

CHAPTER

26

FIRE PROTECTION



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1 thru 7	SEP 05/2018		919	May 05/2017		409	Sep 05/2017	
8	BLANK		920	Sep 05/2017		410	Sep 05/2017	
26-CONTENTS			921	Sep 05/2015		411	Jan 05/2018	
1	May 05/2017		922	Sep 05/2017		412	Jan 05/2018	
2	Sep 05/2017		923	Sep 05/2017		413	Jan 05/2018	
3	Sep 05/2017		924	Sep 05/2017		414	Sep 05/2017	
4	Jan 05/2016		925	Sep 05/2017		415	Sep 05/2017	
5	Jul 25/2018		926	Sep 05/2017		416	Sep 05/2017	
6	May 05/2018		927	Sep 05/2017		417	Sep 05/2017	
7	Jan 05/2016		928	Sep 05/2017		418	Sep 05/2017	
8	Jan 05/2016		929	Sep 05/2017		419	Sep 05/2017	
9	May 05/2018		930	Sep 05/2017		420	Sep 05/2017	
10	Jan 05/2017		26-10-00			421	Sep 05/2017	
11	Jan 05/2016		501	May 05/2015		422	Sep 05/2017	
12	Jan 05/2017		502	Jan 05/2015		423	Sep 05/2017	
13	Jul 25/2018		503	Jan 05/2015		424	Sep 05/2017	
14	Jul 25/2018		504	BLANK		425	Sep 05/2017	
26-00-00			26-11-00			426	BLANK	
901	Jan 05/2015		501	Jan 05/2015		26-11-03		
902	Jan 05/2015		502	Jan 05/2015		401	Sep 05/2017	
903	Jan 05/2015		503	Jan 05/2015		402	Sep 05/2017	
904	Jan 05/2015		504	BLANK		403	Sep 05/2017	
905	May 05/2017		26-11-01			404	Sep 05/2017	
906	May 05/2017		201	Jan 05/2015		405	Sep 05/2017	
907	May 05/2017		202	Jan 05/2015		406	BLANK	
908	May 05/2017		203	Jan 05/2015		26-13-00		
909	May 05/2017		204	Sep 05/2017		501	Jan 05/2018	
910	Jul 25/2018		26-11-01 Config 1			502	Jul 25/2018	
911	Jul 25/2018		401	Jan 05/2016		503	Jul 25/2018	
912	Sep 05/2017		402	Sep 05/2017		504	Jul 25/2018	
913	Sep 05/2017		403	Sep 05/2017		505	Sep 05/2017	
914	Sep 05/2017		404	Sep 05/2017		506	Sep 05/2017	
915	Sep 05/2017		405	Sep 05/2017		507	Jan 05/2018	
916	May 05/2017		406	Sep 05/2017		508	Jan 05/2018	
917	Sep 05/2017		407	Sep 05/2017				
918	Sep 05/2017		408	Sep 05/2017				

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401	Sep 05/2017		404	Jan 05/2015		409	Sep 05/2017	
402	Sep 05/2017		405	Jan 05/2015		410	Sep 05/2017	
403	Sep 05/2017		406	Jan 05/2015		411	Sep 05/2017	
404	Sep 05/2017		407	Jan 05/2015		412	Sep 05/2017	
405	Sep 05/2017		408	Jan 05/2018		413	Sep 05/2017	
406	Sep 05/2017		409	Jan 05/2018		414	Sep 05/2017	
407	Jan 05/2015		410	BLANK		415	Sep 05/2017	
408	Jan 05/2015		26-14-11			416	Sep 05/2017	
26-13-01			701	Sep 05/2015		417	Sep 05/2017	
701	Sep 05/2015		702	Jul 25/2018		418	BLANK	
702	Jul 25/2018		703	Sep 05/2017		26-15-02		
703	Sep 05/2017		704	Sep 05/2017		401	Sep 05/2017	
704	Sep 05/2017		705	Sep 05/2017		402	May 05/2017	
705	Sep 05/2017		706	Jan 05/2015		403	Sep 05/2017	
706	Sep 05/2017		707	Jan 05/2015		404	BLANK	
707	Sep 05/2017		708	Jan 05/2015		26-15-03		
708	Sep 05/2017		709	Jan 05/2015		401	Sep 05/2017	
26-14-10			710	BLANK		402	Sep 05/2017	
501	May 05/2015		26-15-00			403	May 05/2017	
502	Jul 25/2018		501	Jan 05/2015		404	Sep 05/2017	
503	Jul 25/2018		502	Jan 05/2015		405	Sep 05/2017	
504	Jul 25/2018		503	Jan 05/2015		406	BLANK	
505	Jul 25/2018		504	Jan 05/2015		26-16-00		
506	Jul 25/2018		505	May 05/2017		501	Jan 05/2015	
507	Jul 25/2018		506	May 05/2017		502	May 05/2015	
508	Jul 25/2018		507	Jan 05/2015		503	May 05/2015	
509	Jul 25/2018		508	BLANK		504	Jan 05/2015	
510	Jul 25/2018		26-15-01			505	Jan 05/2015	
511	Jul 25/2018		401	Jan 05/2015		506	Jan 05/2015	
512	Jul 25/2018		402	Sep 05/2017		507	Sep 05/2015	
513	Jul 25/2018		403	May 05/2017		508	May 05/2017	
514	BLANK		404	May 05/2017		509	May 05/2017	
26-14-11			405	Sep 05/2017		510	May 05/2017	
401	Jan 05/2015		406	May 05/2017		511	Sep 05/2017	
402	Jan 05/2015		407	May 05/2017		512	Sep 05/2015	
403	Jan 05/2015		408	May 05/2017		513	Sep 05/2015	

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514	Sep 05/2015		201	Sep 05/2017		407	Sep 05/2017	
515	Sep 05/2015		202	May 05/2018		408	Sep 05/2017	
516	Sep 05/2015		203	Sep 05/2017		409	Sep 05/2017	
517	Sep 05/2015		204	Jan 05/2015		410	BLANK	
518	Sep 05/2015		26-16-01			26-18-01 Config 1		
519	Jan 05/2018		401	May 05/2015		401	Jan 05/2015	
520	Sep 05/2015		402	May 05/2018		402	Jan 05/2015	
521	May 05/2017		403	May 05/2018		403	May 05/2017	
522	Sep 05/2015		404	May 05/2018		404	May 05/2017	
523	May 05/2017		405	May 05/2018		405	May 05/2017	
524	Sep 05/2015		406	May 05/2018		406	May 05/2017	
525	Sep 05/2015		407	May 05/2018		26-18-02 Config 1		
526	Sep 05/2015		408	May 05/2018		401	Jan 05/2015	
527	Sep 05/2015		26-16-02			402	Jan 05/2018	
528	Sep 05/2015		401	Jan 05/2015		403	May 05/2017	
529	Sep 05/2017		402	Jan 05/2018		404	May 05/2017	
530	Sep 05/2017		403	May 05/2017		405	May 05/2017	
531	Sep 05/2015		404	May 05/2017		406	May 05/2017	
532	Sep 05/2017		405	Jan 05/2015		407	Jan 05/2018	
533	Sep 05/2017		406	Jan 05/2018		408	Jan 05/2018	
534	Sep 05/2017		407	Jan 05/2015		409	Jan 05/2018	
535	May 05/2017		408	BLANK		410	BLANK	
536	May 05/2017		26-16-06			26-18-03		
26-16-00			401	Jan 05/2015		401	Jan 05/2016	
701	Jan 05/2016		402	Jan 05/2015		402	Jul 25/2018	
702	Jul 25/2018		403	May 05/2017		403	Sep 05/2017	
703	Jan 05/2016		404	May 05/2017		404	May 05/2017	
704	Jan 05/2016		405	Jan 05/2015		405	May 05/2017	
705	Jan 05/2015		406	Jan 05/2015		406	May 05/2017	
706	May 05/2017		26-17-01			407	May 05/2017	
707	May 05/2017		401	Sep 05/2017		408	May 05/2017	
708	May 05/2017		402	Sep 05/2017		409	Sep 05/2017	
709	May 05/2017		403	May 05/2017		410	Sep 05/2017	
710	BLANK		404	May 05/2017		411	Sep 05/2017	
			405	May 05/2017		412	Sep 05/2017	
			406	May 05/2017		413	May 05/2018	

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414	BLANK		403	May 05/2017		525	Jan 05/2016	
26-18-04			404	May 05/2017		526	Sep 05/2017	
401	Sep 05/2017		405	May 05/2015		527	Sep 05/2017	
402	Sep 05/2017		406	BLANK		528	Sep 05/2017	
403	Sep 05/2017		26-19-01			529	Sep 05/2017	
404	Sep 05/2017		401	Jan 05/2018		530	Sep 05/2017	
405	May 05/2017		402	Jan 05/2018		531	Jan 05/2018	
406	Sep 05/2017		403	May 05/2017		532	Jan 05/2018	
407	May 05/2017		404	Jan 05/2018		533	Jan 05/2018	
408	May 05/2017		405	Jan 05/2018		534	Jan 05/2018	
409	May 05/2017		406	Jan 05/2018		535	Jan 05/2018	
410	Sep 05/2017		26-21-00			536	Jan 05/2018	
411	Sep 05/2017		501	Jan 05/2015		537	May 05/2018	
412	Sep 05/2017		502	Sep 05/2017		538	May 05/2018	
413	Sep 05/2017		503	Sep 05/2017		539	May 05/2018	
414	Sep 05/2017		504	Sep 05/2017		540	Jan 05/2018	
415	Sep 05/2017		505	Sep 05/2017		541	May 05/2018	
416	Sep 05/2017		506	Sep 05/2017		542	May 05/2018	
26-18-04			507	Sep 05/2017		543	May 05/2018	
701	Sep 05/2017		508	Sep 05/2017		544	May 05/2018	
702	Sep 05/2017		509	May 05/2018		545	Jan 05/2018	
26-18-05			510	May 05/2018		546	May 05/2018	
201	Sep 05/2017		511	May 05/2018		547	Jan 05/2018	
202	May 05/2018		512	May 05/2018		548	BLANK	
203	May 05/2018		513	May 05/2018		26-21-01		
204	BLANK		514	May 05/2018		401	May 05/2015	
26-18-05			515	May 05/2018		402	Sep 05/2017	
401	May 05/2015		516	May 05/2018		403	Sep 05/2017	
402	Sep 05/2017		517	May 05/2018		404	May 05/2017	
403	May 05/2017		518	May 05/2018		405	May 05/2015	
404	May 05/2015		519	May 05/2018		406	May 05/2017	
405	Sep 05/2017		520	May 05/2018		407	Sep 05/2017	
406	Jan 05/2015		521	May 05/2018		408	Sep 05/2017	
26-18-06			522	May 05/2018		409	Sep 05/2017	
401	May 05/2015		523	May 05/2017		410	Jul 25/2018	
402	May 05/2017		524	May 05/2017		411	Sep 05/2017	

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412	Sep 05/2017		519	Sep 05/2017		401	May 05/2015	
26-21-02			520	May 05/2017		402	Jan 05/2018	
401	May 05/2017		521	May 05/2015		403	May 05/2017	
402	Sep 05/2017		522	Sep 05/2017		404	May 05/2015	
403	Sep 05/2017		523	Jan 05/2015		405	Jan 05/2018	
404	Sep 05/2017		524	Jan 05/2015		406	Jan 05/2018	
405	Sep 05/2017		525	Jan 05/2015		407	Jan 05/2018	
406	Sep 05/2017		526	BLANK		408	Jan 05/2015	
407	Sep 05/2017		26-22-01			26-23-00		
408	BLANK		401	May 05/2015		201	May 05/2015	
26-21-03			402	Jul 25/2018		202	May 05/2015	
401	May 05/2018		403	Jan 05/2018		203	May 05/2017	
402	May 05/2018		404	May 05/2017		204	May 05/2015	
403	May 05/2017		405	May 05/2017		26-23-00		
404	May 05/2018		406	Jan 05/2018		501	Sep 05/2017	
405	May 05/2018		407	Sep 05/2017		502	Sep 05/2017	
406	BLANK		408	Sep 05/2017		503	Sep 05/2017	
26-22-00			409	Jul 25/2018		504	Sep 05/2017	
501	Jan 05/2015		410	Sep 05/2017		505	Sep 05/2017	
502	Sep 05/2017		26-22-02			506	Jan 05/2017	
503	Sep 05/2017		401	Jan 05/2017		507	Sep 05/2017	
504	Sep 05/2017		402	Jan 05/2018		508	Sep 05/2017	
505	Sep 05/2017		403	Sep 05/2017		509	Sep 05/2017	
506	Jan 05/2015		404	May 05/2017		510	Sep 05/2017	
507	May 05/2017		405	Sep 05/2017		511	Sep 05/2017	
508	May 05/2017		406	Sep 05/2017		512	Sep 05/2017	
509	Sep 05/2017		407	Jul 25/2018		513	Sep 05/2017	
510	May 05/2015		408	May 05/2017		514	May 05/2015	
511	Sep 05/2017		26-22-03			515	May 05/2015	
512	Sep 05/2017		401	Jan 05/2018		516	May 05/2015	
513	Sep 05/2017		402	Jan 05/2018		517	May 05/2015	
514	May 05/2015		403	May 05/2017		518	May 05/2015	
515	May 05/2015		404	Jan 05/2018		519	May 05/2015	
516	May 05/2016		405	Jan 05/2018		520	May 05/2015	
517	May 05/2015		406	BLANK		521	Sep 05/2017	
518	May 05/2015					522	Sep 05/2017	

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523	Sep 05/2015		559	Sep 05/2017		418	BLANK	
524	Sep 05/2017		560	Sep 05/2017		26-23-01		
525	Sep 05/2017		561	Sep 05/2017		R 601	Sep 05/2018	
526	Sep 05/2015		562	Sep 05/2017		O 602	Sep 05/2018	
527	Sep 05/2015		563	Sep 05/2017		O 603	Sep 05/2018	
528	Sep 05/2017		564	Sep 05/2017		604	BLANK	
529	Sep 05/2017		565	Sep 05/2017		26-23-02		
530	Sep 05/2017		566	Sep 05/2017		401	May 05/2015	
531	Sep 05/2015		567	Sep 05/2017		402	Jan 05/2018	
532	Sep 05/2017		568	Sep 05/2017		403	Jan 05/2018	
533	Jan 05/2017		569	May 05/2015		404	Jan 05/2015	
534	May 05/2017		570	Sep 05/2017		405	Jan 05/2018	
535	May 05/2017		571	May 05/2015		406	Sep 05/2017	
536	May 05/2017		572	May 05/2015		407	Jan 05/2018	
537	May 05/2015		573	May 05/2015		408	Jul 25/2018	
538	Sep 05/2017		574	May 05/2015		409	Jan 05/2018	
539	Sep 05/2017		575	Sep 05/2017		410	Sep 05/2017	
540	Sep 05/2017		576	Sep 05/2017		26-23-03		
541	Sep 05/2017		26-23-01			401	May 05/2016	
542	Sep 05/2017		401	May 05/2018		402	Jan 05/2018	
543	May 05/2017		402	May 05/2018		403	May 05/2017	
544	Sep 05/2017		403	Jul 25/2018		404	May 05/2017	
545	Sep 05/2017		404	May 05/2018		405	May 05/2017	
546	Sep 05/2017		405	May 05/2018		406	May 05/2015	
547	Sep 05/2017		R 406	Sep 05/2018		407	Jan 05/2018	
548	Sep 05/2017		407	May 05/2018		408	Jan 05/2015	
549	Sep 05/2017		408	Jan 05/2016		26-23-04		
550	Sep 05/2017		409	May 05/2017		401	May 05/2015	
551	Sep 05/2017		410	May 05/2017		402	May 05/2018	
552	Sep 05/2017		411	Jan 05/2018		403	May 05/2017	
553	Sep 05/2017		412	Jan 05/2018		404	May 05/2018	
554	Sep 05/2017		413	Jan 05/2018		405	May 05/2018	
555	Sep 05/2017		R 414	Sep 05/2018		406	BLANK	
556	Sep 05/2017		415	Jul 25/2018		26-23-05		
557	Sep 05/2017		416	Jan 05/2018		401	May 05/2015	
558	Sep 05/2017		417	Jan 05/2018		402	Jul 25/2018	

