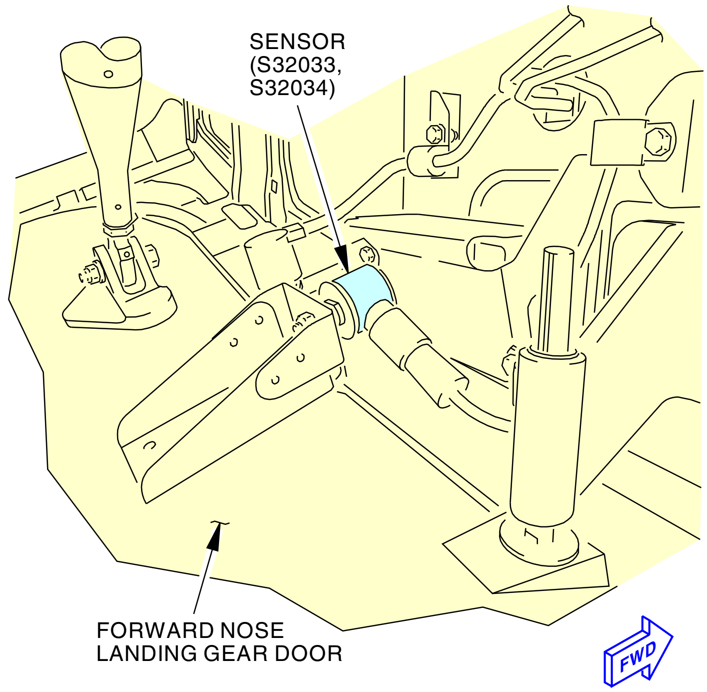
Main Landing Gear Uplock and Door Proximity Sensors Location
Figure 503/32-61-00-990-804 (Sheet 2 of 2)

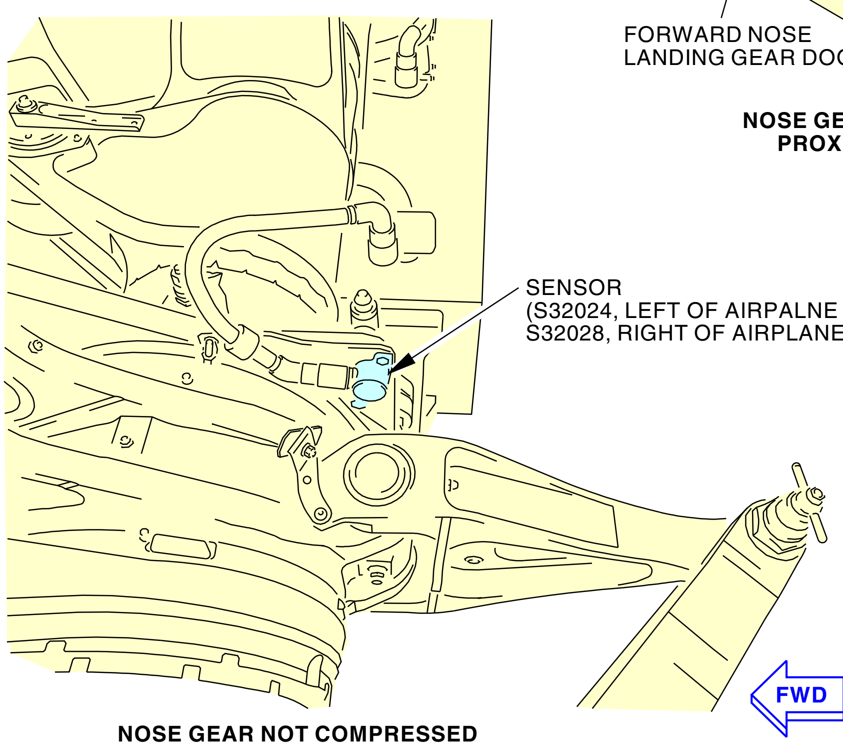


Nose Landing Gear Proximity Sensors Location
Figure 504/32-61-00-990-802 (Sheet 1 of 2)



NOSE GEAR DOOR CLOSED PROXIMITY SENSORS

C



NOSE GEAR NOT COMPRESSED PROXIMITY SENSORS

D

D12815 S0006419519_V2

Nose Landing Gear Proximity Sensors Location
Figure 504/32-61-00-990-802 (Sheet 2 of 2)

MAIN GEAR POSITION PROXIMITY SENSORS - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) Removal of the proximity sensors.

(2) Installation of the proximity sensors.

(3) Test of the proximity sensors.

(4) Measure and adjust the clearance of the proximity sensors.

NOTE: Make sure that critical flag markers are correctly positioned in their clamps and that some of these clamps are pointed in the correct direction for down-lock indication proximity sensor wire bundles on the left and right MLG. If critical flag markers are found to be not correctly positioned or clamps are found to be not correctly pointed, the applicable wire bundles must be inspected for possible damage and subsequently adjusted to the correct position per Service Bulletin 777-32-0066.

B. All of these tasks are for the proximity sensors that follow:

(1) Side Brace Down Sensors: S32109, S32209, S32113, S32213.

(2) Drag Brace Down Sensors: S32108, S32208, S32112, S32212.

(3) Up and Locked Sensors: S32107, S32207, S32111, S32211.

TASK 32-61-01-000-801

2. Proximity Sensors for the Main Landing Gear Removal

(Figure 201, Figure 202, Figure 203)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)

B. Consumable Materials

Reference	Description	Specification
G01505	Lockwire - Safety And Lock	NASM20995

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for the Removal

SUBTASK 32-61-01-480-001

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-01-480-002

(2) Make sure the chocks are installed at the wheels (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-01-480-003

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Open the doors for the landing gear, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-01-860-002

(4) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

SUBTASK 32-61-01-480-010

WARNING	MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) Deactivate the main landing gear steering system (TASK 32-00-50-040-801).

E. Remove the Proximity Sensor

SUBTASK 32-61-01-020-001

CAUTION	DO NOT HIT THE SENSORS, OR LET THEM FALL. THIS CAN CAUSE A MALFUNCTION OF THE INDICATION SYSTEM. IF YOU ARE NOT CAREFUL WITH THE SENSORS, YOU CAN CAUSE DAMAGE TO THEIR INTERNAL COMPONENTS.

(1) Do the steps that follow to remove the side brace down sensors, the drag brace down sensors, or the up and locked sensors:

(a) For the side brace down sensor, do the steps that follow:

1) Disconnect the electrical connector [1] from the applicable sensor [6] or sensor [13].

2) Remove the lockwire, G01505 [7] from the locknut [8].

3) Remove the locknut [8].

4) Remove the applicable sensor [6] or sensor [13] from the assembly.

(b) For the drag brace down sensor, do the steps that follow:

1) Disconnect the electrical connector [31] from the applicable sensor [36] or sensor [39].

2) Remove the lockwire, G01505 [37] from the locknut [38].

3) Remove the locknut [38].

4) Remove the applicable sensor [36] or sensor [39] from the assembly.

(c) For the up and locked sensor, do the steps that follow:

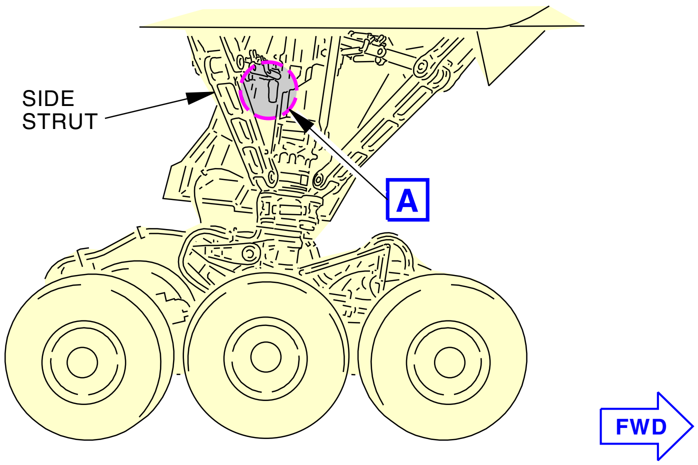
1) Disconnect the electrical connector [51] from the applicable sensor [56] or sensor [59].

2) Remove the lockwire, G01505 [57] from the locknut [58].

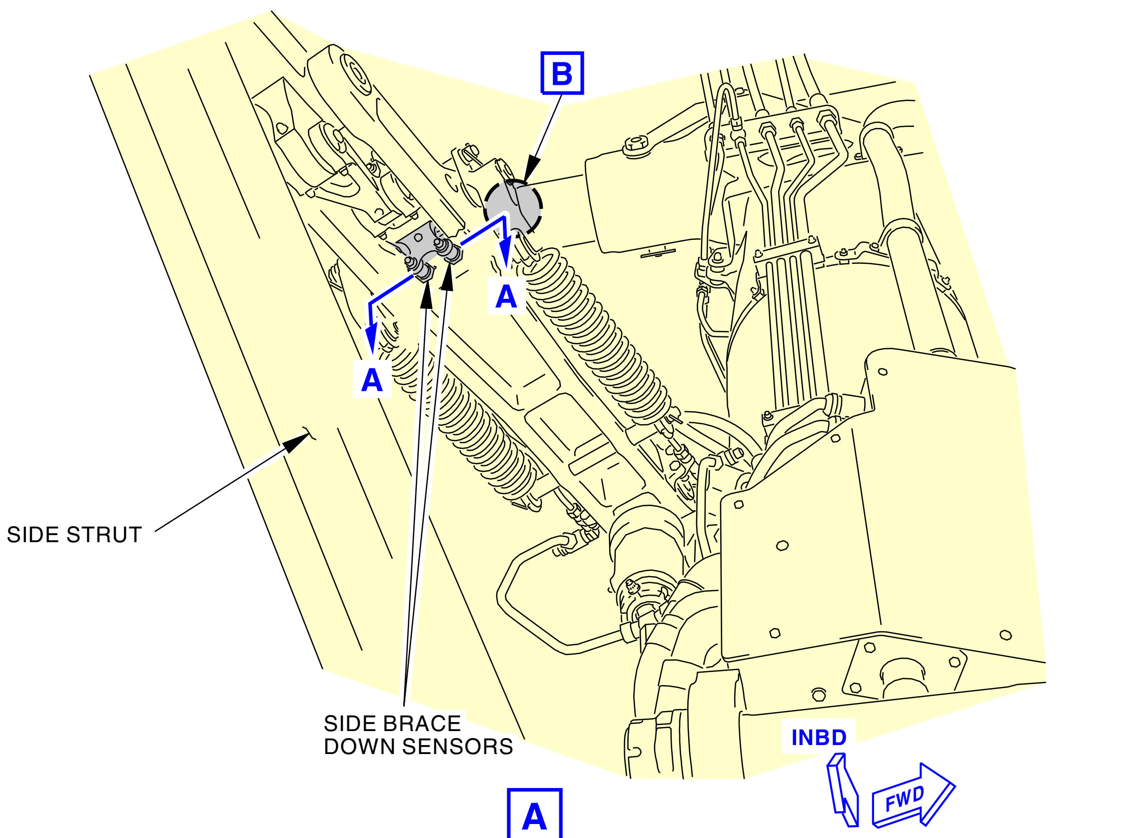
3) Remove the locknut [58].

4) Remove the applicable sensor [56] or sensor [59] from the assembly.

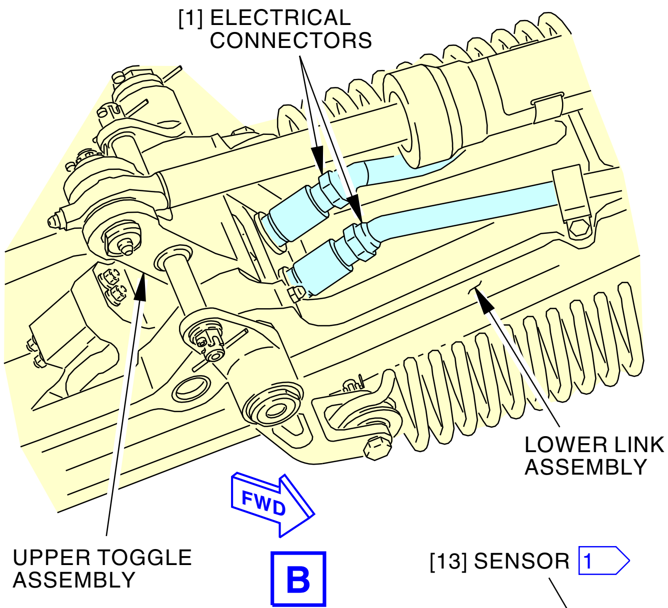
END OF TASK

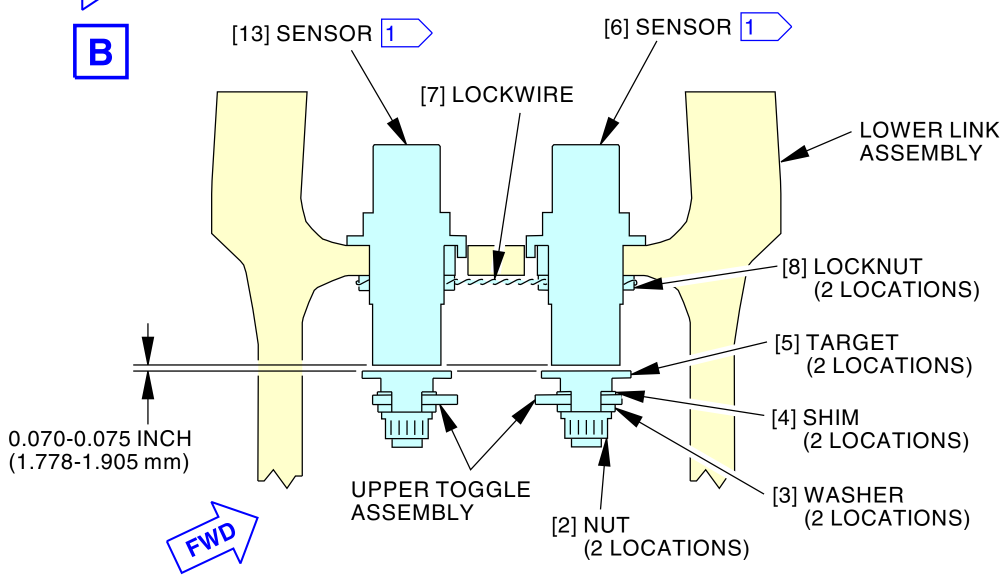


LEFT MAIN LANDING GEAR
(VIEW IN THE OUTBOARD DIRECTION)



Main Landing Gear Side Brace Down Proximity Sensor Installation
Figure 201/32-61-01-990-804 (Sheet 1 of 2)





SIDE BRACE DOWN PROXIMITY SENSOR
A-A

1

ITEM	SENSOR NO.	MLG	PSEU	LOCATION
[6]	S32109	L	1	FWD
[6]	S32209	R	1	FWD
[13]	S32113	L	2	AFT
[13]	S32213	R	2	AFT

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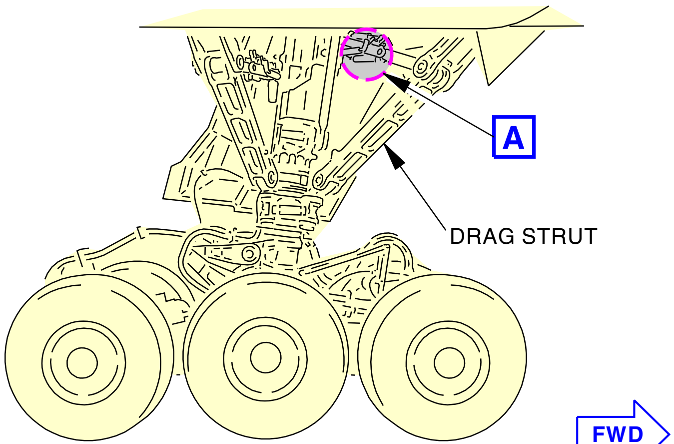
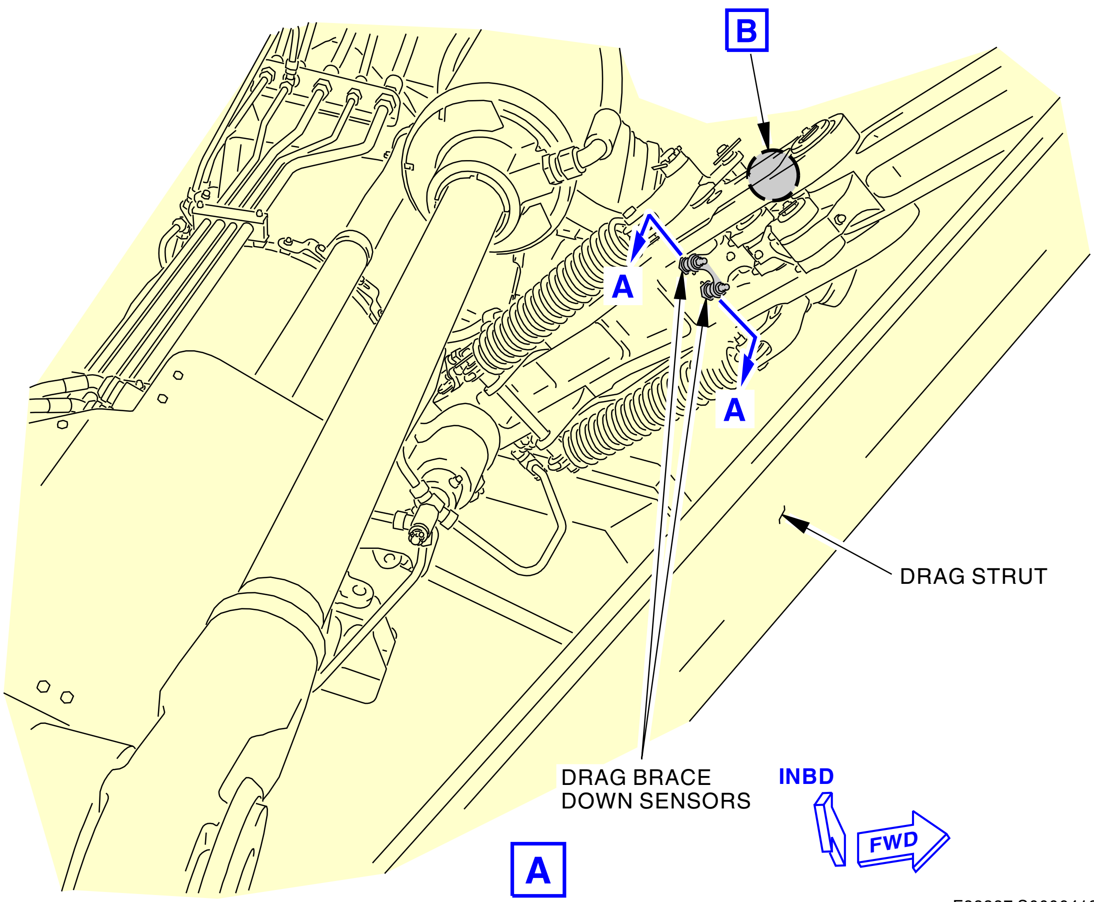
Main Landing Gear Side Brace Down Proximity Sensor Installation
Figure 201/32-61-01-990-804 (Sheet 2 of 2)



LEFT MAIN LANDING GEAR
(VIEW IN THE OUTBOARD DIRECTION)



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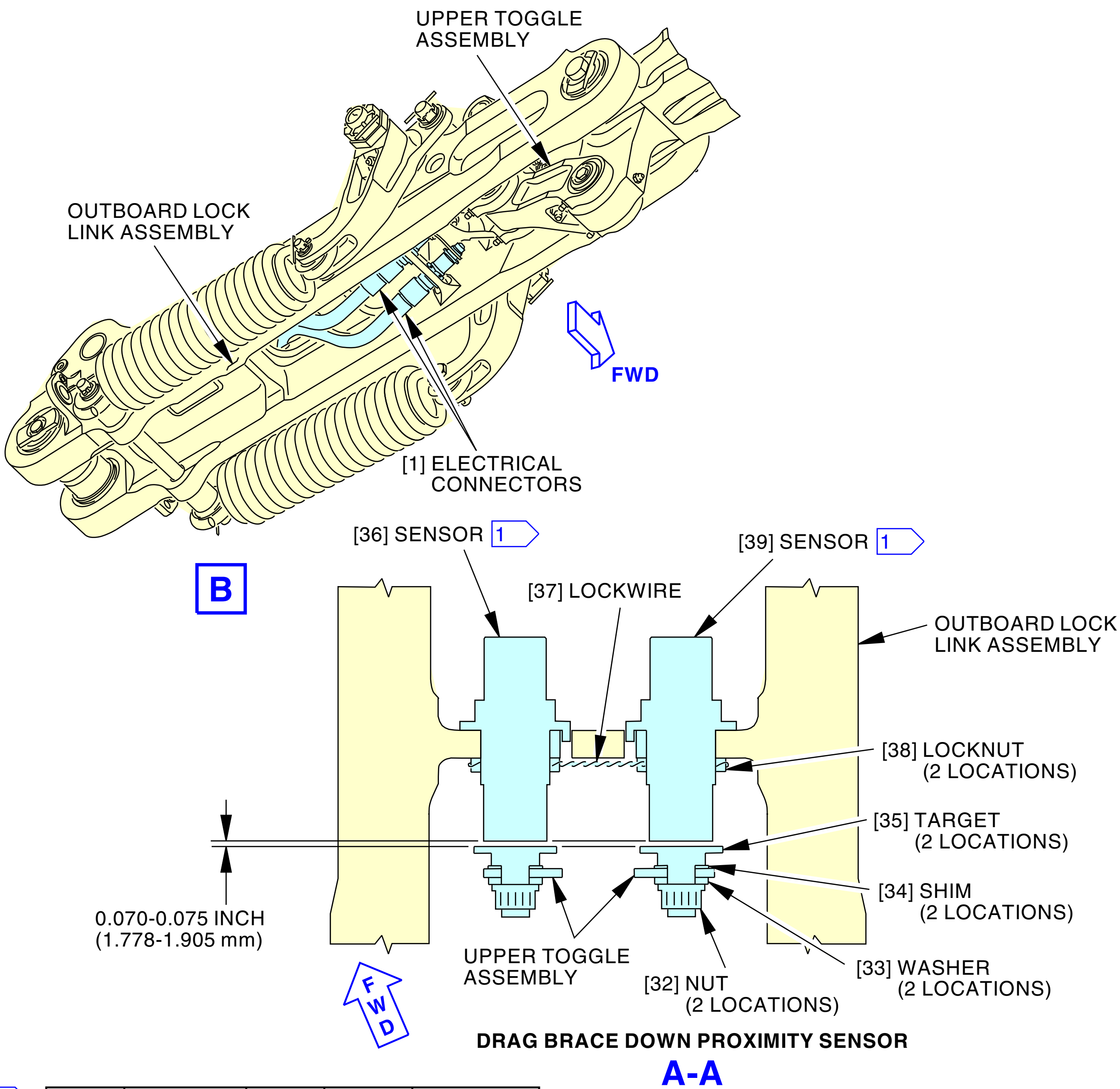
Main Landing Gear Drag Brace Down Proximity Sensor Installation
Figure 202/32-61-01-990-809 (Sheet 1 of 2)



1

ITEM	SENSOR NO.	MLG	PSEU	LOCATION
[36]	S32108	L	1	FWD
[36]	S32208	R	1	FWD
[39]	S32112	L	2	AFT
[39]	S32212	R	2	AFT

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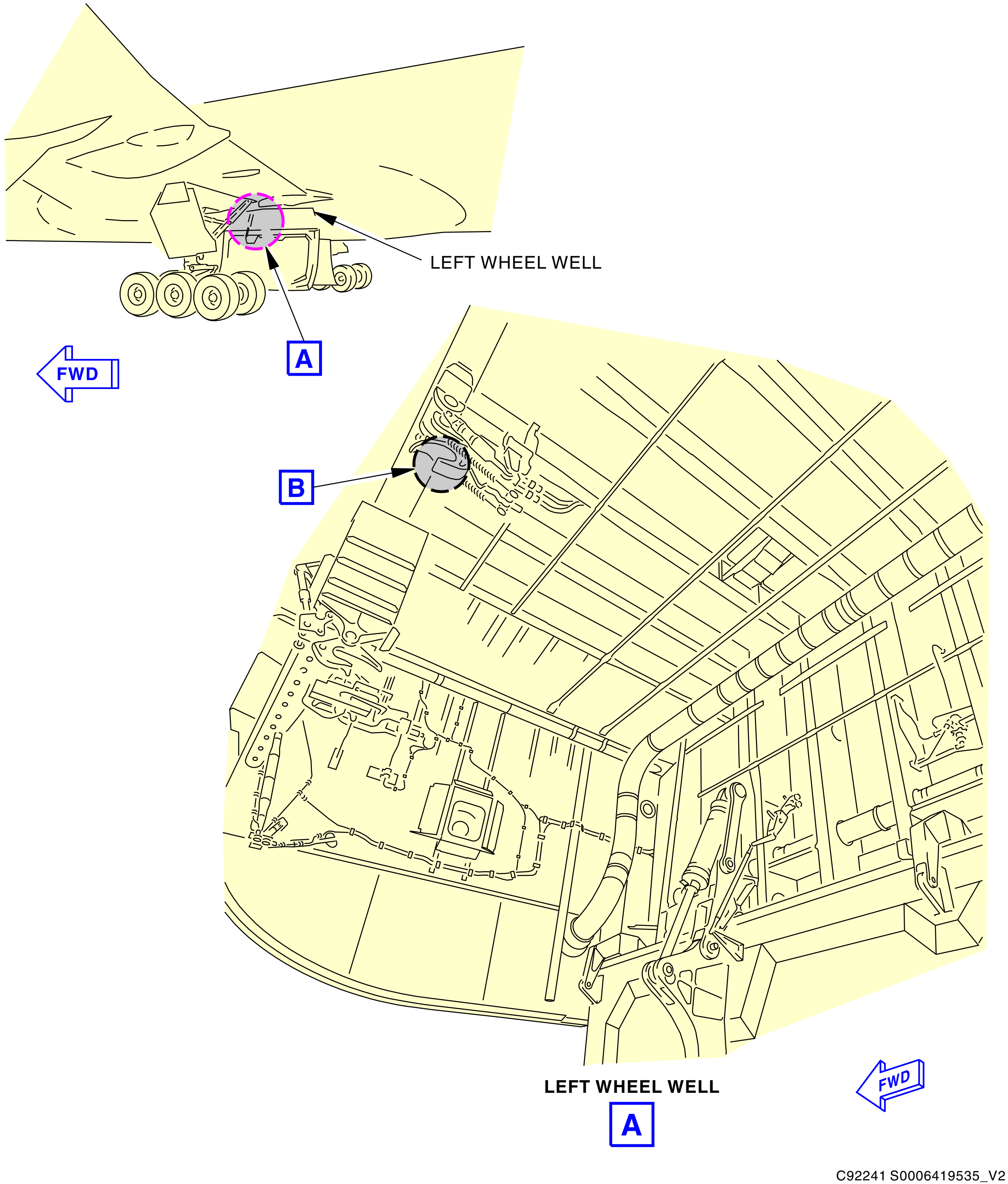
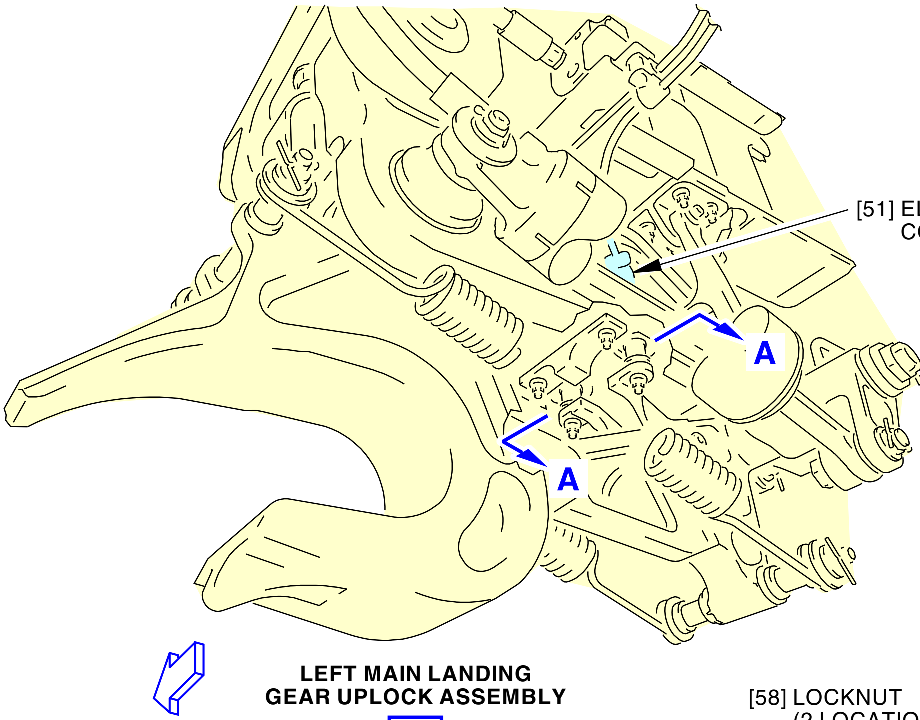
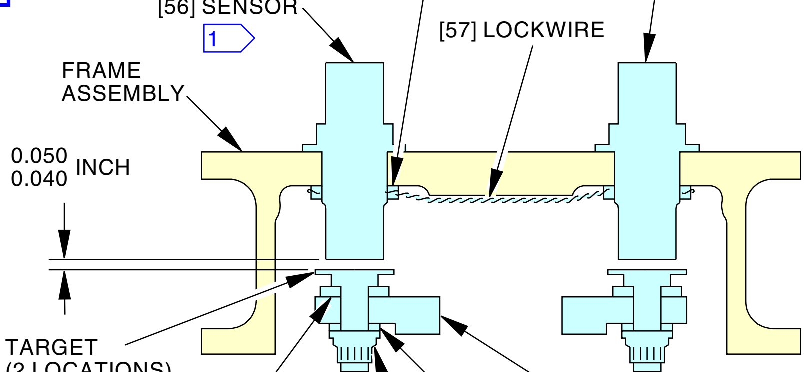
Main Landing Gear Drag Brace Down Proximity Sensor Installation
Figure 202/32-61-01-990-809 (Sheet 2 of 2)



Main Landing Gear Up and Locked Proximity Sensor Installation
Figure 203/32-61-01-990-803 (Sheet 1 of 2)



LEFT MAIN LANDING GEAR UPLOCK ASSEMBLY
B



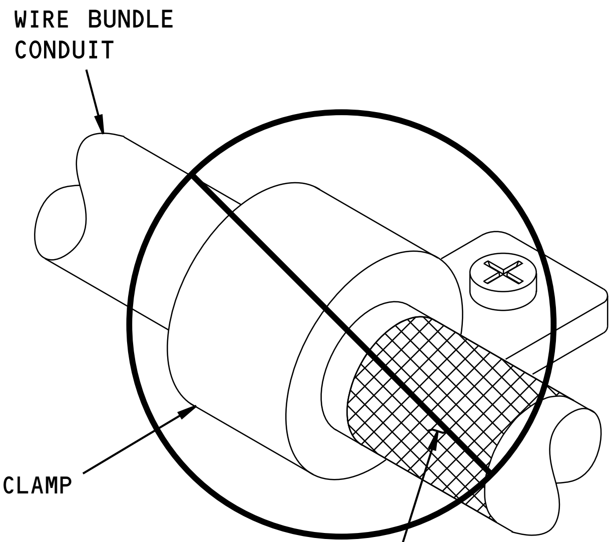
1

ITEM	SENSOR NO.	MLG	PSEU	LOCATION
[56]	S32107	L	1	FWD
[56]	S32207	R	1	FWD
[59]	S32111	L	2	AFT
[59]	S32211	R	2	AFT

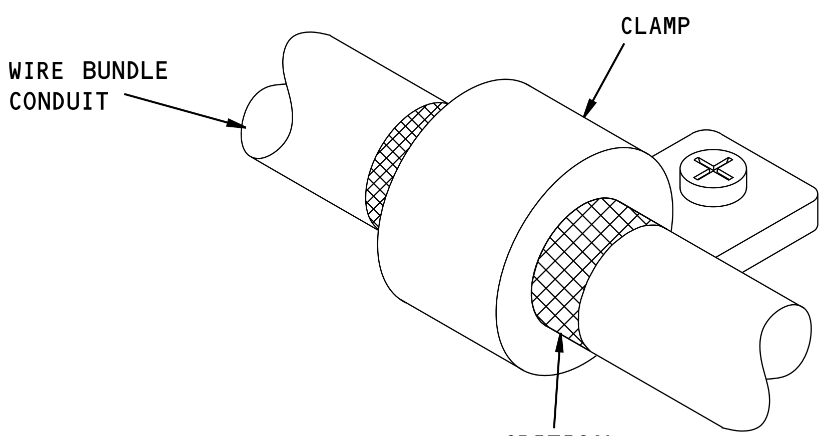
UP AND LOCKED PROXIMITY SENSORS
A-A

C96464 S0006419536_V2

Main Landing Gear Up and Locked Proximity Sensor Installation
Figure 203/32-61-01-990-803 (Sheet 2 of 2)



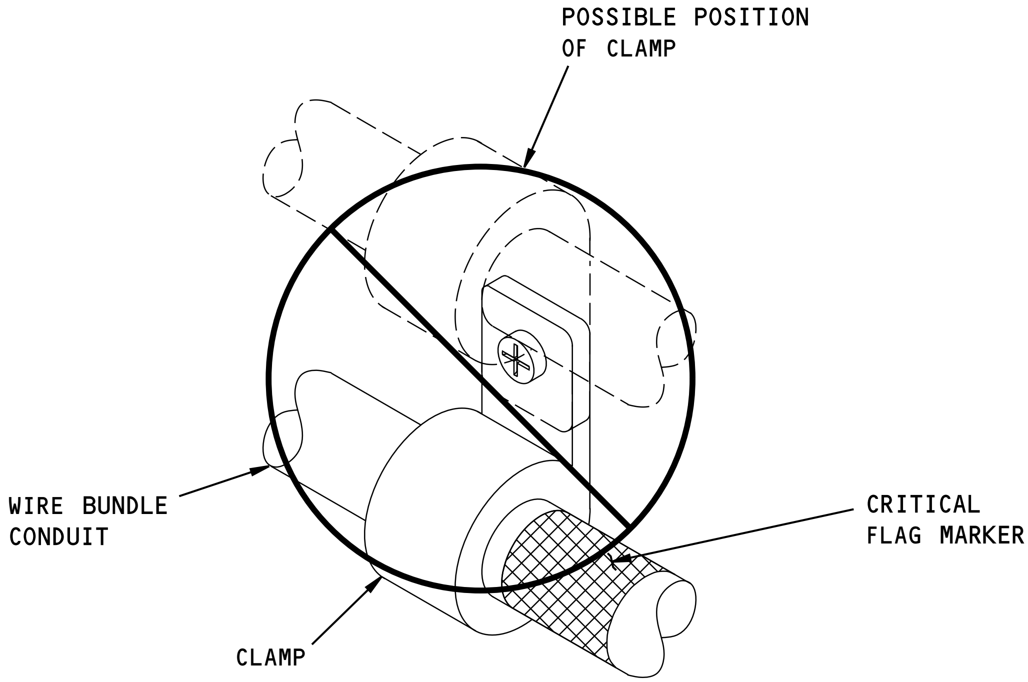
INCORRECT (EXAMPLE, TYPICAL)



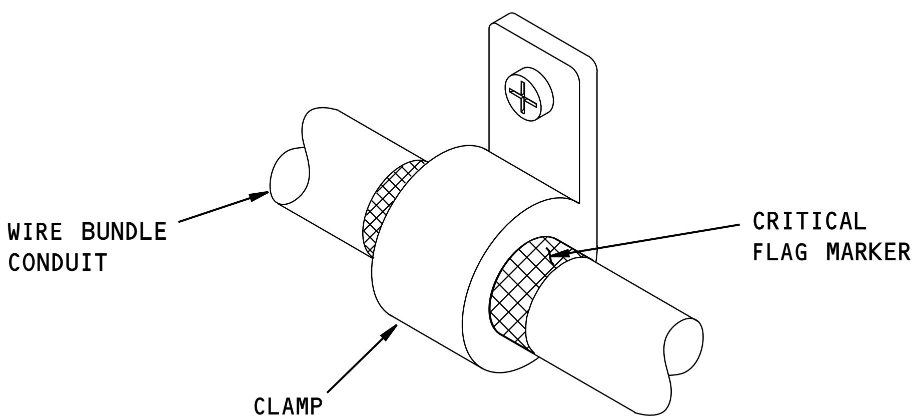
CORRECT (TYPICAL)

1501209 S0000272904_V1

Main Landing Gear Proximity Sensor Critical Flag Marker Positions
Figure 204/32-61-01-990-814 (Sheet 1 of 2)



INCORRECT (EXAMPLE, TYPICAL)



CORRECT (TYPICAL)

1501208 S0000272907_V1

Main Landing Gear Proximity Sensor Critical Flag Marker Positions
Figure 204/32-61-01-990-814 (Sheet 2 of 2)

TASK 32-61-01-400-801

3. Proximity Sensors for the Main Landing Gear Installation

(Figure 201, Figure 202, Figure 203)

A. References

Reference	Title
20-10-23-400-801	Lockwire, Cotter Pins, and Lockrings - Installation (P/B 401)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1690	Actuators/Deactuators Set - Proximity Sensor Part #: 8-758-01 Supplier: 08748 Part #: A27092-70 Supplier: 81205 Opt Part #: A32102-25 Supplier: 81205 Opt Part #: KHT8-758-01 Supplier: 08748

C. Consumable Materials

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
G01111	Tape - Aluminum Foil, Pressure Sensitive, Heat Reflective, Adhesive	A-A-59258
G01505	Lockwire - Safety And Lock	NASM20995
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
6	Sensor	32-61-01-01D-130	ARO ALL
13	Sensor	32-61-01-01D-135	ARO ALL
36	Sensor	32-61-01-01D-030	ARO ALL
39	Sensor	32-61-01-01D-035	ARO ALL
56	Sensor	32-61-01-01A-015	ARO ALL
		32-61-01-01C-205	ARO ALL
59	Sensor	32-61-01-01A-020	ARO ALL
		32-61-01-01C-210	ARO ALL

E. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left

(Continued)

Zone	Area
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

F. Prepare for the Installations

SUBTASK 32-61-01-480-011

WARNING MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the main landing gear steering system is deactivated (TASK 32-00-50-040-801).

SUBTASK 32-61-01-480-004

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-01-480-005

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Open the doors for the landing gear, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

G. Install the Proximity Sensor

NOTE: Make sure that critical flag markers are correctly positioned in their clamps and that some of these clamps are pointed in the correct direction for down-lock indication proximity sensor wire bundles on the left and right MLG. If critical flag markers are found to be not correctly positioned or clamps are found to be not correctly pointed, the applicable wire bundles must be inspected for possible damage. Figure 204 shows the correct orientation of the critical flag markers.

SUBTASK 32-61-01-410-001

CAUTION DO NOT HIT THE SENSORS, OR LET THEM FALL. THIS CAN CAUSE A MALFUNCTION OF THE INDICATION SYSTEM. IF YOU ARE NOT CAREFUL WITH THE SENSORS, YOU CAN CAUSE DAMAGE TO THEIR INTERNAL COMPONENTS.

(1) Do the steps that follow to install the side brace down sensors, the drag brace down sensors, or the up and locked sensors:

(a) For the side brace down sensor, do the steps that follow:

1) Install the electrical connector [1] to the applicable sensor [6] or sensor [13].

2) Before the applicable sensor [6] or sensor [13] is installed in its assembly, do this task: Test of the Proximity Sensors for the Main Gear, TASK 32-61-01-700-801.

NOTE: Do this test of the sensor with the proximity sensor test set, SPL-1690.

3) Make sure the applicable sensor [6] or sensor [13] is kept more than one inch away from all metal surfaces during the test.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

4) Apply a thin layer of Cor-Ban 27L Compound, G50237, or Mastinox 6856 K, C00913, to the thread reliefs, threads and the mounting surface of the applicable sensor [6] or sensor [13].

5) Install the applicable sensor [6] or sensor [13] on the outboard side strut lock link assembly.

6) Install the locknut [8].

7) Tighten the locknut [8] to 150 in-lb (16.95 N·m) - 200 in-lb (22.60 N·m).

8) Apply tape, G01111, to the lug where the lockwire, G01505 [7] will touch the lug.

a) Cut the tape as necessary to fit the location.

9) Install the lockwire, G01505 [7] with the double twisted method between the two sensor locknuts (TASK 20-10-23-400-801).

(b) For the drag brace sensor, do the steps that follow:

1) Install the electrical connector [31] to the applicable sensor [36] or sensor [39].

2) Before the applicable sensor [36] or sensor [39] is installed in its assembly, do this task: Test of the Proximity Sensors for the Main Gear, TASK 32-61-01-700-801.

NOTE: Do this test of the sensor with the proximity sensor test set, SPL-1690.

3) Make sure the applicable sensor [36], sensor [39] is kept more than one inch away from all metal surfaces during the test.

WARNING	USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING	DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

4) Apply a thin layer of Cor-Ban 27L Compound, G50237, or Mastinox 6856 K, C00913, to the thread reliefs, threads and the mounting surface of the applicable sensor [36] or sensor [39].

5) Install the applicable sensor [36] or sensor [39] on the drag strut assembly.

6) Install the locknut [38].

7) Tighten the locknut [38] to 150 in-lb (16.95 N·m) - 200 in-lb (22.60 N·m).

8) Install the lockwire, G01505 [37] with the double twisted method between the two sensor locknuts (TASK 20-10-23-400-801).

(c) For the up and locked sensor, do the steps that follow:

1) Install the electrical connector [51] to the applicable sensor [56] or sensor [59].

2) Before the applicable sensor [56] or sensor [59] is installed in its assembly, do this task: Test of the Proximity Sensors for the Main Gear, TASK 32-61-01-700-801.

NOTE: Do this test of the sensor with the proximity sensor test set, SPL-1690.

3) Make sure the applicable sensor [56] or sensor [59] is kept more than one inch away from all metal surfaces during the test.

4) Apply a thin layer of sealant, A00247, to the thread reliefs, threads and the mounting surface of the applicable sensor [56] or sensor [59].

5) Install the applicable sensor [56] or sensor [59] on the frame assembly with the locknut [58].

6) Tighten the locknut [58] to 50 in-lb (5.65 N·m) - 75 in-lb (8.47 N·m).

7) Install the lockwire, G01505 [57] with the double twisted method between the two sensor locknuts (TASK 20-10-23-400-801).

SUBTASK 32-61-01-860-003

(2) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

SUBTASK 32-61-01-210-001

(3) Examine the target, and their mounting brackets for damage.

(a) If there is damage to the target or mounting brackets was found during the removal of the sensor, do this task: Measure and Adjust the Clearance for the Proximity Sensor on the Main Landing Gear, TASK 32-61-01-820-801.

(b) If there is no damage to the target or mounting brackets, do the following steps to put the airplane back to its usual condition:

1) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

2) Close the doors for the landing gear.

——— END OF TASK ———

TASK 32-61-01-700-801

4. Test of the Proximity Sensors for the Main Gear

A. General

(1) The test of the sensor can be done with the airplane on the ground or on the jacks. The LANDING GEAR ACTN/INDN maintenance page on the primary display system will show you the sensor target position (near or far or blank). This test will make sure that the sensor operates correctly. You must use the proximity sensor test set, SPL-1690 to do a sensor operation check.

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1690	Actuators/Deactuators Set - Proximity Sensor Part #: 8-758-01 Supplier: 08748 Part #: A27092-70 Supplier: 81205 Opt Part #: A32102-25 Supplier: 81205 Opt Part #: KHT8-758-01 Supplier: 08748

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for the Test

SUBTASK 32-61-01-480-012

WARNING MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the main landing gear steering system is deactivated. To deactivate it, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-61-01-480-006

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Make sure the downlocks pins are installed on the nose and main landing gear. If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-01-480-007

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Open the doors for the landing gear, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-01-860-004

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-61-01-860-001

(5) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

F. Do the Test of the Proximity Sensor

SUBTASK 32-61-01-700-001

(1) Use the LANDING GEAR ACTN/INDN maintenance page to do a check of the target position to make sure the sensor operates correctly:

(a) Do the steps that follow to select the LANDING GEAR ACTN/INDN maintenance page (TASK 31-61-00-800-804).

1) Push MAINT INFO DISPLAY prompt on the left, right, or center Control Display Unit(CDU) to start the display of the Display Selection menu. The menu will be shown on the lower center, left inboard, or right inboard display units.

2) Go to the second page for 32 LANDING GEAR ACTN/INDN.

3) Push SHOW DISPLAY under the REAL column for ATA 32 LANDING GEAR ACTN/INDN.

NOTE: The LANDING GEAR ACTN/INDN maintenance page will be shown.

(b) Do a test of the proximity sensors with the proximity sensor test set, SPL-1690:

NOTE: This test will make sure the sensor operates correctly. The sensor and target must be in a target far configuration for this test. You can remove the sensor from its bracket if this test is not for the installation of the sensor.

1) Make sure the sensor is more than one inch away from all metal surfaces.

2) Make sure that target FAR is shown on the LANDING GEAR ACTN/INDN maintenance page.

3) Hold or install the proximity sensor test set, SPL-1690 on the face of the sensor.

4) Make sure that target NEAR is shown on the LANDING GEAR ACTN/INDN maintenance page.

5) Remove the proximity sensor test set, SPL-1690 from the sensor.

SUBTASK 32-61-01-860-005

(2) When you complete with this task, do these steps to put the airplane back to its usual condition:

WARNING	MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER, THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) Activate the main landing gear steering system. To activate it, do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(b) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

(c) Close the doors for the landing gear.

——— END OF TASK ———

TASK 32-61-01-820-801

5. **Measure and Adjust the Clearance for the Proximity Sensor on the Main Landing Gear**
(Figure 201, Figure 202, Figure 203)

A. **References**

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-802	Main Hydraulic System Pressurization with a Portable Hydraulic Cart (P/B 201)
29-11-00-860-805	Center Hydraulic System Pressurization with an Air-Driven Pump (ADP) (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)

B. **Tools/Equipment**

Reference	Description
STD-1307	Tool - Over-centering, MLG Uplock Hook (0.500" DIA x 24" metal rod, with protective rubber tubing)

C. **Consumable Materials**

Reference	Description	Specification
A00247	Sealant - Pressure And Environmental - Chromate Type	BMS5-95

(Continued)

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)

D. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for the Measurement/Adjustment

SUBTASK 32-61-01-480-013

WARNING: MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the main landing gear steering system is deactivated. To deactivate it, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-61-01-480-008

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Make sure the downlock pins are installed on the nose and main landing gear. If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-01-480-009

WARNING: OBEY THE PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Open the doors for the landing gear, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

F. Measure and Adjust the Clearance for the Proximity Sensor

NOTE: Make sure that critical flag markers are correctly positioned in their clamps and that some of these clamps are pointed in the correct direction for down-lock indication proximity sensor wire bundles on the left and right MLG. If critical flag markers are found to be not correctly positioned or clamps are found to be not correctly pointed, the applicable wire bundles must be inspected for possible damage and subsequently adjusted to the correct position per Service Bulletin 777-32-0066. Figure 204 shows the correct orientation of the critical flag markers

SUBTASK 32-61-01-820-001

(1) Do the steps that follow to measure/adjust the clearance for the side brace down sensors:

(a) Measure the clearance between the sensor and its target.