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403	May 05/2018		401	Jul 25/2018				
404	May 05/2017		402	Jul 25/2018				
405	May 05/2017		403	Jul 25/2018				
406	May 05/2017		404	BLANK				
407	Sep 05/2017		26-26-01					
408	May 05/2018		601	Jul 25/2018				
409	Jul 25/2018		602	May 05/2016				
410	May 05/2018		603	Sep 05/2017				
411	May 05/2018		604	Jul 25/2018				
412	BLANK		605	Jul 25/2018				
26-23-06			606	BLANK				
401	May 05/2018		26-26-02					
402	Jul 25/2018		401	Jul 25/2018				
403	May 05/2018		402	BLANK				
404	May 05/2017		26-26-02					
405	May 05/2017		601	Jul 25/2018				
406	May 05/2017		602	Jul 25/2018				
407	May 05/2018		603	May 05/2017				
408	May 05/2018		604	BLANK				
409	Jul 25/2018							
410	May 05/2018							
26-23-07								
401	Jan 05/2015							
402	May 05/2017							
403	May 05/2017							
404	BLANK							
26-24-01								
201	Jan 05/2018							
202	Jan 05/2015							
203	Jan 05/2015							
204	Jul 25/2018							
205	Jul 25/2018							
206	Jul 25/2018							
207	Jul 25/2018							
208	BLANK							

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DDG 26-13-1 Restoration - Lavatory Smoke Detection Systems Inoperative TASK 26-00-00-440-808			903	ARO ALL
DDG 26-14-2 Preparation - Flight Crew Rest (FCR) Smoke Detection Systems Inoperative TASK 26-00-00-040-805			904	ARO ALL
DDG 26-14-2 Restoration - Flight Crew Rest (FCR) Smoke Detection Systems Inoperative TASK 26-00-00-440-812			904	ARO ALL
DDG 26-15-1 Preparation - APU Fire Detection System Inoperative TASK 26-00-00-040-822			905	ARO ALL
DDG 26-15-1 Restoration - APU Fire Detection System Inoperative TASK 26-00-00-440-817			905	ARO ALL
DDG 26-16-1 Preparation - Lower Cargo Compartment Smoke Detection Systems (Forward and Aft) Inoperative TASK 26-00-00-040-807			906	ARO ALL
DDG 26-16-1 Restoration - Lower Cargo Compartment Smoke Detection Systems (Forward and Aft) Inoperative TASK 26-00-00-440-805			907	ARO ALL
DDG 26-17-1 Preparation - Wheel Well Fire Detection System Inoperative TASK 26-00-00-040-814			909	ARO ALL
DDG 26-17-1 Restoration - Wheel Well Fire Detection System Inoperative. TASK 26-00-00-440-814			909	ARO ALL
DDG 26-21-2 Preparation - Fire Extinguishing Squib Test System Inoperative TASK 26-00-00-040-801			909	ARO ALL

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DDG 26-22-2 Preparation - APU Auto Discharge Inoperative TASK 26-00-00-040-823			912	ARO ALL
DDG 26-22-2 Restoration - APU Auto Discharge Inoperative TASK 26-00-00-440-818			912	ARO ALL
DDG 26-23-1 Preparation - Lower Cargo Compartment Fire Extinguishing Bottles 2B, 2C or 2D Inoperative TASK 26-00-00-040-812			913	ARO ALL
DDG 26-23-1 Restoration - Lower Cargo Compartment Fire Extinguishing Bottles 2B, 2C or 2D Inoperative TASK 26-00-00-440-806			919	ARO ALL
DDG 26-23-2 Preparation - Lower Cargo Compartment Fire Extinguisher Flow Valves (Forward or Aft) Inoperative TASK 26-00-00-040-803			921	ARO ALL
DDG 26-23-2 Restoration - Lower Cargo Compartment Fire Extinguisher Flow Valves (Forward or Aft) Inoperative TASK 26-00-00-440-803			927	ARO ALL
DDG 26-24-1 Preparation - Lavatory Fire Extinguisher Systems Inoperative TASK 26-00-00-040-824			929	ARO ALL
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DDG 26-26-1 Preparation - Portable Fire Extinguishers Inoperative TASK 26-00-00-040-825			929	ARO ALL
DDG 26-26-1 Restoration - Portable Fire Extinguishers Inoperative TASK 26-00-00-440-820			930	ARO ALL

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TASK 26-10-00-710-803				
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TASK 26-11-00-710-801				
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TASK 26-11-00-740-802				
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Nacelle Temperature Trend Data - Maintenance Practices			201	ARO ALL
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<u>FLIGHT CREW REST SMOKE DETECTORS - CLEANING/PAINTING</u>	26-14-11		701	ARO ALL
Clean the Flight Crew Rest Smoke Detectors TASK 26-14-11-100-801			701	ARO ALL
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<u>STRUT OVERHEAT DETECTORS - REMOVAL/INSTALLATION</u>	26-18-02	1	401	ARO ALL
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<u>WING DUCT LEAK DETECTORS - REMOVAL/INSTALLATION</u>	26-18-03		401	ARO ALL
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<u>DUCT LEAK AND OVERHEAT DETECTION SYSTEM (DLODS) - REMOVAL/INSTALLATION</u>	26-18-05		401	ARO ALL
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<u>APU FIRE EXTINGUISHING BOTTLE - REMOVAL/INSTALLATION</u>	26-22-01		401	ARO ALL
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FIRE PROTECTION - 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 some systems/components off.
- 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 fire protection system:
 - (1) DDG 26-13-1 Preparation - Lavatory Smoke Detection Systems Inoperative
 - (2) DDG 26-13-1 Restoration - Lavatory Smoke Detection Systems Inoperative
 - (3) DDG 26-14-2 Preparation - Flight Crew Rest (FCR) Smoke Detection Systems Inoperative
 - (4) DDG 26-14-2 Restoration - Flight Crew Rest (FCR) Smoke Detection Systems Inoperative
 - (5) DDG 26-15-1 Preparation - APU Fire Detection System Inoperative
 - (6) DDG 26-15-1 Restoration - APU Fire Detection System Inoperative
 - (7) DDG 26-16-1 Preparation - Lower Cargo Compartment Smoke Detection Systems (Forward and Aft) Inoperative
 - (8) DDG 26-16-1 Restoration - Lower Cargo Compartment Smoke Detection Systems (Forward and Aft) Inoperative
 - (9) DDG 26-17-1 Preparation - Wheel Well Fire Detection System Inoperative.
 - (10) DDG 26-17-1 Restoration - Wheel Well Fire Detection System Inoperative.
 - (11) DDG 26-21-2 Preparation - Fire Extinguishing Squib Test System Inoperative
 - (12) DDG 26-21-2 Restoration - Fire Extinguishing Squib Test System Inoperative
 - (13) DDG 26-22-2 Preparation - APU Auto Discharge Inoperative
 - (14) DDG 26-22-2 Restoration - APU Auto Discharge Inoperative
 - (15) DDG 26-23-1 Preparation - Lower Cargo Compartment Fire Extinguishing Bottles 2B, 2C or 2D Inoperative
 - (16) DDG 26-23-1 Restoration - Lower Cargo Compartment Fire Extinguishing Bottles 2B, 2C or 2D Inoperative
 - (17) DDG 26-23-2 Preparation - Lower Cargo Compartment Fire Extinguisher Flow Valves (Forward or Aft) Inoperative
 - (18) DDG 26-23-2 Restoration - Lower Cargo Compartment Fire Extinguisher Flow Valves (Forward or Aft) Inoperative
 - (19) DDG 26-24-1 Preparation - Lavatory Fire Extinguisher System Inoperative
 - (20) DDG 26-24-1 Restoration - Lavatory Fire Extinguisher System Inoperative
 - (21) DDG 26-26-1 Preparation - Portable Fire Extinguishers Inoperative
 - (22) DDG 26-26-1 Restoration - Portable Fire Extinguishers Inoperative

TASK 26-00-00-040-818

2. DDG 26-13-1 Preparation - Lavatory Smoke Detection Systems Inoperative

A. General

- (1) This task gives the maintenance steps which prepare for flight with the Lavatory Smoke Detection Systems Inoperative.

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B. Deactivation of Inoperative Lavatory Smoke Detection Systems

SUBTASK 26-00-00-212-001

- (1) Make sure that the lavatory waste receptacle in the waste container is empty.

SUBTASK 26-00-00-040-036

- (2) Deactivate the inoperative smoke detector.

NOTE: This step is not required.

- (a) Open these circuit breakers:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
J	26	C26621	LAV SMOKE DETECT-L

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
K	3	C26619	LAV SMOKE DETECTOR RIGHT

- (b) Do one of the steps that follow:

- 1) Open the lavatory ceiling panel.

NOTE: The smoke detector is in the ceiling of each lavatory.

- Disconnect, cap and stow the electrical connector on the smoke detector.
- Close the lavatory ceiling panel.

- 2) Remove the face plate from the smoke detector.

NOTE: The smoke detector is in the ceiling of each lavatory.

- Remove the screws on the face plate of the smoke detector.
- Remove the mounting crews that hold the smoke detector to the ceiling bracket.
- Disconnect, cap and stow the electrical connector.
- Re-install the smoke detector to the ceiling bracket with the mounting screws.
- Re-install the face plate to the smoke detector with screws.

- (c) Close these circuit breakers:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
J	26	C26621	LAV SMOKE DETECT-L

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
K	3	C26619	LAV SMOKE DETECTOR RIGHT

SUBTASK 26-00-00-410-005

- (3) Close, lock, and placard the lavatory door.

————— **END OF TASK** —————

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TASK 26-00-00-440-808

3. DDG 26-13-1 Restoration - Lavatory Smoke Detection Systems Inoperative

A. General

- (1) This task puts the airplane back to its usual condition after operation with the Lavatory Smoke Detection Systems Inoperative.

B. Reactivation of Inoperative Lavatory Smoke Detection Systems

SUBTASK 26-00-00-010-027

- (1) Remove the placard, unlock and open the lavatory door.

SUBTASK 26-00-00-440-035

- (2) Reactivate the inoperative smoke detector if it is necessary.

- (a) Open these circuit breakers:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
J	26	C26621	LAV SMOKE DETECT-L

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
K	3	C26619	LAV SMOKE DETECTOR RIGHT

- (b) Do the applicable step that follows:

- 1) Open lavatory ceiling panel.
 - a) Reconnect the electrical connector on the smoke detector.
 - b) Close the lavatory ceiling panel.
- 2) Remove the face plate from the smoke detector.
 - a) Remove the screws on the face plate of the smoke detector.
 - b) Remove the mounting crews that hold the smoke detector to the ceiling bracket.
 - c) Reconnect the electrical connector.
 - d) Re-install the smoke detector to the ceiling bracket with the mounting screws.
 - e) Re-install the face plate to the smoke detector with screws.

- (c) Close these circuit breakers:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
J	26	C26621	LAV SMOKE DETECT-L

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
K	3	C26619	LAV SMOKE DETECTOR RIGHT

————— **END OF TASK** —————

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TASK 26-00-00-040-805

4. DDG 26-14-2 Preparation - Flight Crew Rest (FCR) Smoke Detection Systems Inoperative

A. General

- (1) This task gives the maintenance steps which prepare for flight with the Flight Crew Rest (FCR) Smoke Detection Systems Inoperative.

B. Deactivation of Inoperative FCR Smoke Detection Systems

SUBTASK 26-00-00-040-014

- (1) Deactivate the FCR smoke detection systems
 - (a) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	18	C21693	DR 1 CREW REST CTRL/SMK DET PWR

SUBTASK 26-00-00-040-015

- (2) Deactivate the FCR closed
 - (a) Remove all baggage and personal items from the FCR
NOTE: Blankets, pillows and other items usually used in the crew rest can stay.
 - (b) Close, lock and put a placard in the FCR entrance door.

SUBTASK 26-00-00-020-031

- (3) Do these steps for a bunk with an inoperative smoke detector:
 - (a) Remove all personal items from the bunk.
 - (b) Put a barrier strap or rope across the bunk with the placard that reads DO NOT USE.

————— **END OF TASK** —————

TASK 26-00-00-440-812

5. DDG 26-14-2 Restoration - Flight Crew Rest (FCR) Smoke Detection Systems Inoperative

A. General

- (1) This task puts the airplane back to its usual condition after operation with the Flight Crew Rest (FCR) Smoke Detection Systems Inoperative.

B. Reactivation of Inoperative FCR Smoke Detection Systems

SUBTASK 26-00-00-420-007

- (1) Do these steps for the bunk if applicable
 - (a) Remove the placard, barrier strap and rope from the bunk.
 - (b) Put back all personal items to the bunk.

SUBTASK 26-00-00-440-013

- (2) Reactivate the FCR open
 - (a) Remove placard, unlock and open the FCR entrance door
 - (b) Put back all baggage and personal items to the FCR

SUBTASK 26-00-00-440-014

- (3) Reactivate the FCR smoke detection system

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	18	C21693	DR 1 CREW REST CTRL/SMK DET PWR

————— END OF TASK —————

TASK 26-00-00-040-822

6. DDG 26-15-1 Preparation - APU Fire Detection System Inoperative

A. General

- (1) This task gives the maintenance steps to operate APU on ground with the APU Fire Detection System Inoperative.
- (2) EICAS Status Messages
 - (a) FIRE LOOP 1 APU
 - (b) FIRE LOOP 2 APU
 - (c) FIRE CARD APU
- (3) EICAS Advisory Message
 - (a) DET FIRE APU

B. Ground use of APU with Inoperative Fire Detection System

SUBTASK 26-00-00-040-031

NOTE: APU must be visually monitored when the APU is in use on the ground.

NOTE: The APU fire bottle can discharge without warning when the APU is running in “Unattended Mode” following a “short” problem without a root cause.

- (1) In case of fire, discharge the APU fire extinguisher manually using one of the following switches:
 - (a) The APU shutdown switch on the P40 service and APU shutdown panel (nose gear)
 - (b) The APU and Cargo Fire Panel (P5) APU fire switch.

————— END OF TASK —————

TASK 26-00-00-440-817

7. DDG 26-15-1 Restoration - APU Fire Detection System Inoperative

A. General

- (1) This task puts the airplane back to its usual condition after operation with the APU Fire Detection System Inoperative.

B. References

<u>Reference</u>	<u>Title</u>
26-15-01 P/B 401	APU FIRE DETECTORS - REMOVAL/INSTALLATION

C. Reactivation of Inoperative APU Fire Detection System

SUBTASK 26-00-00-900-005

- (1) Replace the inoperative APU fire detector (APU FIRE DETECTORS - REMOVAL/INSTALLATION, PAGEBLOCK 26-15-01/401)

SUBTASK 26-00-00-700-076

- (2) Make sure the following EICAS status messages do not show on the display:

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- (a) FIRE LOOP 1 APU
- (b) FIRE LOOP 2 APU
- (c) FIRE CARD APU

SUBTASK 26-00-00-700-077

- (3) Make sure the EICAS advisory message does not show on the display
 - (a) DET FIRE APU

————— **END OF TASK** —————

TASK 26-00-00-040-807

8. DDG 26-16-1 Preparation - Lower Cargo Compartment Smoke Detection Systems (Forward and Aft) Inoperative

A. General

- (1) This task gives the maintenance steps which prepare for flight with the Lower Cargo Compartment Smoke Detection Systems (Forward and Aft) Inoperative.
- (2) EICAS Status Messages
 - (a) DET CHAN 1 CARGO AFT
 - (b) DET CHAN 1 CARGO FWD
 - (c) DET CHAN 2 CARGO AFT
 - (d) DET CHAN 2 CARGO FWD
 - (e) DET FAN 1 CARGO AFT
 - (f) DET FAN 1 CARGO FWD
 - (g) DET FAN 2 CARGO AFT
 - (h) DET FAN 2 CARGO FWD
 - (i) DET ZONE 1 CARGO AFT
 - (j) DET ZONE 1 CARGO FWD
 - (k) DET ZONE 2 CARGO AFT
 - (l) DET ZONE 2 CARGO FWD
 - (m) DET ZONE 3 CARGO AFT
 - (n) DET ZONE 3 CARGO FWD
 - (o) DET ZONE 4 CARGO AFT
 - (p) DET ZONE 4 CARGO FWD
 - (q) DET HTR CARGO AFT
 - (r) DET HTR CARGO FWD
- (3) EICAS Advisory Messages
 - (a) DET FIRE CARGO AFT
 - (b) DET FIRE CARGO FWD

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B. Configure the airplane for an Inoperative Lower Cargo Compartment Smoke Detection System

SUBTASK 26-00-00-200-003

- (1) Make sure that the cargo compartment zone and adjacent zones must stay empty.
NOTE: Ballast, empty cargo containers, fly away kits, pallets, and cargo restraint components can stay.
 - (a) Aft and bulk cargo compartments:
 - 1) Zone 1 is from bulk compartment aft wall to bulk compartment cargo divider net.
 - 2) Zone 2 is from bulk cargo compartment cargo divider net to STA 1664 floor beam.
 - 3) Zone 3 is from STA 1664 floor beam to STA 1434 + 189 floor beam.
 - 4) Zone 4 is from STA 1434 + 189 floor beam to forward wall.
 - (b) Forward compartment:
 - 1) Zone 1 is from aft wall to STA 825 + 147 floor beam.
 - 2) Zone 2 is from STA 825 + 147 floor beam to STA 772 floor beam.
 - 3) Zone 3 is from STA 772 floor beam to STA 592 floor beam.
 - 4) Zone 4 is from STA 592 floor beam to forward wall.

SUBTASK 26-00-00-040-038

- (2) If the Aft Cargo Compartment is completely empty, the Aft Cargo Compartment Smoke Detection System may be deactivated by opening the following circuit breakers:
NOTE: This cannot be performed for the Forward Cargo Smoke Detection System Controller since it also operates the EE Cooling Smoke Detection System.
 - (a) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-00-00-820-001

- (3) Set the Overhead Panel (P5) Forward Cargo Air Conditioning control to OFF.

————— END OF TASK —————

TASK 26-00-00-440-805

9. DDG 26-16-1 Restoration - Lower Cargo Compartment Smoke Detection Systems (Forward and Aft) Inoperative

A. General

- (1) This task puts the airplane back to its usual condition after operation with the Lower Cargo Compartment Smoke Detection Systems (Forward and Aft) Inoperative.

B. Reactivation of Inoperative Lower Cargo Smoke Detection System

SUBTASK 26-00-00-440-036

- (1) If the Aft Cargo Compartment Smoke Detection System Controller was disabled, close the following circuit breakers:

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-00-00-820-002

- (2) Set the Overhead Panel (P5) Forward Cargo Air Conditioning control to ON.

SUBTASK 26-00-00-700-066

- (3) Make sure that these EICAS Status messages do not show on the EICAS display:

- (a) DET CHAN 1 CARGO AFT
- (b) DET CHAN 1 CARGO FWD
- (c) DET CHAN 2 CARGO AFT
- (d) DET CHAN 2 CARGO FWD
- (e) DET FAN 1 CARGO AFT
- (f) DET FAN 1 CARGO FWD
- (g) DET FAN 2 CARGO AFT
- (h) DET FAN 2 CARGO FWD
- (i) DET ZONE 1 CARGO AFT
- (j) DET ZONE 1 CARGO FWD
- (k) DET ZONE 2 CARGO AFT
- (l) DET ZONE 2 CARGO FWD
- (m) DET ZONE 3 CARGO AFT
- (n) DET ZONE 3 CARGO FWD
- (o) DET ZONE 4 CARGO AFT
- (p) DET ZONE 4 CARGO FWD
- (q) DET HTR CARGO AFT
- (r) DET HTR CARGO FWD

SUBTASK 26-00-00-700-067

- (4) Make sure that these EICAS Advisory messages do not show on the EICAS display:

- (a) DET FIRE CARGO AFT
- (b) DET FIRE CARGO FWD

————— **END OF TASK** —————

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TASK 26-00-00-040-814

10. DDG 26-17-1 Preparation - Wheel Well Fire Detection System Inoperative

A. General

- (1) This task gives the maintenance steps which prepare the airplane for flight with the Wheel Well Fire Detection System Inoperative.
- (2) EICAS Status Message
 - (a) DET FIRE WHEEL WELL

B. Deactivation of Inoperative Wheel Well Fire Detection System

SUBTASK 26-00-00-820-009

- (1) Make sure that the brakes are cool before the start of the engine.

SUBTASK 26-00-00-040-021

- (2) Deactivate the wheel well fire detection system
 - (a) Get access to the detectors in the top area of the left and right bays of the main wheel well
 - (b) Disconnect, cap and stow the electrical connectors, D7589P and D7615P.

————— **END OF TASK** —————

TASK 26-00-00-440-814

11. DDG 26-17-1 Restoration - Wheel Well Fire Detection System Inoperative.

A. General

- (1) This task puts the airplane back to its usual condition after operation with the Wheel Well Fire Detection System Inoperative.

B. Reactivation of Inoperative Wheel Well Fire Detection System

SUBTASK 26-00-00-440-019

- (1) Reactivate the wheel well fire detection system
 - (a) Get access to the detectors in the top area of the left and right bays of the main wheel well
 - (b) Remove cap and reconnect the electrical connectors, D7589P and D7615P.

SUBTASK 26-00-00-700-070

- (2) Make sure that this EICAS Status message does not show on the EICAS display:
 - (a) DET FIRE WHEEL WELL

————— **END OF TASK** —————

TASK 26-00-00-040-801

12. DDG 26-21-2 Preparation - Fire Extinguishing Squib Test System Inoperative

A. General

- (1) This task gives the maintenance steps which prepare the airplane for flight with the Fire Extinguishing Squib Test System Inoperative.
- (2) EICAS Status Messages
 - (a) CARGO SQUIB TEST
 - (b) ENG/APU SQUIB TEST
 - (c) CREW REST SQUIB TEST

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B. Verification of Inoperative Fire Extinguishing Squib Test System

SUBTASK 26-00-00-865-013

- (1) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB

SUBTASK 26-00-00-020-001



REMOVE THE RELAY FROM THE POWER MANAGEMENT PANEL CAREFULLY. POWER MANAGEMENT PANELS HAVE HIGH VOLTAGES AND CURRENTS THAT CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (2) Remove the Squib Test Control relay, K26010, from the P310 panel.

SUBTASK 26-00-00-900-004

- (3) Replace the relay K26010 with relay K21452, R DR 1 HTR & 2 HEAT:

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

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	24	C21447	R DR 2 HTR
A	25	C21445	R DR 1 HTR
G	8	C21683	R DR 1-5 HTR CTRL

- (b) Remove relay K21452, R DR 1 HTR & 2 HEAT.
(c) Install the relay K21452 in the Squib Test Control relay location.

SUBTASK 26-00-00-865-014

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB

SUBTASK 26-00-00-710-004

- (5) Use the MAT to initiate a fire extinguisher squib test.

SUBTASK 26-00-00-740-006

- (6) Make sure that all the applicable squib test status messages do not display:

- (a) CARGO SQUIB TEST
(b) ENG/APU SQUIB TEST
(c) CREW REST SQUIB TEST

SUBTASK 26-00-00-865-015

- (7) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

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Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB

SUBTASK 26-00-00-420-012

- (8) Re-install the relay K21452, R DR 1 HTR & 2 HEAT.
- (a) Remove the replacement relay K21452 from the Squib Test Control relay location.
- (b) Re-install the relay K21452 in its original location.
- (c) Remove the safety tags and close these circuit breakers:

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	24	C21447	R DR 2 HTR
A	25	C21445	R DR 1 HTR
G	8	C21683	R DR 1-5 HTR CTRL

- (d) Do the applicable operational test for the re-installed relay K21452, R DR 1 HTR & 2 HEAT.

SUBTASK 26-00-00-420-013

- (9) Re-install the Squib Test Control relay K26010 in the P310 panel.

NOTE: The applicable squib test status messages will be displayed after an automatic fire bottle test occurs.

SUBTASK 26-00-00-865-017

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB

————— **END OF TASK** —————

TASK 26-00-00-440-801

13. DDG 26-21-2 Restoration - Fire Extinguishing Squib Test System Inoperative

A. General

- (1) This task puts the airplane back to its usual condition after operation with the Fire Extinguishing Squib Test System Inoperative.

B. Reactivation of Inoperative Fire Extinguishing Squib Test System

SUBTASK 26-00-00-865-018

- (1) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB

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SUBTASK 26-00-00-900-002



REMOVE THE RELAY FROM THE POWER MANAGEMENT PANEL CAREFULLY. POWER MANAGEMENT PANELS HAVE HIGH VOLTAGES AND CURRENTS THAT CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (2) Replace the Squib Test Control relay, K26010, with a new relay.

SUBTASK 26-00-00-865-019

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

Standby Power Management Panel, P310

Row	Col	Number	Name
L	5	C26636	FIRE EXT APU
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB

SUBTASK 26-00-00-740-002

- (4) Make sure that these EICAS Status messages do not show on the EICAS display:
- (a) CARGO SQUIB TEST
 - (b) ENG/APU SQUIB TEST
 - (c) CREW REST SQUIB TEST

————— END OF TASK —————

TASK 26-00-00-040-823

14. DDG 26-22-2 Preparation - APU Auto Discharge Inoperative

A. General

- (1) This task gives the maintenance steps which prepare for flight with the APU Fire Detection System Inoperative.

B. During APU ground operations, monitor the APU for fire warnings.

SUBTASK 26-00-00-040-032

- (1) If a fire is detected, the APU fire extinguisher must be manually discharged using one of the following switches:
- (a) The APU shutdown switch on the P40 service and APU shutdown panel (nose gear)
 - (b) The APU and Cargo Fire Panel (P5) APU fire switch.

————— END OF TASK —————

TASK 26-00-00-440-818

15. DDG 26-22-2 Restoration - APU Auto Discharge Inoperative

A. General

- (1) This task puts the airplane back to its usual condition after operation with the APU Fire Detection System Inoperative.

B. References

Reference	Title
26-22-01 P/B 401	APU FIRE EXTINGUISHING BOTTLE - REMOVAL/INSTALLATION

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C. Reactivation of Inoperative APU Auto Discharge

SUBTASK 26-00-00-440-032

- (1) Replace the inoperative APU fire extinguisher bottle (APU FIRE EXTINGUISHING BOTTLE - REMOVAL/INSTALLATION, PAGEBLOCK 26-22-01/401)

————— END OF TASK —————

TASK 26-00-00-040-812

16. DDG 26-23-1 Preparation - Lower Cargo Compartment Fire Extinguishing Bottles 2B, 2C or 2D Inoperative

(Figure 901)

A. General

- (1) This task prepares the airplane for flight with the Lower Cargo Compartment Fire Extinguishing System Bottles 2B, 2C or 2D Inoperative.
- (2) EICAS Status Messages
 - (a) BOTTLE 1A CARGO
 - (b) BOTTLE 1B CARGO
 - (c) BOTTLE 2A CARGO
 - (d) BOTTLE 2B CARGO
 - (e) BOTTLE 2C CARGO
 - (f) BOTTLE 2D CARGO
 - (g) BOTTLE 2E CARGO
 - (h) BOTTLE 2F CARGO
- (3) EICAS Advisory Message
 - (a) BOTTLE DISCH CARGO

B. References

Reference	Title
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
26-23-00-710-802	Cargo Fire Extinguishing Squibs - Operational Test (P/B 501)
26-23-01-020-801	Lower Cargo Fire Extinguishing Bottle Removal (P/B 401)
26-23-01-420-801	Lower Cargo Fire Extinguishing Bottle Installation (P/B 401)

C. Tools/Equipment

Reference	Description
STD-14308	AS5233V10P (Cap)
STD-14309	AS5231V10P (Plug)

D. Location Zones

Zone	Area
122	Forward Cargo Compartment, Right

E. Deactivation of Inoperative Fire Extinguishing Bottle(s)

SUBTASK 26-00-00-010-023

- (1) Remove the sidewall lining to get access to the applicable fire extinguishing bottle [1].(TASK 25-52-06-000-801).

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SUBTASK 26-00-00-420-004

- (2) Install the access platform near the applicable fire extinguishing bottle [1].

SUBTASK 26-00-00-865-001

- (3) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C

SUBTASK 26-00-00-030-011

- (4) Disconnect the applicable flex hose [4] from the fire extinguishing bottle [1] and the plumbing connection.
- (a) Put a plug, STD-14309 or equivalent, on each end of the flex hose [4]
 - (b) Stow the flex hose [4] near the fire extinguishing bottle [1].
 - (c) Put a cap, STD-14308 or equivalent, on the discharge head where the flex hose [4] attaches to it.
 - (d) Put a cap, STD-14308 or equivalent, on the plumbing connection where the flex hose [4] attaches to it.

SUBTASK 26-00-00-020-035

- (5) Disconnect the applicable electrical connector [2] from the squib [3].
- (a) For bottle 2B (B26016), electrical connector DB26016A.
 - (b) For bottle 2C (B26017), electrical connector DB26017A.
 - (c) For bottle 2D (B26026), electrical connector DB26026A.



PUT A PROTECTIVE COVER ON THE SQUIB. IF YOU DO NOT PUT A PROTECTIVE COVER ON THE SQUIB, THE FIRE EXTINGUISHING BOTTLE CAN RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURIES TO PERSONS.



DO NOT PUT A SHUNT PLUG ON THE SQUIB. THE SHUNT PLUG CAN CAUSE DAMAGE TO THE SQUIB PINS.

- (d) Put a protective cap on the squib [3].
- NOTE: The protective cap is attached to the fire extinguishing bottle [1].
- (e) Put a cap on the electrical connector [2].

SUBTASK 26-00-00-910-005

- (6) Stow the applicable electrical connector [2] and wires.

SUBTASK 26-00-00-865-025

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C

SUBTASK 26-00-00-010-022

- (8) Remove the access platform (J21003) near the applicable fire extinguishing bottle [1].

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SUBTASK 26-00-00-410-001

- (9) Install the sidewall lining adjacent to the applicable fire extinguishing bottle [1]
(TASK 25-52-06-400-801).

SUBTASK 26-00-00-700-059

- (10) Do a fire extinguisher squib test with airplane power applied.

NOTE: When you open and then close these circuit breakers, it automatically starts a test of the squibs. An alternative procedure is to use the MAT to do the operational test of the cargo squibs (Cargo Fire Extinguishing Squibs - Operational Test, TASK 26-23-00-710-802).

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	4	C24635	P310 PSU B PRI
C	7	C24641	P310 PSU A PRI
J	5	C24640	P310 PSU B ALTN
K	5	C24633	P310 PSU A ALTN

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	4	C24635	P310 PSU B PRI
C	7	C24641	P310 PSU A PRI
J	5	C24640	P310 PSU B ALTN
K	5	C24633	P310 PSU A ALTN

- (c) Wait 2 minutes.
(d) Make sure that no more fire bottle status messages show.

NOTE: The display usually shows messages only for the deactivated fire bottles.

F. Deactivation of Inoperative Bottle Pressure Switches

SUBTASK 26-00-00-700-073

- (1) Make sure that the applicable bottle pressure switch is failed closed

NOTE: The bottle pressure switch failed closed when the bottle pressure is normal or the bottle pressure is low, or the bottle squib fails a squib test, the applicable bottle status message will display.

- (a) Display the Fire Protection maintenance page.
(b) Make sure that the applicable squib condition under the Cargo Fire Extinguishing System is listed as NORM.
(c) Make sure that the applicable bottle pressure condition under the Cargo Fire Extinguishing System is listed as LOW.

SUBTASK 26-00-00-700-074

- (2) Remove, weigh and re-install the applicable lower cargo compartment fire extinguisher bottle.
(a) To remove the bottle from the airplane, do this task: Lower Cargo Fire Extinguishing Bottle Removal, TASK 26-23-01-020-801

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- (b) Weigh the bottle. The bottle weight must be equal to the weight recorded on the data plate ± 0.3 lb.