(b) Make sure the sensor and the target are aligned correctly.

(c) Continue if adjustments are necessary.

(d) Do these steps to adjust the clearance between the sensor and the target:

1) Do this task: Proximity Sensors for the Main Landing Gear Removal, TASK 32-61-01-000-801.

2) Loosen the nut [2] and washer [3] to remove the target [5].

3) Adjust the shim [4] thickness to get the correct clearance:

a) To increase the clearance, remove the shim [4] laminations to get the correct clearance.

b) To decrease the clearance, add a shim [4] and remove the shim laminations to get the correct clearance.

4) Apply the sealant, A00247 to the target [5].

5) Apply a thin layer of grease, D00013 to the threads, nuts, and washer faces.

6) Install the target [5] in the correct position.

7) Install the washer [3], and nut [2].

8) Do this task: Proximity Sensors for the Main Landing Gear Installation, TASK 32-61-01-400-801.

9) Do a check of the clearance again after you tighten the nut [2].

SUBTASK 32-61-01-820-002

(2) Do the steps that follow to measure/adjust the clearance for the drag brace down sensors:

(a) Measure the clearance between the sensor and its target.

(b) Make sure the sensor and the target are aligned correctly.

(c) Continue if adjustments are necessary.

(d) Do these steps to adjust the clearance between the sensor and the target:

1) Do this task: Proximity Sensors for the Main Landing Gear Removal, TASK 32-61-01-000-801.

2) Loosen the nut [32] and washer [33] to remove the target [35].

3) Adjust the shim [34] thickness to get the correct clearance.

a) To increase the clearance, remove the shim [34] laminations to get the correct clearance.

b) To decrease the clearance, add a shim [34] and remove the shim laminations to get the correct clearance.

4) Apply the sealant, A00247 to the target [35].

5) Apply a thin layer of grease, D00013 to the threads, nuts, and washer faces.

6) Install the target [35] in the correct position.

7) Install the washer [33], and nut [32].

8) Do this task: Proximity Sensors for the Main Landing Gear Installation, TASK 32-61-01-400-801.

9) Do a check of the clearance again after you tighten the nut [32].

SUBTASK 32-61-01-820-003

(3) Do the steps that follow to measure/adjust the clearance for the up and locked sensors:

(a) Use the MLG uplock over-centering tool, STD-1307, to manually move the uplock hook to the locked position.

(b) Measure the clearance between the sensor and its target.

(c) Make sure the sensor and the target are aligned correctly.

(d) Continue if adjustments are necessary.

(e) Do these steps to adjust the clearance between the sensor and the target:

1) Do this task: Proximity Sensors for the Main Landing Gear Removal, TASK 32-61-01-000-801.

2) Loosen the nut [52] and washer [53] to remove the target [55].

3) Adjust the shim [54] thickness to get the correct clearance.

a) To increase the clearance, remove the shim [54] laminations to get the correct clearance.

b) To decrease the clearance, add a shim [54] and remove the shim laminations to get the correct clearance.

4) Apply the sealant, A00247 to the target [55].

5) Apply a thin layer of grease, D00013 to the threads, nuts, and washer faces.

6) Install the target [55] in the correct position.

7) Install the washer [53], and nut [52].

8) Tighten the nut [52] to 50 - 75 pound-inches.

9) Do this task: Proximity Sensors for the Main Landing Gear Installation, TASK 32-61-01-400-801.

10) Do a check of the clearance again after you tighten the nut [52].

(f) Do the steps that follow to move the uplock hook to the open position:

1) Make sure the control lever for the landing gear is in the UP position.

2) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

WARNING: KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

3) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

NOTE: Due to high bypass flow at the drag brace operated sequence valve, the uplock hook can not move if the center hydraulic system is pressurized with low flow.

a) If the uplock hook does not move in the subsequent steps, re-try moving the uplock hook to the open position using the following high flow options in Main Hydraulic System Pressurization, TASK 29-11-00-860-801:

<1> Main Hydraulic System Pressurization with a Portable Hydraulic Cart, TASK 29-11-00-860-802.

<2> Center Hydraulic System Pressurization with an Air-Driven Pump (ADP), TASK 29-11-00-860-805.

WARNING MAKE SURE ALL PERSONS AND EQUIPMENT ARE CLEAR OF THE UPLOCK HOOK. THE HOOK WILL MOVE WHEN THE CONTROL LEVER IS PUT IN THE DN POSITION AND CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

4) Move the control lever for the landing gear to the DN position.

5) Make sure the uplock hook moves immediately to the unlocked position.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-61-01-020-002

(1) Do these steps to put the airplane back to its usual condition:

WARNING MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER, THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) Activate the main landing gear steering system. To activate it, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

WARNING OBEY THE PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(b) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

(c) Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801.

(d) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

END OF TASK

NOSE GEAR POSITION PROXIMITY SENSORS - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) Removal of the proximity sensors.

(2) Installation of the proximity sensors.

(3) Test of the proximity sensors.

(4) Measure and adjust the clearance of the proximity sensors.

B. All of these tasks are for the proximity sensors that follow:

(1) Down Sensors: S32023, S32027 (Figure 201)

(2) Up Sensors: S32021, S32025 (Figure 202)

(3) Locked Sensors: S32022, S32026 (Figure 203)

(4) Not Compressed Sensors: S32024, S32028 (Figure 204)

TASK 32-61-02-000-801

2. Proximity Sensors for the Nose Landing Gear - Removal

(Figure 201, Figure 202, Figure 203, Figure 204)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Consumable Materials

Reference	Description	Specification
G01505	Lockwire - Safety And Lock	NASM20995

C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
711	Nose Landing Gear

D. Prepare for the Removal

SUBTASK 32-61-02-480-001

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-02-480-002

(2) Make sure the chocks are installed at the wheels (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-02-480-003

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Open the doors for the landing gear, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-02-860-004

(4) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

E. Remove the Proximity Sensor

(Figure 201, Figure 202, Figure 203, Figure 204)

SUBTASK 32-61-02-020-001

CAUTION: DO NOT HIT THE SENSORS, OR LET THEM FALL. THIS CAN CAUSE A MALFUNCTION OF THE INDICATION SYSTEM. IF YOU ARE NOT CAREFUL WITH THE SENSORS, YOU CAN CAUSE DAMAGE TO THEIR INTERNAL COMPONENTS.

(1) Do the steps that follow to remove the down sensors (Figure 201), the up sensors (Figure 202), the locked sensors (Figure 203), or the not compressed sensors (Figure 204):

(a) For the down sensor, do these steps (Figure 201):

1) Disconnect the electrical connector [2] from the applicable sensor [4] or sensor [7].

2) Remove the screw [3].

3) Remove the applicable sensor [4] or sensor [7].

(b) For the up sensor, do these steps (Figure 202):

1) Disconnect the electrical connector [22] from the applicable sensor [24] or sensor [27].

2) Remove the screw [23].

3) Remove the applicable sensor [24] or sensor [27].

(c) For the locked sensor, do these steps (Figure 203):

1) Disconnect the electrical connector [46] from the applicable sensor [41] or sensor [49].

2) Remove the lockwire, G01505 [48] from the locknut [47].

3) Remove the locknut [47].

4) Remove the applicable sensor [41] or sensor [49] from the assembly.

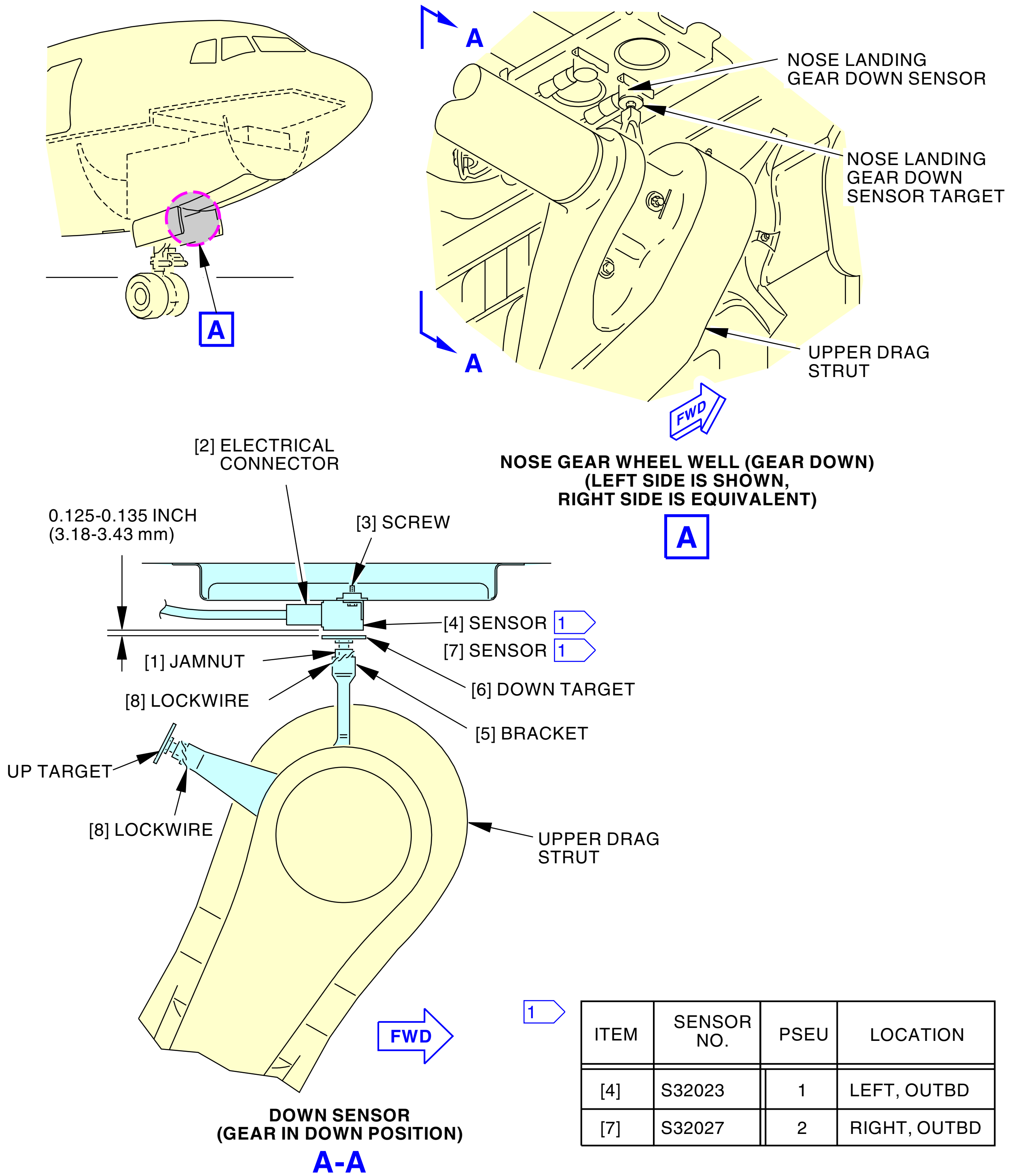
(d) For the not compressed sensor, do these steps (Figure 204):

1) Disconnect the electrical connector [61] from the applicable sensor [71] or sensor [72].

2) Remove the nut [64], the washer [63], and the bolt [62] from the applicable sensor [71] or sensor [72].

3) Remove the applicable sensor [71] or sensor [72].

END OF TASK

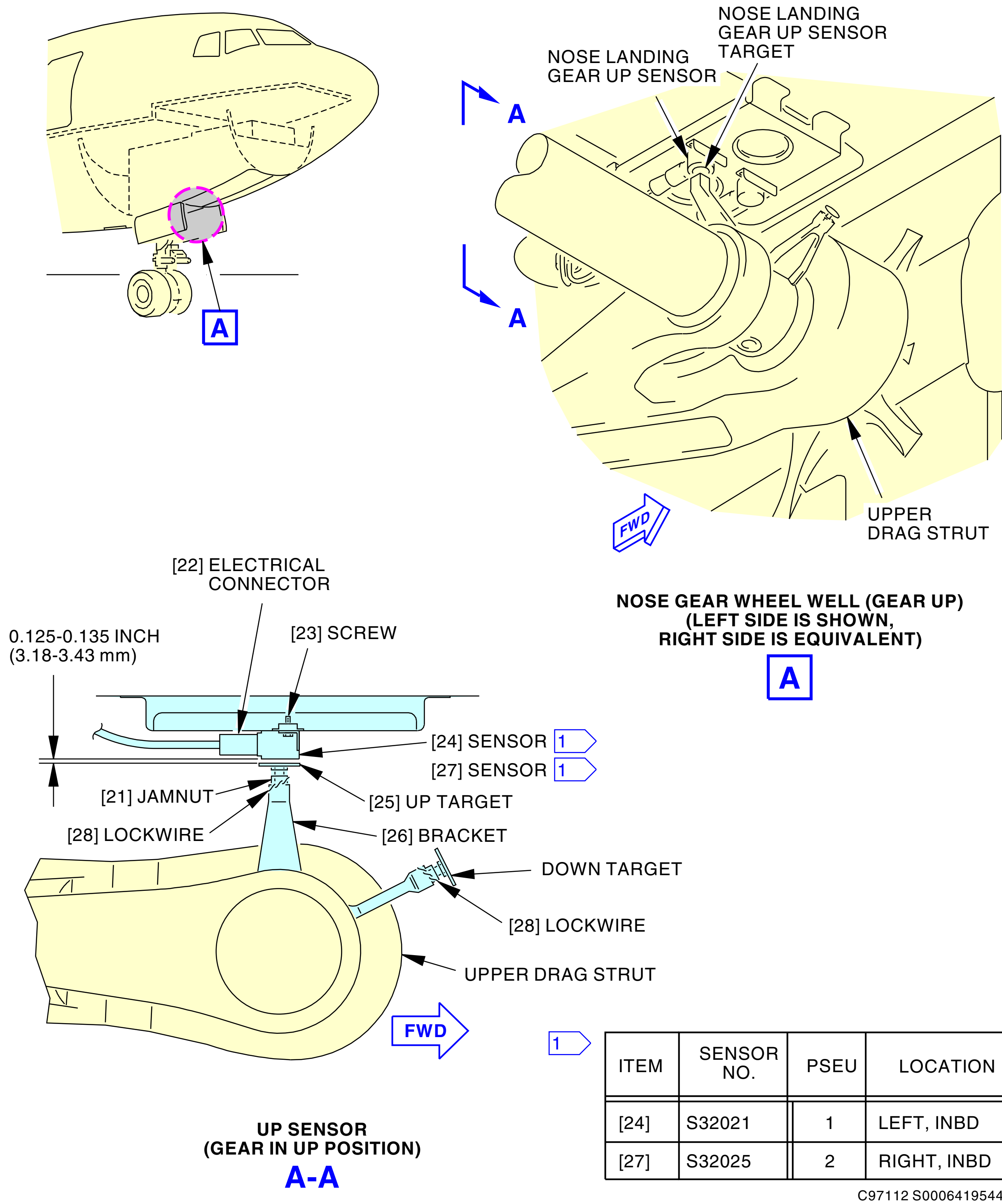


1

ITEM	SENSOR NO.	PSEU	LOCATION
[4]	S32023	1	LEFT, OUTBD
[7]	S32027	2	RIGHT, OUTBD

C97083 S0006419543_V2

Nose Landing Gear Down Proximity Sensor Installation
Figure 201/32-61-02-990-801

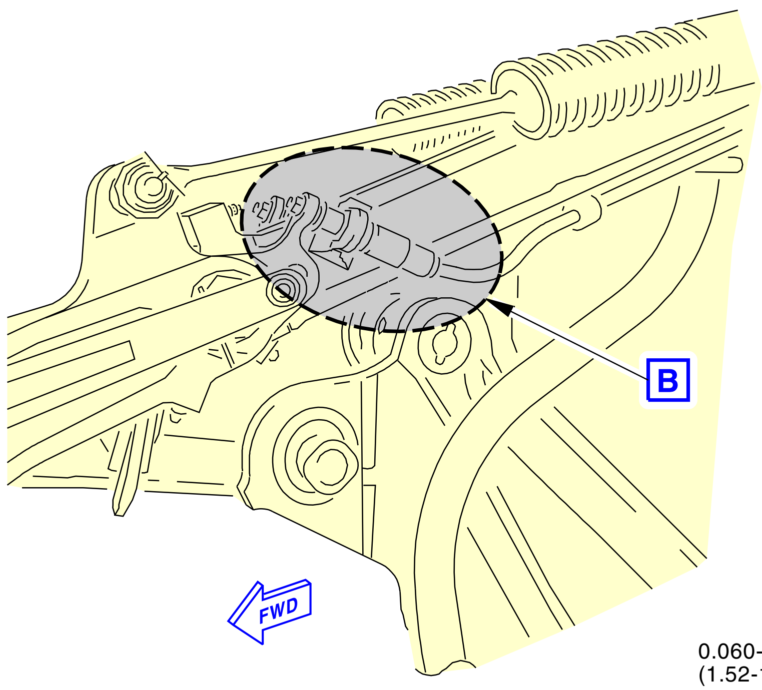


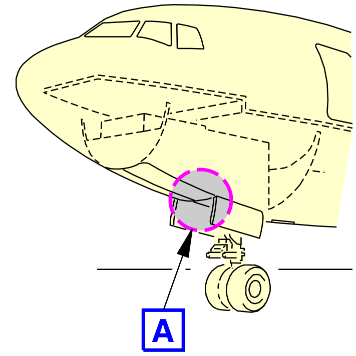
1

ITEM	SENSOR NO.	PSEU	LOCATION
[24]	S32021	1	LEFT, INBD
[27]	S32025	2	RIGHT, INBD

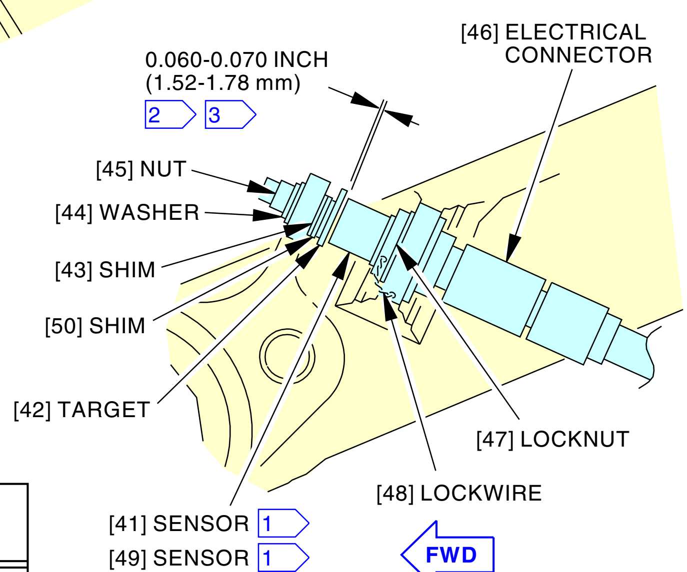
C97112 S0006419544_V2

Nose Landing Gear Up Proximity Sensor Installation
Figure 202/32-61-02-990-802





NOSE GEAR WHEEL WELL
A



LOCKED SENSOR
(LEFT SIDE IS SHOWN,
RIGHT SIDE IS EQUIVALENT)
B

1

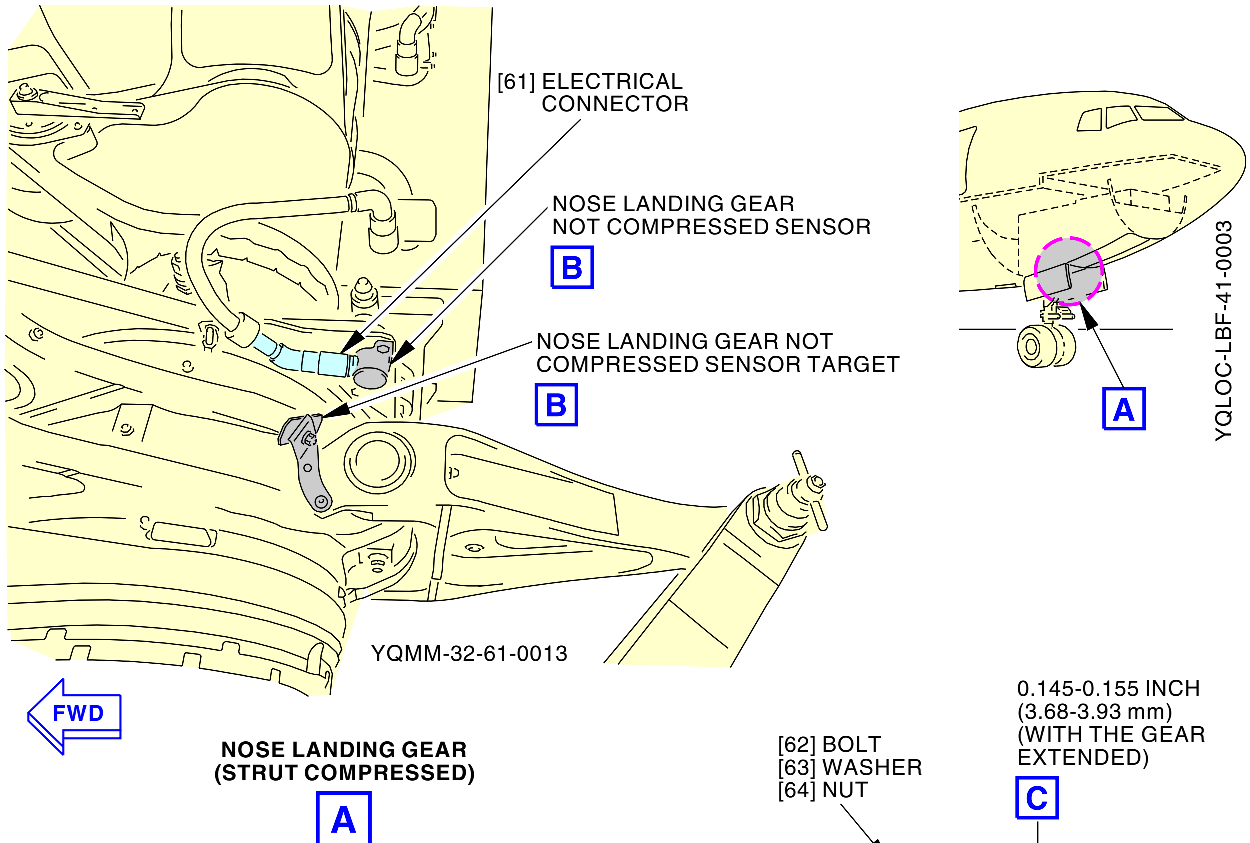
ITEM	SENSOR NO.	PSEU	LOCATION
[49]	S32022	1	RIGHT SIDE
[41]	S32026	2	LEFT SIDE

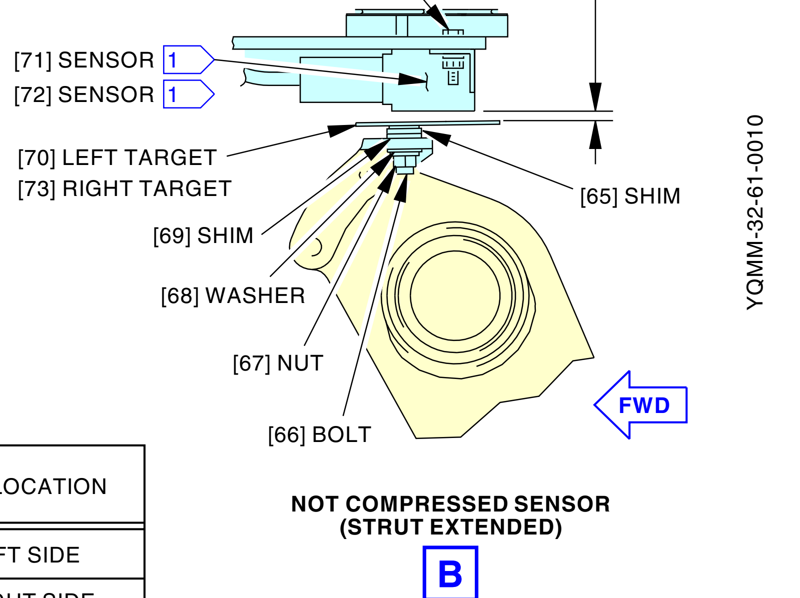
2 RIGGING DIMENSION

3 AFTER RIGGING, A MEASURED CLEARANCE LESS THAN 0.075 INCHES (1.90 mm) IS PERMITTED WHEN HYDRAULICS IS NOT ON IF THE TARGET AND SENSOR DO NOT TOUCH WHEN HYDRAULICS IS ON.

C97123 S0006419545_V3

Nose Landing Gear Locked Proximity Sensor Installation
Figure 203/32-61-02-990-803



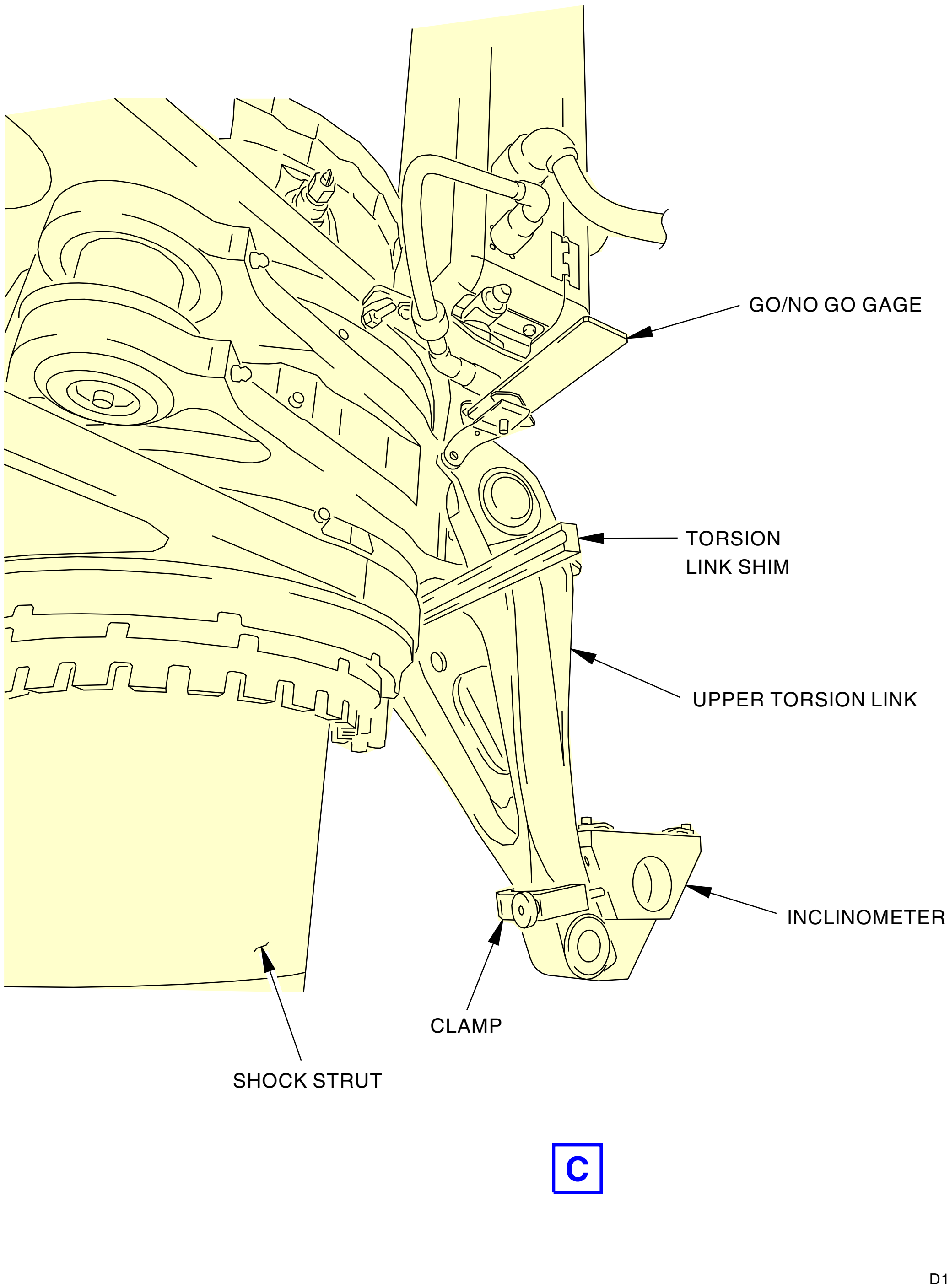


1

ITEM	SENSOR NO.	PSEU	LOCATION
[71]	S32024	1	LEFT SIDE
[72]	S32028	2	RIGHT SIDE

C97398 S0006419546_V2

Nose Landing Gear Not Compressed Proximity Sensor Installation
Figure 204/32-61-02-990-804 (Sheet 1 of 2)



Nose Landing Gear Not Compressed Proximity Sensor Installation
Figure 204/32-61-02-990-804 (Sheet 2 of 2)

TASK 32-61-02-400-801

3. Proximity Sensors for the Nose Landing Gear - Installation

(Figure 201, Figure 202, Figure 203, Figure 204)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
20-10-23-400-801	Lockwire, Cotter Pins, and Lockrings - Installation (P/B 401)
20-11-00-910-801	Standard Torque Values (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1690	Actuators/Deactuators Set - Proximity Sensor Part #: 8-758-01 Supplier: 08748 Part #: A27092-70 Supplier: 81205 Opt Part #: A32102-25 Supplier: 81205 Opt Part #: KHT8-758-01 Supplier: 08748

C. Consumable Materials

Reference	Description	Specification
C00528	Compound - Corrosion Preventive, Petroleum Hot Application (Soft Film)	MIL-C-11796 Class III
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
D00633	Grease - Aircraft General Purpose	BMS3-33
G01505	Lockwire - Safety And Lock	NASM20995
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
4	Sensor	32-61-02-02B-320	ARO ALL
7	Sensor	32-61-02-02B-320	ARO ALL
24	Sensor	32-61-02-02B-315	ARO ALL
27	Sensor	32-61-02-02B-315	ARO ALL
41	Sensor	32-61-02-02B-090	ARO 001-016
49	Sensor	32-61-02-02B-085	ARO 001-016
71	Sensor	32-61-02-02C-020	ARO ALL
72	Sensor	32-61-02-02C-025	ARO ALL

E. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
711	Nose Landing Gear

F. Install the Proximity Sensor

SUBTASK 32-61-02-480-004

WARNING MAKE SURE THAT YOU INSTALL THE DOWNLOCK PINS ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-02-480-005

(2) Make sure the chocks are installed at the wheels (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-02-480-006

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Open the doors for the landing gear, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-02-410-001

CAUTION DO NOT HIT THE SENSORS, OR LET THEM FALL. THIS CAN CAUSE A MALFUNCTION OF THE INDICATION SYSTEM. IF YOU ARE NOT CAREFUL WITH THE SENSORS, YOU CAN CAUSE DAMAGE TO THEIR INTERNAL COMPONENTS.

(4) Do these steps to install the down sensors (Figure 201), the up sensors (Figure 202), the locked sensors (Figure 203), and the not compressed sensors (Figure 204):

(a) Connect the applicable electrical connector to the applicable sensor.

(b) Before you install the applicable sensor in its assembly, do this task: Test of the Proximity Sensors for the Nose Gear, TASK 32-61-02-700-801.

NOTE: Do this test of the sensor with the proximity sensor test set, SPL-1690.

1) Make sure the applicable sensor is kept more than one inch away from all metal surfaces during the test.

(c) For the down sensor, do these steps (Figure 201):

1) Apply corrosion preventative compound, C00528, to all the areas of the holes in the mounting bracket.

2) Install the applicable sensor [4] or sensor [7] in the correct position.

3) Install the screw [3].

4) Tighten the screw [3] to 10 in-lb (1.13 N·m) - 25 in-lb (2.82 N·m).

(d) For the up sensor , do these steps (Figure 202):

1) Apply corrosion preventative compound, C00528, to all the areas of the holes in the mounting bracket.

2) Install the applicable sensor [24] or sensor [27] in the correct position.

3) Install the screw [23].

4) Tighten the screw [23] to 10 in-lb (1.13 N·m) - 25 in-lb (2.82 N·m).

5) Install the lockwire, G01505 [8] with the double twisted method on the locknut (TASK 20-10-23-400-801).

(e) For the locked sensor, do these steps (Figure 203):

WARNING USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

WARNING DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

1) Apply a thin layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the thread reliefs, threads and the mounting surface of the applicable sensor [41] or sensor [49].

2) Install the applicable sensor [41] or sensor [49] on the lock link assembly.

3) Apply the thin layer of grease, D00013 to the threads, the bushing faces, and the mounting surfaces of the locknut.

NOTE: Remove the unwanted grease.

4) Install the locknut [47].

5) Tighten the locknut [47] to 150 in-lb (16.9 N·m) - 200 in-lb (22.6 N·m).

6) Install the lockwire, G01505 [23] with the double twisted method on the locknut (TASK 20-10-23-400-801).

(f) For the not compressed sensor, do these steps (Figure 204):

1) Apply a thin layer of grease, D00633 to the bolt shank, the threads and the washer faces.

NOTE: Remove the unwanted grease.

2) Install the applicable sensor [71] or sensor [72].

3) Hold the applicable sensor [71] or sensor [72] and install the bolt [62], the washer [63], and the nut [64].

4) Tighten the bolt [62]. Refer to Standard Torque Values, TASK 20-11-00-910-801.

G. Examine the target and its mounting bracket for signs of damage.

SUBTASK 32-61-02-200-001

(1) If the damage to the target or mounting brackets was found during the removal of the sensor, do this task: Measure and Adjust the Clearance for the Proximity Sensors on the Nose Landing Gear, TASK 32-61-02-820-801.

SUBTASK 32-61-02-860-002

(2) If there is no damage to the target or mounting brackets was found, then do the steps that follow to put the airplane back to its usual condition:

(a) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	12	C32604	LDG GEAR ALTN EXT CTRL
A	23	C32608	LDG GEAR EXTD/RETR 2
G	10	C32607	LDG GEAR EXTD/RETR 1

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(b) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

(c) Close the doors for the landing gear.

——— END OF TASK ———

TASK 32-61-02-700-801

4. Test of the Proximity Sensors for the Nose Gear

A. General

(1) The test of the sensor can be done with the airplane on the ground or on the jacks. The LANDING GEAR ACTN/INDN maintenance page on the primary display system will show you the sensor target position (near or far or blank). This test will make sure that the sensor operates correctly. You must use the proximity sensor test set, SPL-1690 to do a sensor operation check.

B. **References**

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1690	Actuators/Deactuators Set - Proximity Sensor Part #: 8-758-01 Supplier: 08748 Part #: A27092-70 Supplier: 81205 Opt Part #: A32102-25 Supplier: 81205 Opt Part #: KHT8-758-01 Supplier: 08748

D. **Location Zones**

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right

E. **Prepare for the Test**

SUBTASK 32-61-02-480-007

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear. If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-02-480-008

(2) Make sure the chocks are installed at the wheels (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-02-480-009

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORSOPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Open the doors for the landing gear, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-02-860-003

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-61-02-860-001

(5) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

F. Do the Test of the Proximity Sensor

SUBTASK 32-61-02-700-001

(1) Use the LANDING GEAR ACTN/INDN maintenance page to do a check of the target position to make sure the sensor operates correctly:

(a) Do the steps that follow to select the LANDING GEAR ACTN/INDN maintenance page (TASK 31-61-00-800-804):

1) Push MAINT INFO DISPLAY prompt on the left, right, or center Control Display Unit(CDU) to start the display of the Display Selection menu.

NOTE: The menu will be shown on the lower center, left inboard, or right inboard display units.

2) Go to the second page for 32 LANDING GEAR ACTN/INDN

(b) Push SHOW DISPLAY under the REAL column for ATA 32 LANDING GEAR ACTN/INDN.

NOTE: The LANDING GEAR ACTN/INDN maintenance page will be shown.

(c) Do a test of the proximity sensor with the proximity sensor test set, SPL-1690:

NOTE: This test will make sure the sensor operates correctly. The sensor and target must be in a target far configuration for this test. You can remove the sensor from its bracket if this test is not for the installation of the sensor.

1) Make sure the sensor face is more than one inch away from all metal surfaces.

2) Make sure that target FAR is shown on the LANDING GEAR ACTN/INDN maintenance page.

3) Hold or install the proximity sensor test set, SPL-1690 on the face of the sensor.

4) Make sure that target NEAR is shown on the LANDING GEAR ACTN/INDN maintenance page.

5) Remove the proximity sensor test set, SPL-1690 from the sensor.

6) Make sure that target FAR is shown on the LANDING GEAR ACTN/INDN maintenance page.

SUBTASK 32-61-02-860-005

(2) If you have completed maintenance on the sensors, do these steps to put the airplane back to its usual condition:

WARNING: OBEY THE PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(a) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

(b) Close the doors for the landing gear.

END OF TASK

TASK 32-61-02-820-801

5. Measure and Adjust the Clearance for the Proximity Sensors on the Nose Landing Gear

(Figure 201, Figure 202, Figure 203, Figure 204)

A. References

Reference	Title
07-11-02-580-801	Lift the Airplane Nose on Jacks (P/B 201)
10-11-05 P/B 201	CHOCK INSTALLATION
20-10-23-400-801	Lockwire, Cotter Pins, and Lockrings - Installation (P/B 401)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-21-11-000-803	Nose Landing Gear Torsion Link Disconnection/Electrical Harness Storage (P/B 201)
32-21-11-400-803	Nose Landing Gear Torsion Link Connection (P/B 201)
32-30-01-720-803	Nose Landing Gear Extension and Retraction System - Functional Test (Airplane on the Jacks) (P/B 501)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1850	Equipment - Rigging, Nose Landing Gear "NOT COMPRESSED" Sensors Part #: J32015-1 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)
G01505	Lockwire - Safety And Lock	NASM20995

D. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
711	Nose Landing Gear

E. Prepare for the Measurement/Adjustment

SUBTASK 32-61-02-480-010

WARNING	MAKE SURE THAT YOU INSTALL THE DOWNLOCK PINS ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and the main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-02-480-011

(2) Make sure the chocks are installed at the wheels (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-02-480-012

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Open the doors for the landing gear, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

F. Measure and Adjust the Clearance for the Down Sensors

(Figure 201)

SUBTASK 32-61-02-820-001

(1) Do the steps that follow to measure and adjust the clearance for the down sensors (Figure 201):

(a) Measure the clearance between the sensor and its target (Figure 201).

1) Continue if an adjustment is necessary.

(b) Adjust the clearance between the down sensor and the target:

1) Loosen the nut [1] to let you adjust the position of the target [6].

2) Turn the target [6] to adjust the clearance:

a) To increase the clearance, turn the target [6] in.

b) To decrease the clearance, turn the target [6] out.

3) Tighten the nut [1] to 30 in-lb (3 N·m)-50 in-lb (6 N·m).

4) Do a check of the clearance again after you tighten the nut [1].

5) Install the lockwire, G01505 [8] with the double twisted method on the locknut (TASK 20-10-23-400-801).

G. Measure and Adjust the Clearance for the Up Sensors

(Figure 202)

SUBTASK 32-61-02-820-005

(1) Do the steps that follow to measure and adjust the clearance for the up sensors (Figure 202):

(a) Lock the nose gear doors in the open position. Refer to Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801

For the up sensor, the nose gear must be in the retracted position (TASK 32-30-01-720-803).

(b) Measure the clearance between the sensor and its target (Figure 202).

1) Continue if an adjustment is necessary.

(c) Adjust the clearance between the up sensor and the target:

1) Loosen the nut [21] to let you adjust the position of the target [25].

2) Turn the target [25] to adjust the clearance:

a) To increase the clearance, turn the target [25] in.

b) To decrease the clearance, turn the target [25] out.

3) Tighten the nut [21] to 30 in-lb (3 N·m)-50 ft-lb (68 N·m).

4) Do a check of the clearance again after you tighten the nut [21].

5) Install the lockwire, G01505 [28] with the double twisted method on the locknut (TASK 20-10-23-400-801).

(d) Remove the safety pins of the nose gear (TASK 32-00-15-080-801).

H. Measure and Adjust the Clearance for the Locked Sensor

(Figure 203)

SUBTASK 32-61-02-820-002

(1) Do the steps that follow to measure and adjust the clearance for the locked sensors (Figure 203):

(a) Measure the clearance between the sensor and its target (Figure 203).

1) Continue if an adjustment is necessary.

(b) Adjust the clearance between the locked sensor and the target:

1) Do this task: Proximity Sensors for the Nose Landing Gear - Removal, TASK 32-61-02-000-801.

NOTE: Do the steps to remove the locked sensor only.

2) Loosen the nut [45] to remove the washer [44] and the target [42].

3) Adjust the shim [43] or shim [50] thickness to get the correct clearance:

a) To increase the clearance, remove the shim [43] or shim [50] laminations to get the correct clearance.

b) To decrease the clearance, add a new shim [43] or shim [50] and remove laminations to get the correct clearance.

4) Apply the thin layer of grease, D00013 to the threads, the nut, and the washer faces.

5) Install the target [42] in the correct position.

6) Install the washer [44], and nut [45].

7) Do this task: Proximity Sensors for the Nose Landing Gear - Installation, TASK 32-61-02-400-801.

NOTE: Do the steps to install the locked sensor only.

8) Tighten the nut [45] to 50 in-lb (6 N·m)-80 in-lb (9 N·m).

9) Do a check of the clearance again after you tighten the nut [45].

I. Measure and Adjust the Clearance for the Not Compressed Sensor

(Figure 204)

SUBTASK 32-61-02-820-003

(1) Do one of the procedures that follow to measure the clearance for the not compressed sensor:

NOTE: Procedure 1 lifts the airplane nose with a jack or Procedure 2 uses rigging equipment.

(a) Lift the nose of the airplane (TASK 07-11-02-580-801) - Procedure 1.

1) Measure the clearance between the sensor and its target (Figure 204).

2) Continue if an adjustment is necessary.

(b) Install the nose landing gear "not compressed" sensors rigging equipment, SPL-1850 - Procedure 2.

1) Disconnect the upper torsion link from the lower torsion link at the apex (TASK 32-21-11-000-803).

2) Install the inclinometer on the upper torsion link as shown on (Figure 204).

NOTE: The inclinometer is attached to the torsion link with a clamp that is part of the tool.

3) Make sure the inclinometer is parallel to the outside edge of the upper lug of the torsion link.

4) Move the torsion link until you get level indication on the inclinometer.

5) Put the torsion link shim between the torsion link and the shock strut to hold the torsion link in its position.

NOTE: The shim holds the weight of the torsion link. Install the shim between the torsion link and the stop on the shock strut.

6) Make sure the sensor/target clearance is as shown in (Figure 204).

a) The go/no go gage has a thick end and a thin end. You have the correct clearance if the thin end of the gage fits between the sensor and the target and the thick end does not.

b) Make sure the inclinometer shows a level indication.

c) Continue if an adjustment is necessary.

SUBTASK 32-61-02-820-004

(2) Do these adjustment steps if you do not have the correct clearance:

(a) Remove the nut [67], the washer [68] and the bolt [66] to remove the applicable target [70] or target [73] from the mounting support.

(b) Adjust the shim [65] or shim [69] thickness to get the correct clearance:

1) To increase the clearance, remove the shim [65] or shim [69] laminations to get the correct clearance.

2) To decrease the clearance, add a new shim [65] or shim [69] and remove laminations to get the correct clearance.

(c) Install the applicable target [70] or target [73] with bolt [66], washer [68], and nut [67].

(d) Tighten the nut [67] to 50 in-lb (6 N·m)-80 in-lb (9 N·m).

(e) Do a check of the clearance again after you tighten the nut [67].

J. Put the Airplane Back to Its Usual Condition

SUBTASK 32-61-02-080-001

(1) Lower the nose of the airplane if it is necessary.

SUBTASK 32-61-02-080-002

(2) If you used the nose landing gear "not compressed" sensors rigging equipment, SPL-1850, do these steps:

(a) Remove the torsion link shim and the inclinometer from the airplane.

(b) Do this task: Nose Landing Gear Torsion Link Connection, TASK 32-21-11-400-803.

SUBTASK 32-61-02-010-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-61-02-860-006

(4) Close the doors for the landing gear.

END OF TASK

MAIN GEAR TRUCK TILT PROXIMITY SENSOR - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) Removal of the truck tilt sensor.

(2) Installation of the truck tilt sensor.

(3) Test of the truck tilt sensor.

B. All of these tasks are for the truck tilt sensors that follow (Figure 201):

(1) Truck Tilt Sensors: S32106, S32206, S32110, S32210.

C. There is no clearance adjustment for the main gear truck tilt sensor.

TASK 32-61-03-000-801

2. Truck Tilt Sensor Removal

(Figure 201)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)

B. Consumable Materials

Reference	Description	Specification
G01505	Lockwire - Safety And Lock	NASM20995

C. Prepare for the Removal

SUBTASK 32-61-03-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-03-480-002

(2) Make sure the chocks are installed at the wheels (PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-03-480-003

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Make sure the door safety pins are installed in the door release/safety valve modules.

(a) If the door safety are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-03-480-008

WARNING MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Deactivate the main landing gear steering system (TASK 32-00-50-040-801).

SUBTASK 32-61-03-860-007

(5) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

D. Remove the Truck Tilt Sensor

SUBTASK 32-61-03-200-001

(1) Examine the sensor mounting bracket, the target, and the target support bracket for damage.

(a) Make a record of the damage you find.

NOTE: This data will be used during the installation.

SUBTASK 32-61-03-020-001

CAUTION DO NOT HIT THE SENSORS, OR LET THEM FALL. THIS CAN CAUSE A MALFUNCTION OF THE INDICATION SYSTEM. IF YOU ARE NOT CAREFUL WITH THE SENSORS, YOU CAN CAUSE DAMAGE TO THEIR INTERNAL COMPONENTS.