NOTE: The measured weight of the bottle includes the charged bottle, the inspection tag on the bottle, and the swivel assemblies. If the squib cartridges are not installed on the fire extinguisher bottle, do not install them. Weigh the squib cartridges as loose parts and include the weight of the squib cartridges in the measured weight. If the squib cartridges are installed, weigh the bottle with the cartridges installed. Remove all protective caps when you weigh the parts.

- (c) To re-install the bottle in the airplane, do this task: Lower Cargo Fire Extinguishing Bottle Installation, TASK 26-23-01-420-801.

NOTE: It's not necessary to perform the bottle pressure switch operational test associated with this procedure.

- (d) Make sure that the bottle squib operational test condition shows PASSED.

SUBTASK 26-00-00-200-008

- (3) Make sure that the bottle squib operates correctly before each departure.

- (a) Start a fire extinguisher squib test using one of the following methods:

NOTE: The squib test is automatically started upon airplane power-up or after landing. Do this test manually only if the squib test does not start automatically (less than 12 hours)

- 1) With a Maintenance Access Terminal (MAT), do this task: Cargo Fire Extinguishing Squibs - Operational Test, TASK 26-23-00-710-802

- a) Make sure the TEST CONDITION on the MAT will show PASSED.

- 2) Set power to the ELMS P310 panel as follows:

- a) Apply airplane power.

- b) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

Row	Col	Number	Name
B	4	C24635	P310 PSU B PRI
C	7	C24641	P310 PSU A PRI
J	5	C24640	P310 PSU B ALTN
K	5	C24633	P310 PSU A ALTN

- c) Remove the safety tags and close these circuit breakers:

Standby Power Management Panel, P310

Row	Col	Number	Name
B	4	C24635	P310 PSU B PRI
C	7	C24641	P310 PSU A PRI
J	5	C24640	P310 PSU B ALTN
K	5	C24633	P310 PSU A ALTN

- d) Wait two minutes.

- (b) Display the Fire Protection maintenance page

- 1) Make sure that the applicable squib condition under the Cargo Fire Extinguishing System is listed as NORM.

————— **END OF TASK** —————

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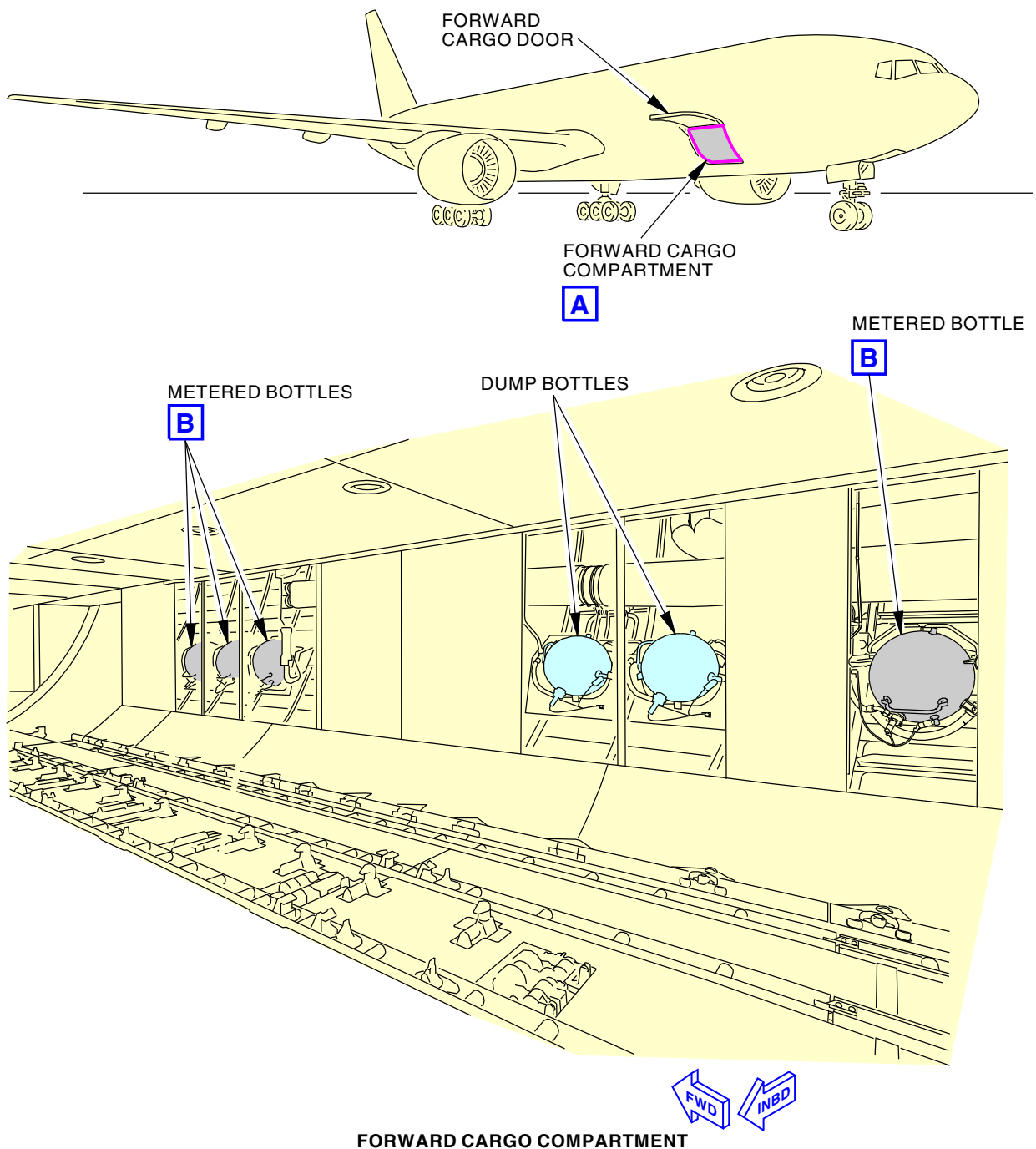
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FORWARD CARGO COMPARTMENT

A

NOTE:

SIDEWALL LINING NOT SHOWN.

W45761 S0000124212_V2

Bottle 2B, 2C or 2D Reactivation/Deactivation Maintenance Procedures
Figure 901/26-00-00-990-803 (Sheet 1 of 2)

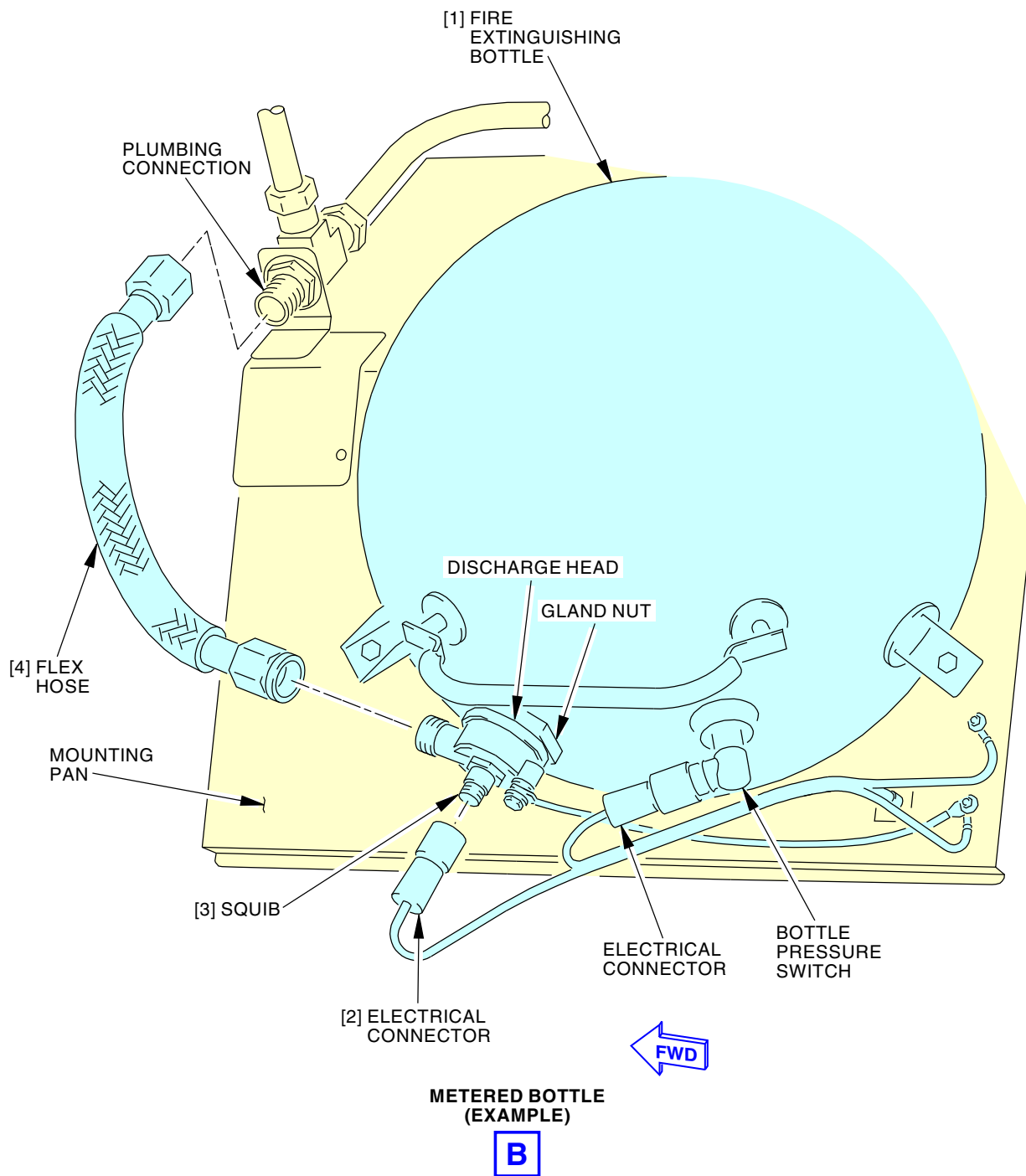
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W45781 S0000124213_V2

Bottle 2B, 2C or 2D Reactivation/Deactivation Maintenance Procedures
Figure 901/26-00-00-990-803 (Sheet 2 of 2)

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TASK 26-00-00-440-806

17. **DDG 26-23-1 Restoration - Lower Cargo Compartment Fire Extinguishing Bottles 2B, 2C or 2D Inoperative**

(Figure 901)

A. General

- (1) This task puts the airplane back to its usual condition after operation with the Lower Cargo Compartment Fire Extinguishing System Bottles 2B , 2C or 2D Inoperative.

B. References

Reference	Title
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)

C. Tools/Equipment

Reference	Description
STD-1079	Resistor - 10K Ohm or Greater
STD-14308	AS5233V10P (Cap)
STD-14309	AS5231V10P (Plug)

D. Location Zones

Zone	Area
122	Forward Cargo Compartment, Right

E. Reactivation of Inoperative Fire Extinguishing Bottle(s)

SUBTASK 26-00-00-010-024

- (1) Remove the sidewall lining to get access to the applicable fire extinguishing bottle [1] (TASK 25-52-06-000-801).

SUBTASK 26-00-00-430-001

- (2) Install the platform near the applicable fire extinguishing bottle [1].

SUBTASK 26-00-00-865-002

- (3) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

Row	Col	Number	Name
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C

SUBTASK 26-00-00-910-006

- (4) Unstow the applicable electrical connector [2] and wire bundle.
(a) Remove the cap from the electrical connector [2].

SUBTASK 26-00-00-030-003

- (5) Remove the protective cap from the squib [3].

SUBTASK 26-00-00-430-003

- (6) Do these steps to connect the electrical connector [2] to the squib [3]:

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WARNING

MAKE SURE THAT THERE IS NO VOLTAGE AT THE ELECTRICAL CONNECTOR. IF THERE IS A VOLTAGE AT THE ELECTRICAL CONNECTOR, THE SQUIB CAN RELEASE THE CONTENTS OF THE BOTTLE SUDDENLY. THIS CAN CAUSE INJURIES TO PERSONNEL.

- (a) Make sure that there is no voltage between pins 1 and 2 of the electrical connector [2].

NOTE: Connect a resistor, STD-1079 across the voltmeter to remove a small voltage from the electrical connector [2].

- (b) Make sure that the squib [3] electrical pins are not bent or damaged.

- (c) Make sure that the electrical connector [2] is not damaged.

NOTE: The squib pins can cause damage to the electrical connector [2] if the pins do not correctly engage the electrical connector [2].

- (d) Connect the electrical connector [2] to the squib [3].

SUBTASK 26-00-00-430-005

- (7) Do these steps to connect the flex hose [4] to the fire extinguishing bottle [1] and plumbing:

- (a) Unstow the flex hose [4] near the fire extinguishing bottle [1].

- (b) Remove the plug, STD-14309 or equivalent, from both ends of the flex hose [4].

- (c) Remove the cap, STD-14308 or equivalent, from the discharge head where the flex hose [4] attaches to it.

- (d) Remove the cap, STD-14308 or equivalent, from the plumbing connection where the flex hose [4] attaches to it.

- (e) Connect the applicable flex hose [4] to the discharge head and the plumbing connection.

SUBTASK 26-00-00-865-003

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C

SUBTASK 26-00-00-720-002

- (9) In the MAT, find the EICAS status message.

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

SUBTASK 26-00-00-740-005

- (10) In the Fault Code Index in the FIM, find the fault code. The first two numbers of the fault code are the FIM chapter.

- (a) For each related 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.

- (c) Find the task in the FIM. Do the steps in the task.

SUBTASK 26-00-00-030-004

- (11) Remove the platform near the fire extinguishing bottle [1].

SUBTASK 26-00-00-430-004

- (12) Install the sidewall lining adjacent to the fire extinguishing bottle [1] (TASK 25-52-06-400-801).

————— **END OF TASK** —————

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TASK 26-00-00-040-803

18. DDG 26-23-2 Preparation - Lower Cargo Compartment Fire Extinguisher Flow Valves (Forward or Aft) Inoperative

(Figure 902)

A. General

- (1) This task gives the maintenance steps which prepare for flight with the Lower Cargo Compartment Fire Extinguisher Flow Valves (Forward or Aft) Inoperative.
- (2) EICAS Status Messages
 - (a) FLOW VALVE CARGO AFT
 - (b) FLOW VALVE CARGO FWD

B. References

Reference	Title
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)

C. Location Zones

Zone	Area
121	Forward Cargo Compartment, Left
122	Forward Cargo Compartment, Right
151	Aft Cargo Compartment, Left
152	Aft Cargo Compartment, Right

D. Deactivation of Inoperative Flow Valves

SUBTASK 26-00-00-010-009

- (1) Remove the sidewall lining to get access to the applicable flow valve [23] (TASK 25-52-06-000-801).

SUBTASK 26-00-00-010-010

- (2) Install the platform near the applicable flow valve [23].

SUBTASK 26-00-00-840-005

- (3) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

Row	Col	Number	Name
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-00-00-020-007

- (4) Disconnect the applicable inlet tube [22] from the flow valve [23] and the plumbing connection.
 - (a) Put caps on each end of the inlet tube [22].
 - (b) Stow the inlet tube [22] near the flow valve [23].
 - (c) Put a pressure cap on the flow valve where the inlet tube [22] attaches to it.
 - (d) Put a pressure cap on the plumbing connection where the inlet tube [22] attaches to it.

SUBTASK 26-00-00-020-008

- (5) Disconnect the two electrical connectors [21] from the squibs [25].
 - (a) For forward flow valve (V26201), electrical connectors DV26201A and DV26201B.
 - (b) For the aft flow valve (V26202), electrical connectors DV26202A and DV26202B.

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WARNING

PUT A PROTECTIVE COVER ON THE SQUIB. IF YOU DO NOT PUT A PROTECTIVE COVER ON THE SQUIB, THE FIRE EXTINGUISHING BOTTLE CAN RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURIES TO PERSONS.



CAUTION

DO NOT PUT A SHUNT PLUG ON THE SQUIB. THE SHUNT PLUG CAN CAUSE DAMAGE TO THE SQUIB PINS.