(2) Do the steps that follow to remove the truck tilt sensor:

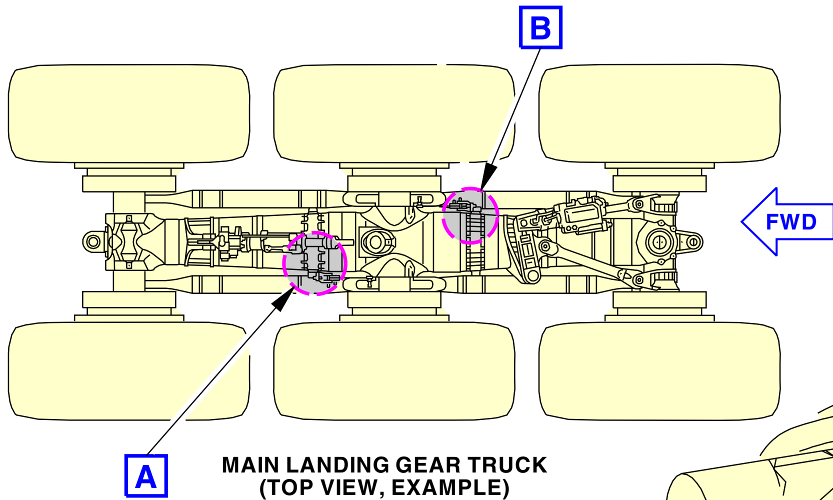
(a) Disconnect the electrical connector [1] from the applicable sensor [4] or sensor [5].

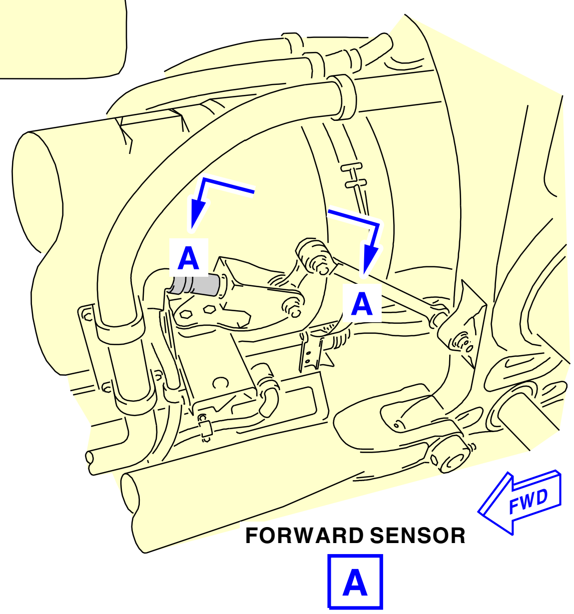
(b) Remove the lockwire, G01505, from the locknut [3].

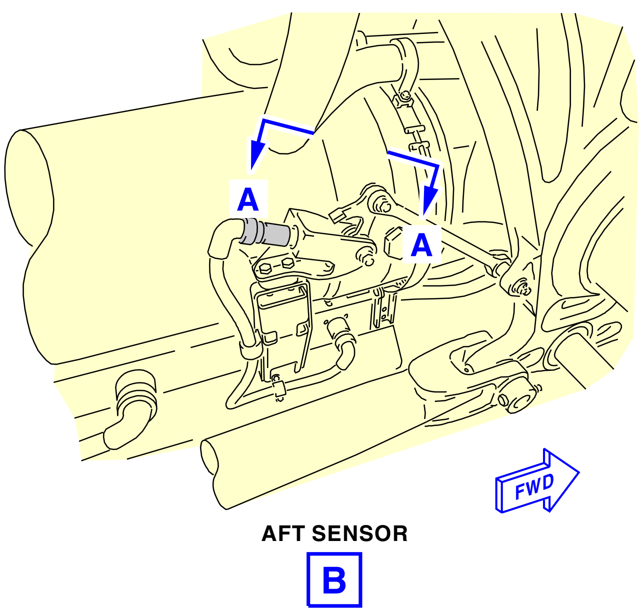
(c) Loosen the locknut [3].

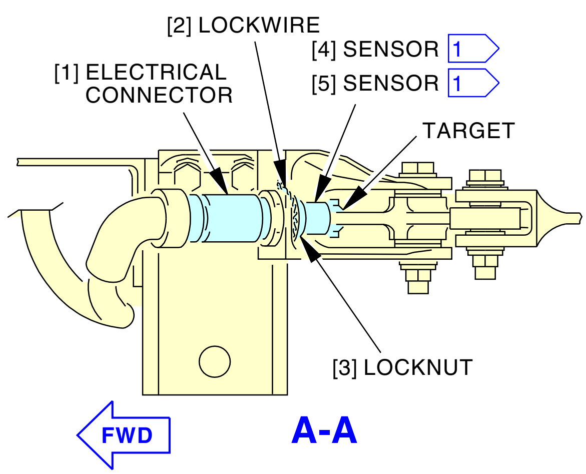
(d) Remove the applicable sensor [4] or sensor [5] from the mounting bracket.

END OF TASK









1

ITEM	SENSOR NO.	MLG	PSEU	LOCATION
[4]	S32106	L	1	OUTBD
[4]	S32206	R	1	INBD
[5]	S32110	L	2	INBD
[5]	S32210	R	2	OUTBD

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Main Landing Gear Truck Tilt Proximity Sensor Installation
Figure 201/32-61-03-990-801

TASK 32-61-03-400-801

3. Truck Tilt Sensor Installation

(Figure 201)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
20-10-23-400-801	Lockwire, Cotter Pins, and Lockrings - Installation (P/B 401)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-61-04-000-802	Sensor Target Bracket Assembly Removal (P/B 401)
32-61-04-400-802	Sensor Target Bracket Assembly Installation (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1690	Actuators/Deactuators Set - Proximity Sensor Part #: 8-758-01 Supplier: 08748 Part #: A27092-70 Supplier: 81205 Opt Part #: A32102-25 Supplier: 81205 Opt Part #: KHT8-758-01 Supplier: 08748

C. Consumable Materials

Reference	Description	Specification
G01505	Lockwire - Safety And Lock	NASM20995

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for the Installation

SUBTASK 32-61-03-480-009

> **WARNING**
> MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the main landing gear steering system is deactivated (TASK 32-00-50-040-801).

SUBTASK 32-61-03-480-004

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-03-480-005

(3) Make sure the chocks are installed at the wheels (PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-03-860-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Make sure the door safety pins are installed in the door release/safety valve modules.

(a) If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-03-420-001

(5) Do these steps before you install the sensor:

(a) If the sensor target bracket assembly was damaged, replace it.

1) Do this task: Sensor Target Bracket Assembly Removal, TASK 32-61-04-000-802.

2) Do this task: Sensor Target Bracket Assembly Installation, TASK 32-61-04-400-802.

F. Install the Truck Tilt Sensor

SUBTASK 32-61-03-420-002

CAUTION	DO NOT HIT THE SENSORS, OR LET THEM FALL. THIS CAN CAUSE A MALFUNCTION OF THE INDICATION SYSTEM. IF YOU ARE NOT CAREFUL WITH THE SENSORS, YOU CAN CAUSE DAMAGE TO THEIR INTERNAL COMPONENTS.

(1) Do the steps that follow to install of the truck tilt sensor:

(a) Install the electrical connector [1] to the applicable sensor [4] or sensor [5].

(b) Before the sensor is installed in its assembly, do this task: Test of the Truck Tilt Sensor, TASK 32-61-03-700-801.

NOTE: Do this test of the sensor with the proximity sensor test set, SPL-1690.

1) Make sure the sensor is kept more than one inch away from all the metal surfaces during the test.

(c) Install the sensor in the bracket assembly.

(d) Install the locknut [3].

(e) Tighten the locknut to 150 in-lb (16.9 N·m) - 190 in-lb (21.5 N·m).

(f) Install the lockwire [2] with the double twisted method to the locknut (TASK 20-10-23-400-801).

1) Use the lockwire, G01505.

G. **Put the Airplane Back to Its Usual Condition.**

SUBTASK 32-61-03-860-008

(1) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

SUBTASK 32-61-03-480-010

WARNING
MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Activate the main landing gear steering system (TASK 32-00-50-440-801).

——— END OF TASK ———

TASK 32-61-03-700-801

4. Test of the Truck Tilt Sensor

A. **References**

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)

B. **Tools/Equipment**

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1690	Actuators/Deactuators Set - Proximity Sensor Part #: 8-758-01 Supplier: 08748 Part #: A27092-70 Supplier: 81205 Opt Part #: A32102-25 Supplier: 81205 Opt Part #: KHT8-758-01 Supplier: 08748

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare to Do the Test

SUBTASK 32-61-03-480-011

WARNING MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the main landing gear steering system is deactivated. To deactivate it, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-61-03-480-006

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Make sure the downlock pins are installed on the nose and main landing gear. If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-03-480-007

(3) Make sure the chocks are installed at the wheels (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-03-860-002

WARNING OBEY THE PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(4) Make sure the door safety pins are installed in the door release/safety valve modules. If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-03-860-005

(5) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-61-03-860-003

(6) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

E. Test of the Truck Tilt Sensor

SUBTASK 32-61-03-700-001

(1) Use the LANDING GEAR ACTN/INDN maintenance page when you do the test of the target position to make sure the sensor operates correctly.

(a) Do the steps that follow to select the LANDING GEAR ACTN/INDN maintenance page (TASK 31-61-00-800-804):

1) Push the MAINT INFO DISPLAY prompt on the left, right, or center Control Display Unit (CDU) to start the display of the Display Selection menu.

NOTE: The menu will be shown on the lower center, the left inboard, or the right inboard display unit.

2) Go to the second page for 32 LANDING GEAR ACTN/INDN.

NOTE: The LANDING GEAR MAINTENANCE PAGE will be shown.

(b) Do a test of the sensor with the proximity sensor test set, SPL-1690:

NOTE: This test will make sure the sensor operates correctly. The sensor and target must be in a target far configuration for this test.

1) Make sure the sensor is more than one inch away from all metal surfaces.

2) Make sure that target FAR is shown on the maintenance page.

3) Hold or install the proximity sensor test set, SPL-1690 on the face of the sensor.

4) Make sure that target NEAR is shown on the maintenance page.

5) Remove the proximity sensor test set, SPL-1690 from the sensor.

F. Put the Airplane Back to Its Usual Condition.

SUBTASK 32-61-03-480-012

> **WARNING**
> MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER, THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Activate the main landing gear steering system. To activate it, do this task: Main Landing Gear Steering System Activation, TASK 32-00-50-440-801.

END OF TASK

MAIN GEAR TRUCK TILT SENSOR TARGET BRACKET ASSEMBLY - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has these tasks:

      (1) A removal of the sensor target bracket assembly.

      (2) An installation of the sensor target bracket assembly.

   B. The sensor target bracket assembly contains these parts:

      (1) The sensor target bracket.

      (2) The target assembly.

      (3) The link assembly.

   C. The procedures for the forward and aft installations are similar and are only different in the parts that are used.

TASK 32-61-04-000-802

2. **Sensor Target Bracket Assembly Removal**
   (Figure 401)

   A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-61-03-000-801	Truck Tilt Sensor Removal (P/B 201)

   B. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

   C. Prepare for the Removal

SUBTASK 32-61-04-480-001

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear.

   (a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-04-480-002

(2) Make sure the chocks are installed at the wheels (PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-04-480-003

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Make sure the door safety pins are installed in the door release/safety valve modules.

(a) If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-04-480-004

WARNING	MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Deactivate the main landing gear steering system (TASK 32-00-50-040-801).

SUBTASK 32-61-04-860-001

(5) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

D. Remove the Sensor Target Bracket Assembly Components

NOTE: You can remove the bracket assembly, the target assembly or the link assembly together or independently.

SUBTASK 32-61-04-020-001

(1) Do these steps to remove the applicable bracket assembly [17] or bracket assembly [33]:

NOTE: Where two item number references are shown together, the first number is for the forward installation and the other is for the aft installation.

(a) Remove the truck tilt sensor [18] or sensor [34] from the applicable bracket assembly [17] or bracket assembly [33] (TASK 32-61-03-000-801).

(b) Remove the nuts [22], washers [21], and bolts [19] which attach the applicable bracket assembly [17] or bracket assembly [33] to the wire bracket [20] and wire bracket [35].

(c) Remove the cotter pin [10].

(d) Remove the nut [14] or nut [30], washer [15] or washer [31], bolt [24] or bolt [37], washer [23] or washer [36], and bushing [16] or bushing [32] which attach the applicable target assembly [1] or target assembly [25] to the bracket assembly [17] or bracket assembly [33].

(e) Remove the applicable bracket assembly [17] or bracket assembly [33].

SUBTASK 32-61-04-020-002

(2) Do these steps to remove the applicable target assembly [1] or target assembly [25]:

NOTE: Where two item number references are shown together, the first number is for the forward installation and the other is for the aft installation.

(a) Remove the cotter pin [10].

(b) Remove the nut [14] or nut [30], washer [15] or washer [31], bolt [24] or bolt [37], washer [23] or washer [36], and bushing [16] or bushing [32] which attach the applicable target assembly [1] or target assembly [25] to the bracket assembly [17] or bracket assembly [33].

(c) Remove the cotter pin [10].

(d) Remove the nut [14] or nut [30], washer [15] or washer [31], bolt [4] or bolt [28], washer [3] or washer [27], and bushing [2] or bushing [26] which attach the applicable target assembly [1] or target assembly [25] to the link assembly [5] or link assembly [29].

(e) Remove the applicable target assembly [1] or target assembly [25].

SUBTASK 32-61-04-020-003

(3) Do these steps to remove the applicable link assembly [5] or link assembly [29]:

NOTE: Where two item number references are shown together, the first number is for the forward installation and the other is for the aft installation.

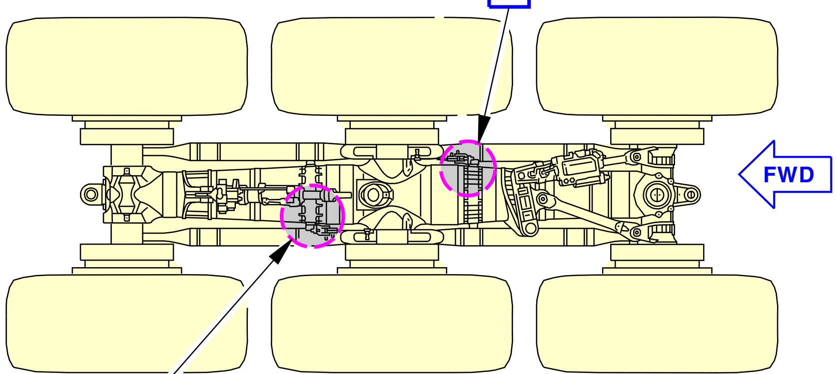
(a) Remove the cotter pin [10].

(b) Remove the nut [14] or nut [30], washer [15] or washer [31], bolt [4] or bolt [28], washer [3] or washer [27], and bushing [2] or bushing [26] which attach the target assembly [1] or target assembly [25] to the applicable link assembly [5] or link assembly [29].

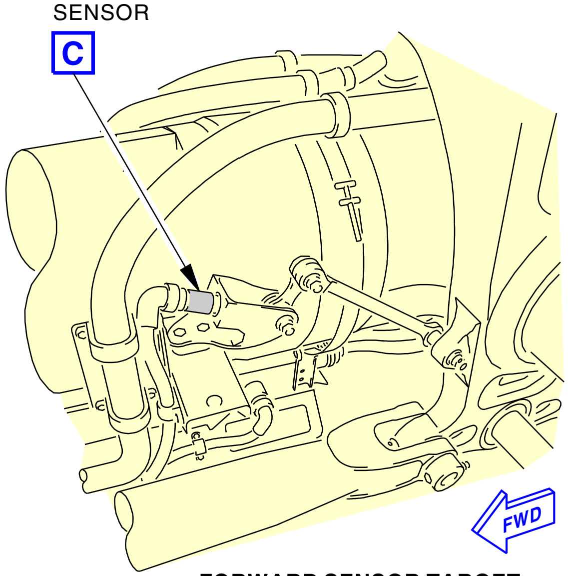
(c) Remove the cotter pin [10], nut [11], washer [12], bolt [6], washer [7], washer [38] or washers [39], and bearing [9] which attach the applicable link assembly [5] or link assembly [29] to the inner cylinder [13].

(d) Remove the applicable link assembly [5] or link assembly [29].

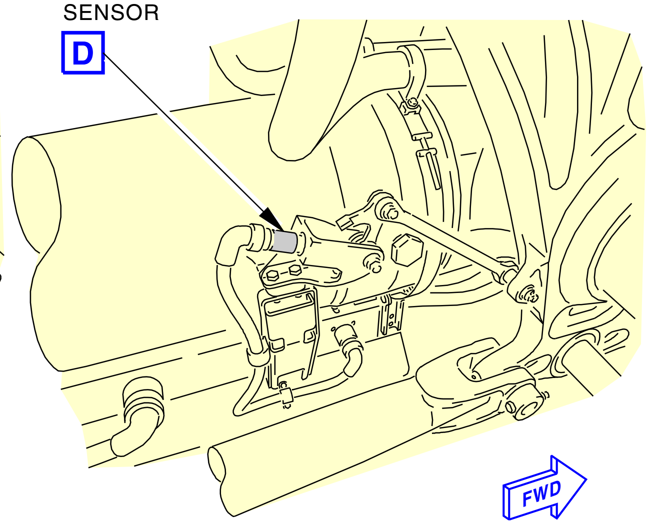
END OF TASK



MAIN LANDING GEAR TRUCK
(TOP VIEW, EXAMPLE)



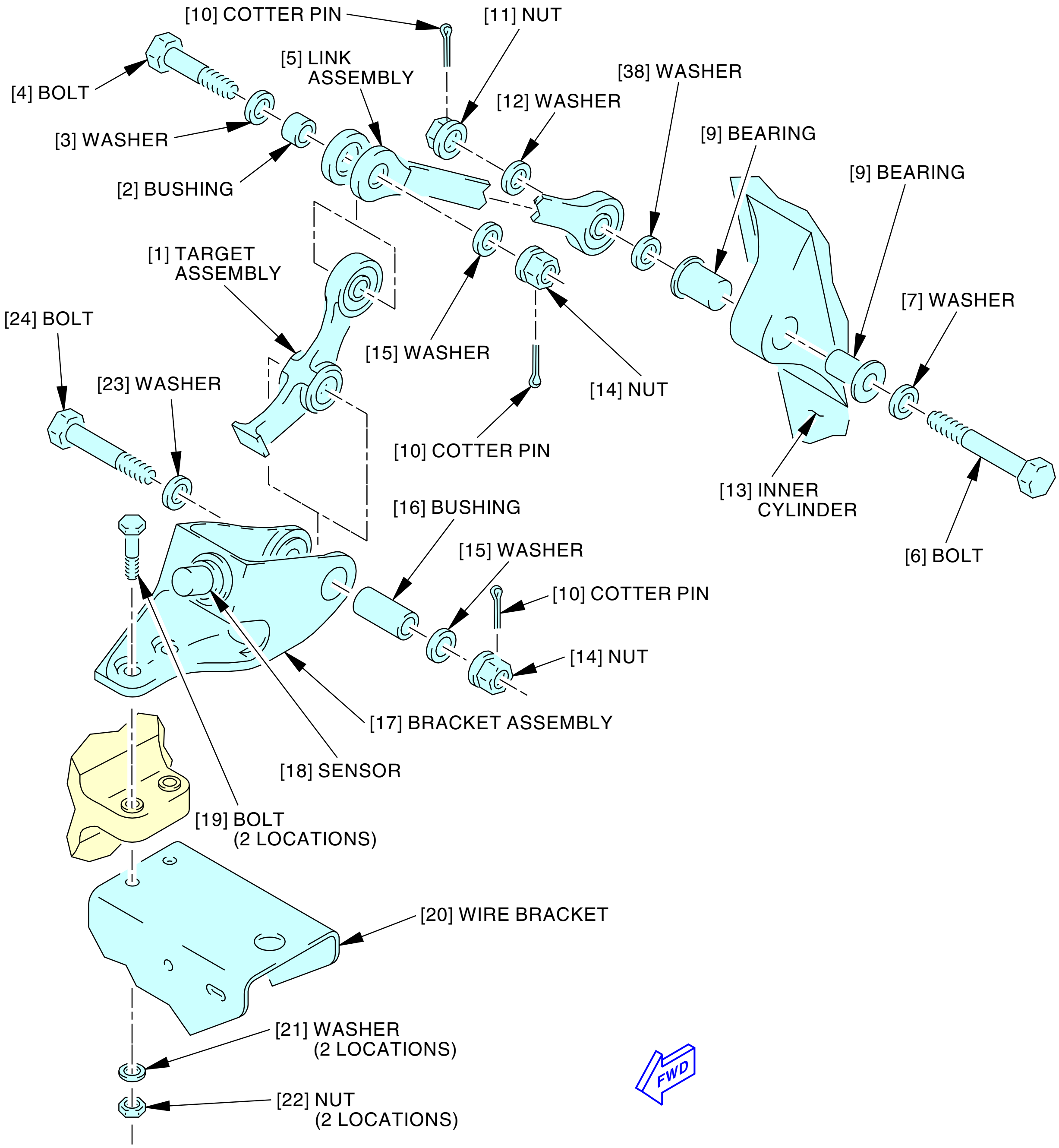
FORWARD SENSOR TARGET
BRACKET ASSEMBLY
A



AFT SENSOR TARGET
BRACKET ASSEMBLY
B

N40193 S0006419561_V2

Main Landing Gear Truck Tilt Sensor Target Support Bracket Installation
Figure 401/32-61-04-990-801 (Sheet 1 of 3)

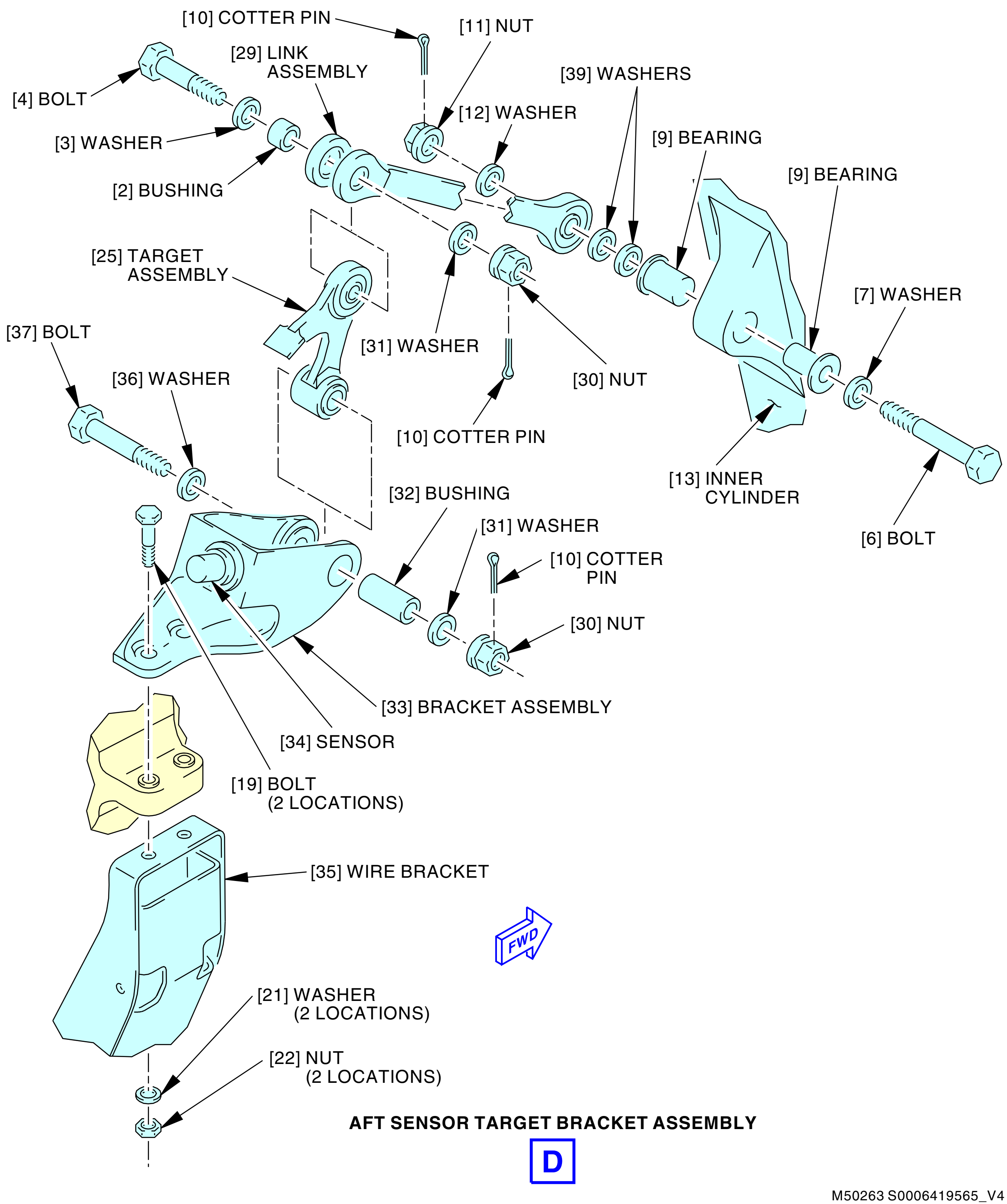


FORWARD SENSOR TARGET BRACKET ASSEMBLY

C

M50286 S0006419563_V4

Main Landing Gear Truck Tilt Sensor Target Support Bracket Installation
Figure 401/32-61-04-990-801 (Sheet 2 of 3)



Main Landing Gear Truck Tilt Sensor Target Support Bracket Installation
Figure 401/32-61-04-990-801 (Sheet 3 of 3)

TASK 32-61-04-400-802

3. Sensor Target Bracket Assembly Installation

(Figure 401)

A. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)
32-61-03-400-801	Truck Tilt Sensor Installation (P/B 201)

B. Consumable Materials

Reference	Description	Specification
D00013	Grease - Aircraft And Instrument Grease	MIL-PRF-23827 (NATO G-354) (Supersedes MIL-G-23827)

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
10	Cotter pin	32-61-03-01D-020	ARO ALL

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Install the Sensor Target Bracket Assembly Components

SUBTASK 32-61-04-480-005

WARNING: MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the main landing gear steering system is deactivated (TASK 32-00-50-040-801).

SUBTASK 32-61-04-410-001

(2) Do these steps to install the applicable bracket assembly [17] or bracket assembly [33]:

NOTE: Where two item number references are shown together, the first number is for the forward installation and the other is for the aft installation.

(a) Install the bolt [19], washer [21], and nut [22] which attach the applicable bracket assembly [17] or bracket assembly [33] to the wire bracket [20] or wire bracket [35].

(b) Install the bushing [16] or bushing [32], washer [23] or washer [36], bolt [24] or bolt [37], washer [15] or washer [31], and nut [14] or nut [30] which attach the target assembly [1] or target assembly [25] to the applicable bracket assembly [17] or bracket assembly [33].

(c) For the forward installation, tighten the nut [14] to 200 in-lb (22.60 N·m) - 240 in-lb (27.12 N·m).

(d) For the aft installation, tighten the nut [30] to 100 in-lb (11.30 N·m) - 130 in-lb (14.69 N·m).

(e) Install the cotter pin [10].

(f) Install the truck tilt sensor [18] or sensor [34] (TASK 32-61-03-400-801).

SUBTASK 32-61-04-410-002

(3) Do these steps to install the applicable target assembly [1] or target assembly [25]:

NOTE: Where two item number references are shown together, the first number is for the forward installation and the other is for the aft installation.

(a) Install the bushing [16] or bushing [32], washer [23] or washer [36], bolt [24] or bolt [37], washer [15] or washer [31], and nut [14] or nut [30] which attach the applicable target assembly [1] or target assembly [25] to the bracket assembly [17] or bracket assembly [33].

(b) For the forward installation, tighten the nut [14] to 200 in-lb (22.60 N·m) - 240 in-lb (27.12 N·m).

(c) For the aft installation, tighten the nut [30] to 100 in-lb (11.30 N·m) - 130 in-lb (14.69 N·m).

(d) Install the cotter pin [10].

(e) Install the bushing [2] or bushing [26], washer [3] or washer [27], bolt [4] or bolt [28], washer [15] or washer [31], and nut [14] or nut [30] which attach the applicable target assembly [1] or target assembly [25] to the link assembly [5] or link assembly [29].

(f) For the forward installation, tighten the nut [14] to 200 in-lb (22.60 N·m) - 240 in-lb (27.12 N·m).

(g) For the aft installation, tighten the nut nut [30] to 100 in-lb (11.30 N·m) - 130 in-lb (14.69 N·m).

(h) Install the cotter pin [10].

SUBTASK 32-61-04-410-003

(4) Do these steps to install the applicable link assembly [5] or link assembly [29]:

NOTE: Where two item number references are shown together, the first number is for the forward installation and the other is for the aft installation.

WARNING

MAKE SURE THAT YOU USE THE CORRECT LINK ASSEMBLY FOR THE AIRPLANE. AIRPLANES WITH SEMI-LEVERED GEAR HAVE A DIFFERENT LINK THAN AIRPLANES WITHOUT SEMI-LEVERED GEAR. THE SEMI-LEVERED GEAR LINK IS IDENTIFIED "SEMI-LEVERED GEAR ONLY" ON THE SIDE OF THE LINK. THE INCORRECT LINK WILL CHANGE THE DEPLOYMENT TIME OF THE SPEEDBRAKE.

(a) Install the bushing [2] or bushing [26], washer [3] or washer [27], bolt [4] or bolt [28], washer [15] or washer [31], and nut [14] or nut [30] which attach the applicable link assembly [5] or link assembly [29] to the target assembly [1] or target assembly [25].

(b) For the forward installation, tighten the nut [14] to 200 in-lb (22.60 N·m) - 240 in-lb (27.12 N·m).

(c) For the aft installation, tighten the nut [30] to 100 in-lb (11.30 N·m) - 130 in-lb (14.69 N·m).

(d) Install the cotter pin [10].

(e) Install the bearing [9] in the inner cylinder [13].

(f) Apply the thin layer of grease, D00013 to the shank and threads of the bolt [6], and to the washer [7] or washer [12] faces.

(g) Install the washer [38] or washers [39], washer [7], bolt [6], washer [12] and nut [11] which attach the applicable link assembly [5] or link assembly [29] to the inner cylinder [13].

(h) Install the cotter pin [10] through the bolt [6].

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-61-04-860-002

(1) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

SUBTASK 32-61-04-480-006

WARNING MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Activate the main landing gear steering system (TASK 32-00-50-440-801).

SUBTASK 32-61-04-010-001

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

——— END OF TASK ———

NOSE GEAR DOOR CLOSED SENSOR - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) Removal of the door closed sensor.

(2) Installation of the door closed sensor.

(3) Test of the door closed sensor.

(4) Measure and adjust the clearance of the door closed sensor.

TASK 32-61-05-000-801

2. Door Closed Sensor Removal

(Figure 201)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right

C. Prepare for the Removal

SUBTASK 32-61-05-480-001

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-05-480-002

(2) Make sure the chocks are installed at the wheels (PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-05-480-003

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Open the doors for the landing gear, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-05-860-005

(4) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

D. Remove the Door Closed Sensor

SUBTASK 32-61-05-210-001

(1) Examine the sensor, the target, and their mounting brackets for damage.

(a) Make a record of the damage you find.

NOTE: This data will be used during the installation.

SUBTASK 32-61-05-020-001

CAUTION DO NOT HIT THE SENSORS, OR LET THEM FALL. THIS CAN CAUSE A MALFUNCTION OF THE INDICATION SYSTEM. IF YOU ARE NOT CAREFUL WITH THE SENSORS, YOU CAN CAUSE DAMAGE TO THEIR INTERNAL COMPONENTS.

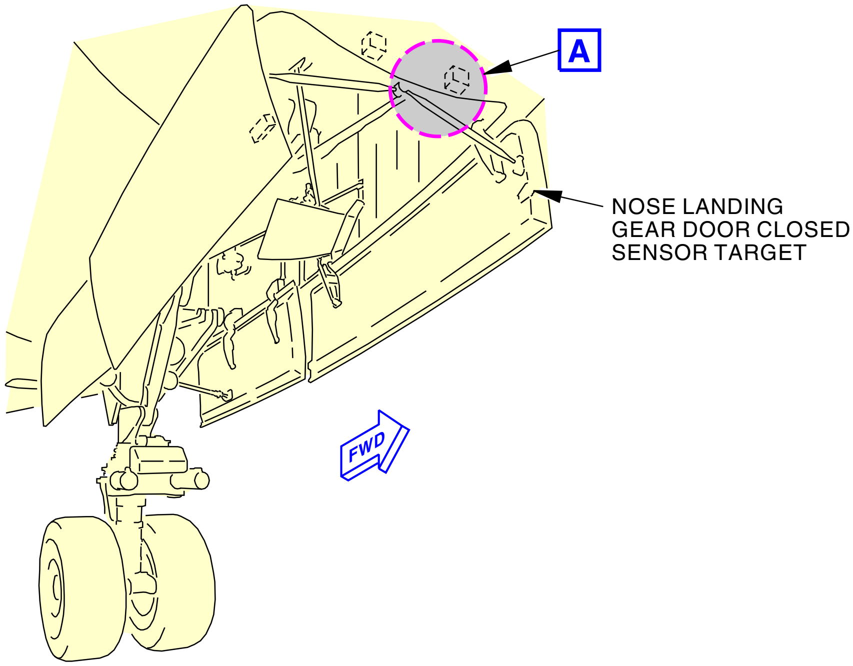
(2) Do these steps to remove the applicable door closed sensor [6] or sensor [7]:

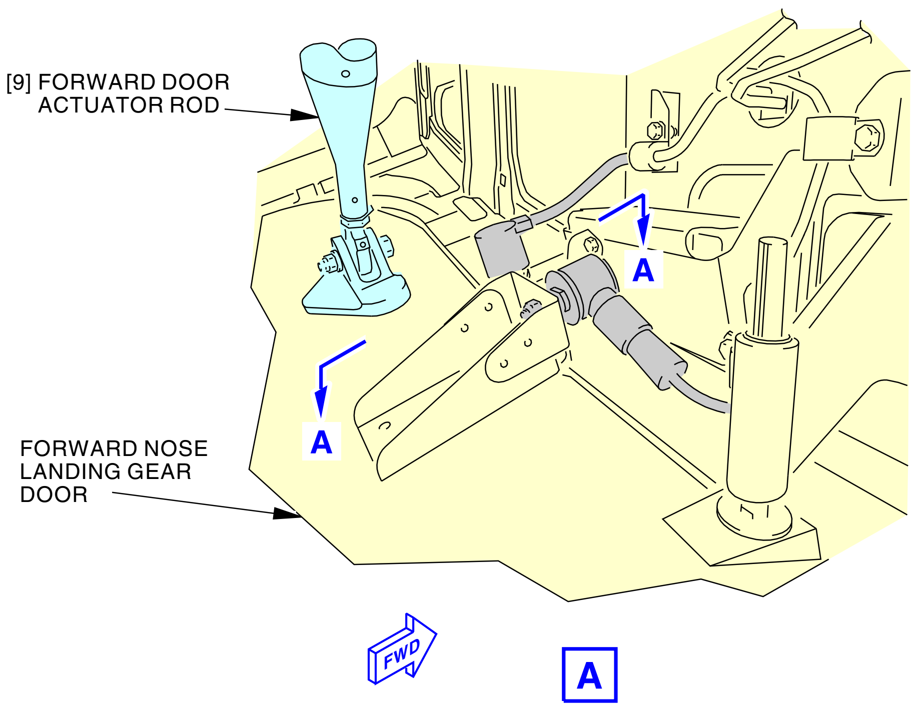
(a) Disconnect the electrcal connector [8] from the applicable sensor [6] or sensor [7].

(b) Remove the sensor mounting screw [5].

(c) Remove the applicable sensor [6] or sensor [7].

END OF TASK





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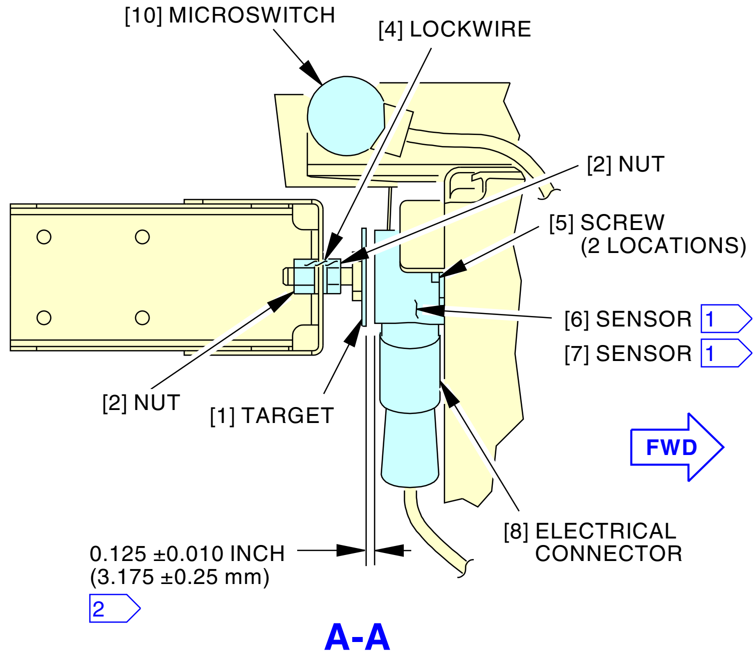
Nose Landing Gear Door Closed Sensor Installation
Figure 201/32-61-05-990-801 (Sheet 1 of 2)



1

ITEM	SENSOR NO.	PSEU	LOCATION
[6]	S32033	1	LEFT SIDE
[7]	S32034	2	RIGHT SIDE

2 MEASURE THE CLEARANCE WITH THE DOOR PUSHED UP TO THE STOPS.

L27756 S0006419573_V2

Nose Landing Gear Door Closed Sensor Installation
Figure 201/32-61-05-990-801 (Sheet 2 of 2)

TASK 32-61-05-400-801

3. Door Closed Sensor Installation

(Figure 201)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1690	Actuators/Deactuators Set - Proximity Sensor Part #: 8-758-01 Supplier: 08748 Part #: A27092-70 Supplier: 81205 Opt Part #: A32102-25 Supplier: 81205 Opt Part #: KHT8-758-01 Supplier: 08748

C. Consumable Materials

Reference	Description	Specification
C00308	Compound - Corrosion Preventive, Petrolatum Hot Application	MIL-C-11796

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
6	Sensor	32-61-02-02B-315	ARO ALL
7	Sensor	32-61-02-02B-320	ARO ALL

E. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right

F. Install the Door Closed Sensor

SUBTASK 32-61-05-480-004

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-05-480-005

(2) Make sure the chocks are installed at the wheels (PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-05-860-001

> **WARNING** OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Make sure the door safety pins are installed in the door release/safety valve modules..

(a) If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801

SUBTASK 32-61-05-420-001

> **CAUTION** DO NOT HIT THE SENSORS, OR LET THEM FALL. THIS CAN CAUSE A MALFUNCTION OF THE INDICATION SYSTEM. IF YOU ARE NOT CAREFUL WITH THE SENSORS, YOU CAN CAUSE DAMAGE TO THEIR INTERNAL COMPONENTS.

(4) Do these steps to install the applicable door closed sensor [6] or sensor [7]:

(a) Install the electrcal connector [8] to the applicable sensor [6] or sensor [7].

(b) Before the applicable sensor [6] or sensor [7] is installed in its assembly, do this task: Test of the Door Closed Sensor, TASK 32-61-05-700-801.

NOTE: Do this test of the sensor with the proximity sensor test set, SPL-1690.

1) Make sure the applicable sensor [6] or sensor [7] is kept more than one inch away from all metal surfaces during the test.

(c) Apply a thin layer of the corrosion preventive compound, C00308 to all the areas of the screw [5] hole.

(d) Install the applicable sensor [6] or sensor [7].

(e) Hold the applicable sensor [6] or sensor [7] and immediately install the two mounting screws [5].

1) Make sure the screw [5] head is installed on the side of the applicable sensor [6] or sensor [7].

2) Tighten the screw [5] to 10 in-lb (1.13 N·m) - 25 in-lb (2.82 N·m).

SUBTASK 32-61-05-820-002

(5) If damage to the target or mounting brackets was found during the removal of the sensor, do this task: Measure and Adjust the Clearance for the Door Closed Sensor, TASK 32-61-05-820-801.

SUBTASK 32-61-05-860-006

(6) If there is no damage to the target or mounting brackets was found, do these steps to put the airplane back to its usual condition:

> **WARNING** OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

(b) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

——— END OF TASK ———

TASK 32-61-05-700-801

4. Test of the Door Closed Sensor

A. General

(1) The test of the sensor can be done with the airplane on the ground or on the jacks. The LANDING GEAR ACTN/INDN maintenance page on the primary display system will show you the sensor target position (near or far or blank). This test will make sure that the sensor operates correctly. You must use the actuator test set to do a sensor operation check.

B. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1690	Actuators/Deactuators Set - Proximity Sensor Part #: 8-758-01 Supplier: 08748 Part #: A27092-70 Supplier: 81205 Opt Part #: A32102-25 Supplier: 81205 Opt Part #: KHT8-758-01 Supplier: 08748

D. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

E. Prepare for the Test

SUBTASK 32-61-05-480-006

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear. If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-05-480-007

(2) Make sure the chocks are installed at the wheels (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-05-480-008

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Make sure the door safety pins in the door release/safety valve modules. If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-05-860-004

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-61-05-860-002

(5) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

F. Do the Test of the Door Closed Sensor

SUBTASK 32-61-05-700-001

(1) Use the LANDING GEAR ACTN/INDN maintenance page to do a check of the target position to make sure the sensor operates correctly:

(a) Do the steps that follow to select the maintenance page (TASK 31-61-00-800-804):

1) Push the MAINT INFO DISPLAY prompt on the left, right, or center Control Display Unit(CDU) to show the Display Selection menu.

NOTE: The menu will be shown on the lower center, left inboard, or right inboard display units.

2) Go to the second page for 32 LANDING GEAR ACTN/INDN

NOTE: The LANDING GEAR ACTN/INDN maintenance page will be shown.

(b) Do a test of the sensor with the proximity sensor test set, SPL-1690:

NOTE: This test will make sure the sensor operates correctly. The sensor and target must be in a target far configuration for this test.

1) Make sure the sensor face is more than one inch away from all metal surfaces.

2) Make sure that target FAR is shown on the maintenance page.

3) Hold or install the proximity sensor test set, SPL-1690 on the face of the sensor.

4) Make sure that target NEAR is shown on the LANDING GEAR ACTN/INDN maintenance page.

5) Remove the proximity sensor test set, SPL-1690 from the sensor.

——— END OF TASK ———

TASK 32-61-05-820-801

5. Measure and Adjust the Clearance for the Door Closed Sensor

(Figure 201)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
20-10-23-400-801	Lockwire, Cotter Pins, and Lockrings - Installation (P/B 401)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-22-01-820-801	Nose Landing Gear Forward Door Adjustment (P/B 201)

B. Consumable Materials

Reference	Description	Specification
G01505	Lockwire - Safety And Lock	NASM20995

C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right

D. Prepare for the Measurement/Adjustment

SUBTASK 32-61-05-480-009

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and the main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-05-480-010

(2) Make sure the chocks are installed at the wheels (PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-05-480-011

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Open the doors for the landing gear (TASK 32-00-15-480-801).

SUBTASK 32-61-05-020-002

(4) Disconnect the forward door actuator rod [9] from the forward door (TASK 32-22-01-820-801).

(a) Do only the steps to disconnect the forward door actuator rod.

E. Measure and Adjust the Clearance for the Door Closed Sensor

NOTE: The clearance adjustment must be done after a door adjustment.

SUBTASK 32-61-05-820-001

(1) Do these steps to measure and adjust the clearance for the door closed sensor:

(a) Push the opposite door up against the door stop.

(b) Measure the clearance between the sensor and its target (Figure 201).

1) Do the procedure again for the opposite side.

2) Continue if an adjustment is necessary.

(c) Adjust the clearance for the door closed :

1) Remove the lockwire [4] from the nut [2].

2) Loosen the two nuts [2] for the target [1].

3) Adjust the target [1] to get the correct clearance:

a) To increase the clearance, turn the target [1] in.

b) To decrease the clearance, turn the target [1] out.

4) Tighten the nut [2] to 30 in-lb (3.4 N·m) - 50 in-lb (5.6 N·m).

5) Do a check of the clearance again after you tighten the nuts.

6) Install the lockwire [4] with the double twist method between the two nuts [2] (TASK 20-10-23-400-801).

a) Use the lockwire, G01505.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-61-05-420-002

(1) Connect the forward door actuator rod to the forward door (TASK 32-22-01-820-801).

(a) Do only the steps to connect the forward door actuator rod.

SUBTASK 32-61-05-080-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-61-05-860-007

(3) Close the doors for the landing gear.

END OF TASK

MAIN GEAR DOOR CLOSED PROXIMITY SENSOR - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) Removal of the door closed sensor.

(2) Installation of the door closed sensor.

(3) Test of the door closed sensor.

(4) Measure and adjust the clearance of the door closed sensor.

TASK 32-61-06-000-801

2. Door Closed Sensor Removal

(Figure 201)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)

B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

C. Prepare for Removal

SUBTASK 32-61-06-480-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-06-480-002

(2) Make sure the chocks are installed at the wheels (PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-06-480-003

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-06-480-010

WARNING	MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Deactivate the main landing gear steering system (TASK 32-00-50-040-801).

SUBTASK 32-61-06-860-006

(5) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

D. Door Closed Sensor Removal

SUBTASK 32-61-06-200-001

(1) Examine the target, and their mounting brackets for damage.

(a) Make a record of the damage you find.

NOTE: This data will be used during the installation.

SUBTASK 32-61-06-020-001

CAUTION	DO NOT HIT THE SENSORS, OR LET THEM FALL. THIS CAN CAUSE A MALFUNCTION OF THE INDICATION SYSTEM. IF YOU ARE NOT CAREFUL WITH THE SENSORS, YOU CAN CAUSE DAMAGE TO THEIR INTERNAL COMPONENTS.