- (c) Put a protective covers [24] on the squibs [25].

NOTE: The protective cover [24] is attached to the flow valve [23].

- (d) Put a cap on the electrical connector [21].

SUBTASK 26-00-00-910-003

- (6) Stow the applicable electrical connector [21] and wire bundle.

SUBTASK 26-00-00-865-026

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-00-00-010-011

- (8) Remove the access platform near the applicable flow valve [23].

SUBTASK 26-00-00-010-012

- (9) Install the sidewall lining adjacent to the applicable flow valve [23](TASK 25-52-06-400-801).

SUBTASK 26-00-00-700-002

- (10) Do a fire extinguisher squib test with airplane power applied.

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	4	C24635	P310 PSU B PRI
C	7	C24641	P310 PSU A PRI
J	5	C24640	P310 PSU B ALTN
K	5	C24633	P310 PSU A ALTN

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	4	C24635	P310 PSU B PRI
C	7	C24641	P310 PSU A PRI
J	5	C24640	P310 PSU B ALTN
K	5	C24633	P310 PSU A ALTN

- (c) Wait 2 minutes



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- (d) Make sure that no more flow valve status messages show.

NOTE: The display usually shows messages only for the deactivated flow valves.

———— **END OF TASK** ————

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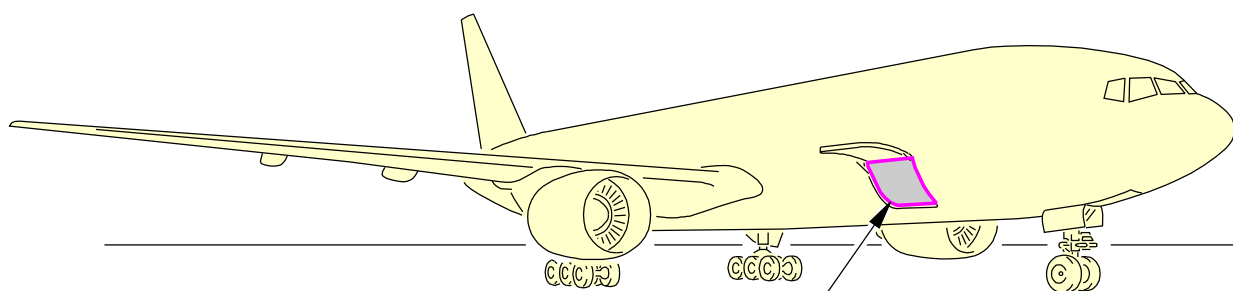
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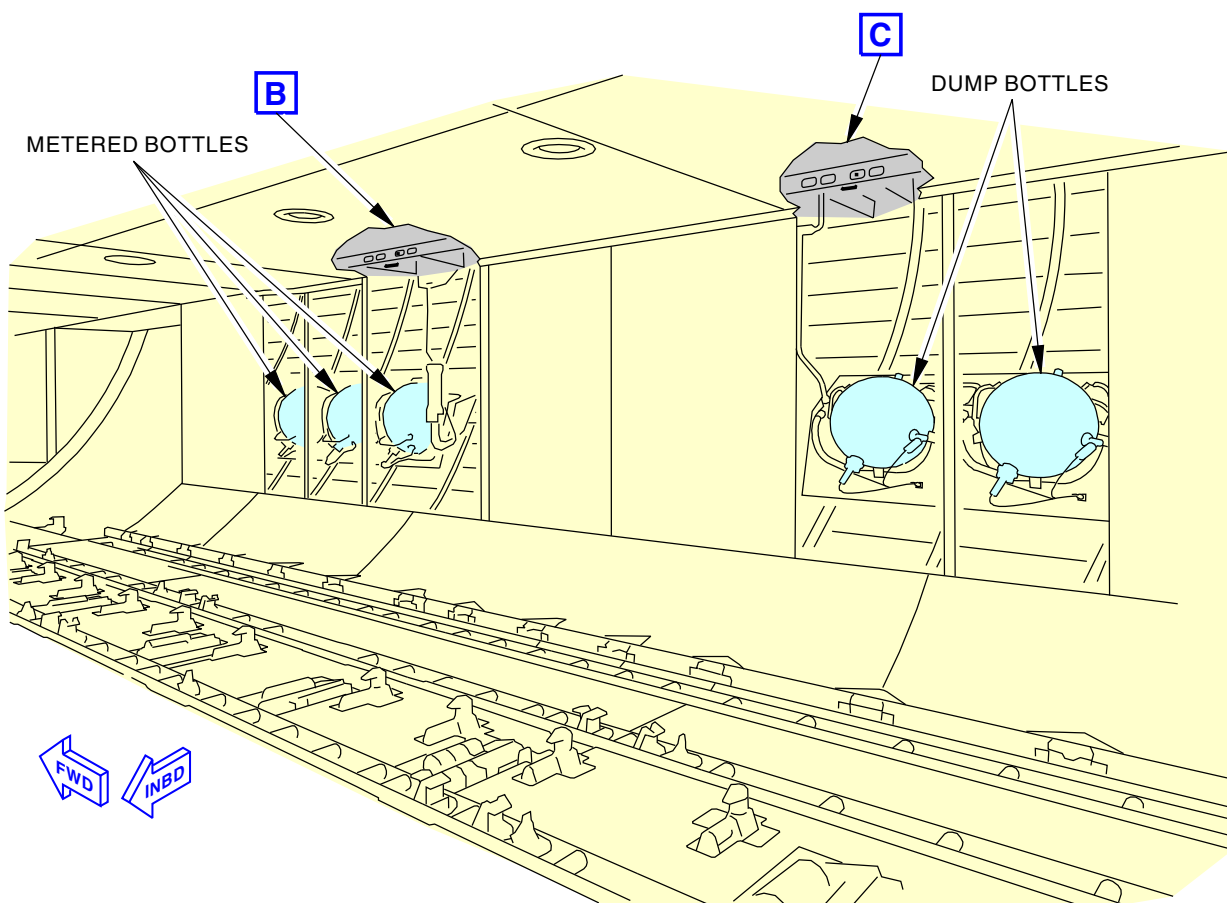


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FORWARD CARGO
COMPARTMENT

A



METERED BOTTLES

B

C

DUMP BOTTLES

FORWARD CARGO COMPARTMENT

A

NOTE:
SIDEWALL LINING NOT SHOWN.

E28179 S0006411632_V2

Forward or Aft Flow Valve Reactivation/Deactivation Maintenance Procedures
Figure 902/26-00-00-990-802 (Sheet 1 of 3)

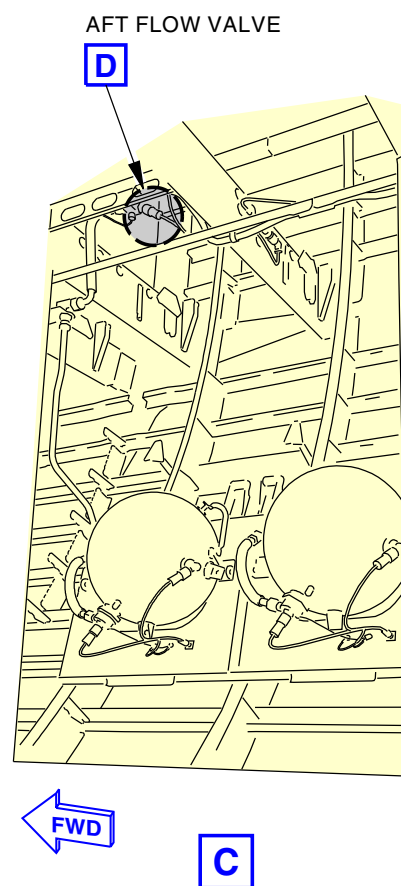
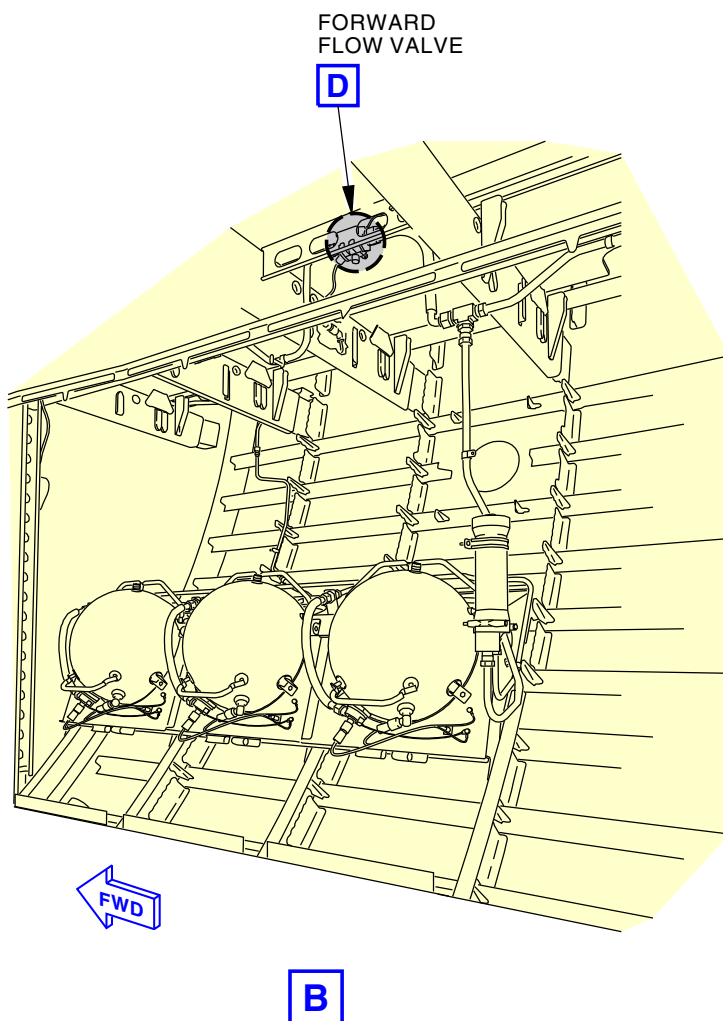
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NOTE:
SIDEWALL LINING IS NOT SHOWN.

E28188 S0006411633_V2

**Forward or Aft Flow Valve Reactivation/Deactivation Maintenance Procedures
Figure 902/26-00-00-990-802 (Sheet 2 of 3)**

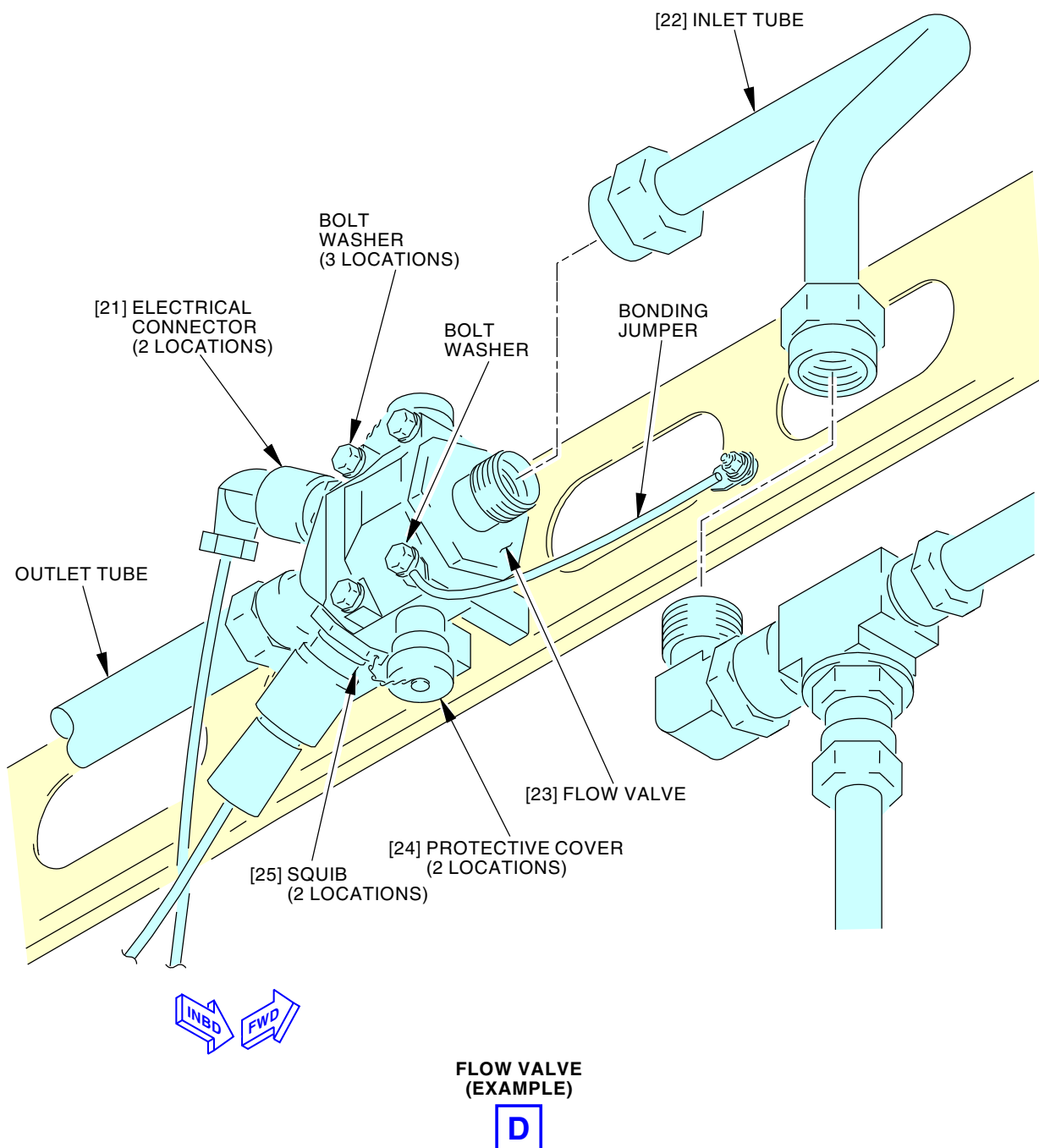
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E28199 S0006411634_V2

**Forward or Aft Flow Valve Reactivation/Deactivation Maintenance Procedures
Figure 902/26-00-00-990-802 (Sheet 3 of 3)**

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TASK 26-00-00-440-803

19. DDG 26-23-2 Restoration - Lower Cargo Compartment Fire Extinguisher Flow Valves (Forward or Aft) Inoperative

(Figure 902)

A. General

- (1) This task puts the airplane back to its usual condition after operation with the Lower Cargo Compartment Fire Extinguishing Flow Valves (Forward or Aft) Inoperative.

B. References

Reference	Title
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)

C. Tools/Equipment

Reference	Description
STD-1079	Resistor - 10K Ohm or Greater

D. Location Zones

Zone	Area
121	Forward Cargo Compartment, Left
122	Forward Cargo Compartment, Right
151	Aft Cargo Compartment, Left
152	Aft Cargo Compartment, Right

E. Reactivation of Inoperative Flow Valves

SUBTASK 26-00-00-010-013

- (1) Remove the sidewall lining to get access to the applicable flow valve [23](TASK 25-52-06-000-801).

SUBTASK 26-00-00-010-014

- (2) Install the platform near the applicable flow valve [23].

SUBTASK 26-00-00-840-007

- (3) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

Row	Col	Number	Name
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-00-00-910-004

- (4) Unstow the applicable electrical connector [21] and wire bundle.
 - (a) Remove the cap from the electrical connector [21].

SUBTASK 26-00-00-020-009

- (5) Remove the protective cover [24] from the squib [25].

SUBTASK 26-00-00-420-003

- (6) Do these steps to connect the electrical connector [21] to the squib [25]:

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WARNING

MAKE SURE THAT THERE IS NO VOLTAGE AT THE ELECTRICAL CONNECTOR. IF THERE IS A VOLTAGE AT THE ELECTRICAL CONNECTOR, THE SQUIB CAN RELEASE THE CONTENTS OF THE BOTTLE SUDDENLY. THIS CAN CAUSE INJURIES TO PERSONNEL.

- (a) Make sure that there is no voltage between pins 1 and 2 of the electrical connector [21].