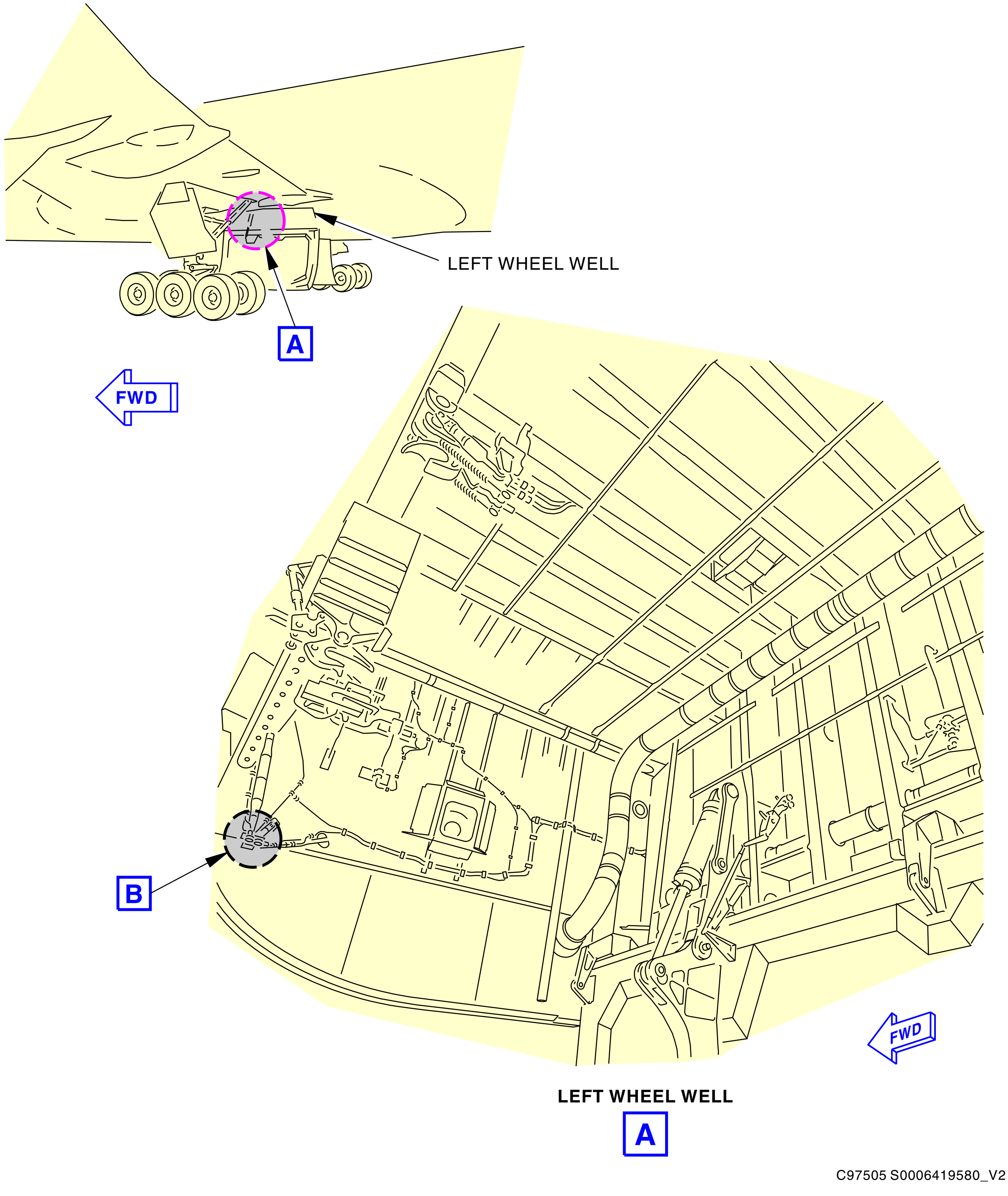
(2) Do the steps that follow to remove the applicable door closed sensor [3] or sensor [5]:

(a) Disconnect the electrical connector [2] from the applicable sensor [3] or sensor [5].

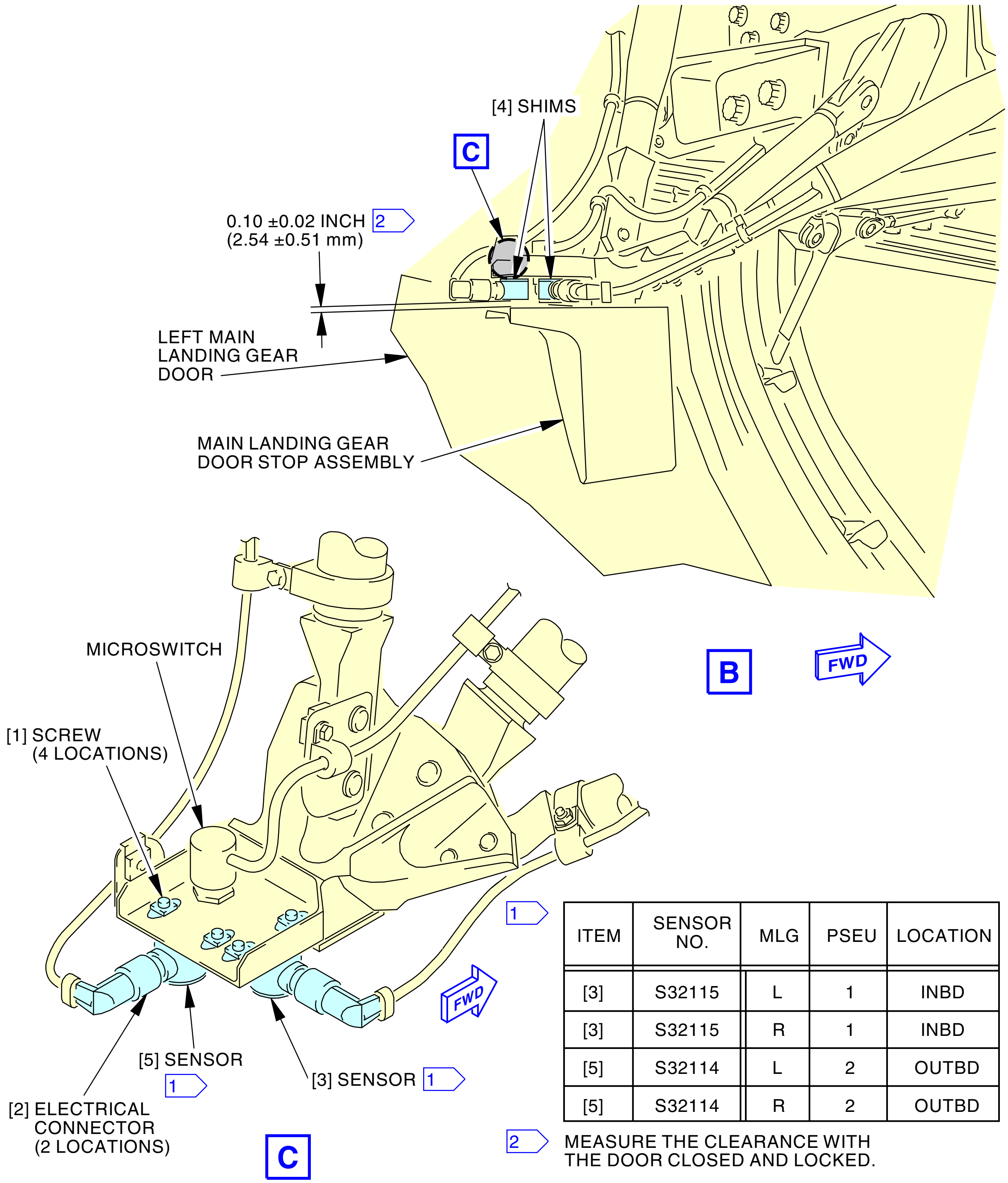
(b) Remove the sensor mounting screw [1].

(c) Remove the applicable sensor [3] or sensor [5].

END OF TASK



Main Landing Gear Door Closed Sensor Installation
Figure 201/32-61-06-990-801 (Sheet 1 of 2)



ITEM	SENSOR NO.	MLG	PSEU	LOCATION
[3]	S32115	L	1	INBD
[3]	S32115	R	1	INBD
[5]	S32114	L	2	OUTBD
[5]	S32114	R	2	OUTBD

2 MEASURE THE CLEARANCE WITH THE DOOR CLOSED AND LOCKED.

C97562 S0006419581_V5

Main Landing Gear Door Closed Sensor Installation
Figure 201/32-61-06-990-801 (Sheet 2 of 2)

TASK 32-61-06-400-801

3. Door Closed Sensor Installation

(Figure 201)

A. References

Reference	Title
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1690	Actuators/Deactuators Set - Proximity Sensor Part #: 8-758-01 Supplier: 08748 Part #: A27092-70 Supplier: 81205 Opt Part #: A32102-25 Supplier: 81205 Opt Part #: KHT8-758-01 Supplier: 08748

C. Consumable Materials

Reference	Description	Specification
C00308	Compound - Corrosion Preventive, Petrolatum Hot Application	MIL-C-11796

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Sensor	32-61-06-01-005	ARO ALL
5	Sensor	32-61-06-01-020	ARO ALL

E. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

F. Prepare for the Installation

SUBTASK 32-61-06-480-004

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-06-860-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Make sure the door safety pins are installed in the door release/safety valve modules.

(a) If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-06-480-011

WARNING	MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Make sure the main landing gear steering system is deactivated (TASK 32-00-50-040-801).

G. Install the Door Closed Sensor

SUBTASK 32-61-06-410-001

CAUTION	DO NOT HIT THE SENSORS, OR LET THEM FALL. THIS CAN CAUSE A MALFUNCTION OF THE INDICATION SYSTEM. IF YOU ARE NOT CAREFUL WITH THE SENSORS, YOU CAN CAUSE DAMAGE TO THEIR INTERNAL COMPONENTS.

(1) Do the steps that follow to install the applicable door closed sensor [3] or sensor [5]:

(a) Connect the electrical connector [2] to the applicable sensor [3] or sensor [5].

(b) Before the applicable sensor [3] or sensor [5] is installed in its assembly, do this task: Test of the Door Closed Sensor for the Main Gear, TASK 32-61-06-700-801.

NOTE: Do this test of the sensor with this proximity sensor test set, SPL-1690.

1) Make sure the applicable sensor [3] or sensor [5] is kept more than one inch away from all metal surfaces during the test.

(c) Apply the corrosion preventive compound, C00308, to all the areas of the screw [1] hole.

(d) Install the shim [4] (if a new shim is necessary) and the applicable sensor [3] or sensor [5].

(e) Hold the applicable sensor [3] or sensor [5] and immediately install the two mounting screws [1].

1) Make sure the screw [1] head is installed on the side of the applicable sensor [3] or sensor [5].

(f) Tighten the screw [1] to 10 in-lb (1.1 N·m) - 25 in-lb (2.8 N·m).

SUBTASK 32-61-06-700-002

(2) If damage was found to the target, or mounting brackets (this data was recorded during the removal), do this task: Measure and Adjust the Clearance for the Door Closed Sensor, TASK 32-61-06-820-801.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-61-06-860-004

(1) If there is no damage, do the following steps:

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

WARNING MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(b) Activate the main landing gear steering system (TASK 32-00-50-440-801).

(c) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

——— END OF TASK ———

TASK 32-61-06-700-801

4. Test of the Door Closed Sensor for the Main Gear

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1690	Actuators/Deactuators Set - Proximity Sensor Part #: 8-758-01 Supplier: 08748 Part #: A27092-70 Supplier: 81205 Opt Part #: A32102-25 Supplier: 81205 Opt Part #: KHT8-758-01 Supplier: 08748

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Prepare for the Test

SUBTASK 32-61-06-480-005

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-06-480-006

(2) Make sure the chocks are installed at the wheels (PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-06-480-007

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Make sure the door safety pins are installed in the door release/safety valve modules.

(a) If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-06-480-012

WARNING	MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Make sure the main landing gear steering system is deactivated (TASK 32-00-50-040-801).

SUBTASK 32-61-06-860-005

(5) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-61-06-860-002

(6) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

E. Door Closed Sensor Test

SUBTASK 32-61-06-700-001

(1) Use the LANDING GEAR ACTN/INDN maintenance page when you do the test of the target position to make sure the sensor [3], and sensor [5] operates correctly.

(a) Do the steps that follow to select the maintenance page (TASK 31-61-00-800-804):

1) Push the MAINT INFO DISPLAY prompt on the left, right, or center Control Display Unit (CDU) to start the display of the Display Selection menu.

NOTE: The menu will be shown on the lower center, the left inboard, or the right inboard display unit.

2) Go the second page for 32 LANDING GEAR ACTN/INDN.

NOTE: The LANDING GEAR MAINTENANCE PAGE will be shown.

(b) Do a test of the sensor with the proximity sensor test set, SPL-1690:

NOTE: This test will make sure the sensor operates correctly. The sensor and target must be in a target far configuration for this test.

1) Make sure the sensor face is more than one inch away from all metal surfaces.

2) Make sure the target FAR is shown on in the maintenance page.

3) Hold or install the proximity sensor test set, SPL-1690, on the face of the sensor.

4) Make sure the target NEAR is shown on in the maintenance page.

5) Remove the proximity sensor test set, SPL-1690, from the sensor.

——— END OF TASK ———

TASK 32-61-06-820-801

5. Measure and Adjust the Clearance for the Door Closed Sensor

(Figure 201)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)

(Continued)

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)

B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

C. Procedure

SUBTASK 32-61-06-480-008

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-06-480-009

(2) Make sure the chocks are installed at the wheels (PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-06-860-003

WARNING: OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-61-06-480-013

WARNING: MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Make sure the main landing gear steering system is deactivated (TASK 32-00-50-040-801).

SUBTASK 32-61-06-860-007

(5) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

SUBTASK 32-61-06-820-001

(6) Do the steps that follow to measure/adjust the clearance for the door closed sensor:

NOTE: A correctly installed sensor will give you the clearance shown on Figure 201. The clearance adjustment is usually not necessary. You must do a check of the clearance if the sensor mounting support is moved, if the door is replaced, if the door stop is adjusted, or if the sensor or target is damaged.

(a) Measure the clearance between the sensor and the target.

1) Make sure the clearance between the sensor and target is within the limits (Figure 201).

2) Continue the procedure if an adjustment is necessary.

(b) Adjust the sensor:

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

1) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

2) Loosen the mounting screw [1] to remove the sensor.

3) To decrease the clearance, install a new shim [4] and remove the laminations from the shim [4] as it is necessary to get the correct clearance.

4) To increase the clearance, remove the laminations from the shim [4] as it is necessary to get the correct clearance.

5) Do this task: Door Closed Sensor Installation, TASK 32-61-06-400-801.

D. Put the Airplane Back to Its Usual Condition

SUBTASK 32-61-06-480-014

WARNING MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Activate the main landing gear steering system (TASK 32-00-50-440-801).

SUBTASK 32-61-06-020-002

WARNING OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-61-06-860-008

(3) Remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

END OF TASK

NOSE GEAR DOOR CLOSED MICROSWITCH - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) Removal of the door closed microswitch.

(2) Installation of the door closed microswitch.

(3) Test of the door closed microswitch.

(4) Measure and adjust the clearance of the door closed microswitch.

TASK 32-61-07-000-801

2. Door Closed Microswitch Removal

(Figure 201)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right

C. Prepare for the Removal

SUBTASK 32-61-07-480-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-07-480-002

(2) Make sure the chocks are installed at the wheels (PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-07-480-003

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) To open the doors for the landing gear, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-07-860-001

(4) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

D. Door Closed Microswitch Removal

SUBTASK 32-61-07-210-001

(1) Examine the microswitch [1] and the mounting bracket for damage.

SUBTASK 32-61-07-020-001

(2) Do these steps to remove the microswitch [1]:

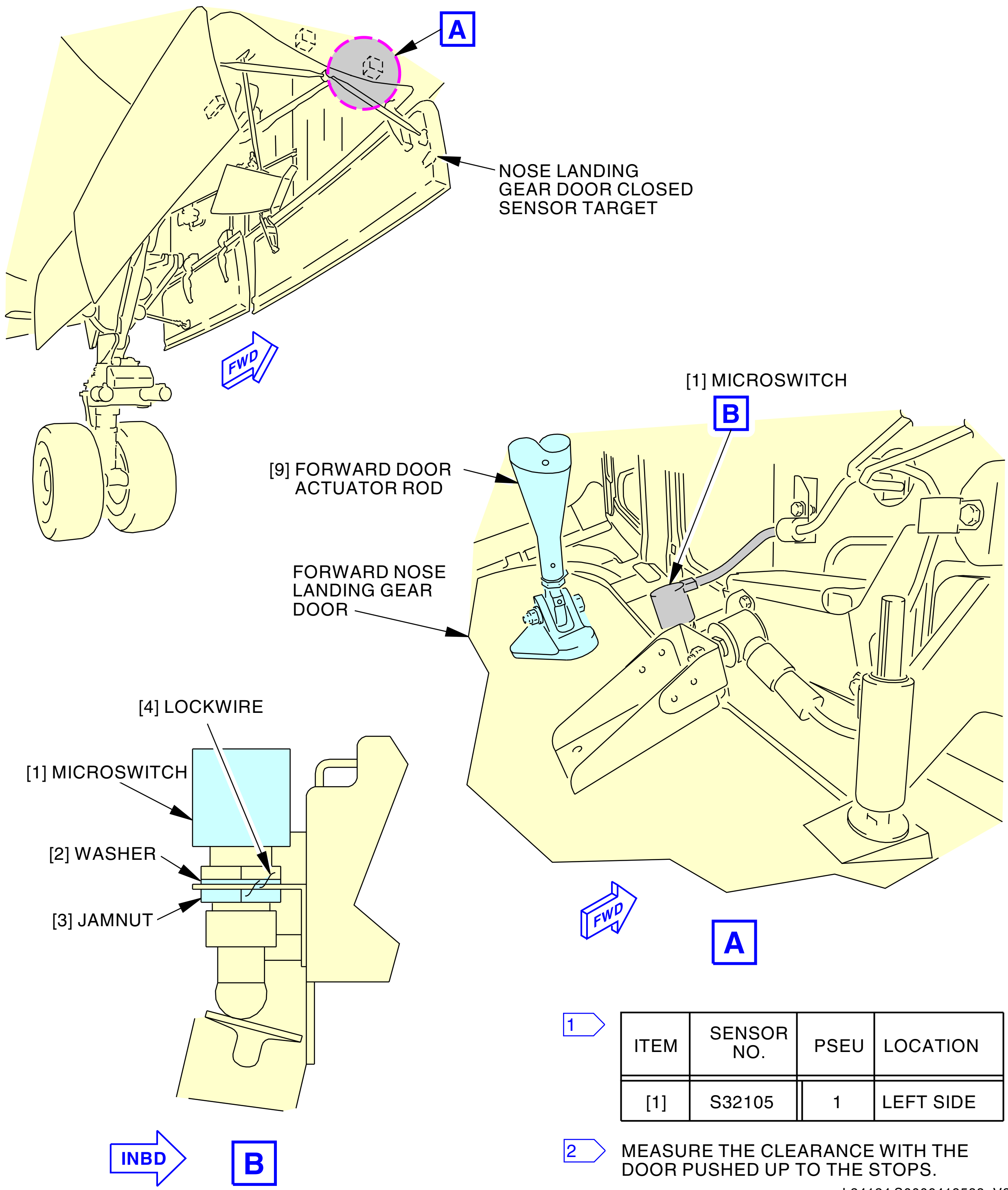
(a) Disconnect the electrical connector from the microswitch [1].

(b) Remove the lockwire [4].

(c) Remove the jamnut [3].

(d) Remove the microswitch [1].

——— END OF TASK ———



1

ITEM	SENSOR NO.	PSEU	LOCATION
[1]	S32105	1	LEFT SIDE

2 MEASURE THE CLEARANCE WITH THE DOOR PUSHED UP TO THE STOPS.

L24124 S0006419588_V2

Nose Landing Gear Door Closed Microswitch Installation
Figure 201/32-61-07-990-801

TASK 32-61-07-400-801

3. Door Closed Microswitch Installation

(Figure 201)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right

C. Door Closed Microswitch Installation

SUBTASK 32-61-07-480-004

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-07-480-005

(2) Make sure the chocks are installed at the wheels (PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-07-860-002

WARNING: OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Make sure the door safety pins are installed in the door release/safety valve modules.

(a) If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-07-420-001

(4) Do these steps to install the door closed microswitch [1]:

(a) Install the washer [2] and microswitch [1] on the mounting bracket.

(b) Install the jamnut [3].

1) Do not tighten the jamnut [3] at this time.

(c) Install the electrical connector onto the microswitch [1].

SUBTASK 32-61-07-820-001

(5) To adjust the microswitch [1], do this task: Measure and Adjust the Door Closed Microswitch, TASK 32-61-07-820-801.

D. Put the Airplane Back to Its Usual condition

SUBTASK 32-61-07-860-003

(1) Do these steps to put the airplane back to its usual condition:

> **WARNING** OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

(b) Remove the safety tag and close this circuit breaker:

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

——— END OF TASK ———

TASK 32-61-07-700-801

4. Test of the Door Closed Microswitch

A. General

(1) The test of the microswitch can be done with the airplane on the ground or on the jacks. This test makes sure that the microswitch operates correctly.

B. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Prepare for the Test

SUBTASK 32-61-07-480-006

> **WARNING** MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-07-480-007

(2) Make sure the chocks are installed at the wheels (PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-07-480-008

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Make sure the door safety pins in the door release/safety valve modules.

(a) If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-07-860-004

(4) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-61-07-860-005

(5) Make sure that this circuit breaker is closed:

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

E. Door Closed Microswitch Test

SUBTASK 32-61-07-700-001

(1) Push the nose landing gear door unsafe light press to test switch on the P40 service and APU shutdown panel.

(a) Make sure that the nose landing gear door unsafe light does not come on.

SUBTASK 32-61-07-480-009

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) To open the doors for the landing gear, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-07-700-002

(3) Push the nose landing gear door unsafe light press to test switch on the P40 service and APU shutdown panel.

(a) Make sure that the nose landing gear door unsafe light comes on.

SUBTASK 32-61-07-080-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-61-07-860-006

(5) Close the doors for the landing gear.

END OF TASK

TASK 32-61-07-820-801

5. Measure and Adjust the Door Closed Microswitch

(Figure 201)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
20-10-23-400-801	Lockwire, Cotter Pins, and Lockrings - Installation (P/B 401)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-22-01-820-801	Nose Landing Gear Forward Door Adjustment (P/B 201)

B. Consumable Materials

Reference	Description	Specification
G01505	Lockwire - Safety And Lock	NASM20995

C. Location Zones

Zone	Area
113	Nose Landing Gear Wheel Well, Left
114	Nose Landing Gear Wheel Well, Right

D. Prepare for the Measurement/Adjustment

SUBTASK 32-61-07-480-010

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT. THIS CAN CAUSE INJURIES TO PERSONS, AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and the main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-07-480-011

(2) Make sure the chocks are installed at the wheels (PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-07-480-012

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) To open the doors for the landing gear, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-07-020-002

(4) Disconnect the forward door actuator rod [9] from the forward door (TASK 32-22-01-820-801).

(a) Do only the steps to disconnect the forward door actuator rod.

E. Door Closed Microswitch Measurement/Adjustment

NOTE: The microswitch [1] adjustment must be done after a door adjustment.

SUBTASK 32-61-07-220-001

(1) Do these steps to measure the door closed microswitch [1]:

(a) Push the left door up against the door stop.

(b) Use tape or a similar method to mark the plunger depth of the microswitch [1].

(c) Open the door.

(d) Measure the activation length.

(e) If the activation length is 0.04 in. (1.02 mm) - 0.25 in. (6.35 mm), then the switch activation is correct.

(f) If the activation length is not correct, then do the following steps to adjust the switch.

SUBTASK 32-61-07-820-002

(2) If it is necessary, do these steps to adjust the door closed microswitch [1]:

(a) To adjust the roller direction, do these steps:

1) Remove the roller guide ring on the microswitch [1].

2) Screw the roller guide down as far as possible.

3) Unscrew the roller guide to get the correct direction.

4) Replace the roller guide lockring.

(b) Adjust the jamnuts [3] to obtain a 0.04 in. (1.02 mm) - 0.25 in. (6.35 mm) activation (Figure 201).

(c) Make sure that the bent tab on the washer [2] is inserted in the keyway on the bracket.

(d) Tighten the jamnut [3] to 10 in-lb (1.1 N·m) - 20 in-lb (2.3 N·m).

(e) Do a check of the clearance again after you tighten the nuts.

(f) Install the lockwire, G01505 [4], with the double twist method between the jamnuts [3] (TASK 20-10-23-400-801).

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-61-07-420-002

(1) Connect the forward door actuator rod [9] to the forward door (TASK 32-22-01-820-801).

(a) Do only the steps to connect the disconnect the forward door actuator rod.

SUBTASK 32-61-07-080-002

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-61-07-860-007

(3) Close the doors for the landing gear.

END OF TASK

SEMI-LEVER GEAR PROXIMITY SENSOR - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

(1) Removal of the semi-lever gear sensor.

(2) Installation of the semi-lever sensor.

(a) Semi-Lever Gear (SLG)Proximity Sensor Installation Test.

(3) Test of the semi-lever gear sensor.

B. All of these tasks are for the semi-lever gear sensors that follow (Fig.201):

(1) Semi-Lever Gear Sensors:S32116,S32216.

C. There is no clearance adjustment for the semi-lever gear sensor.

TASK 32-61-08-000-801

2. Semi-Lever Gear Sensor Removal

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)

B. Prepare for the Removal

SUBTASK 32-61-08-480-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-08-480-002

(2) Make sure the chocks are installed at the wheels (PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-08-480-003

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Make sure the door safety pins are installed in the door release/safety valve modules.

(a) If the door safety are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801

SUBTASK 32-61-08-480-004

WARNING: MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Deactivate the main landing gear steering system (TASK 32-00-50-040-801).

SUBTASK 32-61-08-860-001

(5) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

C. Semi-Lever Gear Sensor Removal

SUBTASK 32-61-08-020-001

CAUTION: DO NOT HIT THE SENSORS, OR LET THEM FALL. THIS CAN CAUSE A MALFUNCTION OF THE INDICATION SYSTEM. IF YOU ARE NOT CAREFUL WITH THE SENSORS, YOU CAN CAUSE DAMAGE TO THEIR INTERNAL COMPONENTS.

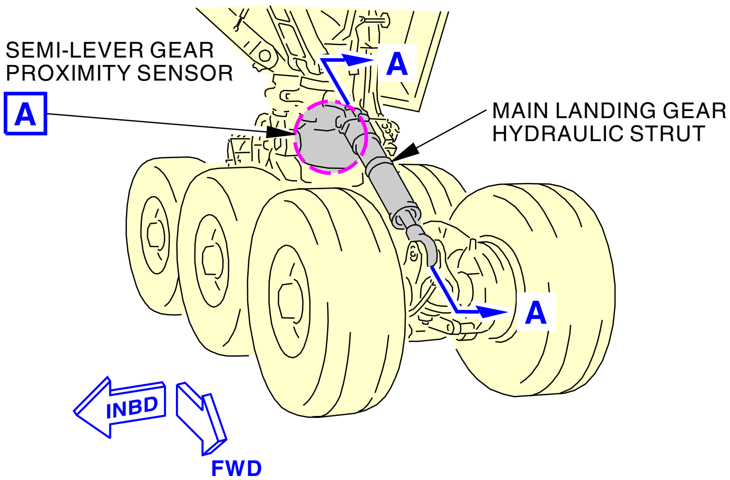
(1) Do the steps that follow to remove the sensor [1]:

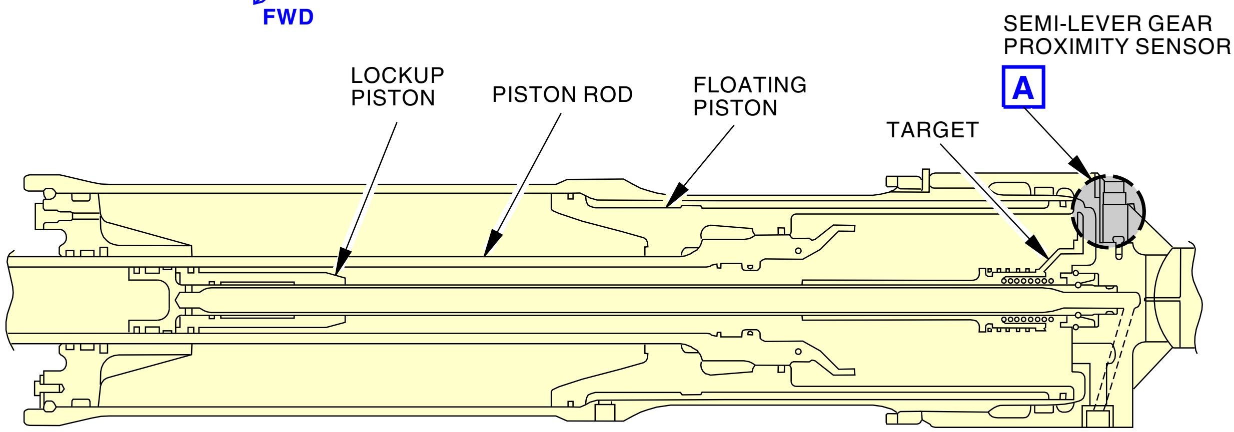
(a) Disconnect the electrical connector from the applicable sensor [1].

(b) Loosen the screws [2].

(c) Remove the sensor [1] from the actuator.

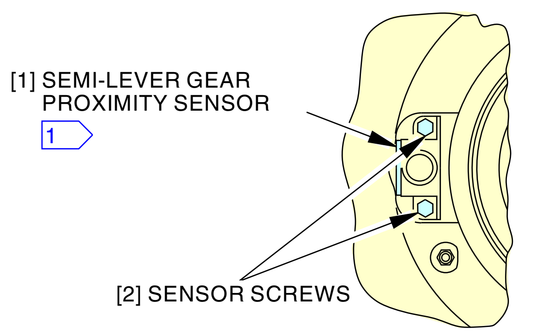
END OF TASK





MAIN LANDING GEAR HYDRAULIC STRUT

A-A



SEMI-LEVER GEAR PROXIMITY SENSOR

A

1

ITEM	SENSOR NO.	MLG	PSEU
[1]	S32116	L	1
[1]	S32216	R	2

N99167 S0000122463_V2

Semi-Lever Gear Proximity Sensor Installation
Figure 201/32-61-08-990-801

TASK 32-61-08-400-801

3. Semi-Lever Gear Sensor Installation

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)
32-00-50-440-801	Main Landing Gear Steering System Activation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1690	Actuators/Deactuators Set - Proximity Sensor Part #: 8-758-01 Supplier: 08748 Part #: A27092-70 Supplier: 81205 Opt Part #: A32102-25 Supplier: 81205 Opt Part #: KHT8-758-01 Supplier: 08748

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Sensor	Not Specified	

D. Location Zones

Zone	Area
731	Left Main Landing Gear
741	Right Main Landing Gear

E. Prepare for the Installation

SUBTASK 32-61-08-480-005

WARNING: MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the main landing gear steering system is deactivated (TASK 32-00-50-040-801).

SUBTASK 32-61-08-480-006

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-08-480-007

(3) Make sure the chocks are installed at the wheels (PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-08-860-002

(4) Make sure the door safety pins are installed in the door release/safety valve modules.

(a) If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

F. Semi-Lever Gear Sensor Installation

SUBTASK 32-61-08-420-001

CAUTION DO NOT HIT THE SENSORS, OR LET THEM FALL. THIS CAN CAUSE A MALFUNCTION OF THE INDICATION SYSTEM. IF YOU ARE NOT CAREFUL WITH THE SENSORS, YOU CAN CAUSE DAMAGE TO THEIR INTERNAL COMPONENTS.

(1) Do the steps that follow to install the sensor [1]:

(a) Install the electrical connector to the sensor [1].

(b) Before the sensor [1] is installed in the assembly, do this task: Test of the Semi-Lever Gear Sensor, TASK 32-61-08-700-801.

NOTE: Do this test of the sensor with the proximity sensor test set, SPL-1690.

1) Make sure sensor [1] is kept more than one inch away from all the metal surfaces during the test.

(c) Install the sensor [1] on the hydraulic strut assembly.

(d) Install the screws [2].

(e) Tighten the screws [2] to 23 in-lb (2.60 N·m) - 28 in-lb (3.16 N·m).

G. Semi-Lever Gear (SLG) Proximity Sensor Installation Test

SUBTASK 32-61-08-860-003

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-61-08-860-004

(2) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

SUBTASK 32-61-08-860-005

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(3) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-61-08-710-001

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE AIRPLANE. THE AIRPLANE MAY MOVE VERTICALLY. INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR.

(4) Use a Maintenance Access Terminal (MAT) to do the System test of the SLG:

(a) ONBOARD MAINTENANCE

1) LINE MAINTENANCE

2) 32 Semi Lever Gear

3) SYSTEM TEST

4) Left (or Right as appropriate) Semi Lever Gear Lock

5) Left (or Right as appropriate) Semi Lever Gear Lock

(b) Do the instructions that show on the MAT then select CONTINUE.

(c) Select START TEST on the MAT.

NOTE: The Left (or Right as appropriate) Semi Lever Gear will lock and hold for 15 seconds.

(d) When the test is completed, make sure that PASSED shows adjacent to TEST CONDITION on the MAT.

(e) If FAILED shows, select the maintenance message and select MAINTENANCE MESSAGE DATA or refer to the applicable Maintenance Message Index in the FIM.

(f) To put the MAT back to its initial condition, make these selections:

1) LINE MAINTENANCE

2) EXIT MAINTENANCE

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-61-08-480-008

WARNING	MAKE SURE THE AREA AROUND THE TIRES OF THE AFT AXLES IS CLEAR OF PERSONS AND EQUIPMENT. IF THE ELECTRICAL SYSTEM AND THE CENTER HYDRAULIC SYSTEM HAVE POWER,THE AFT AXLES CAN AUTOMATICALLY TURN WHEN YOU DO THE ACTIVATION. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Activate the main landing gear steering system (TASK 32-00-50-440-801).

END OF TASK

TASK 32-61-08-700-801

4. Test of the Semi-Lever Gear Sensor

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-50-040-801	Main Landing Gear Steering System Deactivation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1690	Actuators/Deactuators Set - Proximity Sensor Part #: 8-758-01 Supplier: 08748 Part #: A27092-70 Supplier: 81205 Opt Part #: A32102-25 Supplier: 81205 Opt Part #: KHT8-758-01 Supplier: 08748

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
731	Left Main Landing Gear
741	Right Main Landing Gear

D. Prepare for the Test

SUBTASK 32-61-08-480-009

WARNING

MAKE SURE THE MAIN LANDING GEAR STEERING SYSTEM IS ISOLATED FROM HYDRAULIC POWER BEFORE YOU DO WORK NEAR THE TIRES, WHEELS, OR BRAKES. IF YOU DO NOT DO THIS, THE AFT AXLES CAN AUTOMATICALLY TURN. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the main landing gear steering system is deactivated.

(a) If it is not deactivated, do this task: Main Landing Gear Steering System Deactivation, TASK 32-00-50-040-801.

SUBTASK 32-61-08-480-010

WARNING

MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801

SUBTASK 32-61-08-480-011

(3) Make sure the chocks are installed at the wheels (PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-08-860-006

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(4) Make sure the door safety pins are installed in the door release/safety valve modules.

(a) If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-08-860-007

(5) Do this task: Supply Electrical Power, TASK 24-22-00-860-805

SUBTASK 32-61-08-860-008

(6) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR
L	17	C32636	SEMI-LEVER GEAR CONTROL, LEFT

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR
L	22	C32637	SEMI-LEVER GEAR CONTROL, RIGHT

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

SUBTASK 32-61-08-480-012

(7) The sensor must be removed from the hydraulic strut and have the electrical connector attached (TASK 32-61-08-000-801).

E. Test of the Semi-Lever Gear Sensor

SUBTASK 32-61-08-700-001

(1) Use the LANDING GEAR ACTN/INDN maintenance page when you do the test of the target position to make sure the sensor operates correctly.

(a) Do the steps that follow to select the LANDING GEAR ACTN/INDN: Showing a Maintenance Page, TASK 31-61-00-800-804.

1) Push the MAINT INFO DISPLAY prompt on the left, right, or center Control Display Unit (CDU) to start the display of the Display Selection menu.

NOTE: The menu will be shown on the lower center, the left inboard, or the right inboard display unit.

2) Go to the second page for 32 LANDING GEAR ACTN/INDN.

NOTE: The LANDING GEAR MAINTENANCE PAGE will be shown.

3) Go to the second maintenance page of LANDING GEAR ACTN/INDN to see the semi-lever gear sensor data.

(b) Do a test: proximity sensor test set, SPL-1690.

NOTE: This test will make sure the sensor operates correctly. The sensor must be removed from the hydraulic strut and have the electrical connector attached to it.

1) Make sure the sensor is more than one inch away from all metal surfaces.

2) Make sure that target FAR is shown on the maintenance page.

3) Hold or install proximity sensor test set, SPL-1690, on the face of the sensor.

4) Make sure that target NEAR is shown on the maintenance page.

5) Remove the proximity sensor test set, SPL-1690, from the sensor.

SUBTASK 32-61-08-480-013

(2) Install the sensor, do this task: Semi-Lever Gear Sensor Installation, TASK 32-61-08-400-801.

END OF TASK

MAIN GEAR DOOR CLOSED MICROSWITCH - MAINTENANCE PRACTICES

1. **General**

   A. This procedure has these tasks:

      (1) Removal of the door closed microswitch.

      (2) Installation of the door closed microswitch.

      (3) Test of the door closed microswitch.

      (4) Measure and adjust the door closed microswitch.

TASK 32-61-09-000-801

2. **Door Closed Microswitch Removal**
   (Figure 201)

   A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

   B. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

   C. Prepare for the Removal

SUBTASK 32-61-09-480-001

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear. If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-09-480-002

(2) Make sure the chocks are installed at the wheels (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-09-480-003

WARNING: MAKE SURE THERE ARE NO PERSONS AND EQUIPMENT NEAR THE LANDING GEAR DOORS BEFORE YOU OPEN THEM. THE DOORS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Open the doors for the main landing gear, do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-61-09-860-001

(4) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

D. Remove the Door Closed Microswitch

SUBTASK 32-61-09-210-001

(1) Examine the microswitch and the mounting bracket for damage.

SUBTASK 32-61-09-020-001

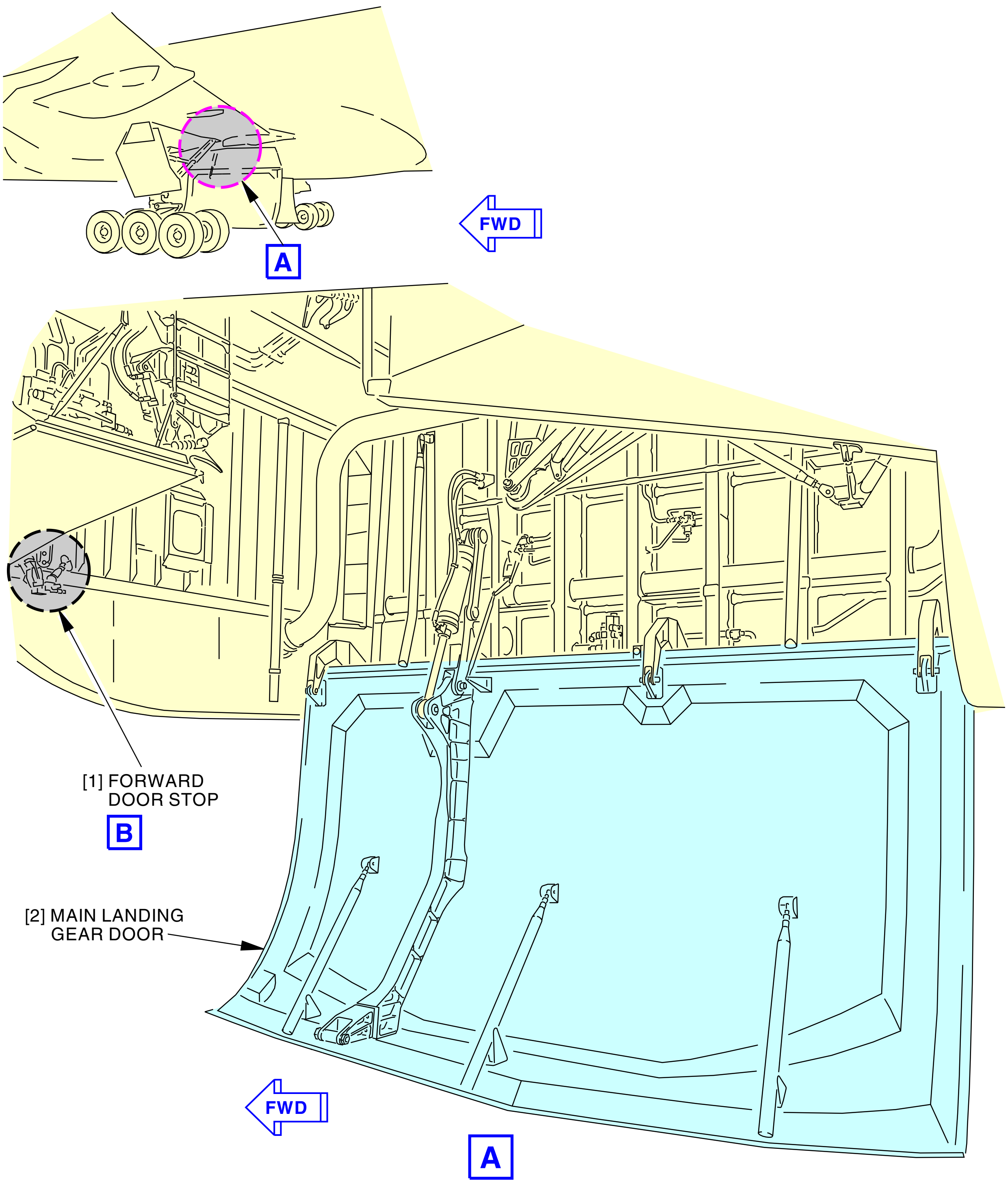
(2) Do these steps to remove the microswitch [3]:

(a) Disconnect the electrical connector from the microswitch [3].

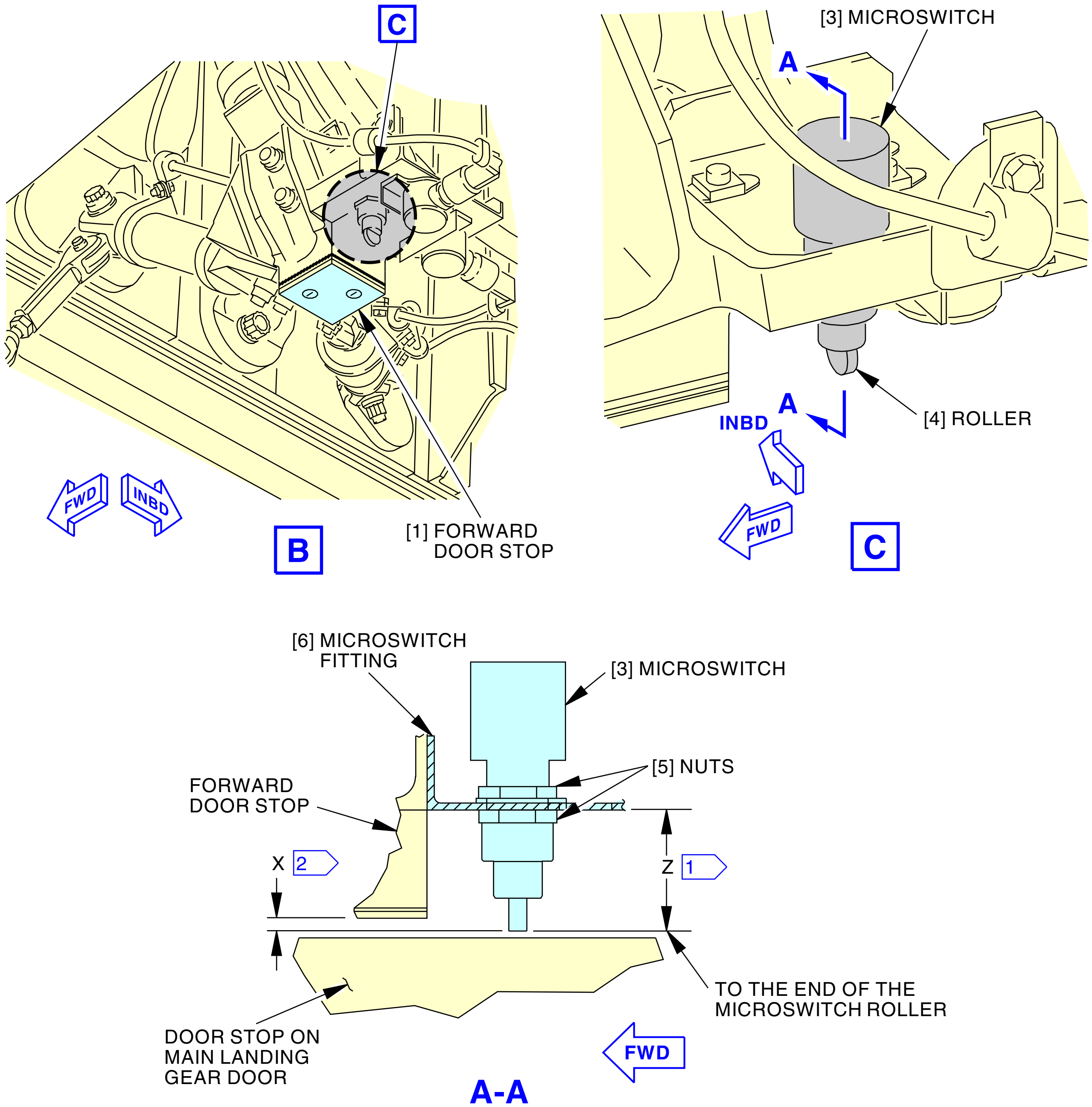
(b) Remove the nuts [5].

(c) Remove the microswitch [3].

——— END OF TASK ———



Main Landing Gear Door Closed Microswitch Installation
Figure 201/32-61-09-990-801 (Sheet 1 of 2)



1 THE DIMENSION Z IS MEASURED BETWEEN THE BOTTOM OF THE MICRO-SWITCH FITTING AND THE BOTTOM OF THE ROLLER ON THE MICROSWITCH.

2 THE DIMENSION X IS MEASURED FROM THE BOTTOM OF THE FORWARD DOOR STOP TO THE BOTTOM OF THE ROLLER ON THE MICROSWITCH.

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Main Landing Gear Door Closed Microswitch Installation
Figure 201/32-61-09-990-801 (Sheet 2 of 2)

TASK 32-61-09-400-801

3. <u>**Door Closed Microswitch Installation**</u>

(Figure 201)

A. **References**

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-61-07-820-801	Measure and Adjust the Door Closed Microswitch (P/B 201)

B. **Location Zones**

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

C. **Install the Door Closed Microswitch**

(Figure 201)

SUBTASK 32-61-09-480-004

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear. If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-09-480-005

(2) Make sure the chocks are installed at the wheels (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-09-860-002

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Make sure the door safety pins are installed in the door release/safety valve modules. If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-09-420-001

(4) Do these steps to install the door closed microswitch [3]:

(a) Install the microswitch [3] on the mounting bracket.

(b) Install the nuts [5]. Do not tighten the nuts at this time.

(c) Install the electrical connector onto the microswitch [3].

SUBTASK 32-61-09-820-001

(5) Adjust the microswitch. To adjust the switch, do this task: Measure and Adjust the Door Closed Microswitch, TASK 32-61-07-820-801.

SUBTASK 32-61-09-860-003

(6) Do these steps to put the airplane back to its usual condition:

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

(b) Remove the safety tag and close this circuit breaker:

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

END OF TASK

TASK 32-61-09-700-801

4. Test of the Door Closed Microswitch

A. General

(1) The test of the microswitch can be done with the airplane on the ground or on the jacks. This test makes sure that the microswitch operates correctly.

B. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
24-22-00-860-805	Supply Electrical Power (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Prepare for the Test

SUBTASK 32-61-09-480-010

WARNING	MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear. If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-09-490-001

(2) Make sure the chocks are installed at the wheels (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-09-861-001

(3) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-61-09-865-001

(4) Make sure that this circuit breaker is closed:

Standby Power Management Panel, P310

Row	Col	Number	Name
J	4	C32633	LG DOOR CLOSE GROUND ACCESS IND

SUBTASK 32-61-09-410-002

WARNING: MAKE SURE THAT THE AREA AROUND THE DOOR FOR THE MAIN LANDING GEAR IS CLEAR OF PERSONNEL, AND EQUIPMENT. THE DOORS CLOSE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

(5) If the main landing gear doors are not closed, close the doors. Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801

E. Do the Test of the Door Closed Microswitch

SUBTASK 32-61-09-710-001

(1) Push the main landing gear door unsafe light press to test switch on the P56 panel.

(a) Make sure that the main landing gear door unsafe light does not come on.

SUBTASK 32-61-09-010-001

WARNING: MAKE SURE THERE ARE NO PERSONS AND EQUIPMENT NEAR THE LANDING GEAR DOORS BEFORE YOU OPEN THEM. THE DOORS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Open the doors for the landing gear, do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-61-09-710-002

(3) Push the main landing gear door unsafe light press to test switch on the P56 panel.

(a) Make sure that the main landing gear door unsafe light comes on.

NOTE: You can see the door unsafe lights from the main wheel well electrical service panel, P56.

SUBTASK 32-61-09-410-003

WARNING: MAKE SURE THAT THE AREA AROUND THE DOOR FOR THE MAIN LANDING GEAR IS CLEAR OF PERSONNEL, AND EQUIPMENT. THE DOORS CLOSE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

(4) Close the main landing gear doors. Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801

END OF TASK

TASK 32-61-09-820-801

5. Measure and Adjust the Door Closed Microswitch

(Figure 201)

A. References

Reference	Title
10-11-05 P/B 201	CHOCK INSTALLATION
29-11-00-860-807	Main Hydraulic System and the Reservoir Depressurization (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-00-40-860-801	Landing Gear Ground Door Release System Operation (Close the Doors) (P/B 201)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-6313	Gauge - Mismatch Part #: J32095-1 Supplier: 81205 Opt Part #: ST8770S Supplier: 81205
STD-6314	Gauge - Mismatch, 0.040 - 0.250 inch

C. Location Zones

Zone	Area
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right

D. Prepare for the Measurement/Adjustment

SUBTASK 32-61-09-480-006

WARNING: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and the main landing gear. If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-61-09-480-007

(2) Make sure the chocks are installed at the wheels (CHOCK INSTALLATION, PAGEBLOCK 10-11-05/201).

SUBTASK 32-61-09-867-001

WARNING	MAKE SURE THERE ARE NO PERSONS AND EQUIPMENT NEAR THE LANDING GEAR DOORS BEFORE YOU OPEN THEM. THE DOORS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Open the doors for the landing gear, do this task: Landing Gear Ground Door Release System Operation (Open the Doors), TASK 32-00-40-860-802.

SUBTASK 32-61-09-860-004

(4) For the center hydraulic system, do this task: Main Hydraulic System and the Reservoir Depressurization, TASK 29-11-00-860-807.

SUBTASK 32-61-09-480-008

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) Install the safety pins for the landing gear doors, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-61-09-860-005

(6) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-61-09-860-006

(7) Attach a DO-NOT-OPERATE tag to the control lever for the landing gear.

E. Measurement/Adjustment of the Door Closed Microswitch

SUBTASK 32-61-09-820-002

(1) Do the steps that follow to adjust the micro-switch on the forward door stop [1]:

(a) Set the dimension Z in Figure 201.

1) Loosen the two nuts [5] on the microswitch [3] and adjust the switch up and down to until dimension Z is1.15 in. (2.9 cm) to 1.25 in. (3.2 cm) using a 6 in. (15 cm) ruler.

NOTE: The dimension Z is measured between the bottom of the microswitch fitting [6] and the bottom of the roller [4] on the micro-switch.

2) Make sure the roller [4] on the microswitch [3] is pointed in the inboard/outboard direction.

3) Tighten the two nuts [5] on the microswitch [3] to 17.5 ±7.5 in-lb (2.0 ±0.9 N·m).

(b) Use either a mismatch gauge, SPL-6313 or alternatively mismatch gauge, STD-6314 placed on the forward door stop adjacent to the microswitch [3] to measure dimension X in Figure 201.

1) Make sure that dimension X is 0.04 in. (0.10 cm) to 0.25 in. (0.64 cm).

2) If dimension X is not within the values above then adjust dimension Z so that dimension X is in tolerance.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-61-09-080-002

(1) Remove the DO-NOT-OPERATE tag from the control lever for the landing gear.

SUBTASK 32-61-09-080-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

SUBTASK 32-61-09-860-007

WARNING	MAKE SURE THAT THE AREA AROUND THE DOOR FOR THE MAIN LANDING GEAR IS CLEAR OF PERSONNEL, AND EQUIPMENT. THE DOORS CLOSE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

(3) Close the main landing gear doors. Do this task: Landing Gear Ground Door Release System Operation (Close the Doors), TASK 32-00-40-860-801

END OF TASK

TAIL STRIKE SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure has this task:

(1) An operational test of the tail strike.

TASK 32-71-00-730-801

2. Tail Strike System - Operational Test

(Figure 501)

A. General

(1) This operational test does a check to make sure the tail strike assembly operates correctly.

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Prepare for the Test

SUBTASK 32-71-00-480-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR [BEFORE YOU MOVE THE CONTROL LEVER]. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed in all the landing gear. If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-71-00-860-001

(2) Make sure the control lever for the landing gear, on the P2 panel, is in the DN position.

SUBTASK 32-71-00-860-002

(3) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-71-00-860-003

(4) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

SUBTASK 32-71-00-860-004

(5) Do these steps to select the maintenance page (TASK 31-61-00-800-804):

(a) Set a Display Unit from the Display Select Panel on the glareshield center panel, P55.

(b) Set the CHKL on the Display Select Panel on the glareshield.

(c) Operate the Cursor Control Devise to move the cursor.

(d) Set the MAINT INFO DISPLAY prompt from the CHKL MENU.

(e) Make sure the Display Selection Menu is shown on the display.

(f) Set the REAL SHOW DISPLAY button for the ATA 32 System LANDING GEAR ACTN/INDN.

NOTE: The ATA 32 LANDING GEAR ACTN/INDN maintenance page selection is on the second page.

E. Tail Strike System - Operational Test

SUBTASK 32-71-00-710-001

(1) Do these steps for the tail strike indication test:

(a) Use the LANDING GEAR ACTN/INDN Maintenance Display to do a check of the tail strike:

(b) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 501/32-71-00-993-801

	PSEU 1	PSEU 2
TAIL STRIKE	28V	28V

(c) Open this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

(d) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

NOTE: This step checks the continuity of the wiring from the circuit breaker, C32600, to the tail strike assembly.

Table 502/32-71-00-993-802

	PSEU 1	PSEU 2
TAIL STRIKE	GND/OPEN	28V

(e) Close this circuit breaker:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

(f) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 503/32-71-00-993-803

	PSEU 1	PSEU 2
TAIL STRIKE	28V	28V

(g) Open this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

(h) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

NOTE: This step checks the continuity of the wiring from the circuit breaker, C32601, to the tail strike assembly.

Table 504/32-71-00-993-804

	PSEU 1	PSEU 2
TAIL STRIKE	28V	GND/OPEN

(i) Close this circuit breaker:

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

(j) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 505/32-71-00-993-805

	PSEU 1	PSEU 2
TAIL STRIKE	28V	28V

(k) Disconnect the connector DM32010 from the tail strike assembly.

NOTE: The connector of the tail strike assembly is accessible through the cargo bay floor at aft center panel (sta 2041).

(l) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

NOTE: This step checks the wiring from the tail strike assembly to the PSEUs.

Table 506/32-71-00-993-806

	PSEU 1	PSEU 2
TAIL STRIKE	GND/OPEN	GND/OPEN

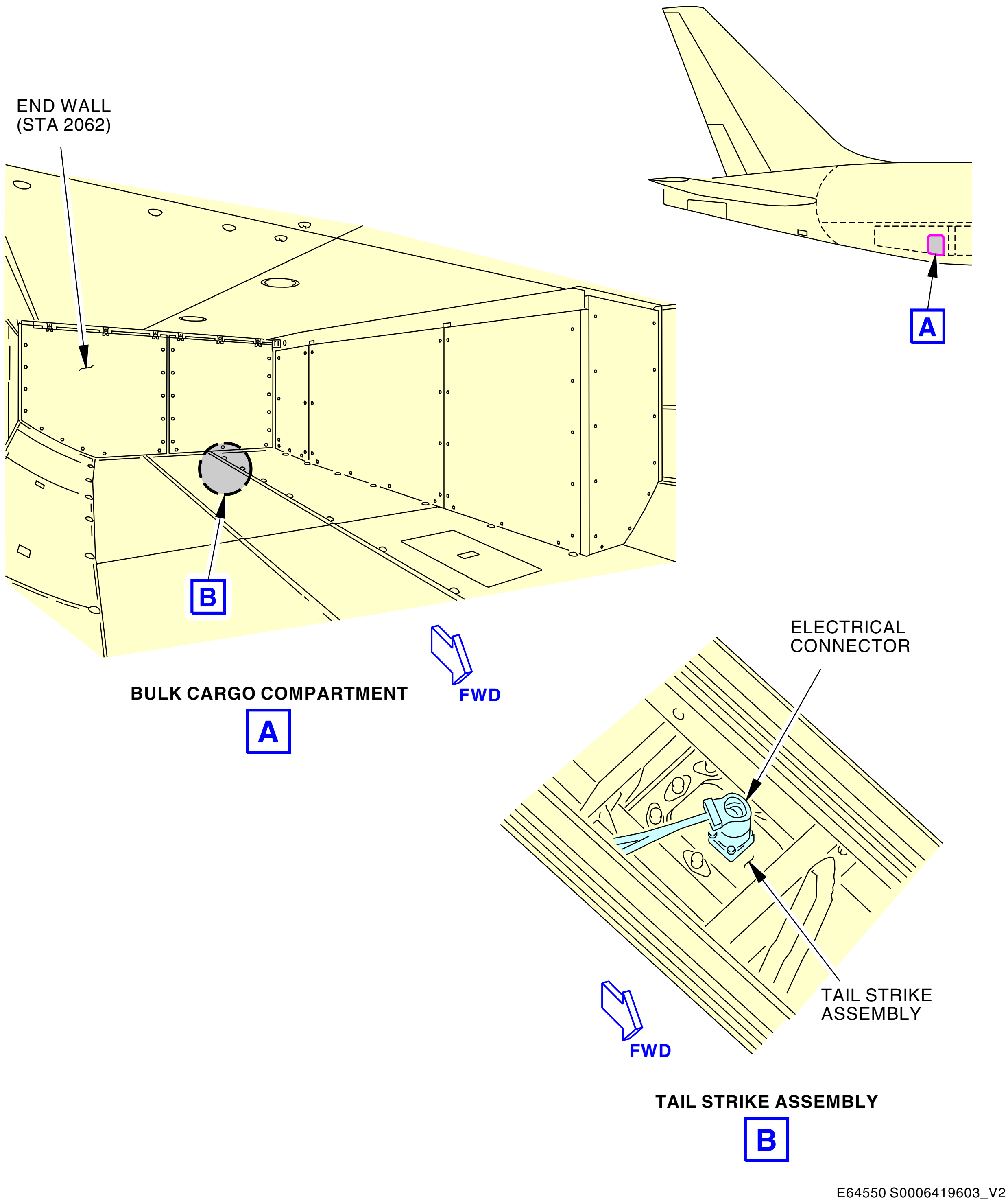
(m) Connect the connector DM32010 to the tail strike assembly M32010.

(n) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN Maintenance Display:

Table 507/32-71-00-993-807

	PSEU 1	PSEU 2
TAIL STRIKE	28V	28V

END OF TASK



Tail Strike Assembly Location
Figure 501/32-71-00-990-801

TAIL STRIKE ASSEMBLY - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has these tasks:

   (1) A removal of the tail strike assembly.

   NOTE: The tail strike assembly may have minor surface damage and not require replacement. If there is no EICAS message and the fiberglass mesh is not cut, the unit can be repaired. Repair the unit with touch up paint. If the unit has been structurally damaged it must be replaced, it can not be repaired.

   (2) An installation of the tail strike assembly.

TASK 32-71-01-000-801

2. **Tail Strike Assembly Removal**

   (Figure 401)

   A. **References**

Reference	Title
51-31-01-160-801	Prepare For Sealing (P/B 201)

   B. **Consumable Materials**

Reference	Description	Specification
A02315	Sealant - Low Density, Synthetic Rubber. 2 Part	BMS5-142 Type II

   C. **Location Zones**

Zone	Area
163	Area Below Bulk Cargo Compartment, Left
164	Area Below Bulk Cargo Compartment, Right

   D. **Remove the tail strike assembly**

   SUBTASK 32-71-01-860-001

   (1) Open these circuit breakers and install safety tags:

   Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

   Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

   Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

   SUBTASK 32-71-01-020-001

   (2) Remove the sealant, A02315 from around the edge of the tail strike assembly [4]. To remove it, do this task: Prepare For Sealing, TASK 51-31-01-160-801.

   SUBTASK 32-71-01-020-002

   (3) Remove the tail strike assembly [4]:

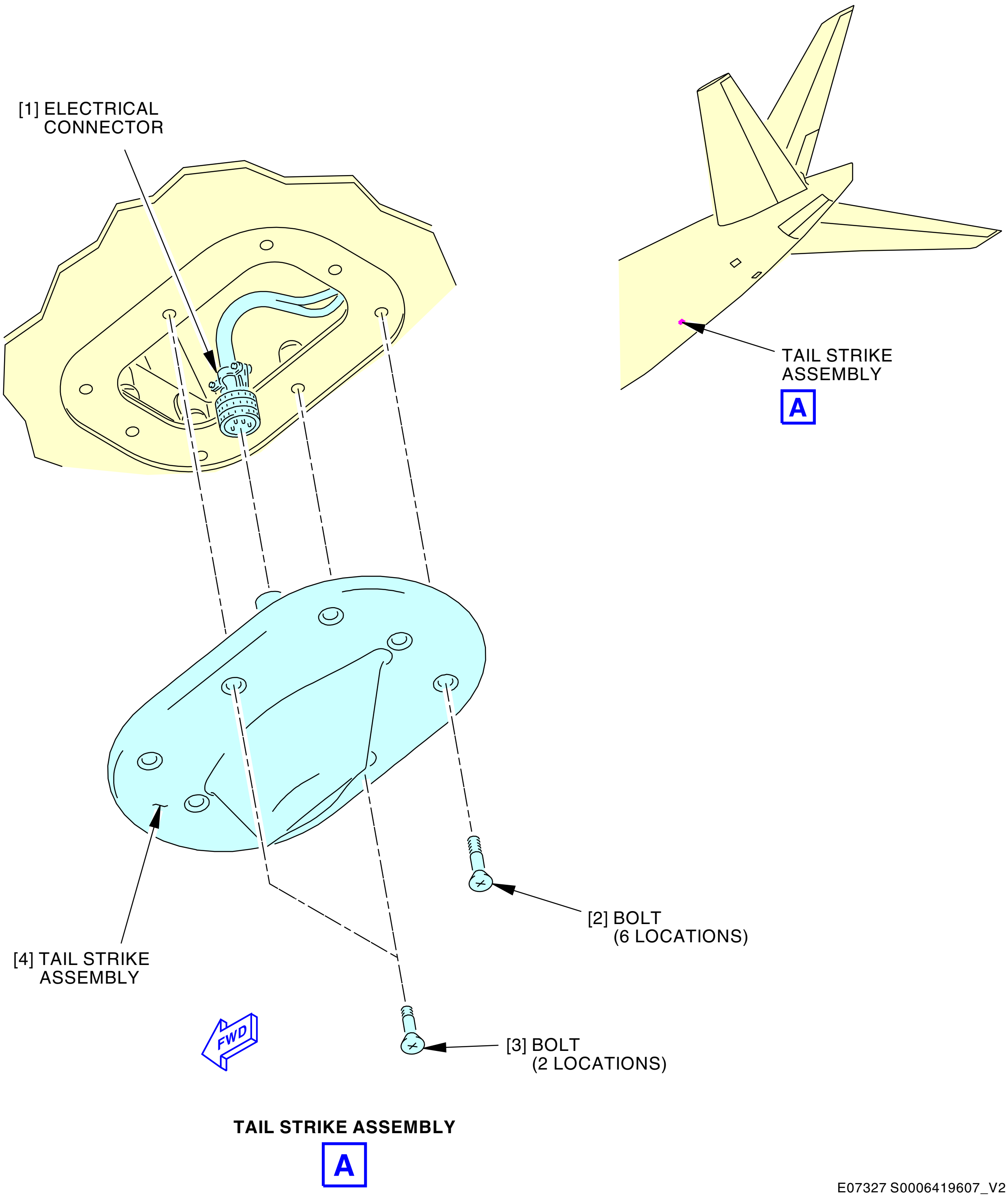
(a) Remove the bolts [2] and the bolts [3] from the tail strike assembly [4].

(b) Move the tail strike assembly [4] down until you can get access to the electrical connector [1].

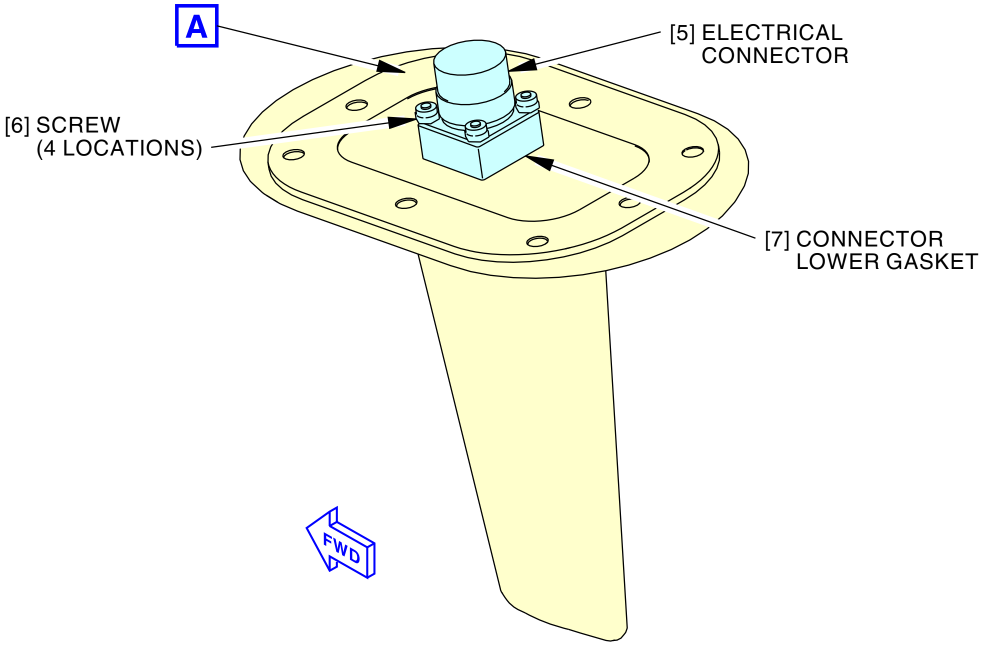
(c) Disconnect the electrical connector [1].

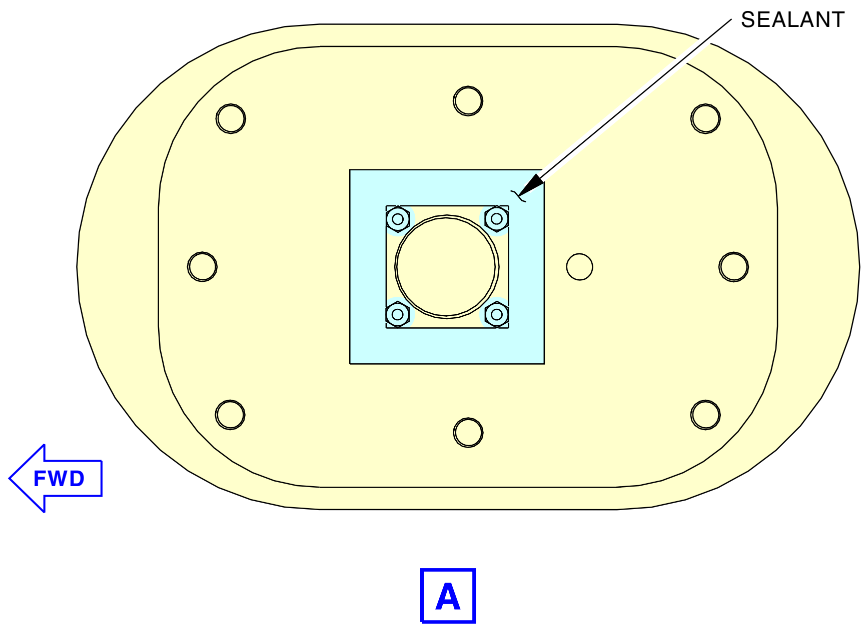
(d) Remove the tail strike assembly [4].

END OF TASK



Tail Strike Assembly Installation
Figure 401/32-71-01-990-801





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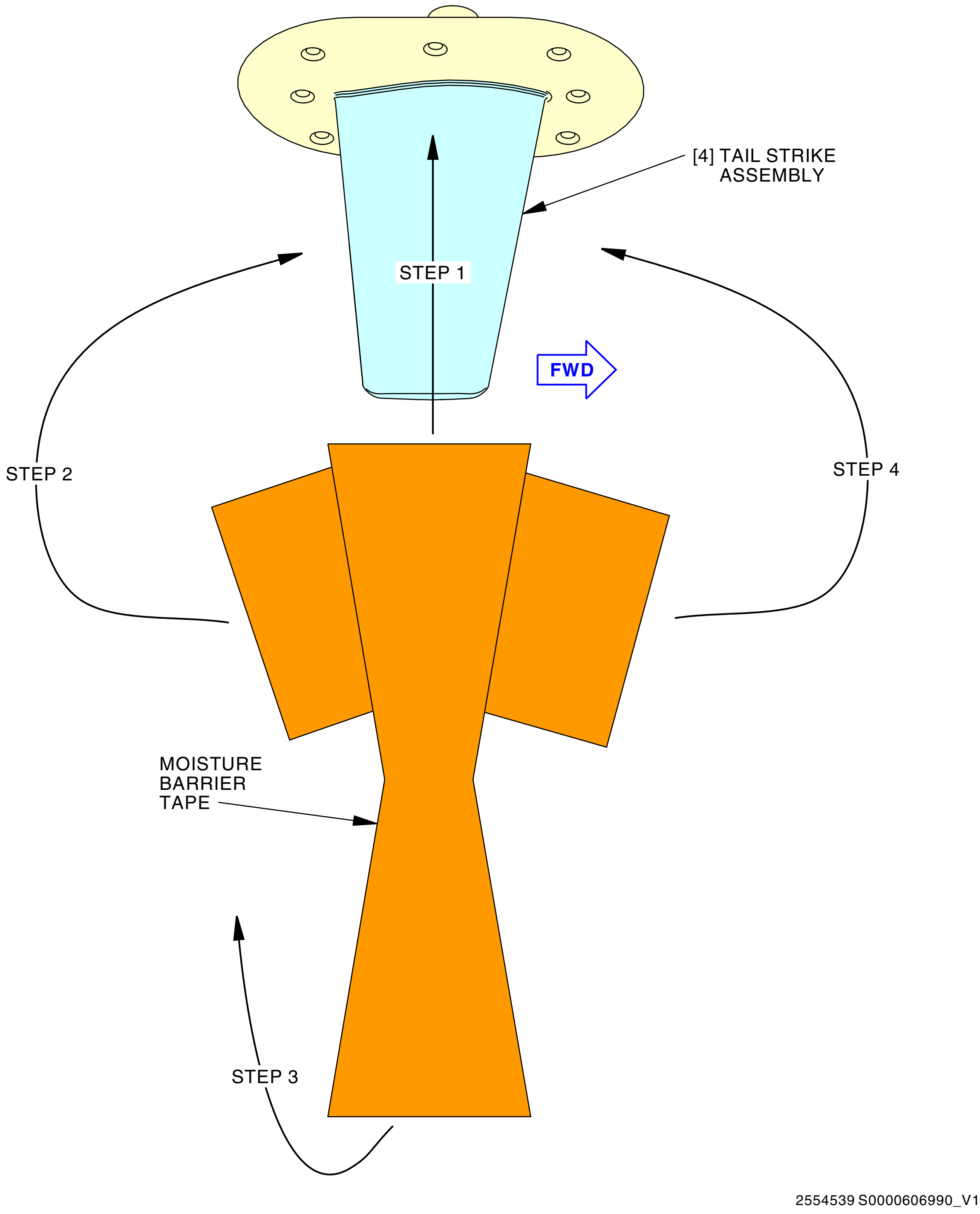
Tail Strike Assembly Sealant Application to Connector
Figure 402/32-71-01-990-802



Tail Strike Assembly Shield Tape
Figure 403/32-71-01-990-803

TASK 32-71-01-400-801

3. Tail Strike Assembly Installation

(Figure 401, Figure 402, Figure 403)

A. References

Reference	Title
32-71-00-730-801	Tail Strike System - Operational Test (P/B 501)
51-31-01-390-804	Fillet Seal Application (P/B 201)
WDM D6-54446	Wiring Diagram Manual

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
COM-1550	Bonding Meters - Approved, Intrinsically Safe (Approved for use in Class I, Divisions I & II hazardous (classified) locations. Outside these hazardous locations, COM-614 can be used in lieu of COM-1550). Part #: 620LK Supplier: 1CRL2 Part #: M1 Supplier: 3AD17 Part #: T477W Supplier: 01014 Opt Part #: M1B Supplier: 3AD17

C. Consumable Materials

Reference	Description	Specification
A02315	Sealant - Low Density, Synthetic Rubber. 2 Part	BMS5-142 Type II
A50345	Sealant - PPG Aerospace PR-1776M Class B Low Weight Fuel Tank Sealant	BMS5-45 Class B
G02423	Tape - Moisture Barrier - 3 Feet Wide - 3M 8663	

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
4	Tail strike assembly	32-71-01-02-060	ARO ALL

E. Location Zones

Zone	Area
163	Area Below Bulk Cargo Compartment, Left
164	Area Below Bulk Cargo Compartment, Right

F. Procedure

SUBTASK 32-71-01-860-002

(1) Make sure that these circuit breakers are open:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

SUBTASK 32-71-01-420-001

(2) Install the tail strike assembly [4]:

(a) Examine the electrical connector [5] for dirt, damage or water/moisture ingress.

(b) Apply PR-1776M Class B Sealant, A50345 to the connector lower gasket [7] and the electrical connector [5] four screws [6] heads.

NOTE: Apply additional PR-1776M Class B Sealant, A50345 over existing sealant (if any).

(c) Connect the electrical connector [1].

(d) Put the tail strike assembly [4] into its position on the airplane.

(e) Apply the pressure fillet seal around the holes for the six bolts [2] and the two bolts [3]. To do this, do this task: Fillet Seal Application, TASK 51-31-01-390-804.

(f) Install the six bolts [2] which attach the tail strike assembly [4] to the airplane skin.

NOTE: These are the bolts at the forward and aft ends of the tail strike assembly [4].

(g) Measure the resistance between the head of one of the bolts [2] or the bolts [3] that are installed and the airplane skin with the intrinsically safe approved bonding meter, COM-1550 (WDM D6-54446).

NOTE: You can get access to the airplane skin through one of the open holes for bolts [2] or the bolts [3].

1) Make sure the resistance is less than or equal to 0.01 ohms.

(h) Install the two bolts [3] that attach the tail strike assembly [4].

SUBTASK 32-71-01-620-001

(3) Apply a Sheet of Moisture Barrier Film.

(a) Using the template from Figure 403, trace the shape of the tail strike assembly [4] onto a sheet of 3M 8663 tape, G02423

(b) Remove the adhesion-protection tape from the tail strike assembly [4] shield and install the 3M 8663 tape, G02423 per sequence shown in Figure 403.

1) Ensure no air bubbles are trapped between the tail strike assembly [4] and the shield. Use a flat plastic scrapper to ‘squeeze’ air bubbles to the nearest free edge.

2) Ensure the side of tape with ’attachments’ is installed on the left side of the tail strike assembly [4].

3) Ensure that the forward edge wraps over the shorter edge, so that no free end is exposed to the airstream.

G. Do a Test of the Tail Strike Installation

SUBTASK 32-71-01-860-003

(1) Close these circuit breakers:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

SUBTASK 32-71-01-710-001

(2) Do this task: Tail Strike System - Operational Test, TASK 32-71-00-730-801.

H. Seal the Tail Strike Assembly

SUBTASK 32-71-01-390-001

(1) Apply the weather/aerodynamic sealant, A02315 fillet seal around forward and aft ends of the tail strike assembly [4]. To do this, do this task: Fillet Seal Application, TASK 51-31-01-390-804.

——— END OF TASK ———

TAIL SKID SYSTEM - MAINTENANCE PRACTICES

1. **General**

   A. This procedure has these tasks:

      (1) Bleed the actuator for the tail skid system.

TASK 32-72-00-000-802

2. **Tail Skid System Bleeding**

   (Figure 201)

   A. References

Reference	Title
12-12-01-610-801	Hydraulic Reservoir Fluid Level Check (P/B 301)
12-12-01-610-802	Hydraulic Reservoir Filling (P/B 301)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-72-00-000-801	Tail Skid System Operational Test (P/B 501)

   B. Tools/Equipment

Reference	Description
STD-1055	Container - Oil Resistant, 5 Gallon (19 Liter)

   C. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

   D. Prepare for the Procedure

SUBTASK 32-72-00-710-001

(1) Make sure the center hydraulic system power is removed (TASK 29-11-00-860-808).

SUBTASK 32-72-00-480-002

(2) Make sure the landing gear control lever is in the DOWN position.

SUBTASK 32-72-00-480-003

WARNING: MAKE SURE THAT YOU INSTALL THE DOWNLOCK PINS ON ALL THE LANDING GEAR AND ON THE TAIL SKID. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR AND TAIL SKID COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) If the downlock pins are not installed in the nose and main landing gear and the tail skid, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-72-00-010-001

WARNING	OBEY THE INSTALLATION PROCEDURE FOR THE LANDING GEAR DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(4) To open the landing gear doors and install the safety pins, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-72-00-860-007

(5) Move the landing gear control lever to the UP position.

SUBTASK 32-72-00-710-002

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(6) Use the hydraulic service cart to pressurize the center hydraulic system to 50 psig (345 kPa) - 500 psig (3447 kPa) (TASK 29-11-00-860-801).

E. Tail Skid Actuator Bleeding

SUBTASK 32-72-00-870-004

(1) To bleed the air from the hydraulic actuator [1], do these steps:

(a) Remove the screw [2] from the center of the bleed valve [3].

(b) Remove the lockwire [5] from the bleed valve [3].

(c) Install the bleed hose on the end of the bleed valve [3].

(d) Put the free end of the bleed hose into a oil resistant container (5 gal)(19 Liter), STD-1055.

(e) Slowly loosen the bleed valve [3] about one half turn.

NOTE: The bleed valve assembly consists of two parts, the bleed valve and the adapter. Opening and closing the bleed port only requires adjusting the bleed valve.

NOTE: This will let hydraulic fluid flow out of the bleed hose.

(f) Let hydraulic fluid flow out of the bleed hose until there are no air bubbles in the flow of hydraulic fluid.

NOTE: The fluid can flow out of the hose very quickly and intermittently.

(g) When all the air has been bled out of the system, do these steps:

1) Remove the bleed hose from the bleed valve [3].

2) If the adapter was loosened, tighten the adapter [4] to 110 in-lb (12.4 N·m) - 190 in-lb (21.5 N·m).

a) Install lockwire [5] on the adapter [4].

3) Tighten the bleed valve [3] to 40 in-lb (4.5 N·m) - 80 in-lb (9.0 N·m).

4) Install the screw [2] in the center of the bleed valve [3].

5) Install lockwire [5] on the bleed valve [3].

SUBTASK 32-72-00-860-008

(2) Move the landing gear control lever to the DOWN position.

(a) Remove the lockwire [5] from the bleed valve [6] that is on the tee [7].

(b) Install the bleed hose on the end of the bleed valve [6].

(c) Put the free end of the bleed hose into a oil resistant container (5 gal)(19 Liter), STD-1055.

(d) Slowly loosen the bleed valve [6] about one half turn.

NOTE: The bleed valve assembly consists of two parts, the bleed valve and the adapter. Opening and closing the bleed port only requires adjusting the bleed valve.

NOTE: This will let hydraulic fluid flow out of the bleed hose.

(e) When all the air has been bled out of the system, do these steps:

1) Remove the bleed hose from the bleed valve [6].

2) Tighten the bleed valve [6] to 40 in-lb (4.5 N·m) - 80 in-lb (9.0 N·m).

3) Install lockwire [5] on the bleed valve [6].

SUBTASK 32-72-00-870-001

(3) Do this task: Tail Skid System Operational Test, TASK 32-72-00-000-801.

SUBTASK 32-72-00-870-002

(4) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-72-00-870-003

(5) Make sure the fluid in the center hydraulic reservoir is at the correct level (TASK 12-12-01-610-801).

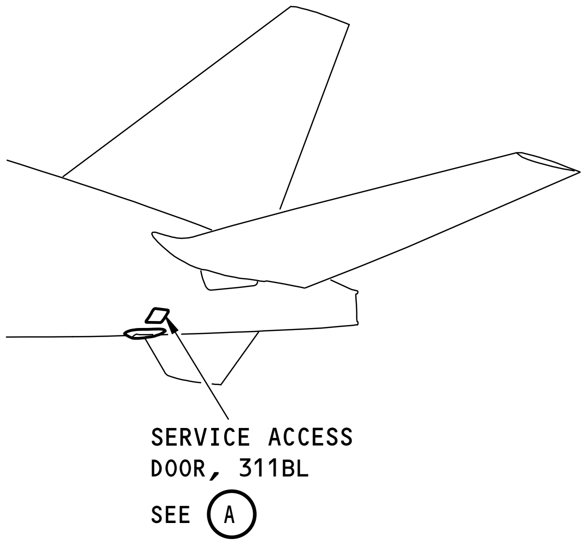
(a) If the center hydraulic reservoir need to be filled, do this task: Hydraulic Reservoir Filling, TASK 12-12-01-610-802.

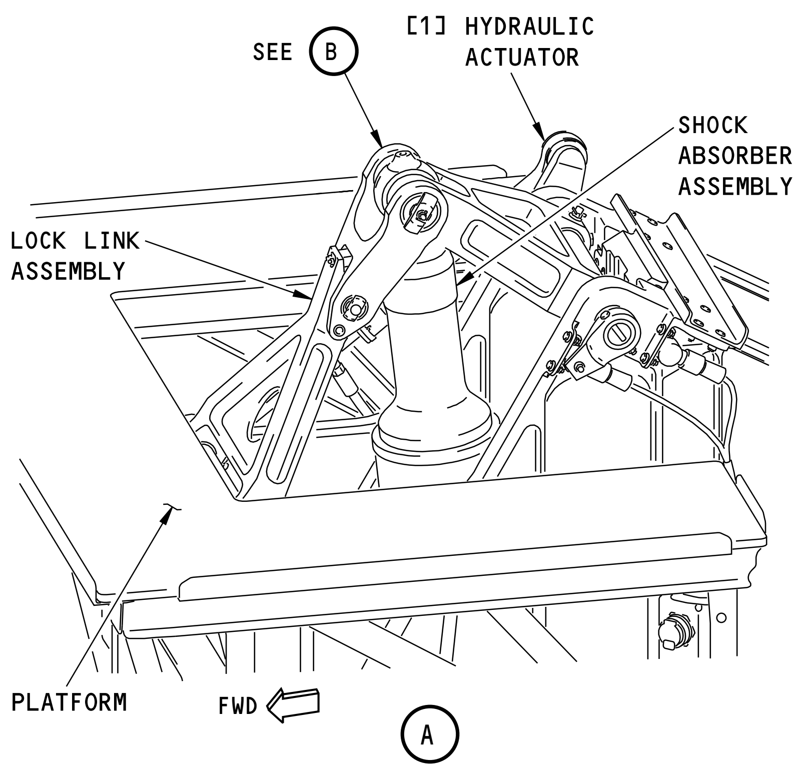
SUBTASK 32-72-00-410-001

WARNING	OBEY THE REMOVAL PROCEDURE FOR THE LANDING-GEAR DOOR SAFETY-PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS OR DAMAGE TO EQUIPMENT.

(6) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

END OF TASK





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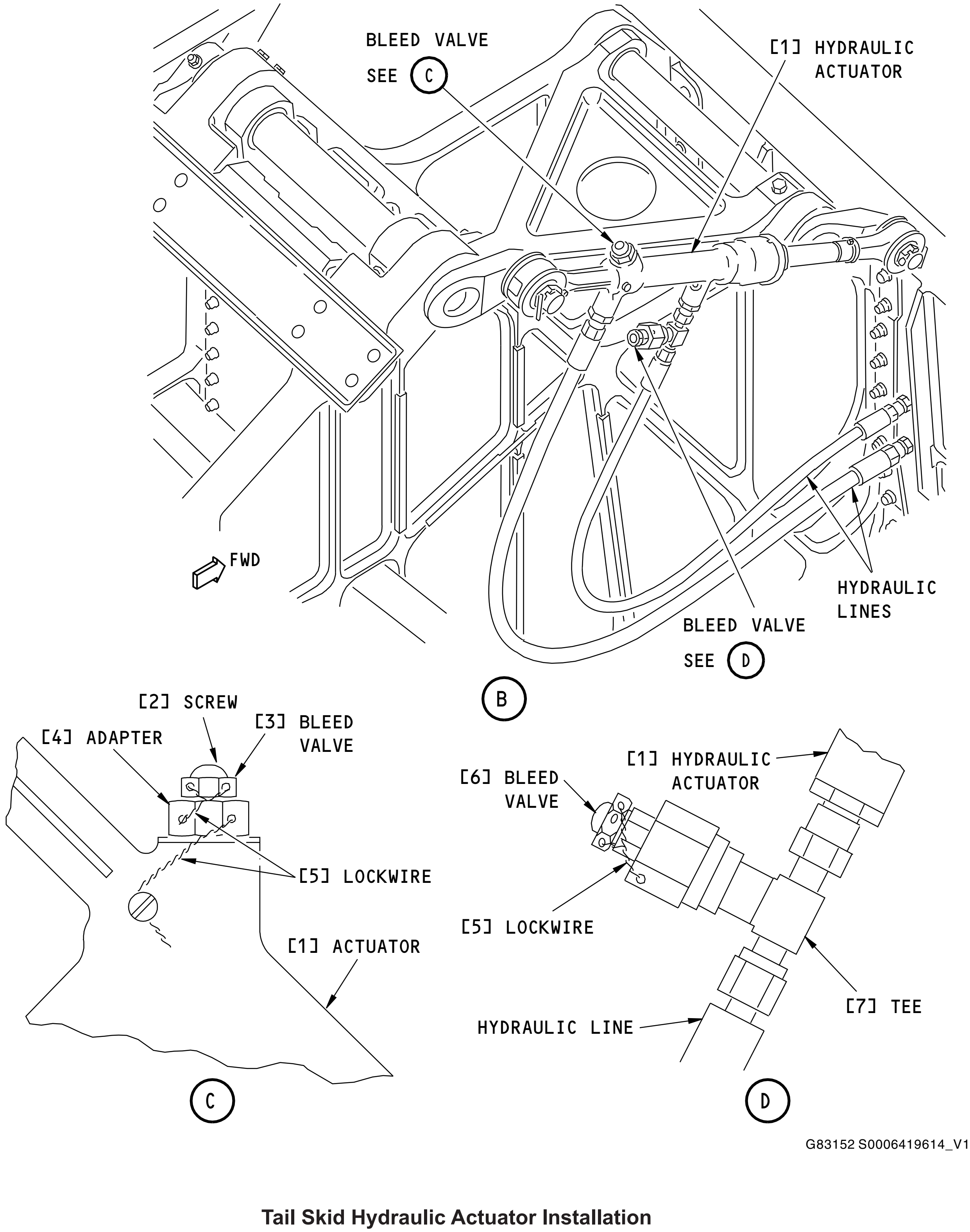
Tail Skid Hydraulic Actuator Installation
Figure 201/32-72-00-990-801 (Sheet 1 of 2)



Tail Skid Hydraulic Actuator Installation
Figure 201/32-72-00-990-801 (Sheet 2 of 2)

TAIL SKID SYSTEM - ADJUSTMENT/TEST

1. General

A. This procedure has this task:

(1) An operational test of the tail skid system

TASK 32-72-00-000-801

2. Tail Skid System Operational Test

A. General

(1) This task does an operational test of the control system for the landing gear.

(2) The operational test does a check to make sure the tail skid components were installed and operate correctly.

(3) You do not have to lift the airplane on jacks to do the operational test.

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1884	Pin - Lockout, Retractable Tail Skid Fwd and Aft Lock Link Part #: J32071-10 Supplier: 81205

D. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

E. Prepare for the Test

SUBTASK 32-72-00-480-001

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-72-00-480-004

(2) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801

SUBTASK 32-72-00-860-001

(3) Make sure the control lever for the landing gear is in the DN position.

SUBTASK 32-72-00-860-002

(4) Make sure electric power is available (TASK 24-22-00-860-805).

SUBTASK 32-72-00-860-003

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

F. Tail Skid System Operational Test

NOTE: During this test, the aural warning horn will be disabled, but the CONFIG GEAR status message will be displayed and the master warning light will remain enabled. This is correct operation of the airplane.

The TAIL SKID advisory message may appear when you do this test if any landing gear doors are opened.

You do not have to do maintenance actions to make the messages go away. The messages will go away automatically when you complete this test.

SUBTASK 32-72-00-860-004

(1) Do these steps to extend and retract the tail skid:

(a) Remove the tail skid lockout pin, SPL-1884, from the lock links for the tail skid if it is installed (TASK 32-00-30-080-801).

(b) Push the GND PROX - GEAR push button on the P2 panel.

NOTE: When you push the GND PROX - GEAR pushbutton, you will disable the aural warning horn.

(c) Put the control lever for the landing gear, on the P2 panel, to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

(d) Make sure the tail skid assembly moves to the UP position in 25 seconds or less.

(e) Put the control lever for the landing gear, on the P2 panel, to the DN position.

(f) Make sure the tail skid assembly moves to the DOWN position in 25 seconds or less.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-72-00-860-005

(1) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-72-00-860-006

(2) Push the GND PROX - GEAR push button on panel P2-2 to return it to its normal position.

SUBTASK 32-72-00-080-001

(3) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801

END OF TASK

TAIL SKID SHOCK ABSORBER ASSEMBLY - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the tail skid shock absorber.

(2) An installation of the tail skid shock absorber.

(3) A removal of the crushable cartridge and indicator for the tail skid shock absorber.

(4) An installation of the crushable cartridge and indicator for the tail skid shock absorber.

TASK 32-72-01-000-801

2. Tail Skid Shock Absorber Removal

(Figure 201)

A. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1884	Pin - Lockout, Retractable Tail Skid Fwd and Aft Lock Link Part #: J32071-10 Supplier: 81205
SPL-1976	Barrier - Service Access Door, Section 48 Part #: J51001-1 Supplier: 81205
SPL-2011	Ladder Equipment - Vertical Fin and Empennage Access Part #: J53001-1 Supplier: 81205

C. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

D. Access Panels

Number	Name/Location
311BL	Service Access Door

E. Tail Skid Shock Absorber Removal

SUBTASK 32-72-01-480-003

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-72-01-860-001

WARNING	KEEP PERSONS AND EQUIPMENT CLEAR OF THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) Do these steps to move the tail skid to the retracted position:

(a) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Remove the tail skid lockout pin, SPL-1884, from the lock links for the tail skid if it is installed (TASK 32-00-30-080-801).

(c) Put the control lever for the landing gear, on the P2 panel, to the UP position.

NOTE: You must push the LOCK OVRD button to do this.

(d) Make sure the tail skid assembly is in the UP position.

WARNING	MAKE SURE THAT YOU INSTALL THE LOCK PIN IN THE TAIL SKID. WITHOUT THE LOCK PIN, THE TAIL SKID CAN EXTEND AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(e) Install the tail skid lockout pin, SPL-1884, in the lock links for the tail skid (TASK 32-00-30-480-801).

(f) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-72-01-210-006

(3) Use a lift to get access to the exterior assembly for the tail skid shock absorber.

SUBTASK 32-72-01-020-001

(4) Remove the tail skid fairing [2]:

NOTE: The tail skid fairing is removed to prevent damage to it when the tail skid lever is disconnected from the shock absorber.

NOTE: You do not have to remove the fairing if you make sure the lever is held in its place with a rope.

(a) Hold the tail skid fairing [2] in its location.

(b) Remove the four bolts [6] that hold the tail skid fairing [2] to the body of the airplane.

(c) Remove the tail skid fairing [2].

SUBTASK 32-72-01-020-002

(5) Remove the drag lever door [4] from the tail skid drag lever [3]:

NOTE: The drag lever door is removed to prevent damage to it when the tail skid lever is disconnected from the shock absorber.

NOTE: You do not have to remove the door if you make sure the lever is held in its place with a rope or if you remove the tail skid fairing.

NOTE: If you do not move the upper jam nuts for the door, you do not have to adjust the door when it is installed.

(a) Remove the two bolts [5] from the middle of the drag lever door [4].

(b) Do the steps that follow to disconnect the four screws [13], two forward and two aft, from the drag lever [3]:

1) Loosen the lower jamnut [12] and back it off until it presses against the upper jamnut [11].

2) Turn the screws [13] to disconnect them from the nutplates [9] on the drag lever [3].

(c) Remove the drag lever door [4].

SUBTASK 32-72-01-210-007

(6) Do the steps that follow to get access to the interior assembly for the tail skid shock absorber.

(a) Open this access panel:

Number	Name/Location
311BL	Service Access Door

(b) Use a ladder equipment, SPL-2011 or equivalent to get access to the tail skid assembly.

(c) Install the service access door barrier, SPL-1976, in the opening of the access door while you do work in the area.

SUBTASK 32-72-01-020-003

CAUTION

HOLD THE SHOCK ABSORBER AND TAIL SKID LEVER IN THEIR POSITIONS WHEN YOU DISCONNECT THE SHOCK ABSORBER. THE PIN ASSEMBLY THAT YOU REMOVE HOLDS THE SHOCK ABSORBER IN ITS POSITION. WHEN YOU REMOVE THE PIN ASSEMBLY, THE SHOCK ABSORBER CAN MOVE DOWN QUICKLY. THIS CAN CAUSE DAMAGE TO THE AIRPLANE.