NOTE: Connect a resistor, STD-1079 across the voltmeter to remove a small voltage from the electrical connector [21].

- (b) Make sure that the squib electrical pins are not bent or damaged.

- (c) Make sure that the electrical connector [21] is not damaged.

NOTE: The squib pins can cause damage to the electrical connector [21] if the pins do not correctly engage the electrical connector [21].

- (d) Connect the electrical connector [21] to the squib [25].

SUBTASK 26-00-00-020-010

- (7) Do these steps to connect the inlet tube [22] to the flow valve [23]:

- (a) Unstow the inlet tube [22].

- (b) Remove the caps on each end of the inlet tube [22].

- (c) Remove the pressure cap on the flow valve where the inlet tube [22] attaches to it.

- (d) Remove the pressure cap on the plumbing connection where the inlet tube [22] attaches to it.

- (e) Connect the applicable inlet tube [22] to the flow valve [23] and to the plumbing connection.

SUBTASK 26-00-00-840-008

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

Standby Power Management Panel, P310

Row	Col	Number	Name
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-00-00-810-003

- (9) In the MAT, find the EICAS status message.

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

SUBTASK 26-00-00-810-004

- (10) In the Fault Code Index in the FIM, find the fault code. The first two numbers of the fault code are the FIM chapter.

- (a) For each related 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.

- (c) Find the task in the FIM. Do the steps in the task.

SUBTASK 26-00-00-010-015

- (11) Remove the platform near the flow valve [23].

SUBTASK 26-00-00-010-016

- (12) Install the sidewall lining adjacent to the flow valve [23] (TASK 25-52-06-400-801).

————— **END OF TASK** —————

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TASK 26-00-00-040-824

20. DDG 26-24-1 Preparation - Lavatory Fire Extinguisher Systems Inoperative

A. General

- (1) This task gives the maintenance steps which prepare for flight with the Lavatory Fire Extinguisher Systems Inoperative.

B. Deactivation of Inoperative Lavatory Fire Extinguisher Systems

SUBTASK 26-00-00-040-033

- (1) Deactivate the lavatory
 - (a) Make sure that the lavatory receptacle in the waste container is empty
 - (b) Close and lock the lavatory door

————— END OF TASK —————

TASK 26-00-00-440-819

21. DDG 26-24-1 Restoration - Lavatory Fire Extinguisher System Inoperative

A. General

- (1) This task puts the airplane back to its usual condition after operation with the Lavatory Fire Extinguisher System Inoperative.

B. Reactivation of Inoperative Lavatory Fire Extinguisher System

SUBTASK 26-00-00-440-033

- (1) Unlock and open the lavatory door.

————— END OF TASK —————

TASK 26-00-00-040-825

22. DDG 26-26-1 Preparation - Portable Fire Extinguishers Inoperative

A. General

- (1) This task gives the maintenance steps which prepare for flight with the Portable Fire Extinguishers Inoperative.

NOTE: This procedure contains unique instructions for aircraft using the FAA or the EASA MMEL.

B. References

Reference	Title
26-26-01-020-801	Remove the Extinguisher (P/B 401)

C. Deactivation of Inoperative Portable Fire Extinguishers Inoperative (FAA)

SUBTASK 26-00-00-020-043

- (1) Remove the inoperative portable fire extinguisher (TASK 26-26-01-020-801).

SUBTASK 26-00-00-040-034

- (2) Stow the extinguisher.
 - (a) Put the extinguisher in a bag
 - (b) Make sure that the extinguisher can not be used by mistake

NOTE: The extinguisher will be removed from the airplane at the next available maintenance base.

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SUBTASK 26-00-00-610-001

- (3) Make sure that the necessary supply of serviceable extinguishers is available during maintenance.

D. Deactivation of Inoperative Portable Fire Extinguishers Inoperative (EASA)

SUBTASK 26-00-00-020-045

- (1) Remove the inoperative fire extinguisher from the airplane or placard it INOPERATIVE and secure out of sight in an approved location where it will not be used by mistake (TASK 26-26-01-020-801).

SUBTASK 26-00-00-040-037

- (2) Placard the installed location, INOPERATIVE.

SUBTASK 26-00-00-610-002

- (3) Make sure that the required distribution of operative extinguishers is maintained throughout the airplane.

————— END OF TASK —————

TASK 26-00-00-440-820

23. DDG 26-26-1 Restoration - Portable Fire Extinguishers Inoperative

A. General

- (1) This task puts the airplane back to its usual condition after operation with the Portable Fire Extinguishers Inoperative.

NOTE: This procedure contains unique instructions for aircraft using the FAA or the EASA MMEL.

B. References

Reference	Title
26-26-01-430-801	Install the Extinguisher (P/B 401)

C. Reactivation of Inoperative Portable Fire Extinguishers (FAA)

SUBTASK 26-00-00-020-042

- (1) Remove the inoperative extinguisher from the airplane.

SUBTASK 26-00-00-420-015

- (2) Re-install the new portable fire extinguisher (TASK 26-26-01-430-801)

D. Reactivation of Inoperative Portable Fire Extinguishers (EASA)

SUBTASK 26-00-00-020-047

- (1) Remove the INOPERATIVE placard from the installed location.

SUBTASK 26-00-00-020-048

- (2) Remove the inoperative extinguisher from the airplane.

SUBTASK 26-00-00-420-017

- (3) Re-install the new portable fire extinguisher (TASK 26-26-01-430-801)

————— END OF TASK —————

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FIRE/OVERHEAT DETECTION - ADJUSTMENT/TEST

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has these tasks:
 - (1) A maintenance message check that uses the maintenance access terminal (MAT) to show the faults and maintenance messages. The messages are related to the Duct Leak and Overheat Detection System (DLODS), the APU and Engine Fire Detection systems. The DLODS includes the Wheel Well Fire Detection, Fan Case Overheat Detection, Strut Overheat Detection, Wing Duct Leak Detection, Body Duct Leak Detection, and the DLODS Control Cards.
 - (2) An operational test of the APU and the engine fire detection systems with the FIRE/OVHT test switch.

TASK 26-10-00-710-803

2. Fire/Overheat Detection Maintenance Message Checks

NOTE: This procedure is a scheduled maintenance task.

A. **General**

- (1) A maintenance access terminal is necessary for this procedure. To get more instructions on how to use a maintenance access terminal or how to find faults, 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
212	Flight Compartment, Right

D. **Fire/Overheat Detection Maintenance Message Check**

SUBTASK 26-10-00-860-001

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

SUBTASK 26-10-00-740-001

- (2) Use a maintenance access terminal (MAT) to look for maintenance messages for the DLODS:
 - (a) Make these selections on the MAT:
 - 1) ONBOARD MAINTENANCE
 - 2) EXTENDED MAINTENANCE
 - 3) EXISTING FAULTS
 - (b) Look for 26 Duct Leak and Overheat Detection System.
NOTE: If 26 Duct Leak and Overheat Detection System does not show, then there are no maintenance messages for the DLODS faults.
 - (c) If 26 Duct Leak and Overheat Detection System shows, do this:
 - 1) Set 26 Duct Leak and Overheat Detection System.
 - 2) Set CONTINUE.

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- 3) Look at the maintenance messages that show. Make sure that there are no maintenance messages for the DLODS control cards, Fan Case or Wheel Well.
- 4) If a maintenance message for the applicable DLODS component shows, do one of these steps:
 - Refer to the applicable Maintenance Message Index in the FIM
 - Set the maintenance message and MAINTENANCE MESSAGE DATA.
- (d) Look for 26 APU Fire Detection System.
NOTE: If 26 APU Fire Detection System does not show, then there are no maintenance messages for the APU Fire Detection System faults.
- (e) If 26 APU Fire Detection System shows, do this:
 - 1) Set 26 APU Fire Detection System.
 - 2) Set CONTINUE.
 - 3) Look at the maintenance messages that show. Make sure that there are no maintenance messages for the APU Fire Detection Card.
 - 4) If a maintenance message for the APU Fire Detection Card shows, do one of these steps:
 - Refer to the applicable Maintenance Message Index in the FIM
 - Set the maintenance message and MAINTENANCE MESSAGE DATA.
- (f) Look for 26 Engine Fire Detection System.
NOTE: If 26 Engine Fire Detection System does not show, then there are no maintenance messages for the Engine Fire Detection System faults.
- (g) If 26 Engine Fire Detection System shows, do this:
 - 1) Set 26 Engine Fire Detection System.
 - 2) Set CONTINUE.
 - 3) Look at the maintenance messages that show and make sure that there are no maintenance messages for the Engine Fire Detection Cards.
 - 4) If a maintenance message for the Engine Fire Detection Cards shows, do one of these steps:
 - Refer to the applicable Maintenance Message Index in the FIM
 - Set the maintenance message and MAINTENANCE MESSAGE DATA.

————— **END OF TASK** —————

TASK 26-10-00-710-802

3. FIRE/OVHT Operational Test

A. General

- (1) The operational test makes sure that the APU fire detection system and engine fire detection system operate correctly. The operational test uses only equipment that is installed on the airplane.

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)

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C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

D. APU Fire Detection Operational Test

SUBTASK 26-10-00-840-001

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

SUBTASK 26-10-00-710-001

- (2) Push and hold the FIRE/OVHT TEST switch on the P5 panel.
- (a) In the flight compartment, make sure that these indications occur:
- 1) The EICAS Warning message, FIRE TEST IN PROG, shows on the center top display unit
 - 2) On the engine fire control module on the P8 panel, the lights on the left and right engine fire switches come on
 - 3) On the P10 control stand, the lights on the left and right fuel control switches come on.
 - 4) On the cargo fire/engine control module on the P5 panel, the light on the APU Fire Switch comes on.

SUBTASK 26-10-00-710-002

- (3) On the P40 panel on the nose landing gear, make sure that these indications occur:
- (a) The APU Fire light comes on
- (b) The APU Fire warning horn comes on.

SUBTASK 26-10-00-710-003

- (4) Release the FIRE/OVHT TEST switch after one of these EICAS Warning messages shows on the center top display unit:
- (a) FIRE TEST PASS
- (b) FIRE TEST FAIL
- NOTE: One of these messages will show after approximately five seconds.
- (c) Make sure that the fire indications stop.

————— **END OF TASK** —————

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ENGINE FIRE DETECTION - ADJUSTMENT/TEST

1. General

- A. This procedure has an operational test of the engine fire detection system. The test uses the FIRE/OVHT test switch on the P5 panel to make sure that the system operates correctly. The maintenance access terminal (MAT) shows the faults and maintenance messages of the system.
- B. The engine fire detection system has a control card and a dual loop detector assembly for each engine. The control card continuously monitors the dual loop detectors for faults.

TASK 26-11-00-710-801

2. Engine Fire Detection Operational Test

A. **General**

- (1) The operational test makes sure that the engine fire detection system operates correctly. The operational test uses only equipment that is installed on the airplane.

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. **Engine Fire Detection Operational Test**

SUBTASK 26-11-00-840-002

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

SUBTASK 26-11-00-710-007

- (2) Push and hold the FIRE/OVHT TEST switch on the P5 panel.
 - (a) In the flight compartment, make sure that these indications occur:
 - 1) The EICAS Warning message, FIRE TEST IN PROG, shows on the center top display unit
 - 2) On the engine fire control module on the P8 panel, the lights on the left and right engine fire switches come on
 - 3) On the P10 control stand, the lights on the left and right fuel control switches come on.

SUBTASK 26-11-00-710-008

- (3) Release the FIRE/OVHT TEST switch after one of these EICAS Warning messages shows on the center top display unit:
 - (a) FIRE TEST PASS
 - (b) FIRE TEST FAIL

NOTE: One of these messages will show after approximately five seconds.

SUBTASK 26-11-00-710-009

- (4) In the flight compartment, make sure that these EICAS Warning messages do not show on the center top display unit:

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- (a) FIRE ENG L
- (b) FIRE ENG R

SUBTASK 26-11-00-710-010

- (5) In the flight compartment, make sure that these EICAS Caution messages do not show on the center top display unit:
- (a) OVERHEAT ENG L
 - (b) OVERHEAT ENG R

SUBTASK 26-11-00-710-011

- (6) In the flight compartment, make sure that these EICAS advisory messages do not show on the center top display unit:
- (a) DET FIRE ENG L
 - (b) DET FIRE ENG R
 - (c) DET OVERHEAT ENG L
 - (d) DET OVERHEAT ENG R

SUBTASK 26-11-00-710-012

- (7) In the flight compartment, make sure that these EICAS Status messages do not show on the center lower display unit:
- (a) FIRE CARD ENG L
 - (b) FIRE CARD ENG R
 - (c) FIRE LOOP 1 ENG L
 - (d) FIRE LOOP 1 ENG R
 - (e) FIRE LOOP 2 ENG L
 - (f) FIRE LOOP 2 ENG R
 - (g) OVERHEAT CIRCUIT L1
 - (h) OVERHEAT CIRCUIT R1
 - (i) OVERHEAT CIRCUIT L2
 - (j) OVERHEAT CIRCUIT R2

————— **END OF TASK** —————

TASK 26-11-00-740-802

3. Engine Fire Detection Maintenance Message Check

A. General

- (1) A maintenance access terminal is necessary for this procedure. To get more instructions on how to use a maintenance access terminal or how to find the faults, 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)

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C. Location Zones

Zone	Area

212	Flight Compartment, Right

D. Engine Fire Detection Maintenance Message Check

SUBTASK 26-11-00-860-002

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

SUBTASK 26-11-00-740-002

(2) Use a maintenance access terminal (MAT) to look for maintenance messages for the Engine Fire Detection System:

(a) Make these selections on the MAT:

- 1) ONBOARD MAINTENANCE
- 2) EXTENDED MAINTENANCE
- 3) EXISTING FAULTS

(b) Look for 26 Engine Fire Detection System.

NOTE: If 26 Engine Fire Detection System does not show, then there are no maintenance messages for the Engine Fire Detection System faults.

(c) If 26 Engine Fire Detection System shows, do this:

- 1) Set 26 Engine Fire Detection System.
- 2) Set CONTINUE.
- 3) Look at the maintenance messages that show. Make sure that there are no maintenance messages for the Engine Fire Detection System.
- 4) If a maintenance message for the Engine Fire Detection System shows, do one of these steps:
 - Refer to the applicable Maintenance Message Index in the FIM
 - Set the maintenance message and MAINTENANCE MESSAGE DATA.

———— **END OF TASK** ————

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ENGINE FIRE DETECTION - MAINTENANCE PRACTICES

1. General

A. This procedure has one task to use the nacelle temperature data.

- (1) The engine fire detection system transmits the nacelle temperature data along the ARINC 629 data buses. The data shows a standard value of the resistance of the system. It is not possible to give the location of the high-temperature sources in the nacelle. It is also not possible to get an nacelle temperature average. A data value of 100 gives a too hot condition and a too hot indication in the flight compartment. Nacelle temperature data lets personnel monitor the condition and operation of the engine between usual maintenance intervals.
- (2) The nacelle temperature data show below the NAC1 and NAC2 labels. Examples of the types of data are:
 - (a) Gross takeoff weight
 - (b) Thrust setting
 - (c) Climb profile
 - (d) Takeoff altitude
 - (e) The condition of the primary airplane systems at the takeoff.
- (3) These types of data and the operation of the airplane changes the nacelle temperature data. The airline must regularly examine the permitted values for the nacelle temperature data.
- (4) Maintenance is not necessary until there is a flight compartment caution or warning indication. The nacelle temperature data is a tool for the airline to find when to do maintenance.

TASK 26-11-01-800-801

2. Nacelle Temperature Trend Data - Maintenance Practices

(Figure 201)

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
45-10-00-740-808	How to Use the Central Maintenance Computing System (P/B 201)

C. Location Zones

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
411	Engine, Left
421	Engine, Right

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D. Nacelle Temperature Trend Data Retrieval

SUBTASK 26-11-01-740-001

- (1) With a maintenance access terminal (MAT), get the nacelle temperature trend data from the ACMF report. The data are labeled TAKE-OFF, CLIMB, ENGINE STABLE, ENG LIMIT EXCEEDANCE:

NOTE: The nacelle data are shown in the NAC1 and NAC2 labels. The NAC1 data is from the loop 1 fire detector. The NAC2 data is from the loop 2 fire detector.