(7) In the area behind the Service Access Door, 311BL, do these steps to disconnect the shock absorber assembly [1] from the forward link assembly [7] and aft link assembly [8]:

(a) Remove the cotter pin [19], the nut [20], and the washer [18] from the bolt [17].

(b) Remove the bolt [17], the washer [16], and the two end caps [14] from the pin [15].

(c) Remove the upper pin [15] to disconnect the shock absorber assembly [1] from the forward link assembly [7] and aft link assembly [8].

(d) Remove the alignment washer [14A] from the aft link assembly [8].

(e) Use a rope, through the pin hole in the upper part of the shock absorber assembly [1], to support the shock absorber.

NOTE: Do this such that the shock absorber will not move when you disconnect it from the drag lever.

(f) Slowly move the shock absorber and drag lever [3] to the extended position.

NOTE: This will allow you to access the lower pin assembly from outside of the airplane.

NOTE: If you did not remove the tail skid fairing, make sure the drag lever/door does not rest against the fairing.

SUBTASK 32-72-01-020-004

(8) With the lift at the exterior of the tail skid, do these steps to disconnect the shock absorber from the drag lever:

(a) Remove the cotter pin [23], the nut [24], and the washer [25] from the bolt [27].

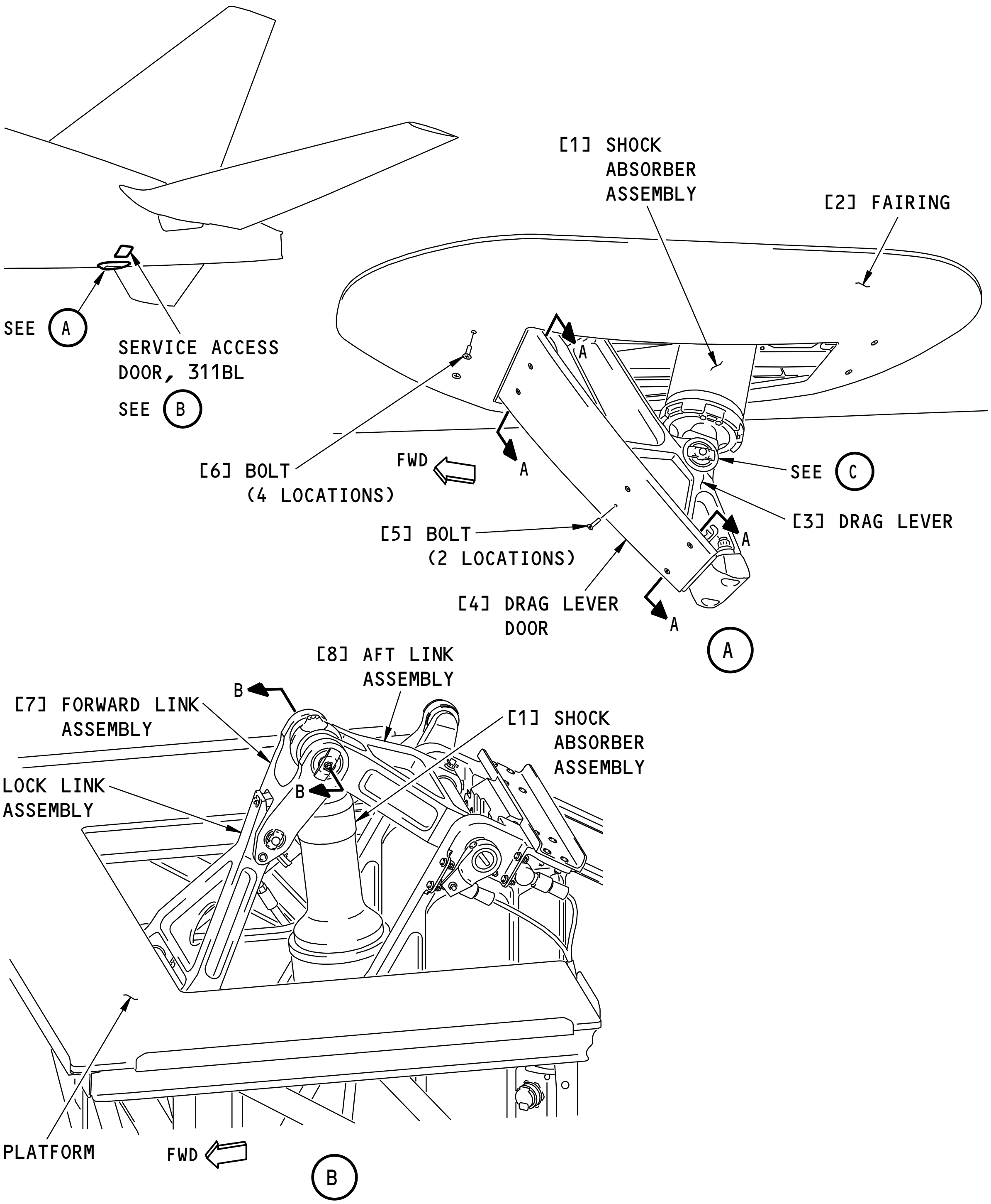
(b) Remove the bolt [27], the washer [26], and the two end caps [22] from the pin [21].

(c) Remove the lower pin [21] to disconnect the shock absorber assembly [1] from the drag lever [3].

SUBTASK 32-72-01-020-005

(9) Remove the shock absorber assembly [1] from the airplane.

END OF TASK



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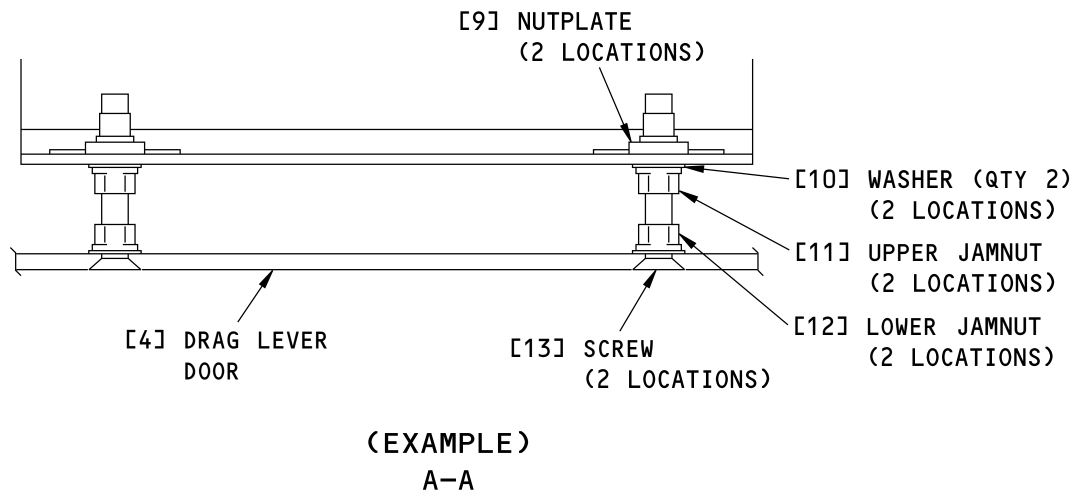
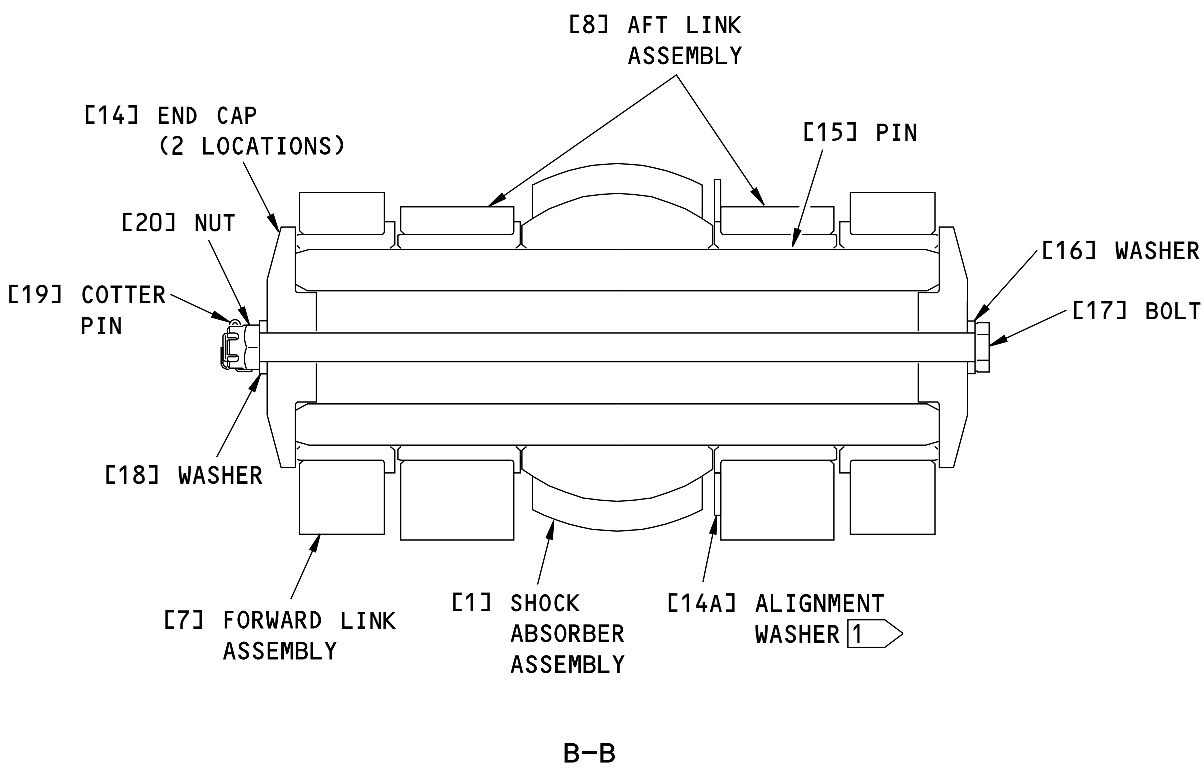
Tail Skid Shock Absorber Installation
Figure 201/32-72-01-990-802 (Sheet 1 of 3)





1 THE ALIGNMENT WASHER CAN BE INSTALLED ON EITHER SIDE OF THE SHOCK ABSORBER ASSEMBLY.

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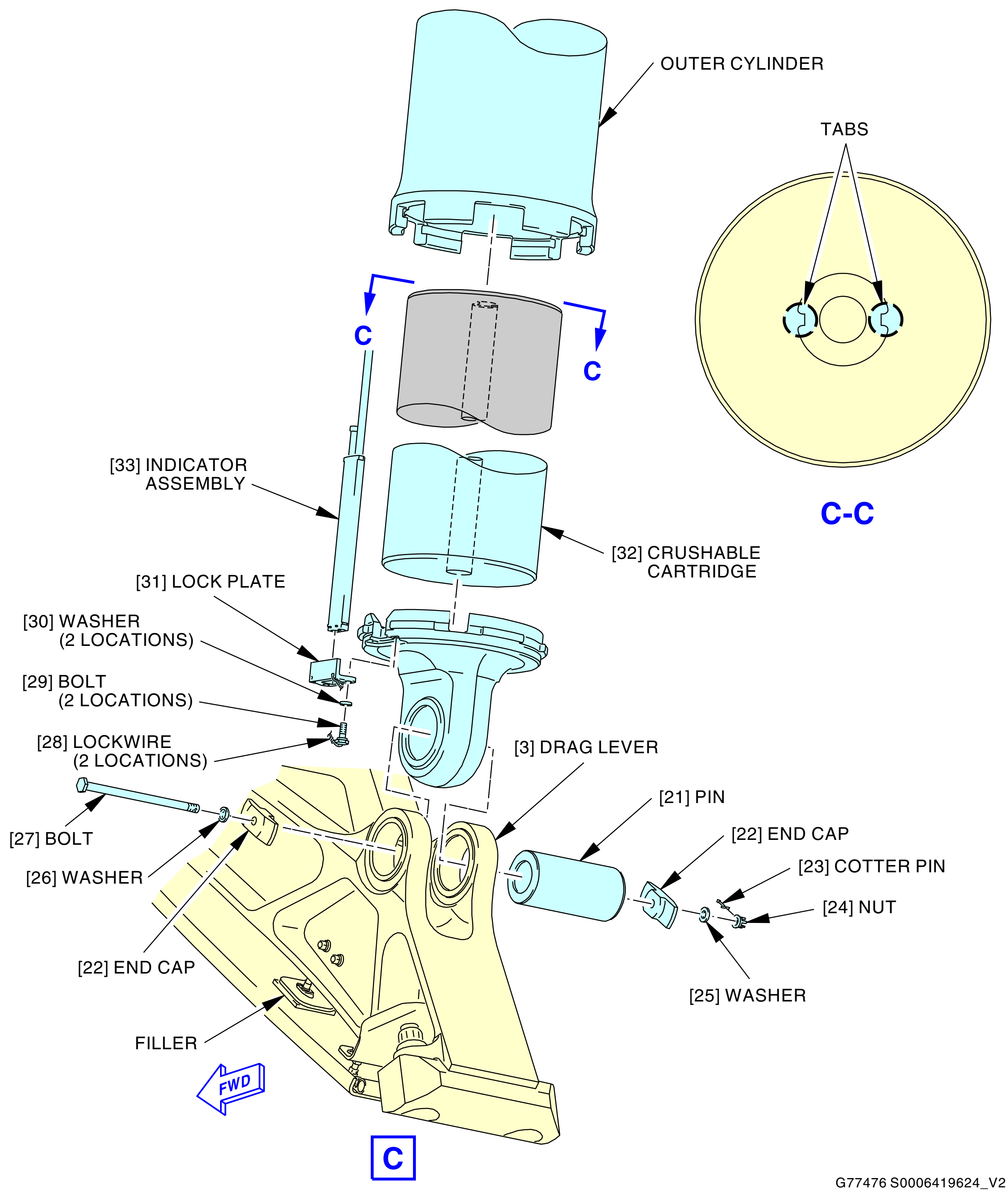
Tail Skid Shock Absorber Installation
Figure 201/32-72-01-990-802 (Sheet 2 of 3)



Tail Skid Shock Absorber Installation
Figure 201/32-72-01-990-802 (Sheet 3 of 3)

TASK 32-72-01-400-801

3. Tail Skid Shock Absorber Installation

(Figure 201)

A. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1976	Barrier - Service Access Door, Section 48 Part #: J51001-1 Supplier: 81205
SPL-2011	Ladder Equipment - Vertical Fin and Empennage Access Part #: J53001-1 Supplier: 81205

B. Consumable Materials

Reference	Description	Specification
A00723	Sealant - Corrosion Inhibitive, 2-Part - PR-1405-G	

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Shock absorber assembly	32-72-00-01A-260	ARO 001-004
19	Pin	32-41-00-02B-010	ARO 001-004
		32-41-00-08-125	ARO 001-004
		32-72-00-01A-225	ARO 001-004
23	Pin	32-41-00-02B-010	ARO 001-004
		32-41-00-08-125	ARO 001-004
		32-72-00-01A-085	ARO 001-004

D. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

E. Access Panels

Number	Name/Location
311BL	Service Access Door

F. Tail Skid Shock Absorber Installation

SUBTASK 32-72-01-210-008

(1) Do the steps that follow to get access to the interior assembly for the tail skid shock absorber.

(a) Open this access panel:

Number	Name/Location
311BL	Service Access Door

(b) Use a ladder equipment, SPL-2011, or equivalent to get access to the tail skid assembly.

(c) Install the service access door barrier, SPL-1976, in the opening of the access door while you do work in the area.

SUBTASK 32-72-01-210-009

(2) Use a lift to get access to the exterior assembly for the tail skid shock absorber.

SUBTASK 32-72-01-420-004

(3) With the lift at the exterior of the tail skid, do these steps to connect the shock absorber to the drag lever [3]:

(a) Put the shock absorber assembly [1] in its position in the tail skid cut out in the airplane.

(b) Put the lower end fitting in its location in the drag lever lugs such that the indicator assembly is in the left side of the airplane.

NOTE: The indicator rods are placed on the left side of the airplane so that daily tail skid strike inspection can be performed consistently.

(c) Install the lower pin [21] to connect the shock absorber assembly [1] to the drag lever [3].

(d) Install the two end caps [22], the countersunk washer [26], and the bolt [27] on the pin [21].

(e) Install the plain washer [25], the nut [24], and the new pin [23] on the bolt [27].

SUBTASK 32-72-01-020-007

(4) In the area behind the Service Access Door, 311BL, do these steps to connect the shock absorber to the lock links:

(a) Install the alignment washer [14A] on the aft link assembly [8].

NOTE: The alignment washer can be installed on either side of the shock absorber.

(b) Put the upper end of the shock absorber assembly [1] in its position in the lugs of the aft link assembly [8].

(c) Put the upper end of shock absorber assembly [1] and the aft link assembly [8] in their position in the lugs of the forward link assembly [7].

(d) Install the upper pin [15] to connect the shock absorber assembly [1] to the forward link assembly [7] and aft link assembly [8].

(e) Install the two end caps [14], the countersunk washer [16], and the bolt [17] on the pin [15].

(f) Install the plain washer [18], the nut [20], and the new pin [19] on the bolt [17].

SUBTASK 32-72-01-420-005

(5) Install the tail skid fairing [2] if it was removed:

(a) Apply PR-1405-G sealant, A00723, to the area of the fairing [2] where it contacts the brackets on the airplane.

(b) Put the tail skid fairing [2] in its location on the airplane.

(c) Install the four bolts [6] that hold the tail skid fairing [2] to the body of the airplane.

SUBTASK 32-72-01-420-006

(6) Install the drag lever door [4] on the drag lever [3] if it was removed:

NOTE: If you did not move the upper jam nuts for the door, you will not have to adjust the door when it is installed.

(a) Apply PR-1405-G sealant, A00723, to the area of the drag lever door [4] where it contacts the middle brackets and filler on the drag lever [3].

(b) Make sure the washers [10] are on the screws [13].

(c) Put the drag lever door [4] in its position on the drag lever [3].

(d) Do the steps that follow to connect the four screws [13], two forward and two aft, to the drag lever [3]:

NOTE: If you did not move the upper jam nuts, you do not need to adjust the fit of the door.

1) Turn the screws [13] to connect them to the nutplates [9] on the drag lever [3].

a) Tighten the screws [13] to 18 in-lb (2.0 N·m) - 25 in-lb (2.8 N·m).

NOTE: This will tighten the upper jam nut against the drag lever.

2) Tighten the lower jamnuts [12] to 18 in-lb (2.0 N·m) - 25 in-lb (2.8 N·m).

(e) Install the two bolts [5] in their location in the middle of the drag lever door [4].

SUBTASK 32-72-01-210-010

(7) Close this access panel:

Number	Name/Location
311BL	Service Access Door

——— END OF TASK ———

TASK 32-72-01-000-802

4. Tail Skid Crushable Cartridge and Indicator Removal

(Figure 201)

A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Consumable Materials

Reference	Description	Specification
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
33	Indicator assembly	32-72-01-01-035	ARO 001-004

D. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

E. Tail Skid Crushable Cartridge and Indicator Removal

SUBTASK 32-72-01-210-011

(1) Make sure the tail skid is in the extended position.

SUBTASK 32-72-01-480-004

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear and the tail skid, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-72-01-210-012

(3) Use a lift to get access to the exterior assembly for the tail skid shock absorber.

SUBTASK 32-72-01-020-010

(4) Remove the tail skid fairing [2]:

NOTE: The tail skid fairing is removed to prevent damage to it when the tail skid lever is disconnected from the shock absorber.

NOTE: You do not have to remove the fairing if you make sure the lever is held in its place with a rope.

(a) Hold the tail skid fairing [2] in its location.

(b) Remove the four bolts [6] that hold the tail skid fairing [2] to the body of the airplane.

(c) Remove the tail skid fairing [2].

SUBTASK 32-72-01-020-011

(5) Remove the drag lever door [4] from the drag lever [3]:

NOTE: The tail skid door is removed to prevent damage to it when the tail skid lever is disconnected from the shock absorber.

NOTE: If you do not move the upper jam nuts for the door, you will not have to adjust the door when it is installed.

NOTE: You do not have to remove the door if you make sure the lever is held in its place with a rope or if you remove the tail skid fairing.

(a) Remove the two bolts [5] from the middle of the drag lever door [4].

(b) Do the steps that follow to disconnect the four screws [13], two forward and two aft, from the drag lever [3]:

1) Loosen the lower jamnut [12] and back it off until it presses against the upper jamnut [11].

2) Turn the screws [13] to disconnect them from the nutplates [9] on the drag lever [3].

(c) Remove the drag lever door [4].

SUBTASK 32-72-01-020-012

(6) Remove the indicator assembly from the lower end of the shock absorber assembly [1]:

NOTE: The indicator assembly must be removed to get access to the crushable cartridge, a new indicator must be installed if one of the indicator rods has moved out of the housing.

(a) Remove the MS20995C32 lockwire, G01048 from the bolts [29].

(b) Remove the two bolts [29], washers [30], and the lock plate [31] from the shock absorber assembly [1].

(c) Remove the indicator assembly [33] from the shock absorber assembly [1].

SUBTASK 32-72-01-020-013

(7) Remove the crushable cartridge [32] from the shock absorber assembly [1]:

NOTE: A part of the crushable cartridge is pre-crushed. This makes sure that the correct deformation occurs to the crushable cartridge if a tail strike occurs.

(a) Turn the outer cylinder of the shock absorber assembly [1] to disconnect it from the lower end fitting of the shock absorber.

(b) Move the outer cylinder of the shock absorber assembly [1] up, to expose the crushable cartridge [32] that is inside the shock absorber.

(c) Turn the crushable cartridge [32] to disconnect it from the shock absorber assembly [1].

NOTE: The tabs on the end of the cartridge hold the cartridge in its place.

(d) Remove the crushable cartridge [32].

——— END OF TASK ———

TASK 32-72-01-400-802

5. Tail Skid Crushable Cartridge and Indicator Installation

(Figure 201)

A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Consumable Materials

Reference	Description	Specification
A00723	Sealant - Corrosion Inhibitive, 2-Part - PR-1405-G	
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
32	Cartridge	32-72-01-01-080	ARO 001-004
33	Indicator assembly	32-72-01-01-035	ARO 001-004

D. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

E. Tail Skid Crushable Cartridge and Indicator Installation

SUBTASK 32-72-01-480-005

WARNING MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear and the tail skid, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-72-01-210-013

(2) Use a lift to get access to the exterior assembly for the tail skid shock absorber.

SUBTASK 32-72-01-420-001

(3) Install the new cartridge [32] in the shock absorber assembly [1]:

NOTE: A part of the crushable cartridge is pre-crushed. This makes sure that the correct deformation occurs to the crushable cartridge if a tail strike occurs.

(a) Move the outer cylinder of the shock absorber assembly [1] up, to provide better access for installing the cartridge [32] in the shock absorber.

(b) Put the cartridge [32] in its position inside the shock absorber assembly [1].

1) The end of the cartridge [32] with the lock tabs is inserted first.

(c) Push and turn the cartridge [32] approximately 90 degrees to connect it to the shock absorber assembly.

(d) Move the outer cylinder of the shock absorber assembly [1] down to its normal position.

SUBTASK 32-72-01-420-002

(4) Connect the outer cylinder of the shock absorber to the lower end fitting:

(a) Put the outer cylinder in its position in the lower end fitting with the tabs on the lower end fitting in the slots on the outer cylinder.

(b) Turn the outer cylinder of the shock absorber assembly [1] 30 degrees to connect it to the lower end fitting.

1) Make sure the tabs on the lower end fitting are completely in the grooves of the outer cylinder.

SUBTASK 32-72-01-420-003

(5) Install the indicator assembly [33] on the shock absorber:

NOTE: A new indicator must be installed if one of the indicator rods has moved out of the housing.

(a) Install the indicator assembly [33] in its position in the shock absorber assembly [1].

1) Make sure the chamfered side of the indicator assembly [33] faces the inside of the shock absorber assembly [1].

(b) Install the lock plate [31] for the shock absorber assembly [1].

(c) Install the two bolts [29] and washers [30] on the lock plate [31].

(d) Install the MS20995C32 lockwire, G01048 on the bolts [29] and the lock plate [31].

SUBTASK 32-72-01-020-014

(6) Install the tail skid fairing [2] if it was removed:

(a) Apply PR-1405-G sealant, A00723, to the area of the fairing [2] where it contacts the brackets on the airplane.

(b) Put the tail skid fairing [2] in its location on the airplane.

(c) Install the four bolt [6] that hold the tail skid fairing [2] to the body of the airplane.

SUBTASK 32-72-01-020-015

(7) Install the tail skid door on the tail skid lever if it was removed:

NOTE: If you did not move the upper jam nuts for the door, you will not have to adjust the door when it is installed.

(a) Apply PR-1405-G sealant, A00723, to the area of the drag lever door [4] where it contacts the middle brackets and filler on the drag lever [3].

(b) Make sure the washers [10] are on the screws [13].

(c) Put the drag lever door [4] in its position on the drag lever [3].

(d) Do the steps that follow to connect the four screws [13], two forward and two aft, to the drag lever [3]:

NOTE: If you did not move the upper jam nuts, you do not need to adjust the fit of the door.

1) Turn the screws [13] to connect them to the nutplates [9] on the drag lever [3].

a) Tighten the screws [13] to 18 in-lb (2.0 N·m) - 25 in-lb (2.8 N·m).

NOTE: This will tighten the upper jam nut against the drag lever.

2) Tighten the lower jamnuts [12] to 18 in-lb (2.0 N·m) - 25 in-lb (2.8 N·m).

(e) Install the two bolts [5] in their location in the middle of the drag lever door [4].

——— END OF TASK ———

TAIL SKID - INSPECTION/CHECK

1. **General**
   A. This procedure contains scheduled maintenance task data.
   B. It is necessary to do an inspection of the tail skid assembly after there has been a tail strike.
   C. This procedure has these tasks:
      (1) An inspection of the tail skid shock absorber/crushable cartridge.
      (2) An inspection of the tail skid drag lever shoe.

TASK 32-72-01-200-801

2. **Tail Skid Shock Absorber/Crushable Cartridge - Inspection/Check**
(Figure 601)

   A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-72-01-000-802	Tail Skid Crushable Cartridge and Indicator Removal (P/B 201)
32-72-01-400-802	Tail Skid Crushable Cartridge and Indicator Installation (P/B 201)

   B. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

   C. Tail Skid Shock Absorber/Crushable Cartridge Inspection

SUBTASK 32-72-01-480-001

WARNING MAKE SURE THAT YOU INSTALL THE DOWNLOCK PINS ON ALL THE LANDING GEAR AND ON THE TAIL SKID. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR AND TAIL SKID COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear and the tail skid, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-72-01-210-001

(2) Do the steps that follow to inspect the tail skid shock absorber after a tail strike:
   (a) Make sure the tail skid is in the extended position.
   (b) Look at the indicators [2] on the lower end of the tail skid shock absorber [1].
      1) If the two indicators [2] are not extended out of the shock absorber [1], then the crushable cartridge inside the shock absorber is fully serviceable.
      2) If one of the indicators [2] is extended out of the shock absorber [1] but the other indicator is not, then the crushable cartridge must be replaced at the next convenient maintenance opportunity.
      3) If the two indicators [2] are extended out of the shock absorber [1], then replace the crushable cartridge and the indicators.
         a) Do this task: Tail Skid Crushable Cartridge and Indicator Removal, TASK 32-72-01-000-802.

b) Do this task: Tail Skid Crushable Cartridge and Indicator Installation, TASK 32-72-01-400-802.

——— END OF TASK ———

TASK 32-72-01-900-801

3. Tail Skid Drag Shoe Inspection

(Figure 601)

A. References

Reference	Title
05-51-32-210-803-002	Tail Strike Inspection (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-72-02-000-802	Tail Skid Drag Lever Shoe Removal (P/B 201)
32-72-02-400-802	Tail Skid Drag Lever Shoe Installation (P/B 201)

B. Consumable Materials

Reference	Description	Specification
C00032	Coating - Protective Enamel, General Use	BMS10-60 Type I

C. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

D. Prepare for the Inspection

SUBTASK 32-72-01-480-002

WARNING MAKE SURE THAT YOU INSTALL THE DOWNLOCK PINS ON ALL THE LANDING GEAR AND ON THE TAIL SKID. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR AND TAIL SKID COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear and the tail skid, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

E. Tail Skid Drag Shoe Inspection

SUBTASK 32-72-01-210-002

(1) Do the steps that follow to inspect the tail skid drag shoe after a tail strike:
   (a) Make sure the tail skid is in the extended position.
   (b) Check the tail skid drag shoe [4] for cracks or chips:
      1) If there are cracks in the shoe [4] or pieces of the shoe are gone outboard of the bolts holes, the shoe is serviceable.
      2) If there are cracks that start at the bolt holes, you must replace the drag shoe [4].
         a) Do this task: Tail Skid Drag Lever Shoe Removal, TASK 32-72-02-000-802.
         b) Do this task: Tail Skid Drag Lever Shoe Installation, TASK 32-72-02-400-802.
   (c) Measure the distance from the top of each bolt [5] in the drag shoe [4] to the top surface of the shoe.
      1) If this distance you measured is greater than 0.25 in. (6.4 mm) the shoe [4] is serviceable.

2) If this distance you measured is less than or equal to 0.25 in. (6.4 mm) you must replace the shoe [4].

a) Do this task: Tail Skid Drag Lever Shoe Removal, TASK 32-72-02-000-802.

b) Do this task: Tail Skid Drag Lever Shoe Installation, TASK 32-72-02-400-802.

SUBTASK 32-72-01-210-003

(2) If there was a tail strike, do this task: Tail Strike Inspection, TASK 05-51-32-210-803-002.

SUBTASK 32-72-01-210-004

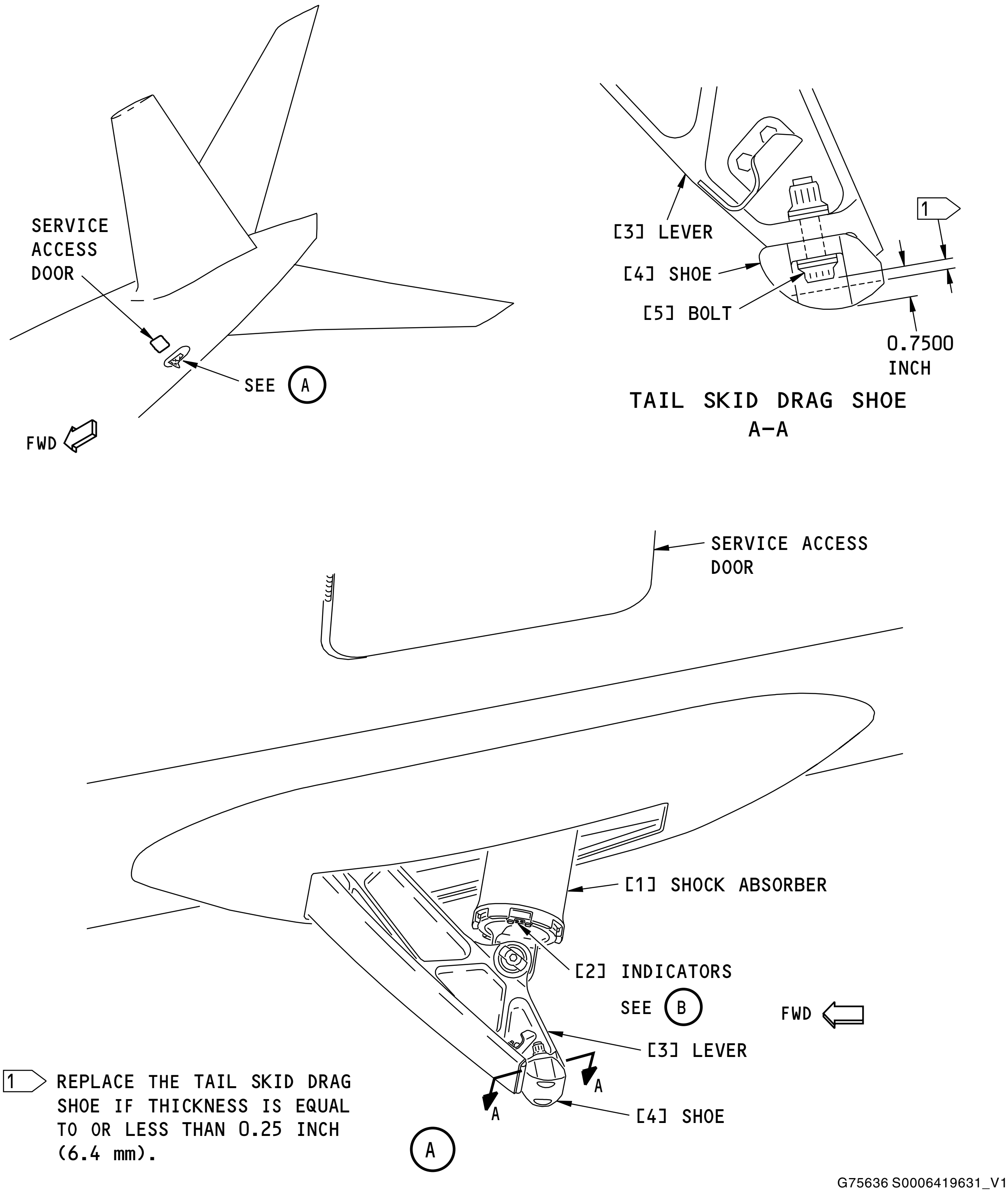
(3) If there was a tail strike, do the steps that follow to the tail skid drag shoe:

(a) Make sure the tail skid drag shoe is clean of dirt and debris.

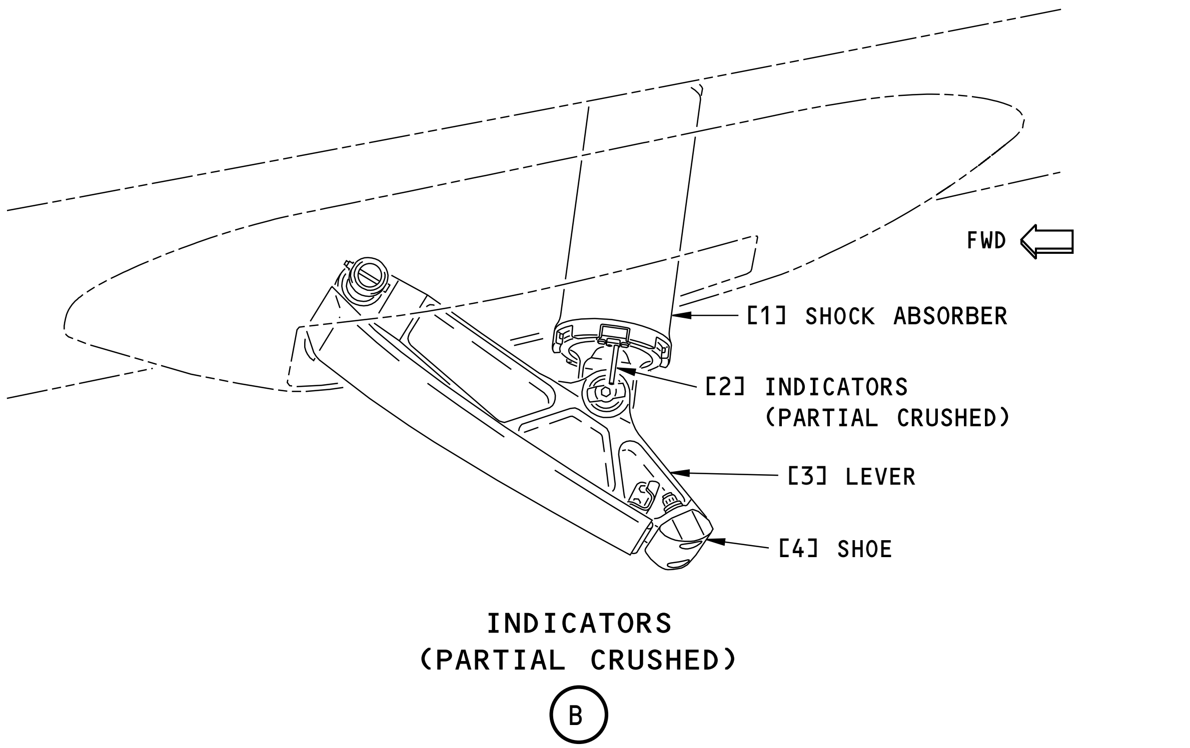
(b) Apply coating, C00032 or a similar paint to the drag shoe.

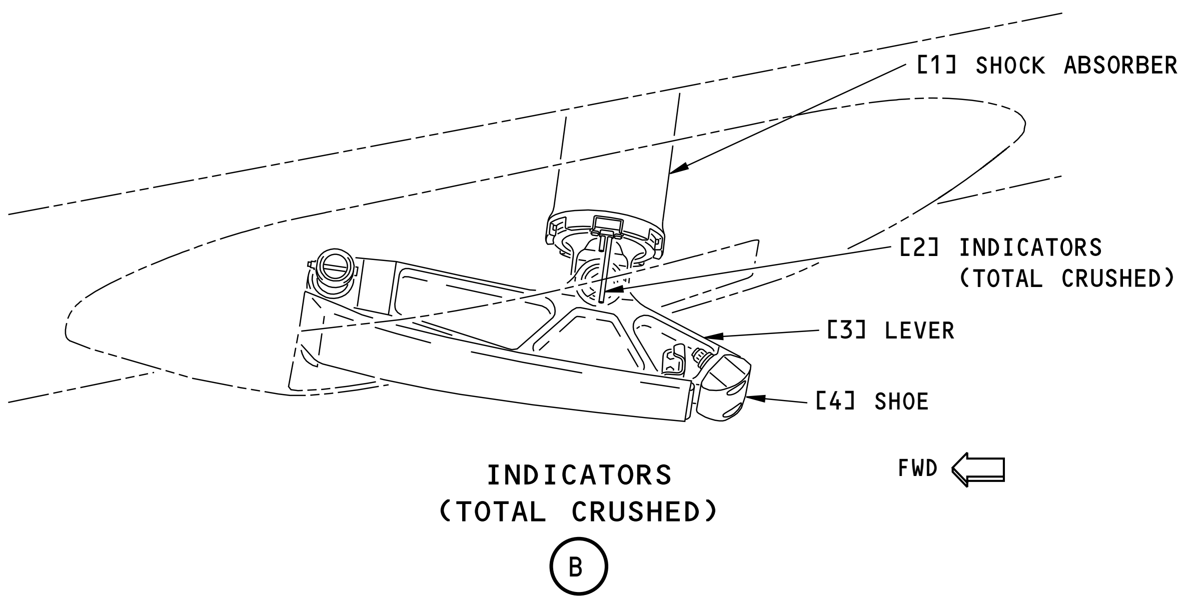
NOTE: The drag shoe is painted so you can tell if there was a tail strike. You can apply any paint that is available to the drag shoe.

END OF TASK



Tail Skid Inspection
Figure 601/32-72-01-990-801 (Sheet 1 of 2)





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Tail Skid Inspection
Figure 601/32-72-01-990-801 (Sheet 2 of 2)

TASK 32-72-01-900-802

4. Tail Skid Drag Shoe Visual Check

(Figure 601)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
05-51-32-210-802-002	Tail Skid Inspection (P/B 201)

B. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

C. Tail Skid Drag Shoe Inspection

SUBTASK 32-72-01-210-005

(1) Visually check the drag shoe for any paint scrapes.

(a) If any paint has been removed from the drag shoe by contact with the runway, do this task: Tail Skid Inspection, TASK 05-51-32-210-802-002.

END OF TASK

TAIL SKID DRAG LEVER ASSEMBLY - MAINTENANCE PRACTICES

1. **General**
   A. This procedure has these tasks:
      (1) A removal of the tail skid drag lever
      (2) An installation of the tail skid drag lever
      (3) A removal of the shoe for the tail skid drag lever
      (4) An installation of the shoe for the tail skid drag lever
      (5) A removal of the door for the tail skid drag lever
      (6) An installation of the door for the tail skid drag lever
      (7) An adjustment of the door for the tail skid drag lever
      (8) A removal of the stop for the tail skid drag lever
      (9) An installation of the stop for the tail skid drag lever
      (10) An adjustment of the stop for the tail skid drag lever.

TASK 32-72-02-000-801

2. **Tail Skid Drag Lever Removal**
   (Figure 201)

   A. **References**

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   B. **Location Zones**

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

   C. **Tail Skid Drag Lever Removal**

SUBTASK 32-72-02-210-001

(1) Make sure the tail skid is in the extended position.

SUBTASK 32-72-02-480-001

WARNING: MAKE SURE THAT YOU INSTALL THE DOWNLOCK PINS ON ALL THE LANDING GEAR AND ON THE TAIL SKID. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR AND TAIL SKID COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear and the tail skid, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-72-02-210-002

(3) Use a lift to get access to the tail skid drag lever [6].

SUBTASK 32-72-02-020-001

(4) Remove the tail skid fairing [4]:
   (a) Hold the tail skid fairing [4] in its location.
   (b) Remove the four bolts [10] that hold the tail skid fairing [4] to the body of the airplane.
   (c) Remove the tail skid fairing [4].

SUBTASK 32-72-02-020-002

(5) Remove the drag lever door [8] from the tail skid drag lever [6]:

NOTE: If you do not move the upper jam nuts for the nj door, you do not have to adjust the door when it is installed.

(a) Remove the two bolts [9] from the middle of the drag lever door [8].

(b) Do the steps that follow to disconnect the four screws [15], two forward and two aft, from the drag lever [6]:

1) Loosen the lower jamnut [14] and back it off until it presses against the upper jamnut [13].

2) Turn the screws [15] to disconnect them from the nutplates [11] on the drag lever [6].

(c) Remove the drag lever door [8].

SUBTASK 32-72-02-020-003

(6) Do these steps to disconnect the shock absorber assembly [5] from the drag lever [6]:

(a) Remove the cotter pin [36], nut [35], and washer [34] from the bolt [30].

(b) Remove the bolt [30], washer [31], and two end caps [32] from the pin [33].

(c) Remove the pin [33] to disconnect the shock absorber assembly [5] from the drag lever [6].

SUBTASK 32-72-02-020-004

(7) Do these steps to disconnect the drag lever [6] from the airplane lug [2]:

(a) Hold the drag lever [6] in its position.

(b) Remove the nuts [21] and washers [20] from the bolts [17].

(c) Remove the bolts [17] and washers [18] from the pin [16].

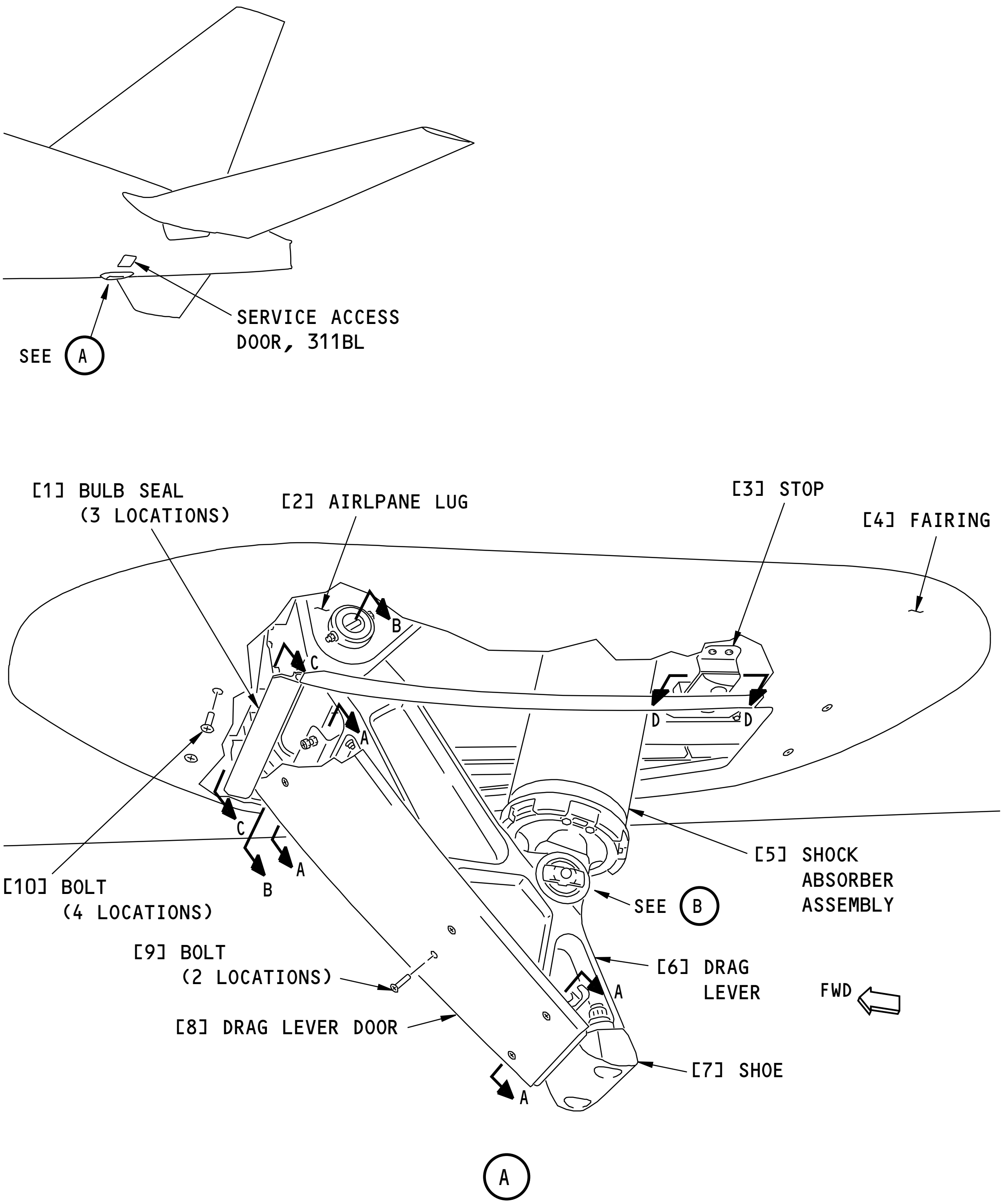
(d) Remove the collars [19] from the pin [16].

(e) Remove the pin [16] to disconnect the drag lever [6] from the airplane lug [2].

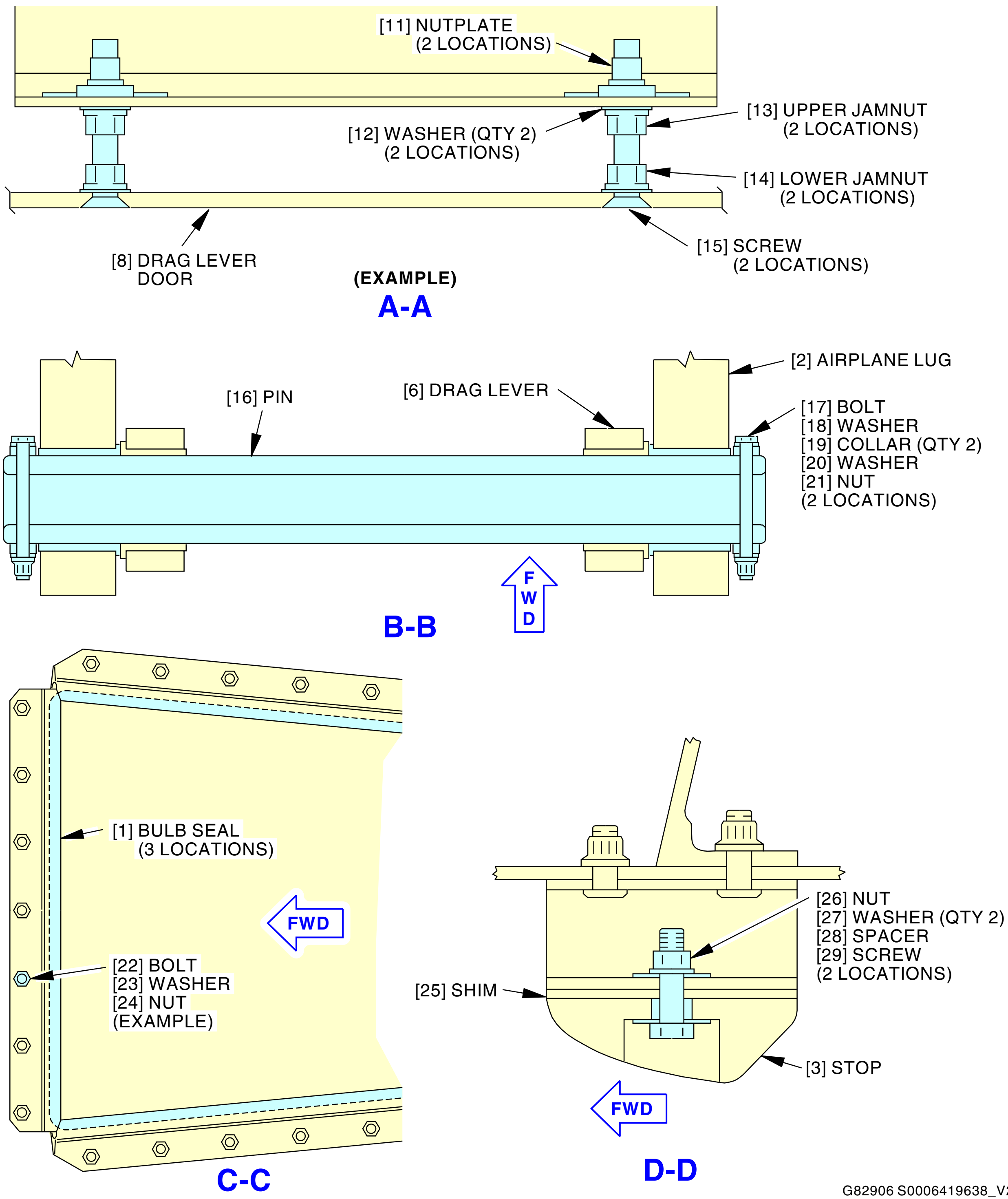
SUBTASK 32-72-02-020-005

(8) Remove the drag lever [6] from the airplane.

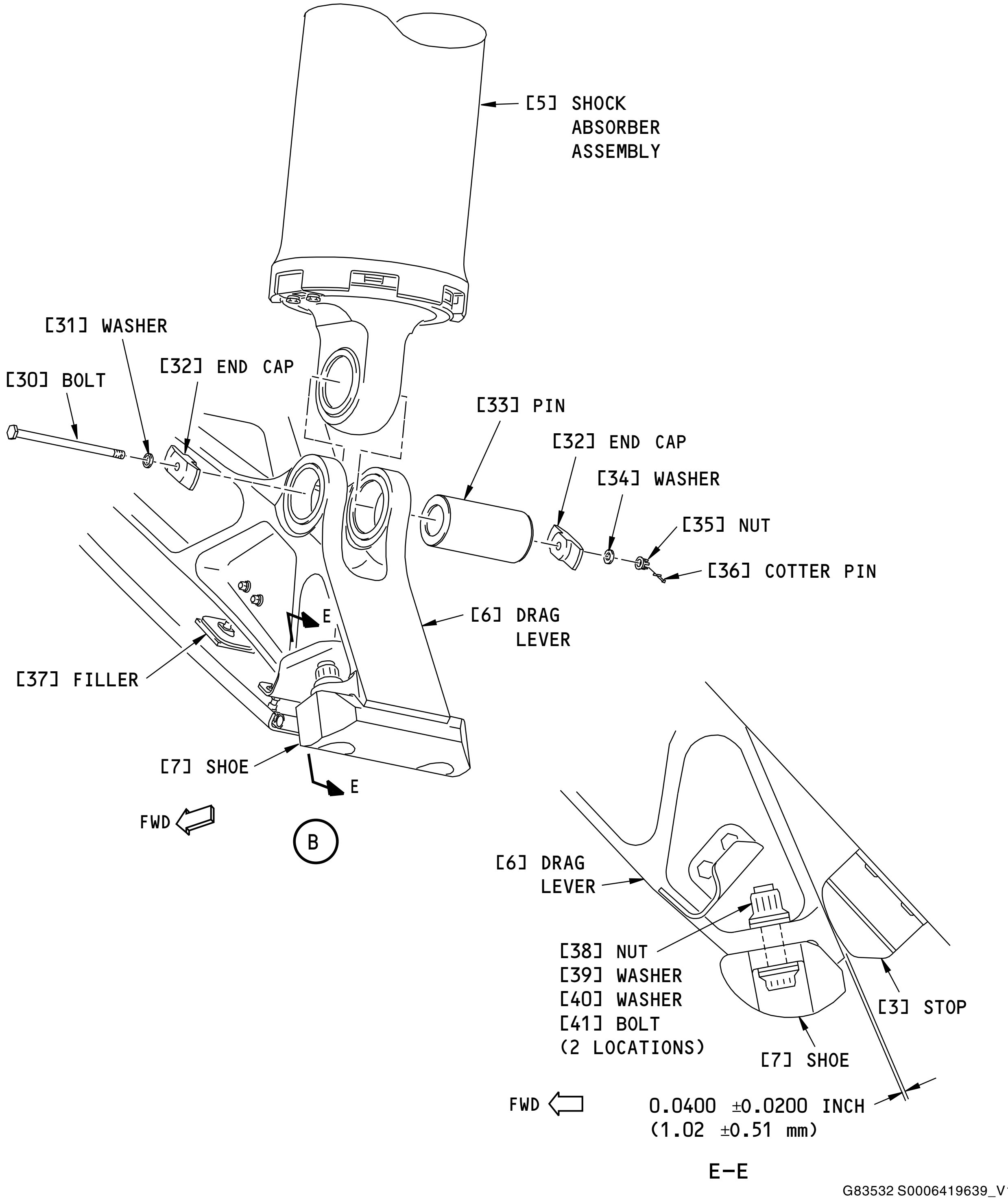
END OF TASK



Tail Skid Drag Lever Assembly Installation
Figure 201/32-72-02-990-801 (Sheet 1 of 3)



Tail Skid Drag Lever Assembly Installation
Figure 201/32-72-02-990-801 (Sheet 2 of 3)



Tail Skid Drag Lever Assembly Installation
Figure 201/32-72-02-990-801 (Sheet 3 of 3)

TASK 32-72-02-400-801

3. Tail Skid Drag Lever Installation

(Figure 201)

A. Consumable Materials

Reference	Description	Specification
A00723	Sealant - Corrosion Inhibitive, 2-Part - PR-1405-G	

B. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

C. Tail Skid Drag Lever Installation

SUBTASK 32-72-02-210-003

(1) Use a lift to get access to the tail skid drag lever [6].

SUBTASK 32-72-02-020-006

(2) Do these steps to connect the drag lever [6] to the airplane:

(a) Put the drag lever [6] in its position in the airplane lugs [2].

(b) Install the pin [16] to connect the drag lever [6] to the airplane.

(c) Install the collars [19] on the pin [16].

(d) Install the bolts [17] and the countersunk washers [18] in the pin [16].

(e) Install the plain washers [20] and nuts [21] on the bolts [17].

SUBTASK 32-72-02-020-007

(3) Do these steps to connect the shock absorber assembly [5] to the drag lever [6]:

(a) Put the lower end fitting of the shock absorber assembly [5] in its location in the drag lever lugs such that the indicator assembly is on the left side of the airplane.

NOTE: The indicator rods are placed on the left side of the airplane so that daily tail skid strike inspection can be performed consistently.

(b) Install the pin [33] to connect the shock absorber assembly [5] to the drag lever [6].

(c) Install the two end caps [32], countersunk washer [31], and bolt [30] on the pin [33].

(d) Install the plain washer [34], nut [35], and cotter pin [36] on the bolt [30].

SUBTASK 32-72-02-020-008

(4) Install the drag lever door [8] on the tail skid drag lever [6]:

NOTE: If you did not move the upper jam nuts for the door, you will not have to adjust the door when it is installed.

(a) Apply PR-1405-G sealant, A00723, to the area of the drag lever door [8] where it contacts the middle brackets and filler [37] on the drag lever [6].

(b) Make sure the washers [12] are on the screws [15].

(c) Put the drag lever door [8] in its position on the drag lever [6].

(d) Do the steps that follow to connect the four screws [15], two forward and two aft, to the drag lever [6]:

NOTE: If you did not move the upper jam nuts, you do not need to adjust the fit of the door.

1) Turn the screws [15] to connect them to the nutplates [11] on the drag lever [6].

a) Tighten the screws [15] to 18 in-lb (2 N·m) - 25 in-lb (2.8 N·m).

NOTE: This will tighten the upper jam nut against the drag lever.

2) Tighten the lower jamnut [14] to 18 in-lb (2 N·m) - 25 in-lb (2.8 N·m).

(e) Install the two bolts [9] in their location in the middle of the drag lever door [8].

SUBTASK 32-72-02-020-009

(5) Install the tail skid fairing [4]:

(a) Apply PR-1405-G sealant, A00723, to the area of the fairing [4] where it touches the brackets on the airplane.

(b) Put the fairing [4] in its location on the airplane.

(c) Install the four bolts [10] that hold the fairing [4] to the body of the airplane.

SUBTASK 32-72-02-820-001

(6) Do this task: Tail Skid Drag Lever Stop Adjustment, TASK 32-72-02-000-806.

——— END OF TASK ———

TASK 32-72-02-000-802

4. Tail Skid Drag Lever Shoe Removal

(Figure 201)

A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

C. Tail Skid Drag Lever Shoe Removal

SUBTASK 32-72-02-210-004

(1) Make sure the tail skid is in the extended position.

SUBTASK 32-72-02-480-002

WARNING MAKE SURE THAT YOU INSTALL THE DOWNLOCK PINS ON ALL THE LANDING GEAR AND ON THE TAIL SKID. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR AND TAIL SKID COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear and the tail skid, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-72-02-210-005

(3) Use a lift to get access to the drag lever [6].

SUBTASK 32-72-02-020-010

(4) Do these steps to disconnect the shoe [7] from the drag lever [6]:

(a) Remove the nuts [38] and washers [39] from the bolts [41].

(b) Remove the bolts [41] and washers [40] from the shoe [7].

SUBTASK 32-72-02-020-011

(5) Remove the shoe [7] from the airplane.

——— END OF TASK ———

TASK 32-72-02-400-802

5. Tail Skid Drag Lever Shoe Installation

(Figure 201)

A. Consumable Materials

Reference	Description	Specification
C00913	Compound - Corrosion Inhibiting Material, Nondrying Resin Mix	BMS3-27
G50237	Compound - Corrosion Inhibiting, Non-drying - Cor-Ban 27L	BMS3-38

B. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

C. Tail Skid Drag Lever Shoe Installation

SUBTASK 32-72-02-210-006

(1) Use a lift to get access to the drag lever [6].

SUBTASK 32-72-02-420-002

WARNING DO NOT GET THIS MATERIAL IN YOUR MOUTH, EYES, OR ON YOUR SKIN. DO NOT BREATHE THE FUMES FROM THIS MATERIAL. PUT ON A RESPIRATOR, EYE PROTECTION (GOGGLES, OR OTHER APPROVED PROTECTION), AND GLOVES BEFORE YOU USE THIS MATERIAL. MAKE SURE THAT THERE IS SUFFICIENT AIRFLOW. KEEP THIS MATERIAL AWAY FROM SPARKS, FLAME, AND HEAT. THIS MATERIAL CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

WARNING USE NITRILE GLOVES FOR SKIN PROTECTION WHEN YOU USE COR-BAN 27L, G50237. IF IT GETS ON YOUR SKIN, IMMEDIATELY REMOVE IT WITH WATER. IF THIS MATERIAL GETS IN YOUR EYES, IMMEDIATELY FLUSH YOUR EYES WITH WATER. GET MEDICAL AID. THIS MATERIAL CONTAINS FLAMMABLE AGENTS WHICH CAN CAUSE INJURIES TO PERSONNEL.

(2) Do these steps to connect the shoe [7] to the drag lever [6]:

(a) Apply a thin layer of Mastinox 6856 K, C00913, or Cor-Ban 27L Compound, G50237, to the shank and threads of the bolts [41], faces of the washers [39], washers [40], and the facing surfaces of the shoe [7].

(b) Put the shoe [7] in its location on the drag lever [6].

(c) Install the bolts [41] with the countersunk washers [40] in the shoe [7].

(d) Install the plain washers [39] and the nuts [38] on the bolts [41].

——— END OF TASK ———

TASK 32-72-02-000-803

6. Tail Skid Drag Lever Door Removal

(Figure 201)

A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

C. Tail Skid Drag Lever Door Removal

SUBTASK 32-72-02-210-007

(1) Make sure the tail skid is in the extended position.

SUBTASK 32-72-02-480-003

WARNING MAKE SURE THAT YOU INSTALL THE DOWNLOCK PINS ON ALL THE LANDING GEAR AND ON THE TAIL SKID. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR AND TAIL SKID COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear and the tail skid, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-72-02-210-008

(3) Use a lift to get access to the drag lever door [8].

SUBTASK 32-72-02-020-013

(4) Remove the drag lever door [8] from the drag lever [6]:

NOTE: If you do not move the upper jam nuts for the door, you do not have to adjust the door when it is installed.

(a) Remove the two bolts [9] from the middle of the drag lever door [8].

(b) Do the steps that follow to disconnect the four screws [15], two forward and two aft, from the drag lever [6]:

1) Loosen the lower jamnut [14] and back it off until it presses against the upper jamnut [13].

2) Turn the screws [15] to disconnect them from the nutplates [11] on the drag lever [6].

(c) Remove the drag lever door [8].

——— END OF TASK ———

TASK 32-72-02-400-803

7. Tail Skid Drag Lever Door Installation

(Figure 201)

A. Consumable Materials

Reference	Description	Specification
A00723	Sealant - Corrosion Inhibitive, 2-Part - PR-1405-G	

B. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

C. Tail Skid Drag Lever Door Installation

SUBTASK 32-72-02-210-009

(1) Use a lift to get access to the drag lever [6].

SUBTASK 32-72-02-020-014

(2) Install the drag lever door [8] on the drag lever [6]:

NOTE: If you did not move the upper jam nuts for the door, you will not have to adjust the door when it is installed.

(a) Apply PR-1405-G sealant, A00723, to the area of the drag lever door [8] where it touches the middle brackets and filler [37] on the drag lever [6].

(b) Make sure the washers [12] are on the screws [15].

(c) Put the drag lever door [8] in its position on the drag lever [6].

(d) Turn the screws [15] to connect them to the nutplates [11] on the drag lever [6].

(e) If you install the original door, do the steps that follow to connect the four screws [15], two forward and two aft, to the drag lever [6]:

NOTE: If you did not move the upper jam nuts, you do not need to adjust the fit of the door.

1) Tighten the screws [15] to 18 in-lb (2 N·m) - 25 in-lb (2.8 N·m).

NOTE: This will tighten the upper jam nut against the drag lever.

2) Tighten the lower jamnut [14] to 18 in-lb (2 N·m) - 25 in-lb (2.8 N·m).

(f) If you install a new door, do this task: Tail Skid Drag Lever Door Adjustment, TASK 32-72-02-000-804.

(g) Install the two bolts [9] in their location in the middle of the drag lever door [8].

END OF TASK

TASK 32-72-02-000-804

8. Tail Skid Drag Lever Door Adjustment

(Figure 201)

A. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)

(Continued)

Reference	Title
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1884	Pin - Lockout, Retractable Tail Skid Fwd and Aft Lock Link Part #: J32071-10 Supplier: 81205

C. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

D. Prepare for the Adjustment

SUBTASK 32-72-02-480-004

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-72-02-860-001

(2) Do these steps to move the tail skid to the retracted position:

WARNING: KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Remove the tail skid lockout pin, SPL-1884, from the lock links for the tail skid if it is installed (TASK 32-00-30-080-801).

(c) Put the control lever for the landing gear, on the P2 center forward panel, to the UP position.

1) You must push the LOCK OVRD button to do this.

(d) Make sure the tail skid assembly is in the UP position.

> **WARNING**
> MAKE SURE THAT YOU INSTALL THE LOCK PIN IN THE TAIL SKID. WITHOUT THE LOCK PIN, THE TAIL SKID CAN EXTEND AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(e) Install the tail skid lockout pin, SPL-1884, in the lock link for the tail skid (TASK 32-00-30-480-801)

(f) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-72-02-210-010

(3) Use a lift to get access to the exterior assembly for the tail skid shock absorber assembly [5].

E. Tail Skid Drag Lever Door Adjustment

SUBTASK 32-72-02-820-002

(1) Make sure the fit of the drag lever door [8] is in tolerance.

NOTE: Write the fit values that are not in tolerance.

(a) Make sure the clearance for the forward edge and the sides edges of the door are 0.0+/-0.06 in. (1.5 mm).

SUBTASK 32-72-02-820-003

(2) If the fit is not in tolerance, do the steps that follow:

(a) Extend the tail skid:

> **WARNING**
> KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

1) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

2) Remove the tail skid lockout pin, SPL-1884, from the lock links for the tail skid if it is installed (TASK 32-00-30-080-801).

3) Put the control lever for the landing gear, on the P2 center forward panel, to the DOWN position.

a) You must push the LOCK OVRD button to do this.

4) Make sure the tail skid assembly is in the DOWN position.

> **WARNING**
> MAKE SURE THAT YOU INSTALL THE LOCK PIN IN THE TAIL SKID. WITHOUT THE LOCK PIN, THE TAIL SKID CAN EXTEND AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

5) Install the tail skid lockout pin, SPL-1884, in the lock link for the tail skid (TASK 32-00-30-480-801)

6) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

(b) Adjust the flushness of the drag lever door [8]:

1) Loosen the upper jamnut [13] and lower jamnut [14].

2) Turn the four screws [15] to adjust the flushness along the forward edge and the side edges

3) When you get the correct tolerance, tighten the upper jamnut [13] and lower jamnut [14] to 18 in-lb (2 N·m) - 25 in-lb (2.8 N·m).

(c) Adjust the bulb seals and retainers to get a nominal 0.075 in. (1.9 mm) bulb seal compression.

1) Loosen the bolts [22] that attach the bulb seals [1] to the drag lever door [8].

2) Adjust the bulb seals [1] to meet the compression requirements for the drag lever door [8].

3) Tighten the bolts [22] for the bulb seals [1].

——— END OF TASK ———

TASK 32-72-02-000-805

9. Tail Skid Drag Lever Stop Removal

(Figure 201)

A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

C. Tail Skid Drag Lever Stop Removal

SUBTASK 32-72-02-210-011

(1) Make sure the tail skid is in the extended position.

SUBTASK 32-72-02-480-005

WARNING MAKE SURE THAT YOU INSTALL THE DOWNLOCK PINS ON ALL THE LANDING GEAR AND ON THE TAIL SKID. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR AND TAIL SKID COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(2) If the downlock pins are not installed in the nose and main landing gear and the tail skid, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-72-02-210-012

(3) Use a lift to get access to the drag lever [6].

SUBTASK 32-72-02-020-015

(4) Do these steps to disconnect the stop [3] from the airplane:

(a) Remove the nuts [26], washers [27], and spacers [28] from the screws [29].

(b) Remove the screws [29] and washers [27] from the stop [3].

(c) Remove the shims [25] from the airplane.

SUBTASK 32-72-02-020-016

(5) Remove the stop [3] from the airplane.

——— END OF TASK ———

TASK 32-72-02-400-804

10. Tail Skid Drag Lever Stop Installation

(Figure 201)

A. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

B. Tail Skid Drag Lever Stop Installation

SUBTASK 32-72-02-210-013

(1) Use a lift to get access to the tail skid drag lever.

SUBTASK 32-72-02-020-017

(2) Do these steps to connect the stop [3] to the airplane:

(a) Put the shims [25] in their location on the airplane.

(b) Put the stop [3] in its location on the airplane.

(c) Install the screws [29] with the washers [27] in the drag lever stop [3].

(d) Install the spacers [28], washers [27], and nuts [26] on the screws [29].

1) Do not tighten the nuts until the stop has been adjusted.

(e) Do this task: Tail Skid Drag Lever Stop Adjustment, TASK 32-72-02-000-806.

(f) Tighten the nuts [26] after you have adjusted the stop [3].

——— END OF TASK ———

TASK 32-72-02-000-806

11. Tail Skid Drag Lever Stop Adjustment

(Figure 201)

A. References

Reference	Title
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1884	Pin - Lockout, Retractable Tail Skid Fwd and Aft Lock Link Part #: J32071-10 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
A00723	Sealant - Corrosion Inhibitive, 2-Part - PR-1405-G	

D. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

E. Tail Skid Drag Lever Stop Adjustment

SUBTASK 32-72-02-480-006

WARNING	MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-72-02-860-002

(2) Do these steps to move the tail skid to the retracted position:

WARNING	KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Remove the tail skid lockout pin, SPL-1884, from the lock links for the tail skid if it is installed (TASK 32-00-30-080-801).

(c) Put the control lever for the landing gear, on the P2 center forward panel, to the UP position.

1) You must push the LOCK OVRD button to do this.

(d) Make sure the tail skid assembly is in the UP position.

WARNING	MAKE SURE THAT YOU INSTALL THE LOCK PIN IN THE TAIL SKID. WITHOUT THE LOCK PIN, THE TAIL SKID CAN EXTEND AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(e) Install the tail skid lockout pin, SPL-1884, in the lock link for the tail skid (TASK 32-00-30-480-801)

(f) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 32-72-02-210-014

(3) Use a lift to get access to the exterior assembly for the tail skid shock absorber assembly [5].

SUBTASK 32-72-02-020-018

(4) Remove the fairing [4]:

NOTE: The tail skid fairing is removed to allow access to the drag lever stop.

(a) Hold the fairing [4] in its location.

(b) Remove the four bolts [10] that hold the fairing [4] to the body of the airplane.

(c) Remove the fairing [4].

SUBTASK 32-72-02-220-001

(5) Measure the clearance between the drag lever [6] and the stop [3]:

(a) Make sure the clearance between the drag lever [6] and stop [3] is 0.04 in. (1.02 mm)+/-0.02 in. (0.51 mm).

(b) If the clearance is not correct, do these steps:

1) Move the tail skid to the extended position, do these steps:

WARNING KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

a) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

b) Remove the tail skid lockout pin, SPL-1884, from the lock links for the tail skid if it is installed (TASK 32-00-30-080-801).

c) Put the control lever for the landing gear, on the P2 center forward panel, to the DOWN position.

d) Make sure the tail skid assembly is in the DOWN position.

WARNING MAKE SURE THAT YOU INSTALL THE LOCK PIN IN THE TAIL SKID. WITHOUT THE LOCK PIN, THE TAIL SKID CAN EXTEND AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

e) Install the tail skid lockout pin, SPL-1884, in the lock link for the tail skid (TASK 32-00-30-480-801)

f) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

2) Remove the stop [3] (TASK 32-72-02-000-805).

3) Add or remove the shims [25] (0.02 in. (0.508 mm)) to get the correct dimension.

4) Install the stop [3] (TASK 32-72-02-400-804).

SUBTASK 32-72-02-020-019

(6) Install the fairing [4]:

(a) Apply PR-1405-G sealant, A00723, to the area of the fairing where it touches the brackets on the airplane.

(b) Put the fairing [4] in its location on the airplane.

(c) Install the four bolts [10] that attach the fairing [4] to the body of the airplane.

END OF TASK

TAIL SKID HYDRAULIC ACTUATOR - REMOVAL/INSTALLATION

1. **General**

   A. This procedure has these tasks:

      (1) A removal of the tail skid hydraulic actuator.

      (2) An installation of the tail skid hydraulic actuator.

TASK 32-72-04-000-801

2. **Tail Skid Hydraulic Actuator Removal**

   (Figure 401)

   A. **References**

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   B. **Tools/Equipment**

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1976	Barrier - Service Access Door, Section 48 Part #: J51001-1 Supplier: 81205
SPL-2011	Ladder Equipment - Vertical Fin and Empennage Access Part #: J53001-1 Supplier: 81205

   C. **Location Zones**

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

   D. **Access Panels**

Number	Name/Location
311BL	Service Access Door

   E. **Tail Skid Hydraulic Actuator Removal**

   SUBTASK 32-72-04-480-001

   WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

   (1) If the downlock pins are not installed in the nose and main landing gear and the tail skid, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

   NOTE: The tail skid can be in the retracted or the extended position when you remove the actuator.

   SUBTASK 32-72-04-210-001

   (2) Do the steps that follow to get access to the interior assembly for the tail skid hydraulic actuator [3].

(a) Open this access panel:

Number	Name/Location
311BL	Service Access Door

(b) Use a ladder equipment, SPL-2011, or equivalent to get access to the tail skid assembly.

(c) Install the service access door barrier, SPL-1976, in the opening of the access door while you do work in the area.

SUBTASK 32-72-04-020-001

(3) Disconnect the hydraulic lines from the hydraulic actuator [3].

(a) Install caps on the actuator ports and plugs in the hydraulic lines.

SUBTASK 32-72-04-020-002

(4) Do these steps to disconnect the hydraulic actuator [3] from the lock link assembly [1]:

(a) Remove the cotter pin [9], cotter pin [13], nut [10], nut [14], washer [11], and washer [15] from the forward pin crank [8] and aft pin crank [12].

(b) Remove the hydraulic actuator [3] from the forward pin crank [8] and aft pin crank [12].

(c) Remove the washer [11] and washer [15] from the forward pin crank [8] and aft pin crank [12].

SUBTASK 32-72-04-020-003

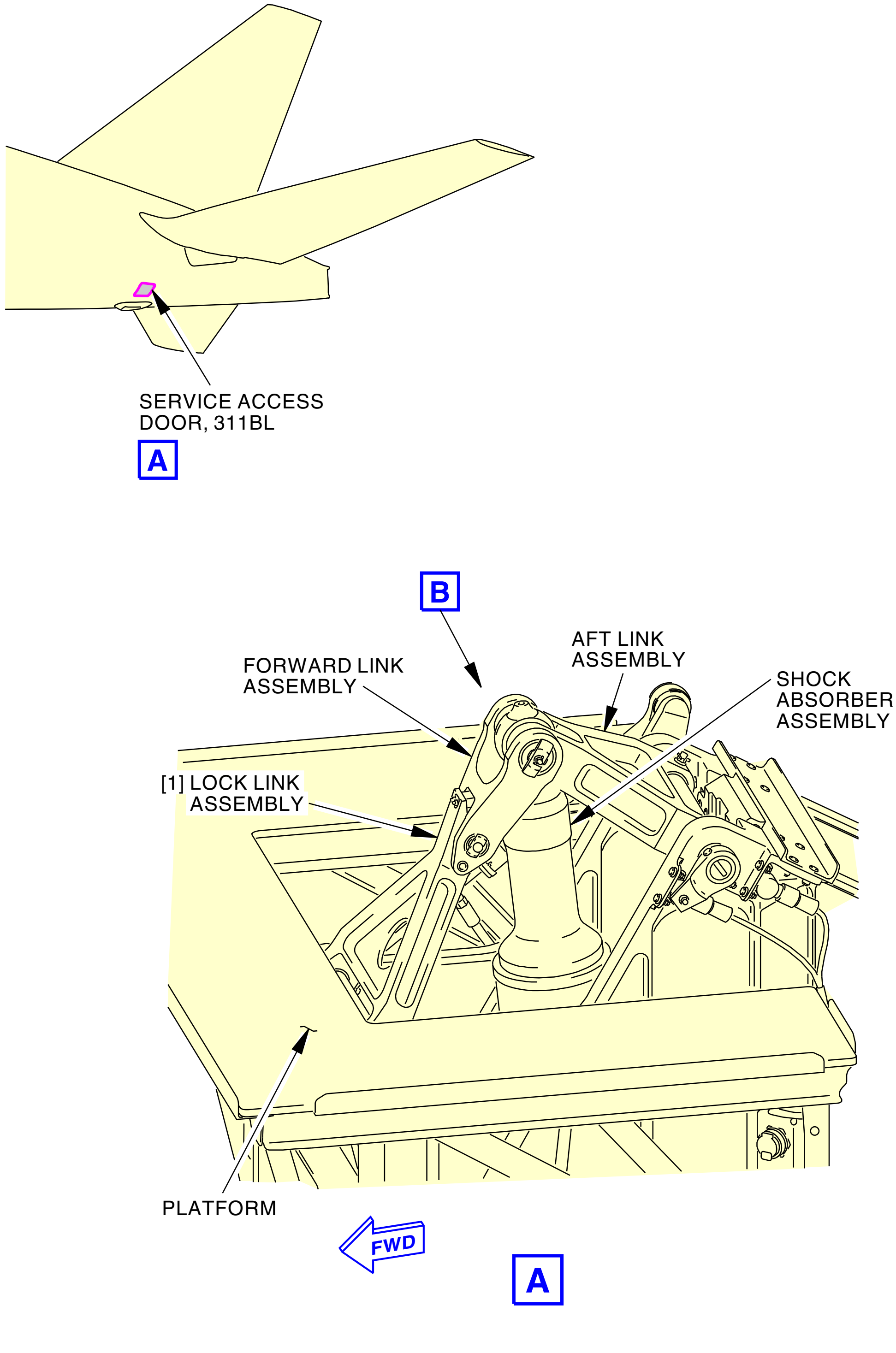
(5) If the hydraulic actuator [3] that you will install does not have unions install, do these steps:

(a) Remove the union [4] and union [6] from the hydraulic actuator [3].

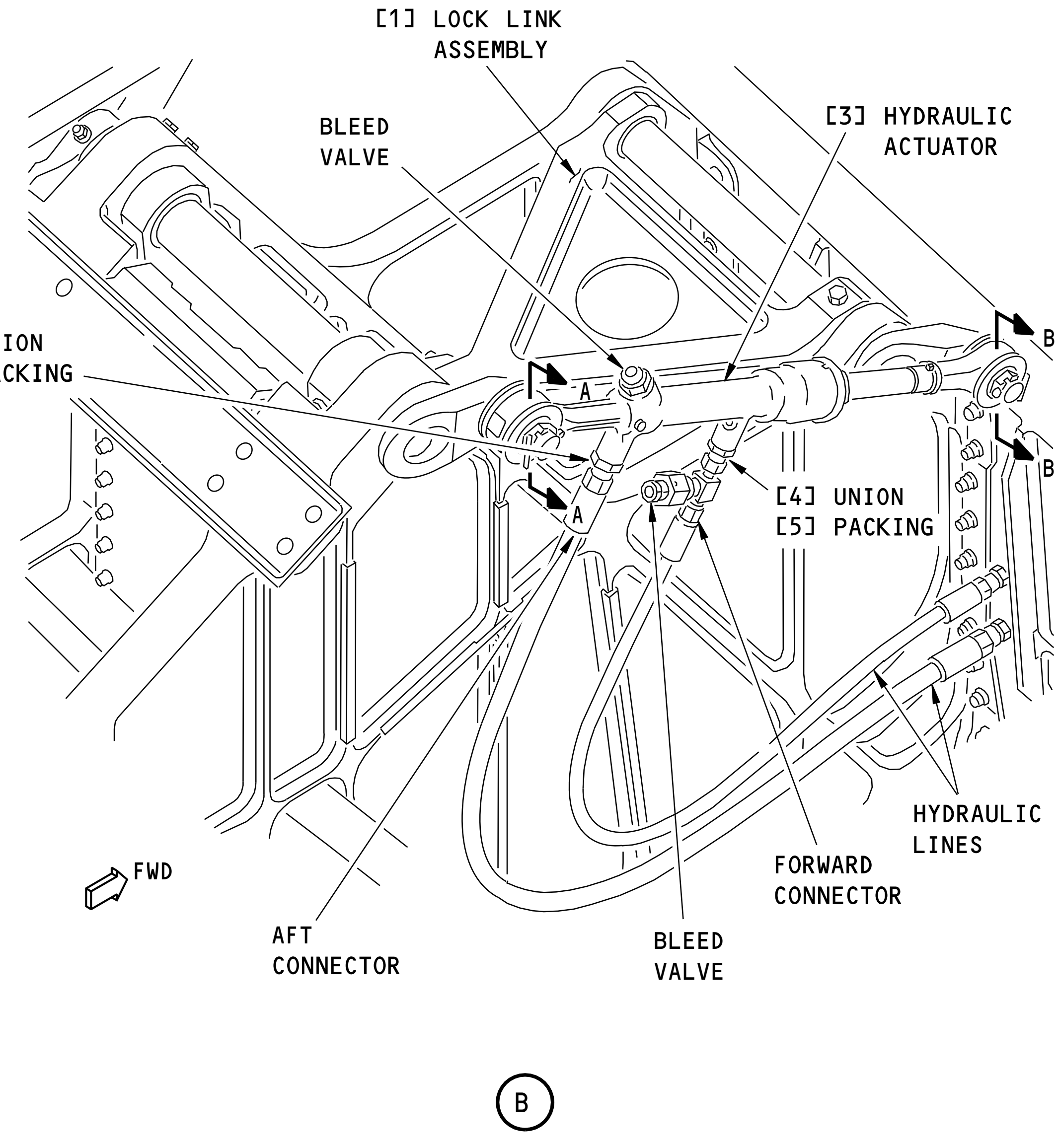
(b) Remove the packing [5] and packing [7] from the unions.

(c) Discard the packing [5] and packing [7].

END OF TASK



**Tail Skid Hydraulic Actuator Installation
Figure 401/32-72-04-990-801 (Sheet 1 of 3)**



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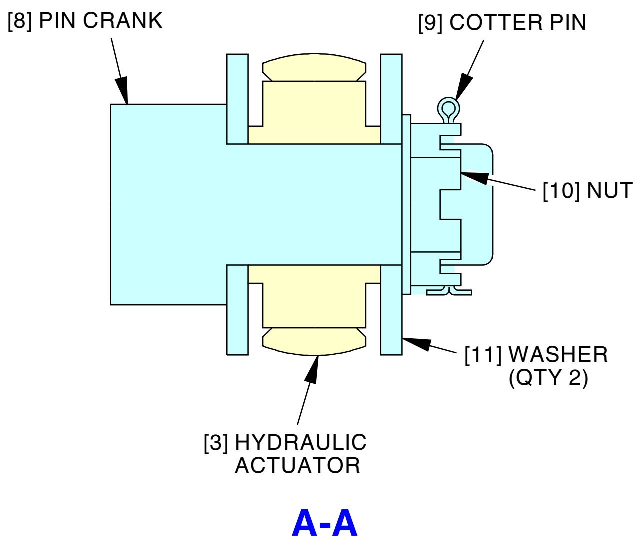
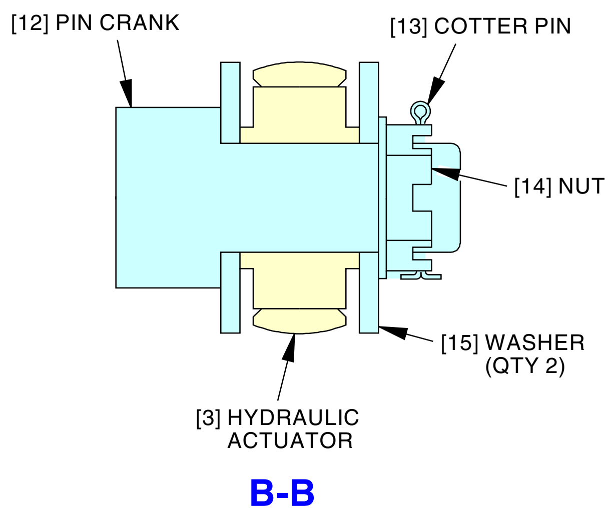
Tail Skid Hydraulic Actuator Installation
Figure 401/32-72-04-990-801 (Sheet 2 of 3)





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Tail Skid Hydraulic Actuator Installation
Figure 401/32-72-04-990-801 (Sheet 3 of 3)

TASK 32-72-04-400-801

3. Tail Skid Hydraulic Actuator Installation

(Figure 401)

A. References

Reference	Title
32-72-00-000-802	Tail Skid System Bleeding (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1976	Barrier - Service Access Door, Section 48 Part #: J51001-1 Supplier: 81205
SPL-2011	Ladder Equipment - Vertical Fin and Empennage Access Part #: J53001-1 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
D00153	Fluid - Hydraulic Fluid, Fire Resistant (Interchangeable And Intermixable With BMS 3-11 Type V)	BMS3-11 Type IV

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Hydraulic actuator	32-72-04-01-065	ARO 001-004
9	Cotter pin	32-72-04-01-015	ARO 001-004
13	Cotter pin	32-72-04-01-015	ARO 001-004

E. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

F. Access Panels

Number	Name/Location
311BL	Service Access Door

G. Tail Skid Hydraulic Actuator Installation

SUBTASK 32-72-04-210-002

(1) Do the steps that follow to get access to the interior assembly for the tail skid hydraulic actuator.

(a) Open this access panel:

Number	Name/Location
311BL	Service Access Door

(b) Use a ladder equipment, SPL-2011, or equivalent to get access to the tail skid assembly.

(c) Install the service access door barrier, SPL-1976, in the opening of the access door while you do work in the area.

SUBTASK 32-72-04-420-001

(2) If the hydraulic actuator [3] that you will install does not have unions install, do these steps:

(a) Apply hydraulic fluid, D00153, to the union [4], union [6], packing [5], and packing [7].

(b) Install the packing [5] on the union [4] and packing [7] on the union [6].

(c) Install the union [4] and union [6] on the hydraulic actuator [3].

SUBTASK 32-72-04-020-004

(3) Do the steps that follow to connect the hydraulic actuator [3] to the lock link assembly [1].

(a) If the link pins were previously removed, make sure the pin cranks are in the correct position for the tail skid.

1) If the tail skid is in the extended position, the pin cranks should both point forward and slightly down.

2) If the tail skid is in the retracted position, the forward pin crank should both point down and the aft pin crank should point up.

(b) Put the washer [11] on the aft pin crank [8], and washer [15] on the forward pin crank [12].

(c) Put the hydraulic actuator [3] in its position on the forward pin crank [8] and aft pin crank [12].

1) The hydraulic actuator [3] is installed with the hydraulic ports facing down and the bleed valve towards the aft of the airplane.

(d) Install the washer [11], washer [15], nut [10], nut [14], cotter pin [9], and cotter pin [13] on the pin crank [8] and pin crank [12].

(e) Tighten the nut [10] and nut [14] to 900 in-lb (102 N·m) - 2000 in-lb (226 N·m).

SUBTASK 32-72-04-020-005

(4) Remove the caps from the actuator ports and the plugs from the hydraulic lines.

SUBTASK 32-72-04-020-006

(5) Connect the hydraulic lines to the hydraulic actuator [3].

(a) Tighten the aft hose connector (large hose) to 270 ±14 in-lb (31 ±2 N·m).

(b) Tighten the forward hose connector (small hose) to 140 ±7 in-lb (16 ±1 N·m).

1) Make sure that the tee with the bleed valve is installed in the plane of the actuator as shown on the Figure 401.

SUBTASK 32-72-04-870-001

(6) Do this task: Tail Skid System Bleeding, TASK 32-72-00-000-802.

SUBTASK 32-72-04-210-003

(7) Close this access panel:

Number	Name/Location
311BL	Service Access Door

END OF TASK

TAIL SKID LINK ASSEMBLY - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

(1) A removal of the tail skid aft link

(2) An installation of the tail skid aft link

(3) A removal of the tail skid lock links

(4) An installation of the tail skid lock links

TASK 32-72-05-000-801

2. Tail Skid Aft Link Removal

(Figure 401)

A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-72-04-000-801	Tail Skid Hydraulic Actuator Removal (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1976	Barrier - Service Access Door, Section 48 Part #: J51001-1 Supplier: 81205
SPL-2011	Ladder Equipment - Vertical Fin and Empennage Access Part #: J53001-1 Supplier: 81205

C. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

D. Access Panels

Number	Name/Location
311BL	Service Access Door

E. Tail Skid Aft Link Removal

SUBTASK 32-72-05-480-001

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear and the tail skid, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

(a) The tail skid can be in the retracted or the extended position when you remove the link.

SUBTASK 32-72-05-210-001

(2) Use a lift to get access to the exterior assembly for the tail skid shock absorber assembly [1].

SUBTASK 32-72-05-020-001

(3) Remove the tail skid fairing [2]:

NOTE: The tail skid fairing is removed to prevent damage to it when the shock absorber is disconnected from the link assembly.

NOTE: You do not have to remove the fairing if you make sure the shock strut and lever are held in place with a rope.

(a) Hold the tail skid fairing [2] in its location.

(b) Remove the four bolts [4] that hold the tail skid fairing [2] to the body of the airplane.

(c) Remove the tail skid fairing [2].

SUBTASK 32-72-05-210-002

(4) Do the steps that follow to get access to the interior assembly for the tail skid link assembly.

(a) Open this access panel:

Number	Name/Location
311BL	Service Access Door

(b) Use a ladder equipment, SPL-2011 or equivalent to get access to the tail skid assembly.

(c) Install the service access door barrier, SPL-1976, in the opening of the access door while you do work in the area.

SUBTASK 32-72-05-020-002

(5) Do this task: Tail Skid Hydraulic Actuator Removal, TASK 32-72-04-000-801.

SUBTASK 32-72-05-020-003

CAUTION

MAKE SURE THE SHOCK ABSORBER AND DRAG LEVER DOES NOT MOVE DOWN QUICKLY WHEN YOU DISCONNECT PIN ASSEMBLY. THE PIN ASSEMBLY THAT YOU REMOVE HOLDS THE SHOCK ABSORBER IN ITS POSITION. WHEN YOU REMOVE THE PIN ASSEMBLY, THE SHOCK ABSORBER CAN MOVE DOWN QUICKLY, THIS CAN CAUSE DAMAGE TO THE AIRPLANE.

(6) Do these steps to disconnect the shock absorber assembly [1] from the lock link [5] and the aft link [6]:

In the area behind this access panel:

Number	Name/Location
311BL	Service Access Door

(a) Remove the cotter pin [12], the nut [13], and the washer [11] from the bolt [10].

(b) Remove the bolt [10], the washer [9], and the two end caps [7] from the pin [8].

(c) Remove the upper pin [8] to disconnect the shock absorber assembly [1] from the lock link [5] and aft link [6].

(d) Remove the alignment washer [7A] from the aft link [6].

(e) Slowly move the shock absorber assembly [1] and drag lever to the extended position.

NOTE: If you did not remove the tail skid fairing, make sure the drag lever/door [3] does not rest against the fairing.

SUBTASK 32-72-05-020-004

(7) Do these steps to disconnect the aft link [6] from the airplane:

(a) Disconnect the target arm [26] from the aft link pin [22]:

1) Remove the bolt [27], the washer [30], the washer [24], and the nut [25] from the aft link pin [22].

2) Remove the target arm [26] from the aft link pin [22].

(b) Disconnect the aft link [6] from the aft link pin [22]:

1) Remove the cotter pin [21], the nut [20], and the washer [29] from the bolt [28].

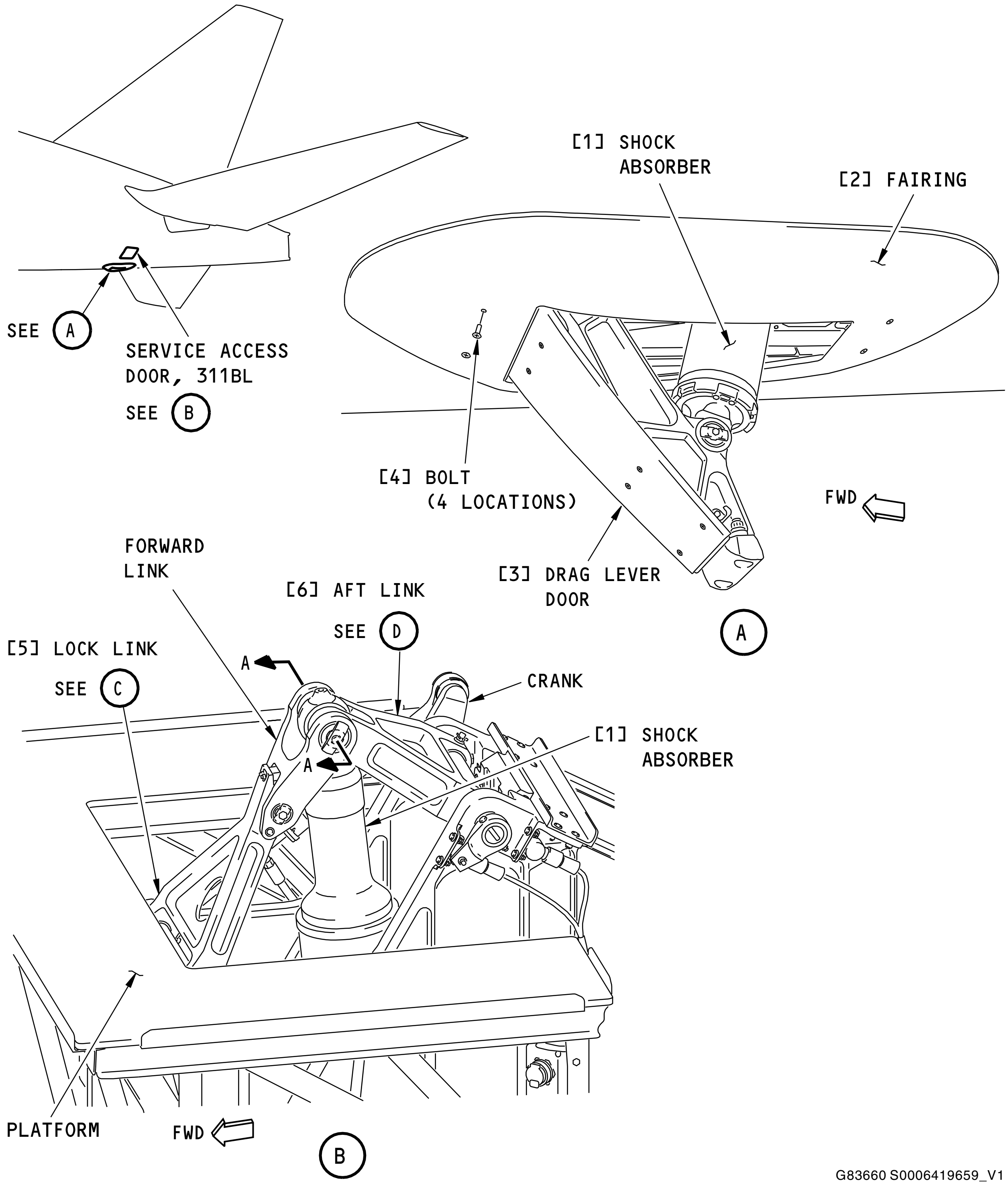
2) Remove the bolt [28] to disconnect the aft link [6] from the pin [22].