- (a) Make these selections on the MAT:

- 1) CONDITION MONITORING
- 2) ENGINE REPORTS

- (b) Make one of these selections on the MAT to get the engine report:

NOTE: When you get one of these engine reports, a list will show that can have many reports of that type.

- 1) ENGINE STABLE
- 2) TAKE-OFF
- 3) CLIMB
- 4) ENGINE EXCEEDANCE

- (c) If you set ENGINE STABLE, then set one of these:

- 1) REPORT SUMMARY
- 2) MANUALLY INITIATED

- (d) If you set ENGINE EXCEEDANCE, then set one of these:

- 1) LIMIT
- 2) HISTORY-LEFT A
- 3) HISTORY-LEFT B
- 4) HISTORY-RIGHT A
- 5) HISTORY-RIGHT B

- (e) Set the report from the list.

- (f) Make one of these selections to set the report function:

- 1) PRINT
- 2) DOWNLOAD REPORT
- 3) DOWNLINK REPORT
- 4) DISPLAY REPORT

E. Possible Nacelle Temperature Trend Data Use

NOTE: The subsequent steps give one procedure to use the nacelle temperature data. You can use other procedures to use the data. You must find the best procedure.

SUBTASK 26-11-01-740-002

- (1) Do these steps to record the data from the applicable report:

- (a) Find the NAC1 and NAC2 labels on the applicable report.
- (b) For each engine, take the average of the values in the NAC1 and NAC2 labels. Use this as the nacelle trend value to record.

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- (c) Find the Total Air Temperature (TAT) label on the report. Use the value under the TAT label to record.
- (d) On the chart, record the data with the nacelle trend value on the vertical axis and the TAT value on the horizontal axis.
- (e) Continue to record the points from different flights until there is a sufficient number of points.

NOTE: When there is a sufficient number of points, the data show you the usual range of values for the given conditions.

- (f) If necessary, put a line at the top range of these points.

NOTE: Data points below this line show usual engine performance. Data points that occur above this line can show a change in engine performance or a small duct leak.

SUBTASK 26-11-01-010-029

(2) AN EXAMPLE OF HOW TO USE THE DATA:

Do one of these procedures as a maintenance step:

- The nacelle data for the engines show values between 20 and 30
- After some flights, the values for one of the engines increase to 30, 35, 40, 50, and 60.
- (a) A visual inspection of the pneumatic system connections near the engine fire detectors
- (b) A "tap and tighten" check of the pneumatic system connections near the engine fire detectors
- (c) A "glove and touch" check of the pneumatic system with the pneumatic system pressurized from the APU.

————— **END OF TASK** —————

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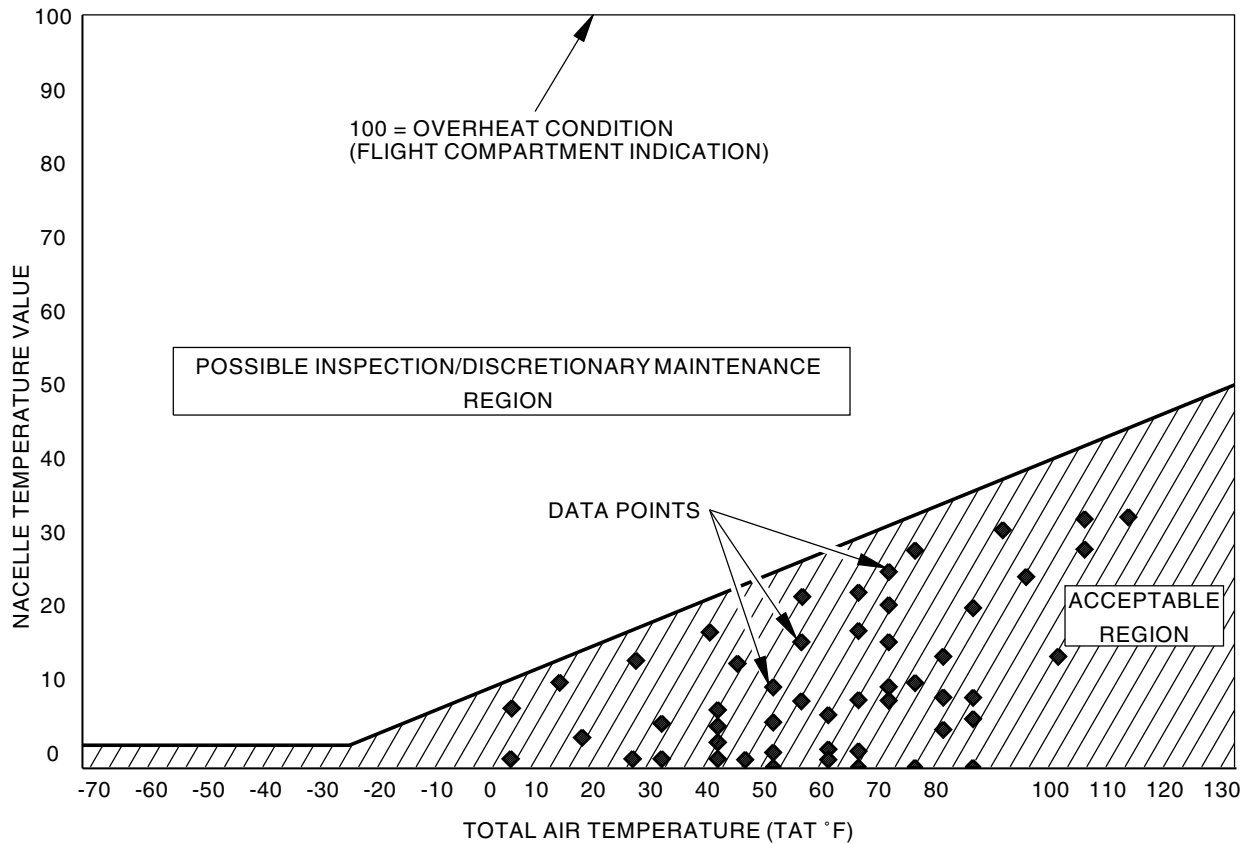
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NACELLE TEMPERATURE TREND DATA CHART
(EXAMPLE)

NOTE:

- 1) IF A NEW FLIGHT CONDITION OCCURS, A DATA POINT MAY OCCUR ABOVE THE LINE WHICH IS ACCEPTABLE.
- 2) ALL DATA POINTS WITH NACELLE TEMPERATURE VALUES BELOW 100 ARE SAFE AND ACCEPTABLE. ALL UNSAFE CONDITIONS WILL CAUSE A WARNING OR CAUTION INDICATION IN THE FLIGHT COMPARTMENT.
- 3) THIS CHART IS ONLY AN EXAMPLE. EACH AIRLINE MUST DEVELOP ITS OWN CHART AND DETERMINE WHAT AREAS ARE ACCEPTABLE.

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Engine Fire Detection - Maintenance Practices
Figure 201/26-11-01-990-804

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ENGINE FIRE DETECTORS - REMOVAL/INSTALLATION

1. General

A. This procedure has these tasks:

- (1) A removal of the engine fire detector elements
- (2) An installation of the engine fire detector elements
- (3) A removal of the engine fire detector assemblies
- (4) An installation of the engine fire detector assemblies.

B. There are four different fire detectors installed on each engine. One is in the lower forward area of the engine. One is in the left aft area of the engine. One is in the lower aft area of the engine. One is in the right aft area of the engine. All of the detectors are dual loop detectors. Each fire detector assembly has two elements which you can remove. The removal and installation procedures are the same for each fire detector assembly or element.

TASK 26-11-01-000-809-001

2. Engine Fire Detector Element Removal

(Figure 401)

A. References

Reference	Title
27-81-00-040-801	Leading Edge Slat - Deactivation (P/B 201)
27-81-00-860-805	Retract the Leading Edge Slats (P/B 201)
71-11-04-010-814-H00	Open the Fan Cowl Panel (Selection) (P/B 201)
78-31-00-010-816-H00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-040-806-H00	Thrust Reverser Deactivation For Ground Maintenance (P/B 201)

B. Location Zones

Zone	Area
411	Engine, Left
421	Engine, Right

C. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
413AL	Left Fan Cowl Panel, Left Engine
414AR	Right Fan Cowl Panel, Left Engine
416AR	Right Thrust Reverser, Left Engine
423AL	Left Fan Cowl Panel, Right Engine
424AR	Right Fan Cowl Panel, Right Engine
426AR	Right Thrust Reverser, Right Engine

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D. Prepare for the Removal

SUBTASK 26-11-01-010-038-001



WARNING

MAKE CERTAIN THAT APU MASTER SWITCH IN FLIGHT COMPARTMENT IS IN OFF POSITION.

- (1) Open this access door to get access to the System Cardfiles:

Number

Name/Location

117AL

Main Equipment Center Access Door

SUBTASK 26-11-01-860-025-001



WARNING

MAKE CERTAIN THAT APU MASTER SWITCH IN FLIGHT COMPARTMENT IS IN OFF POSITION.



WARNING

ENSURE THAT LH ENGINE IS NOT RUNNING.

- (2) Move the power switches for these Engine Fire Detection Cards to the OFF position:

NOTE: APU Fire Warning may appear after you set the power switches for the L Engine Fire Detection Card to the OFF position. But this Warning does not show that APU Fire occurs. It will disappear after you set the power switches for the APU Fire Detection Cards to the OFF position.

- (a) To remove power from the Left Engine Fire Detection Card, set the following switches to the OFF position:

NOTE: The step sequence is very important for the procedure that follows. Make sure that the common switch A3S7 is turned OFF after the APU Fire Detection Card switch (A3S6) and Left Engine Fire Detection Card switch (A18S1) are turned OFF.

- 1) APU Fire Detection Card (A9) in the Left System Cardfile (P85) - P85 A3S6
- 2) Left Engine Fire Detection Card (A10) in the Left Systems Cardfile (P85) - P85 A18S1
- 3) APU and Left Engine Fire Detection Card common - P85 A3S7.

- (b) Right Engine Fire Detection Card (A10) in the Right Systems Cardfile (P84).

SUBTASK 26-11-01-010-039-001



WARNING

DO ALL OF THE SPECIFIED TASKS IN THE CORRECT SEQUENCE TO OPEN THE THRUST REVERSER. IF YOU DO NOT OBEY THIS INSTRUCTION, INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (3) Do these tasks in sequence safely to open the left and right thrust reverser on the applicable engine:

- (a) Do this task: Retract the Leading Edge Slats, TASK 27-81-00-860-805.
- (b) Do this task: Leading Edge Slat - Deactivation, TASK 27-81-00-040-801.

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- (c) Do this task: Thrust Reverser Deactivation For Ground Maintenance, TASK 78-31-00-040-806-H00.
- (d) For the left and right fan cowl panels, do this task: Open the Fan Cowl Panel (Selection), TASK 71-11-04-010-814-H00

These are the fan cowl panels:

<u>Number</u>	<u>Name/Location</u>
413AL	Left Fan Cowl Panel, Left Engine
414AR	Right Fan Cowl Panel, Left Engine
423AL	Left Fan Cowl Panel, Right Engine
424AR	Right Fan Cowl Panel, Right Engine

- (e) For the left and right thrust reversers, do this task: Open the Thrust Reverser (Selection), TASK 78-31-00-010-816-H00

These are the thrust reversers:

<u>Number</u>	<u>Name/Location</u>
416AR	Right Thrust Reverser, Left Engine
426AR	Right Thrust Reverser, Right Engine

E. Fire Detector Element Removal

SUBTASK 26-11-01-020-009-001



BE CAREFUL WHEN YOU REMOVE THE FIRE DETECTOR ELEMENT. THE CERAMIC INSULATORS AT THE ENDS OF THE ELEMENT ARE EASILY DAMAGED. IF YOU ARE NOT CAREFUL, YOU CAN CAUSE DAMAGE TO THE CERAMIC INSULATOR OR THE FIRE DETECTOR ELEMENT.

- (1) Do these steps to remove one of the fire detector elements [1]:
 - (a) Disconnect the lead [7] or lead [11], and busbar [15] from the ends of the fire detector element [1].
 - 1) Remove the applicable screw [6] or screw [10], the nut [9] or nut [13], and washer [8] or washer [12].
 - (b) Remove the lockwire [5] on the nut [14] at the ends of the fire detector element [1].
 - (c) Remove the nut [14] at the ends of the fire detector element [1].
 - (d) Loosen the bolt [2] on each applicable clamp [3].
 - (e) For the forward lower detector, remove the applicable bolts [17], spacers [18], and shields [16].
 - (f) Remove the fire detector element [1].
 - (g) Remove the grommet [4] from the fire detector element [1].
 - (h) Keep the grommet [4] for the new fire detector element.