(c) Hold the aft link [6] in its position such that it will not move when you remove the pin [22].

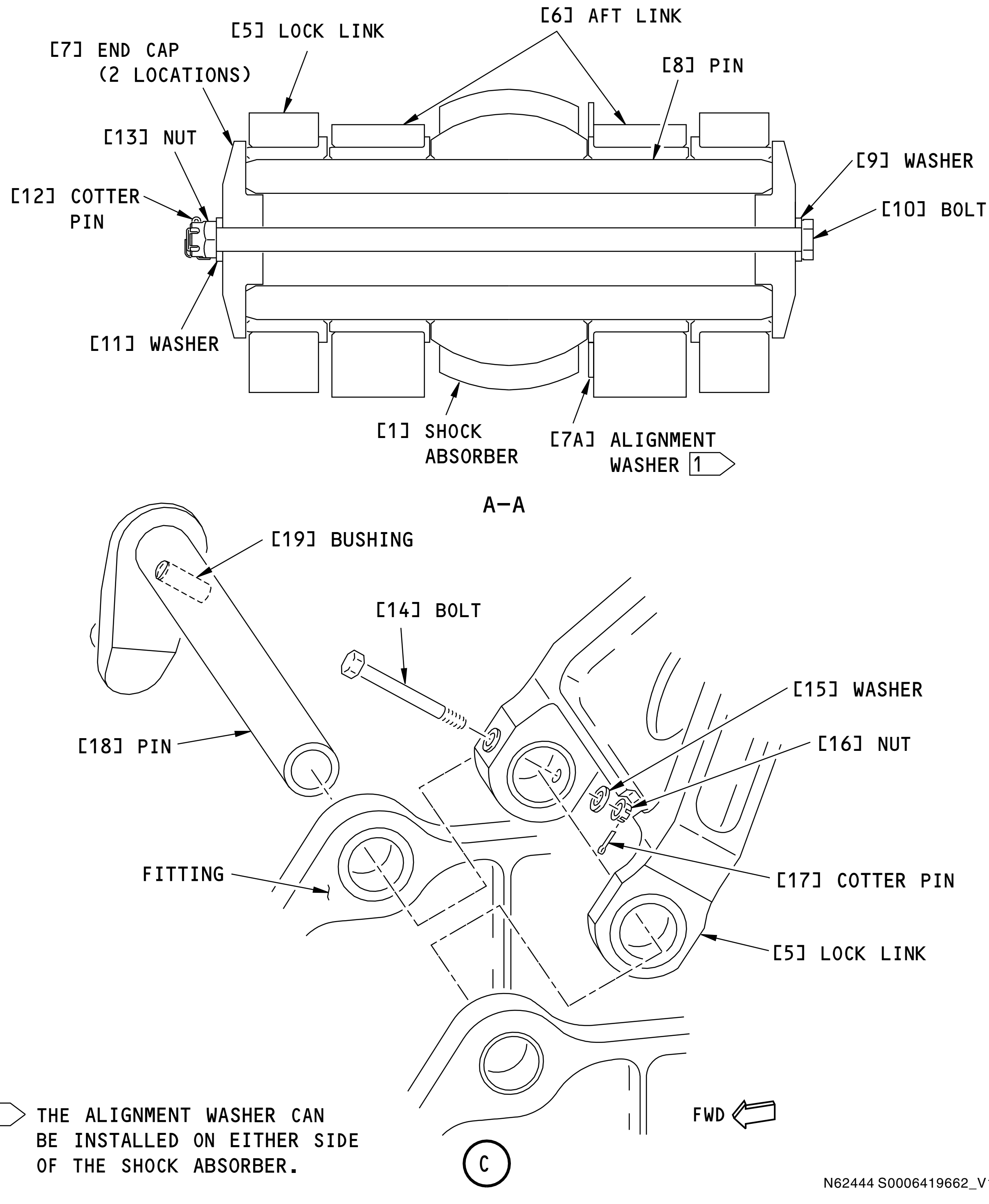
(d) Remove the aft link pin [22] from the aft link [6] and the airplane.

(e) Remove the aft link [6] from the airplane.

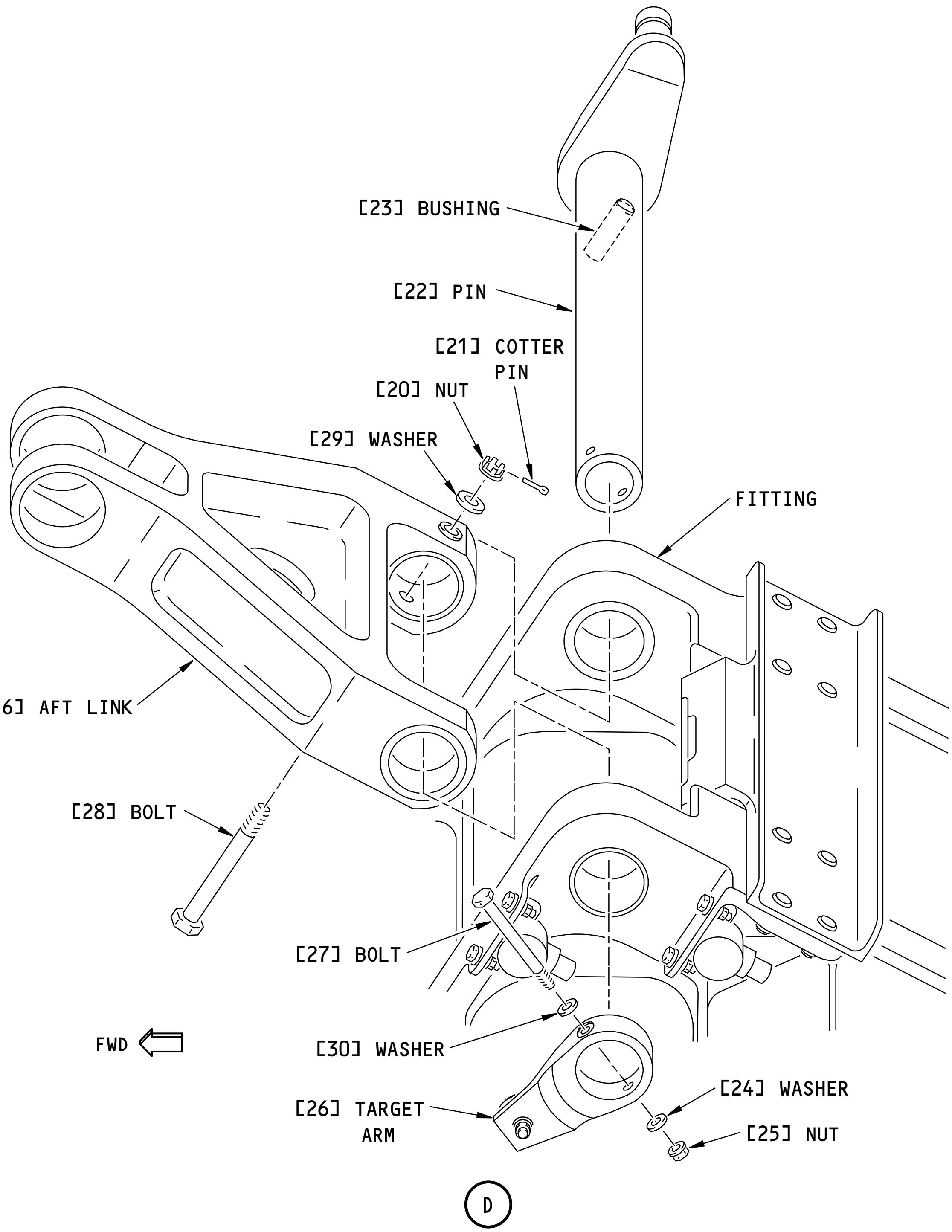
——— END OF TASK ———



Tail Skid Link Assembly Installation
Figure 401/32-72-05-990-801 (Sheet 1 of 3)



Tail Skid Link Assembly Installation
Figure 401/32-72-05-990-801 (Sheet 2 of 3)



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Tail Skid Link Assembly Installation
Figure 401/32-72-05-990-801 (Sheet 3 of 3)

TASK 32-72-05-400-801

3. Tail Skid Aft Link Installation

(Figure 401)

A. References

Reference	Title
32-72-00-000-801	Tail Skid System Operational Test (P/B 501)
32-72-00-000-802	Tail Skid System Bleeding (P/B 201)
32-72-04-400-801	Tail Skid Hydraulic Actuator Installation (P/B 401)
32-72-10-700-801	Test of the Proximity Sensor for the Tail Skid (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1976	Barrier - Service Access Door, Section 48 Part #: J51001-1 Supplier: 81205
SPL-2011	Ladder Equipment - Vertical Fin and Empennage Access Part #: J53001-1 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
A00723	Sealant - Corrosion Inhibitive, 2-Part - PR-1405-G	

D. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

E. Access Panels

Number	Name/Location
311BL	Service Access Door

F. Tail Skid Aft Link Installation

SUBTASK 32-72-05-210-003

(1) Do the steps that follow to get access to the interior assembly for the tail skid hydraulic actuator.

(a) Open this access panel:

Number	Name/Location
311BL	Service Access Door

(b) Use a ladder equipment, SPL-2011 or equivalent to get access to the tail skid assembly.

(c) Install the service access door barrier, SPL-1976, in the opening of the access door while you do work in the area.

SUBTASK 32-72-05-420-001

(2) Do these steps to connect the aft link [6] to the airplane:

(a) Hold the aft link [6] in its position on the airplane.

(b) Install the aft link pin [22] in the airplane and the aft link [6].

NOTE: The pin is installed from the right hand side of the airplane to the left hand side.

(c) Align the crank on the aft link pin [22] with the aft link [6]:

1) Hold the aft link [6] such that the link is horizontal.

2) Move the crank on the aft link pin [22] such that it is pointing up and approximately 90 degrees to the aft link [6] when the bolt holes in each are aligned.

(d) Connect the aft link [6] to the aft link pin [22]:

1) Install the bolt [28] through the bushing [23] to connect the aft link [6] to the pin [22].

NOTE: Install the bolt from the bottom (aft) of the link, this will make it easier for you to install the nut and cotter pin.

2) Install the washer [29], the nut [20], and the cotter pin [21] on the bolt [28].

(e) Connect the target arm [26] to the aft link pin [22]:

1) Put the target arm [26] on the end of the aft link pin [22] such that when the bolt holes are aligned, the target arm is pointing in the opposite direction as the crank.

2) Install the bolt [27] with the countersunk washer [30] to connect the target arm [26] to the aft link pin [22].

NOTE: Install the bolt from the bottom of the target arm.

3) Install the washer [24] and the nut [25] on the bolt [27].

SUBTASK 32-72-05-420-002

(3) Do these steps to connect the shock absorber to the lock links and the aft link:

(a) Install the alignment washer [7A] on the aft link [6].

NOTE: The alignment washer [7A] can be installed on either side of the shock absorber [1].

(b) Put the upper end of the shock absorber assembly [1] in its position in the lugs of the aft link [6].

(c) Put the upper end of the shock absorber assembly [1] and the aft link [6] in their position in the lugs of the lock link [5].

(d) Install the upper pin [8] to connect the shock absorber assembly [1] to the lock link [5] and the aft link [6].

(e) Install the two end cap [7], the countersunk washer [9], and the bolt [10] on the pin [8].

(f) Install the plain washer [11], the nut [13], and the cotter pin [12] on the bolt [10].

SUBTASK 32-72-05-210-004

(4) Do this task: Tail Skid Hydraulic Actuator Installation, TASK 32-72-04-400-801.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-72-05-210-005

(1) Do this task: Tail Skid System Bleeding, TASK 32-72-00-000-802.

SUBTASK 32-72-05-210-006

(2) Do this task: Tail Skid System Operational Test, TASK 32-72-00-000-801.

SUBTASK 32-72-05-210-007

(3) Do this task: Test of the Proximity Sensor for the Tail Skid, TASK 32-72-10-700-801.

SUBTASK 32-72-05-210-008

(4) Use a lift to get access to the exterior assembly for the tail skid shock absorber.

SUBTASK 32-72-05-420-003

(5) Install the tail skid fairing [2] if it was removed:

(a) Apply PR-1405-G sealant, A00723, to the area of the fairing [2] where it contacts the brackets on the airplane.

(b) Put the tail skid fairing [2] in its location on the airplane.

(c) Install the four bolts [4] that hold the tail skid fairing [2] to the body of the airplane.

SUBTASK 32-72-05-210-009

(6) Close this access panel:

Number	Name/Location
311BL	Service Access Door

——— END OF TASK ———

TASK 32-72-05-000-802

4. Tail Skid Lock Link Removal

(Figure 401)

A. References

Reference	Title
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)
32-72-04-000-801	Tail Skid Hydraulic Actuator Removal (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1976	Barrier - Service Access Door, Section 48 Part #: J51001-1 Supplier: 81205
SPL-2011	Ladder Equipment - Vertical Fin and Empennage Access Part #: J53001-1 Supplier: 81205

C. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

D. Access Panels

Number	Name/Location
311BL	Service Access Door

E. Tail Skid Lock Link Removal

SUBTASK 32-72-05-480-002

WARNING: MAKE SURE THE DOWNLOCK PINS ARE INSTALLED ON ALL THE LANDING GEAR. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR COULD RETRACT AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) If the downlock pins are not installed in the nose and main landing gear and the tail skid, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

(a) The tail skid can be in the retracted or the extended position when you remove the link.

SUBTASK 32-72-05-210-010

(2) Use a lift to get access to the exterior assembly for the tail skid shock absorber assembly [1].

SUBTASK 32-72-05-020-006

(3) Remove the tail skid fairing [2]:

NOTE: The tail skid fairing is removed to prevent damage to it when the shock absorber is disconnected from the link assembly.

NOTE: You do not have to remove the fairing if you make sure the shock strut and lever are held in place with a rope.

(a) Hold the tail skid fairing [2] in its location.

(b) Remove the four bolts [4] that hold the tail skid fairing [2] to the body of the airplane.

(c) Remove the tail skid fairing [2].

SUBTASK 32-72-05-210-011

(4) Do the steps that follow to get access to the interior assembly for the tail skid link assembly.

(a) Open this access panel:

Number	**Name/Location**
311BL	Service Access Door

(b) Use a ladder equipment, SPL-2011 or equivalent to get access to the tail skid assembly.

(c) Install the service access door barrier, SPL-1976, in the opening of the access door while you do work in the area.

SUBTASK 32-72-05-020-007

(5) Do this task: Tail Skid Hydraulic Actuator Removal, TASK 32-72-04-000-801.

SUBTASK 32-72-05-020-008

CAUTION	MAKE SURE THE SHOCK ABSORBER AND DRAG LEVER DOES NOT MOVE DOWN QUICKLY WHEN YOU DISCONNECT PIN ASSEMBLY. THE PIN ASSEMBLY THAT YOU REMOVE HOLDS THE SHOCK ABSORBER IN ITS POSITION. WHEN YOU REMOVE THE PIN ASSEMBLY, THE SHOCK ABSORBER CAN MOVE DOWN QUICKLY, THIS CAN CAUSE DAMAGE TO THE AIRPLANE.

(6) Do these steps to disconnect the shock absorber from the lock links and the aft link:

In the area behind this access panel:

Number	**Name/Location**
311BL	Service Access Door

(a) Remove the cotter pin [12], the nut [13], and the washer [11] from the bolt [10].

(b) Remove the bolt [10], the washer [9], and the two end cap [7] from the pin [8].

(c) Remove the upper pin [8] to disconnect the shock absorber assembly [1] from the lock link [5] and the aft link [6].

(d) Remove the alignment washer [7A] from the aft link [6].

(e) Slowly move the shock absorber assembly [1] and drag lever to the extended position.

NOTE: If you did not remove the tail skid fairing, make sure the drag lever/door [3] does not rest against the fairing.

SUBTASK 32-72-05-020-009

(7) Do these steps to disconnect the lock link [5] from the airplane:

(a) Remove the cotter pin [17], the nut [16], and the washer [15] from the bolt [14].

(b) Remove the bolt [14] to disconnect the lock link [5] from the pin [18].

(c) Hold the lock link [5] in its position such that they will not move when you remove the pin [18].

(d) Remove the pin [18] from the lock link [5] and the airplane.

(e) Remove the lock link [5] from the airplane.

END OF TASK

TASK 32-72-05-400-802

5. Tail Skid Lock Link Installation

(Figure 401)

A. References

Reference	Title
32-72-00-000-801	Tail Skid System Operational Test (P/B 501)
32-72-00-000-802	Tail Skid System Bleeding (P/B 201)
32-72-04-400-801	Tail Skid Hydraulic Actuator Installation (P/B 401)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1976	Barrier - Service Access Door, Section 48 Part #: J51001-1 Supplier: 81205
SPL-2011	Ladder Equipment - Vertical Fin and Empennage Access Part #: J53001-1 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
A00723	Sealant - Corrosion Inhibitive, 2-Part - PR-1405-G	

D. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left
312	Area Aft of Bulkhead, Right

E. Access Panels

Number	Name/Location
311BL	Service Access Door

F. Tail Skid Lock Link Installation

SUBTASK 32-72-05-210-012

(1) Do the steps that follow to get access to the interior assembly for the tail skid hydraulic actuator.

(a) Open this access panel:

Number	Name/Location
311BL	Service Access Door

(b) Use a ladder equipment, SPL-2011 or equivalent to get access to the tail skid assembly.

(c) Install the service access door barrier, SPL-1976, in the opening of the access door while you do work in the area.

SUBTASK 32-72-05-420-004

(2) Do these steps to connect the lock link [5] to the airplane:

NOTE: It will be easier to install the lock links if the downlock pin is installed in the links.

(a) Hold the lock link [5] in their position on the airplane.

(b) Install the lock link pin [18] in the airplane and the lock link [5].

NOTE: The pin is installed from the right hand side of the airplane to the left hand side.

(c) Align the crank on the lock link pin [18] with the lock link [5]:

1) Hold the lock link [5] such that the links are horizontal.

2) Move the crank on the lock link pin [18] such that it is pointing forward and in the opposite direction as the lock link [5] when the bolt holes in each are aligned.

(d) Install the bolt [14] through the bushing [19] to connect the lock link [5] to the pin [18].

NOTE: Install the bolt from the top (forward) of the links, this will make it easier for you to install the nut and cotter pin.

(e) Install the washer [15], the nut [16], and the cotter pin [17] on the bolt [14].

SUBTASK 32-72-05-420-005

(3) Do these steps to connect the shock absorber to the lock links and the aft link:

(a) Install the alignment washer [7A] on the aft link [6].

NOTE: The alignment washer [7A] can be installed on either side of the shock absorber [1].

(b) Put the upper end of the shock absorber assembly [1] in its position in the lugs of the aft link [6].

(c) Put the upper end of the shock absorber assembly [1] and the aft link [6] in their position in the lugs of the lock link [5].

(d) Install the upper pin [8] to connect the shock absorber assembly [1] to the lock link [5] and the aft link [6].

(e) Install the two end caps [7], the countersunk washer [9], and the bolt [10] on the pin [8].

(f) Install the plain washer [11], the nut [13], and the cotter pin [12] on the bolt [10].

SUBTASK 32-72-05-210-013

(4) Do this task: Tail Skid Hydraulic Actuator Installation, TASK 32-72-04-400-801.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 32-72-05-210-014

(1) Do this task: Tail Skid System Bleeding, TASK 32-72-00-000-802.

SUBTASK 32-72-05-210-015

(2) Do this task: Tail Skid System Operational Test, TASK 32-72-00-000-801.

SUBTASK 32-72-05-210-016

(3) Use a lift to get access to the exterior assembly for the tail skid shock absorber.

SUBTASK 32-72-05-420-006

(4) Install the tail skid fairing [2] if it was removed:

(a) Apply PR-1405-G sealant, A00723, to the area of the fairing [2] where it contacts the brackets on the airplane.

(b) Put the tail skid fairing [2] in its location on the airplane.

(c) Install the four bolts [4] that hold the tail skid fairing [2] to the body of the airplane.

SUBTASK 32-72-05-210-017

(5) Close this access panel:

Number	Name/Location
311BL	Service Access Door

END OF TASK

TAIL SKID PROXIMITY SENSOR - MAINTENANCE PRACTICES

1. **General**
   A. This procedure has these tasks:
      (1) A removal of the tail skid proximity sensor.
      (2) An installation of the tail skid proximity sensor.
      (3) Test of the tail skid proximity sensor.
      (4) Measure and adjust the clearance of the tail skid proximity sensor.

TASK 32-72-10-000-801

2. **Tail Skid Proximity Sensor Removal**
   (Figure 201)

   A. **References**

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

   B. **Tools/Equipment**

   NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1884	Pin - Lockout, Retractable Tail Skid Fwd and Aft Lock Link Part #: J32071-10 Supplier: 81205
SPL-1976	Barrier - Service Access Door, Section 48 Part #: J51001-1 Supplier: 81205
SPL-2011	Ladder Equipment - Vertical Fin and Empennage Access Part #: J53001-1 Supplier: 81205

   C. **Location Zones**

Zone	Area
311	Area Aft of Bulkhead, Left

   D. **Access Panels**

Number	Name/Location
311BL	Service Access Door

   E. **Prepare for the Removal**

   SUBTASK 32-72-10-860-001

      (1) Do these steps to prepare for the remove the tail skid proximity sensor [1] and sensor [7]:
         (a) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

> **WARNING** MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(b) Make sure the downlock pins are installed on the nose and main landing gear.

1) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

(c) Use the ladder equipment, SPL-2011, to get to the access door.

(d) To gain access to the tail skid proximity sensor [1] and sensor [7], do this step:

1) Open this access panel:

Number	Name/Location
311BL	Service Access Door

(e) Install the service access door barrier, SPL-1976, in the opening of the service access door.

(f) Open these circuit breakers and install safety tags:

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	2	C32624	PSEU 2 ALTN PWR

F. Tail Skid Proximity Sensor Removal

SUBTASK 32-72-10-020-001

(1) Do these steps to remove the up proximity sensor [1]:

(a) Make sure the control lever for the landing gear, on the P2 center forward panel, is in the DN position.

(b) Make sure the tail skid assembly is in the DN position.

> **WARNING** MAKE SURE THAT YOU INSTALL THE LOCK PIN IN THE TAIL SKID. WITHOUT THE LOCK PIN, THE TAIL SKID CAN EXTEND AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(c) Install the tail skid lockout pin, SPL-1884, in the lock link for the tail skid (TASK 32-00-30-480-801).

(d) Disconnect the electrical connector [2].

(e) Remove the nuts [6], washers [4], washers [5], and bolts [3] from the up proximity sensor [1].

(f) Remove the up proximity sensor [1].

SUBTASK 32-72-10-020-002

(2) Do these steps to remove the down proximity sensor [7]:

WARNING

KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Remove the tail skid lockout pin, SPL-1884, from the lock links for the tail skid (TASK 32-00-30-080-801)

(c) Put the control lever for the landing gear, on the P2 center forward panel, to the UP position.

1) You must push the LOCK OVRD button to do this.

(d) Make sure the tail skid assembly is in the UP position.

WARNING

MAKE SURE THAT YOU INSTALL THE LOCK PIN IN THE TAIL SKID. WITHOUT THE LOCK PIN, THE TAIL SKID CAN EXTEND AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(e) Install the tail skid lockout pin, SPL-1884, in the lock link for the tail skid (TASK 32-00-30-480-801).

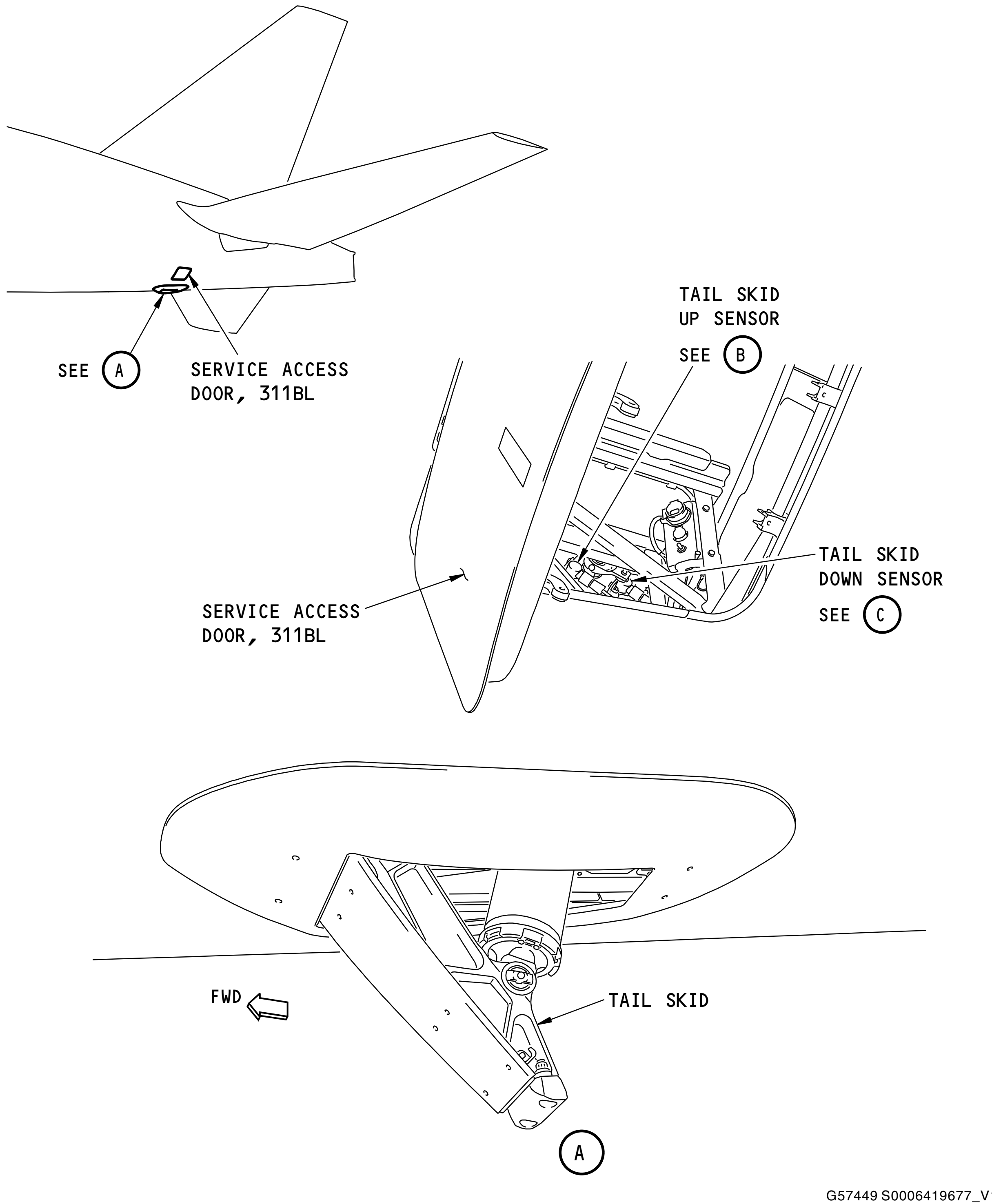
(f) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

(g) Disconnect the electrical connector [8].

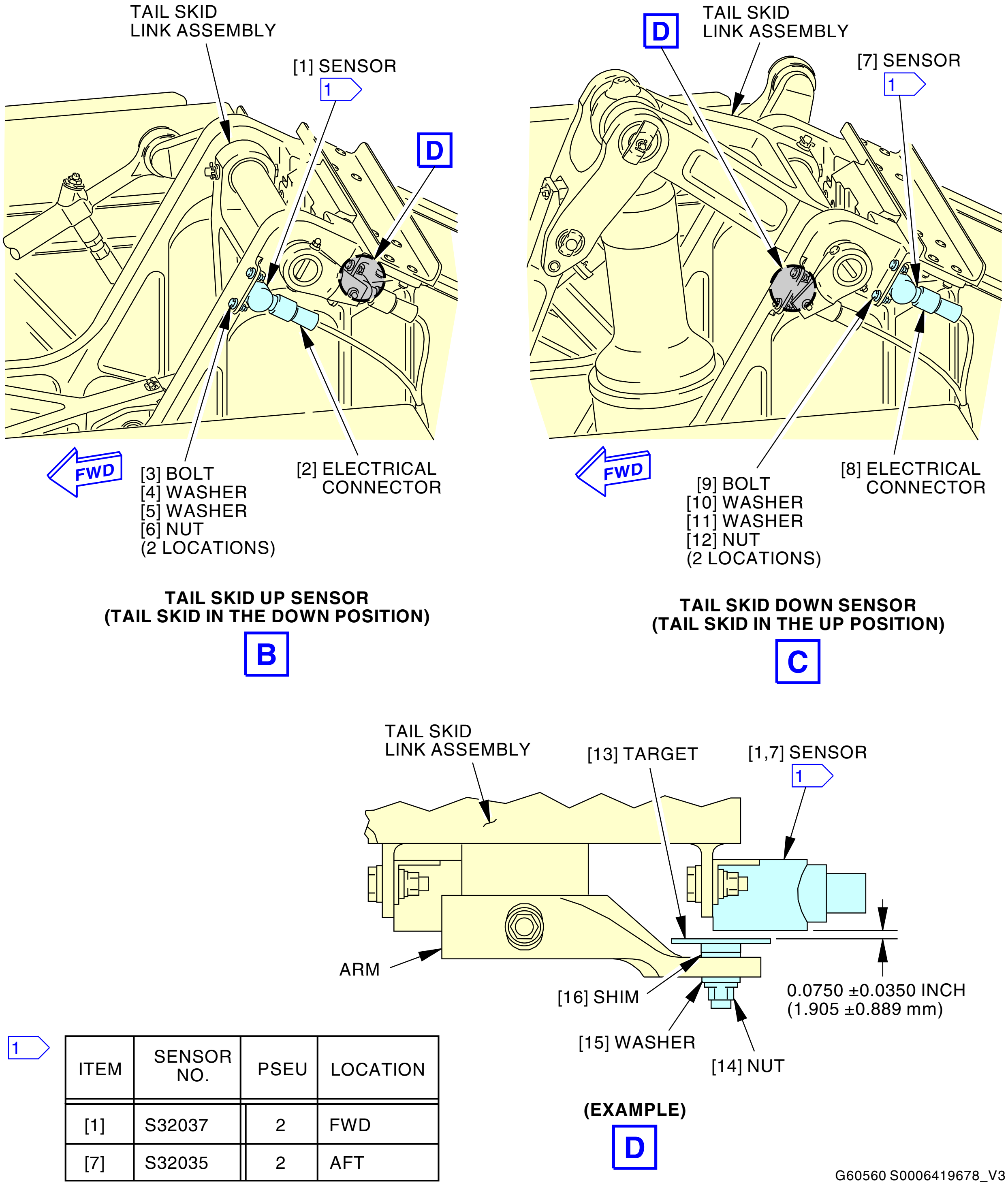
(h) Remove the nuts [12], washers [10], washers [11], and bolts [9] from the down proximity sensor [7].

(i) Remove the down proximity sensor [7].

END OF TASK



Tail Skid Proximity Sensors Installation
Figure 201/32-72-10-990-802 (Sheet 1 of 2)



1

ITEM	SENSOR NO.	PSEU	LOCATION
[1]	S32037	2	FWD
[7]	S32035	2	AFT

G60560 S0006419678_V3

Tail Skid Proximity Sensors Installation
Figure 201/32-72-10-990-802 (Sheet 2 of 2)

TASK 32-72-10-400-801

3. Tail Skid Proximity Sensor Installation

(Figure 201)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1884	Pin - Lockout, Retractable Tail Skid Fwd and Aft Lock Link Part #: J32071-10 Supplier: 81205
SPL-1976	Barrier - Service Access Door, Section 48 Part #: J51001-1 Supplier: 81205

C. Location Zones

Zone	Area
311	Area Aft of Bulkhead, Left

D. Access Panels

Number	Name/Location
311BL	Service Access Door

E. Prepare for the Installation

SUBTASK 32-72-10-860-003

(1) Do these steps to prepare for install the tail skid proximity sensor [1] and sensor [7]:

(a) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

> **WARNING**: MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(b) Make sure the downlock pins are installed on the nose and main landing gear.

1) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

(c) Make sure the service access door barrier, SPL-1976, is installed in the opening of the service access door.

F. Installation Procedure

SUBTASK 32-72-10-420-001

(1) Do these steps to install the down proximity sensor [7]:

(a) Make sure the control lever for the landing gear, on the P2 center forward panel, is in the UP position.

(b) Make sure the tail skid assembly is in the UP position.

WARNING: MAKE SURE THAT YOU INSTALL THE LOCK PIN IN THE TAIL SKID. WITHOUT THE LOCK PIN, THE TAIL SKID CAN EXTEND AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(c) Make sure the tail skid lockout pin, SPL-1884, is installed in the lock link for the tail skid (TASK 32-00-30-480-801).

(d) Put the down proximity sensor [7] in its position.

(e) Install the bolts [9], washers [10], washers [11], and nuts [12] to the down proximity sensor [7].

(f) Connect the electrical connector [8].

SUBTASK 32-72-10-420-002

(2) Do these steps to install the up proximity sensor [1]:

WARNING: KEEP PERSONNEL AND EQUIPMENT AWAY FROM THE FLIGHT CONTROL SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(a) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

(b) Remove the tail skid lockout pin, SPL-1884, from the lock links for the tail skid (TASK 32-00-30-080-801).

(c) Put the control lever for the landing gear, on the P2 center forward panel, to the DN position.

1) You must push the LOCK OVRD button to do this.

(d) Make sure the tail skid assembly is in the DN position.

WARNING: MAKE SURE THAT YOU INSTALL THE LOCK PIN IN THE TAIL SKID. WITHOUT THE LOCK PIN, THE TAIL SKID CAN EXTEND AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(e) Install the tail skid lockout pin, SPL-1884, in the lock link for the tail skid (TASK 32-00-30-480-801).

(f) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

(g) Put the up proximity sensor [1] in its position.

(h) Install the bolts [3], washers [4], washers [5], and nuts [6] to the up proximity sensor [1].

(i) Connect the electrical connector [2].

(j) Remove the tail skid lockout pin, SPL-1884, from the lock links for the tail skid (TASK 32-00-30-080-801).

G. Put the Airplane Back to Its Usual Condition:

SUBTASK 32-72-10-860-004

(1) Remove the safety tags and close these circuit breakers:

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	2	C32624	PSEU 2 ALTN PWR

SUBTASK 32-72-10-710-001

(2) Do this task: Test of the Proximity Sensor for the Tail Skid, TASK 32-72-10-700-801

SUBTASK 32-72-10-410-001

(3) Close this access panel:

Number	Name/Location
311BL	Service Access Door

——— END OF TASK ———

TASK 32-72-10-700-801

4. Test of the Proximity Sensor for the Tail Skid

(Figure 201)

A. General

(1) This test does a check to make sure the tail skid proximity sensor operates correctly. You must use the proximity sensor test set, SPL-1690, to do a sensor operation check. This test of the proximity sensor can be done with the airplane on the ground or on the jacks. The LANDING GEAR ACTN/INDN maintenance page on the primary display system will show you the sensor target position (near or far or blank).

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-801	Main Hydraulic System Pressurization (P/B 201)
29-11-00-860-808	Main Hydraulic System Power Removal (P/B 201)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
32-00-15-080-801	Landing Gear Door Safety Pins Removal (P/B 201)
32-00-15-480-801	Landing Gear Door Safety Pins Installation (P/B 201)
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

C. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1690	Actuators/Deactuators Set - Proximity Sensor Part #: 8-758-01 Supplier: 08748 Part #: A27092-70 Supplier: 81205 Opt Part #: A32102-25 Supplier: 81205 Opt Part #: KHT8-758-01 Supplier: 08748
SPL-1884	Pin - Lockout, Retractable Tail Skid Fwd and Aft Lock Link Part #: J32071-10 Supplier: 81205
SPL-1976	Barrier - Service Access Door, Section 48 Part #: J51001-1 Supplier: 81205
SPL-2011	Ladder Equipment - Vertical Fin and Empennage Access Part #: J53001-1 Supplier: 81205

D. **Location Zones**

Zone	Area
311	Area Aft of Bulkhead, Left

E. **Access Panels**

Number	Name/Location
311BL	Service Access Door

F. **Prepare for the Test**

SUBTASK 32-72-10-860-005

(1) Do this task: Supply Electrical Power, TASK 24-22-00-860-805.

SUBTASK 32-72-10-480-001

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(2) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-72-10-860-011

WARNING OBEY THE INSTALLATION PROCEDURE FOR THE DOOR SAFETY PINS. THE DOORS OPEN AND CLOSE QUICKLY. THE MOVEMENT OF THE DOORS CAN CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 32-72-10-480-002

(4) Use the ladder equipment, SPL-2011, to get access to the Service Access Door, 311BL.

SUBTASK 32-72-10-010-001

(5) To gain access to the tail skid proximity sensor [1] and sensor [7], do this step:

(a) Open this access panel:

Number	Name/Location
311BL	Service Access Door

SUBTASK 32-72-10-480-003

(6) Install the service access door barrier, SPL-1976, in the opening of the service access door.

SUBTASK 32-72-10-860-006

(7) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
H	26	C32600	PSEU 1 PRI PWR

Right Power Management Panel, P210

Row	Col	Number	Name
L	13	C32601	PSEU 2 PRI PWR

Standby Power Management Panel, P310

Row	Col	Number	Name
D	1	C32603	PSEU 1 ALTN PWR
D	2	C32624	PSEU 2 ALTN PWR

G. Proximity Sensor Test

SUBTASK 32-72-10-860-012

WARNING MAKE SURE THAT PERSONNEL AND EQUIPMENT ARE CLEAR OF THE FLIGHT CONTROLS SURFACES. MAKE SURE THAT THE INBOARD FAN DUCT COWL AND THE INBOARD AND OUTBOARD THRUST REVERSERS ARE CLOSED. THE FLIGHT CONTROL SURFACES CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) For the center hydraulic system, do this task: Main Hydraulic System Pressurization, TASK 29-11-00-860-801.

SUBTASK 32-72-10-860-007

(2) Do these steps to select the maintenance page (TASK 31-61-00-800-804):

(a) Push a Display Unit from the Display Select Panel on the P55 glareshield center panel.

(b) Push MAINT INFO DISPLAY prompt on the left, right or center Control Display Unit (CDU) to start the display of the Display Selection menu. The menu will be shown on the lower center, left inboard, or right inboard display units.

(c) Make sure the Display Selection Menu is displayed on the display selected by the Display Select Panel.

(d) On the MFD, use the scroll bar to find the ATA and system for the maintenance page you want to see.

(e) In the REAL column, push SHOW DISPLAY command button for ATA 32 System LANDING GEAR ACTN/INDN.

NOTE: The ATA 32 LANDING GEAR ACTN/INDN maintenance page selection is on the second page.

SUBTASK 32-72-10-700-001

(3) Do these steps for the down proximity sensor [7] indication test:

(a) Put the control lever for the landing gear, on the P2 center forward panel, to the UP position.

(b) Make sure the tail skid assembly is in the UP position.

WARNING: MAKE SURE THAT YOU INSTALL THE LOCK PIN IN THE TAIL SKID. WITHOUT THE LOCK PIN, THE TAIL SKID CAN EXTEND AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(c) Install the tail skid lockout pin, SPL-1884, in the lock link for the tail skid (TASK 32-00-30-480-801).

(d) Use the LANDING GEAR ACTN/INDN Maintenance Display to do a check of the proximity sensor:

(e) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN maintenance display:

Table 201/32-72-10-993-801

	PSEU 2
TAIL SKID DOWN	FAR

(f) Hold and install the proximity sensor test set, SPL-1690, on the face of the proximity sensor.

(g) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN maintenance display:

Table 202/32-72-10-993-802

	PSEU 2
TAIL SKID DOWN	NEAR

1) Remove the proximity sensor test set, SPL-1690, from the proximity sensor.

(h) Remove the tail skid lockout pin, SPL-1884, from the lock link for the tail skid (TASK 32-00-30-080-801).

SUBTASK 32-72-10-700-002

(4) Do these steps for the tail skid up proximity sensor [1] indication test:

(a) Put the control lever for the landing gear, on the P2 center forward panel, to the DN position.

(b) Make sure the tail skid assembly is in the DN position.

WARNING: MAKE SURE THAT YOU INSTALL THE LOCK PIN IN THE TAIL SKID. WITHOUT THE LOCK PIN, THE TAIL SKID CAN EXTEND AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(c) Install the tail skid lockout pin, SPL-1884, in the lock link for the tail skid (TASK 32-00-30-480-801).

(d) Use the LANDING GEAR ACTN/INDN Maintenance Display to do a check of the proximity sensor:

(e) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN maintenance display:

Table 203/32-72-10-993-803

	PSEU 2
TAIL SKID UP	FAR

(f) Hold and install the proximity sensor test set, SPL-1690, on the face of the proximity sensor.

(g) Make sure you see the data that follows on the LANDING GEAR ACTN/INDN maintenance display:

Table 204/32-72-10-993-804

	PSEU 2
TAIL SKID UP	NEAR

(h) Remove the proximity sensor test set, SPL-1690, from the proximity sensor.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 32-72-10-080-002

(1) Do these steps to put the airplane back to its usual condition:

(a) For the center hydraulic system, do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

WARNING: USE THE CORRECT PROCEDURE TO REMOVE THE DOOR LOCKS. THE DOORS CAN OPEN AND CLOSE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL OR DAMAGE TO EQUIPMENT.

(b) Do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.

(c) Remove the tail skid lockout pin, SPL-1884, from the lock link for the tail skid (TASK 32-00-30-080-801).

(d) Remove the service access door barrier, SPL-1976, in the opening of the service access door.

(e) Close this access panel:

Number	Name/Location
311BL	Service Access Door

END OF TASK

TASK 32-72-10-820-801

5. Measure and Adjust the Clearance for the Proximity Sensor on the Tail Skid

(Figure 201)

A. References

Reference	Title
32-00-30-080-801	Landing Gear Downlock Pins Removal (P/B 201)
32-00-30-480-801	Landing Gear Downlock Pins Installation (P/B 201)

B. Tools/Equipment

NOTE: When more than one tool part number is listed under the same "Reference" number, the tools shown are alternates to each other within the same airplane series. Tool part numbers that are replaced or non-procurable are preceded by "Opt:", which stands for Optional.

Reference	Description
SPL-1884	Pin - Lockout, Retractable Tail Skid Fwd and Aft Lock Link Part #: J32071-10 Supplier: 81205
SPL-1976	Barrier - Service Access Door, Section 48 Part #: J51001-1 Supplier: 81205
SPL-2011	Ladder Equipment - Vertical Fin and Empennage Access Part #: J53001-1 Supplier: 81205

C. Access Panels

Number	Name/Location
311BL	Service Access Door

D. Prepare for the Procedure

SUBTASK 32-72-10-480-004

WARNING MAKE SURE THAT THE DOWNLOCK PINS ARE INSTALLED IN ALL OF THE LANDING GEAR BEFORE YOU MOVE THE CONTROL LEVER. WITHOUT THE DOWNLOCK PINS, THE LANDING GEAR CAN RETRACT AND CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

(1) Make sure the downlock pins are installed on the nose and main landing gear.

(a) If the downlock pins are not installed, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.

SUBTASK 32-72-10-480-005

(2) Use the ladder equipment, SPL-2011, to get access to the Service Access Door, 311BL.

SUBTASK 32-72-10-010-002

(3) To gain access to the tail skid proximity sensor [1] and sensor [7], do this step:

(a) Open this access panel:

Number	Name/Location
311BL	Service Access Door

SUBTASK 32-72-10-480-006

(4) Install the service access door barrier, SPL-1976, in the opening of the service access door.

SUBTASK 32-72-10-860-008

(5) If you measure/adjust the tail skid up proximity sensor [1], do these steps:

(a) Make sure the control lever for the landing gear, on the P2 center forward panel, is in the UP position.

(b) Make sure the tail skid assembly is in the UP position.

SUBTASK 32-72-10-860-009

(6) If you measure/adjust the tail skid down proximity sensor [7], do these steps:

(a) Remove the tail skid lockout pin, SPL-1884, from the lock link for the tail skid (TASK 32-00-30-080-801).

(b) Put the control lever for the landing gear, on the P2 center forward panel, to the DN position.

(c) Make sure the tail skid assembly is in the DN position.

E. Proximity Sensor Measurement/Adjustment

SUBTASK 32-72-10-480-007

WARNING	MAKE SURE THAT YOU INSTALL THE LOCK PIN IN THE TAIL SKID. WITHOUT THE LOCK PIN, THE TAIL SKID CAN EXTEND AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Make sure that the tail skid lockout pin, SPL-1884, is installed in the lock link for the tail skid (TASK 32-00-30-480-801).

SUBTASK 32-72-10-820-001

(2) Do the steps that follow to measure/adjust the clearance for the applicable proximity sensor [1] or sensor [7]:

(a) Measure the clearance between the sensor [1] or sensor [7] and its target [13].

NOTE: Use hand pressure only to move the target when adjusting proximity sensor clearance.

(b) Make sure the sensor [1] or sensor [7] and the target [13] are aligned correctly.

(c) Continue if adjustments are necessary.

(d) Do these steps to adjust the clearance between the sensor [1] or sensor [7] and the target [13]:

1) Loosen the nut [14] and washer [15] to remove the target [13].

2) Adjust the shim [16] thickness to get the correct clearance:

a) To increase the clearance, remove the shim [16] laminations to get the correct clearance.

b) To decrease the clearance, add the shim [16] and remove the shim laminations to get the correct clearance.

3) Install the target [13] in its position.

4) Install the washer [15] and nut [14].

5) Do a check of the clearance again after you tighten the nut [14].

F. Put the Airplane Back to Its Usual Condition

SUBTASK 32-72-10-860-010

(1) Do these steps to put the airplane back to its usual condition:

(a) Remove the tail skid lockout pin, SPL-1884, from the lock link for the tail skid (TASK 32-00-30-080-801).

(b) Remove the service access door barrier, SPL-1976, in the opening of the service access door.

(c) Close this access panel:

Number	**Name/Location**
311BL	Service Access Door

——— END OF TASK ———