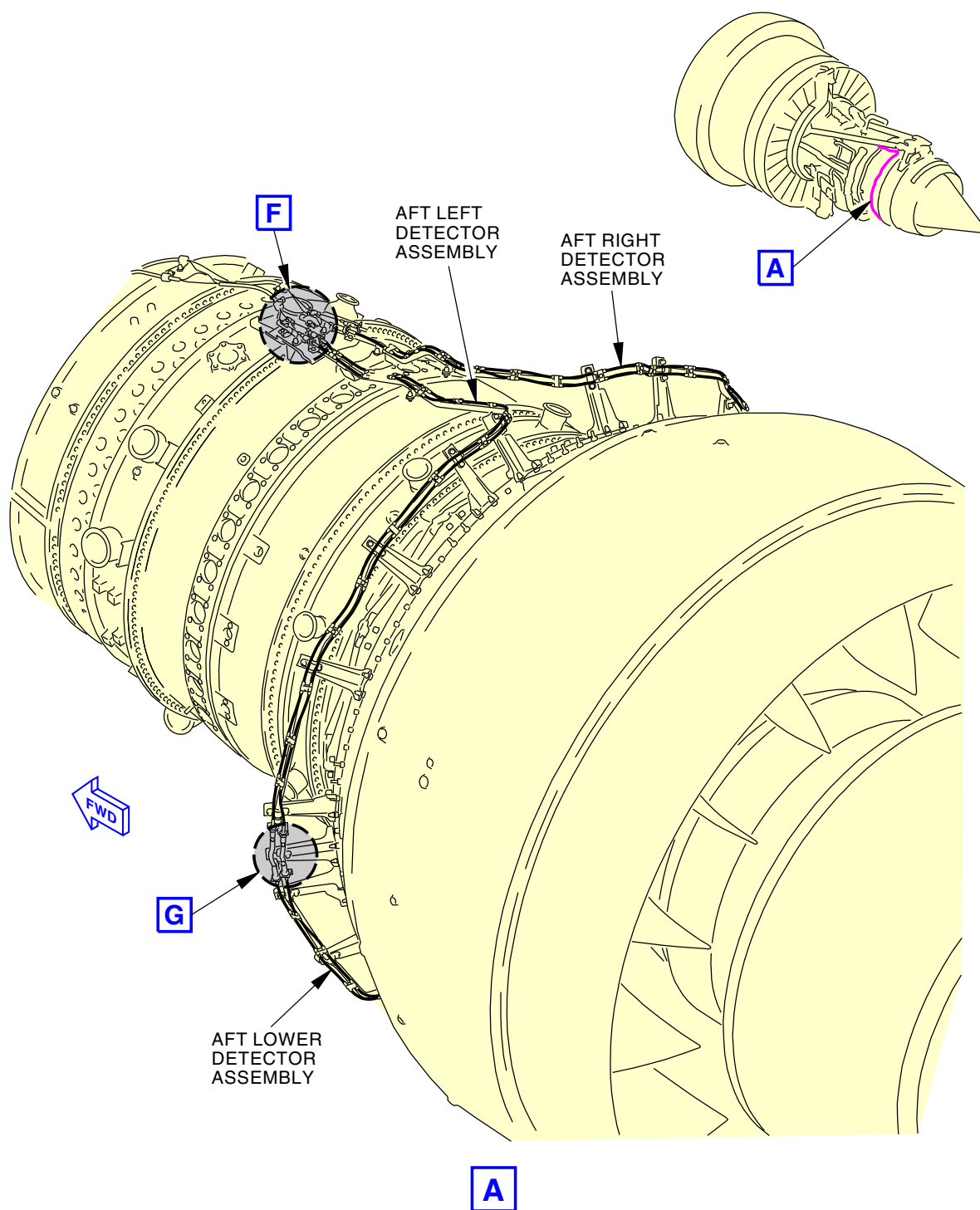
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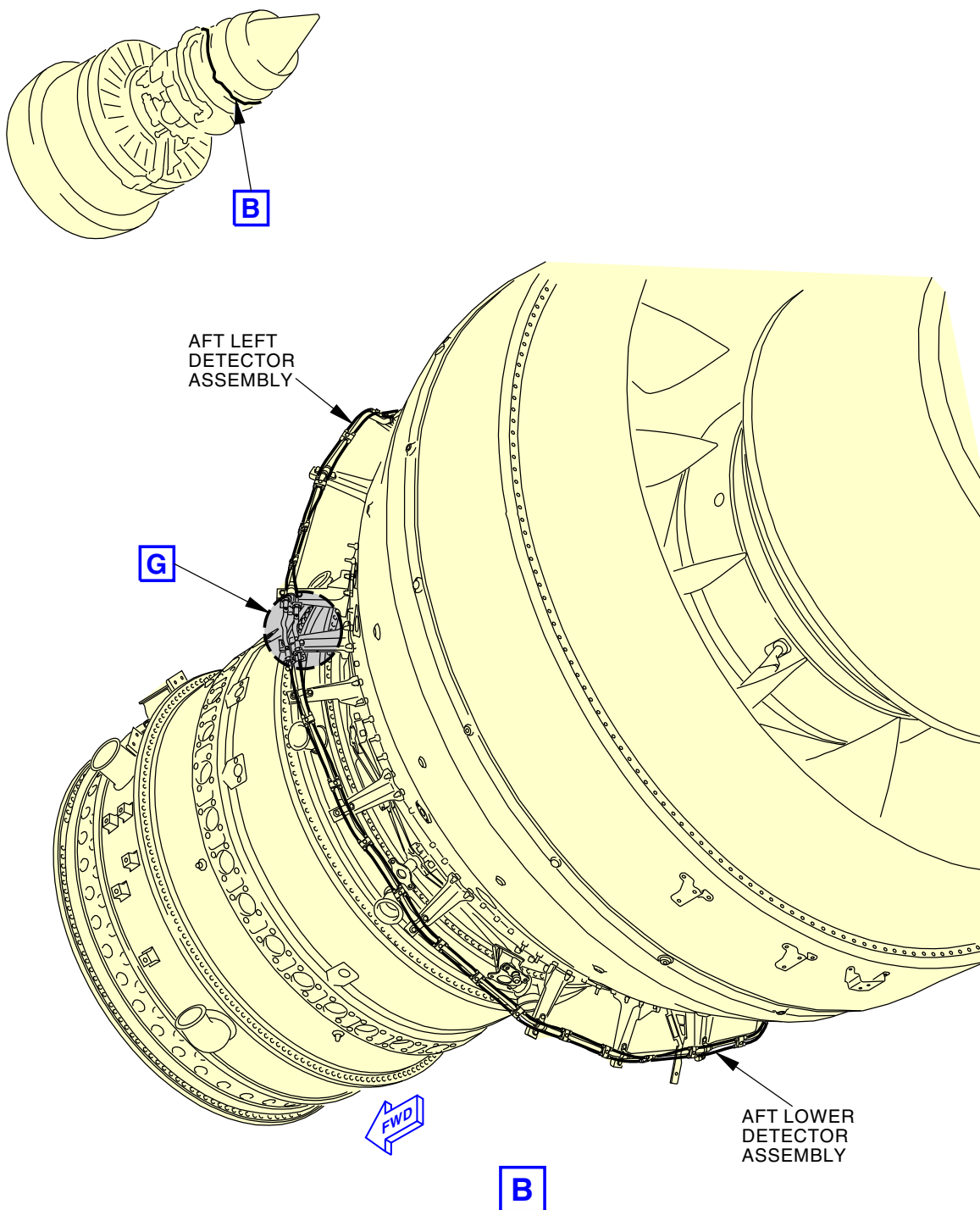
**Engine Fire Detectors Installation (GE90-115B)
Figure 401/26-11-01-990-809-001 (Sheet 1 of 10)**

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**Engine Fire Detectors Installation (GE90-115B)
Figure 401/26-11-01-990-809-001 (Sheet 2 of 10)**

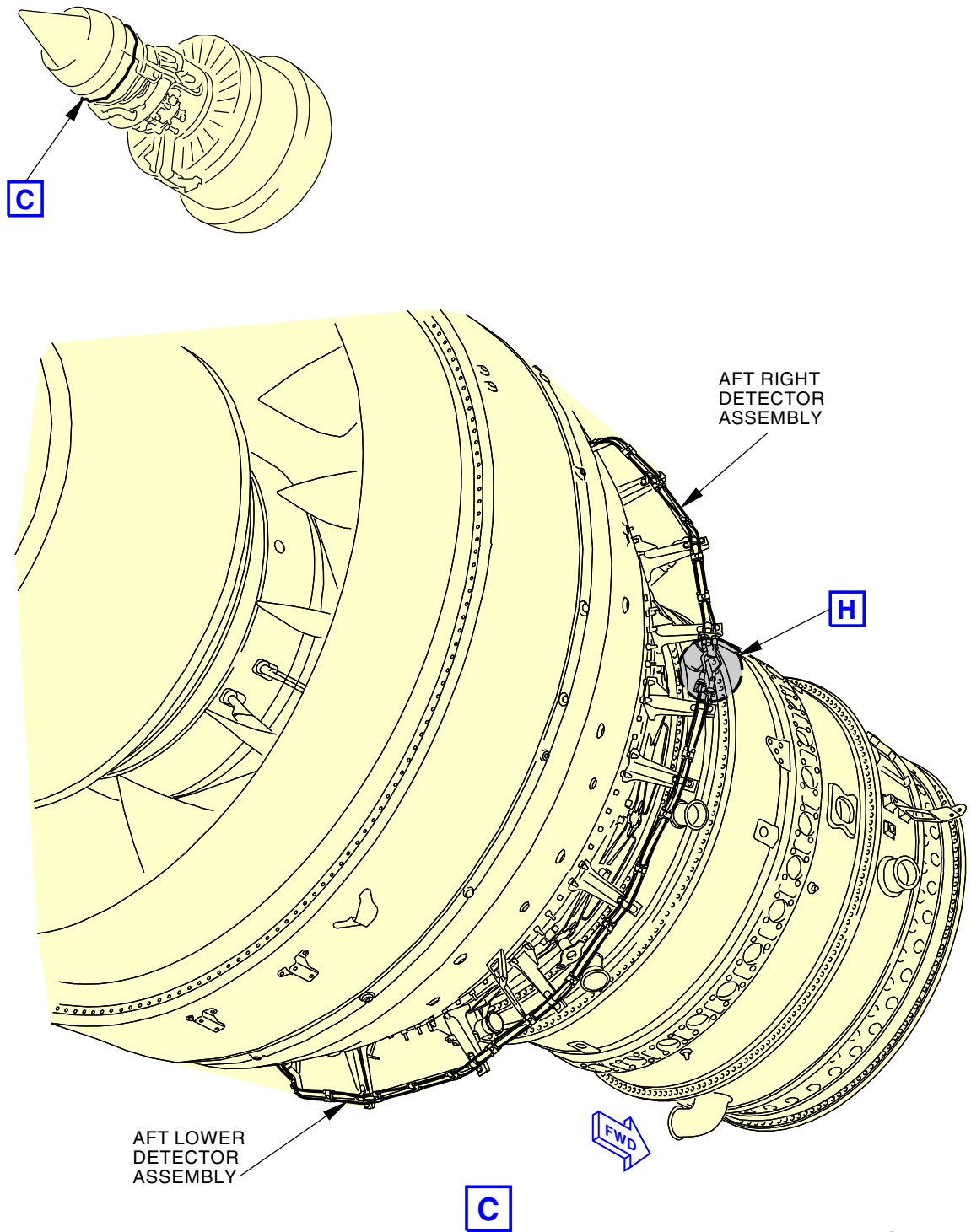
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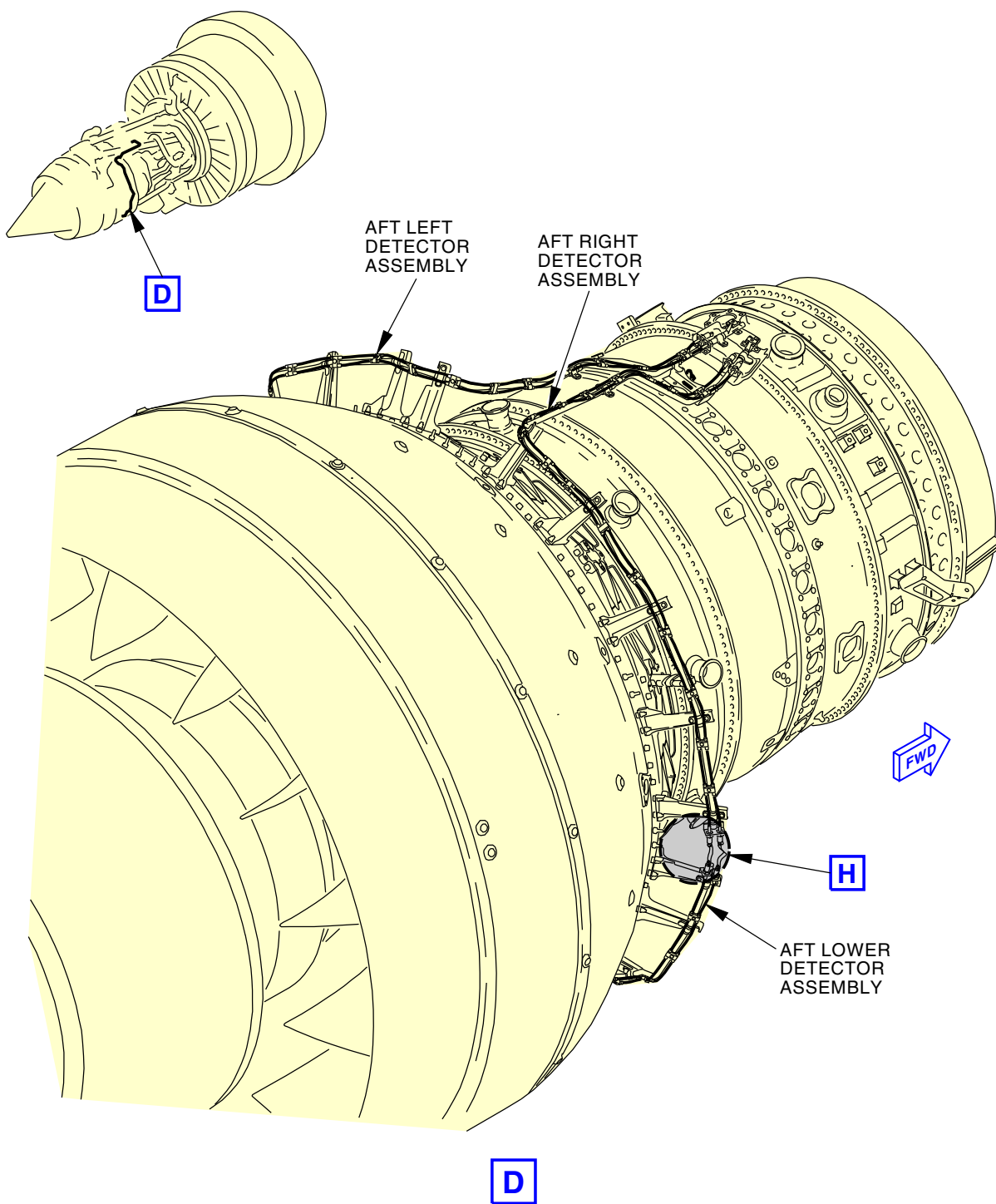
Engine Fire Detectors Installation (GE90-115B)
Figure 401/26-11-01-990-809-001 (Sheet 3 of 10)

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**Engine Fire Detectors Installation (GE90-115B)
Figure 401/26-11-01-990-809-001 (Sheet 4 of 10)**

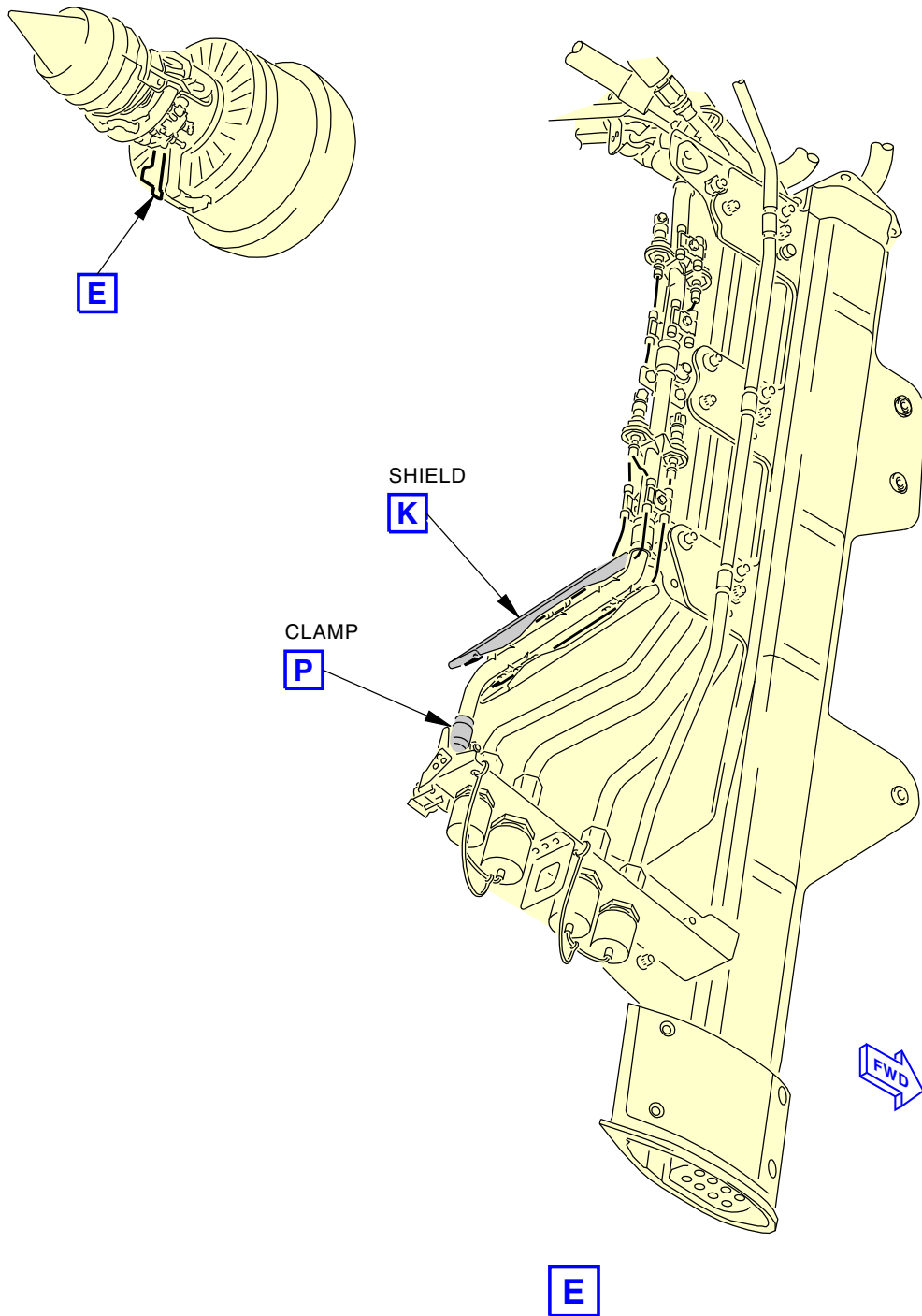
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N73836 S0006411680_V2

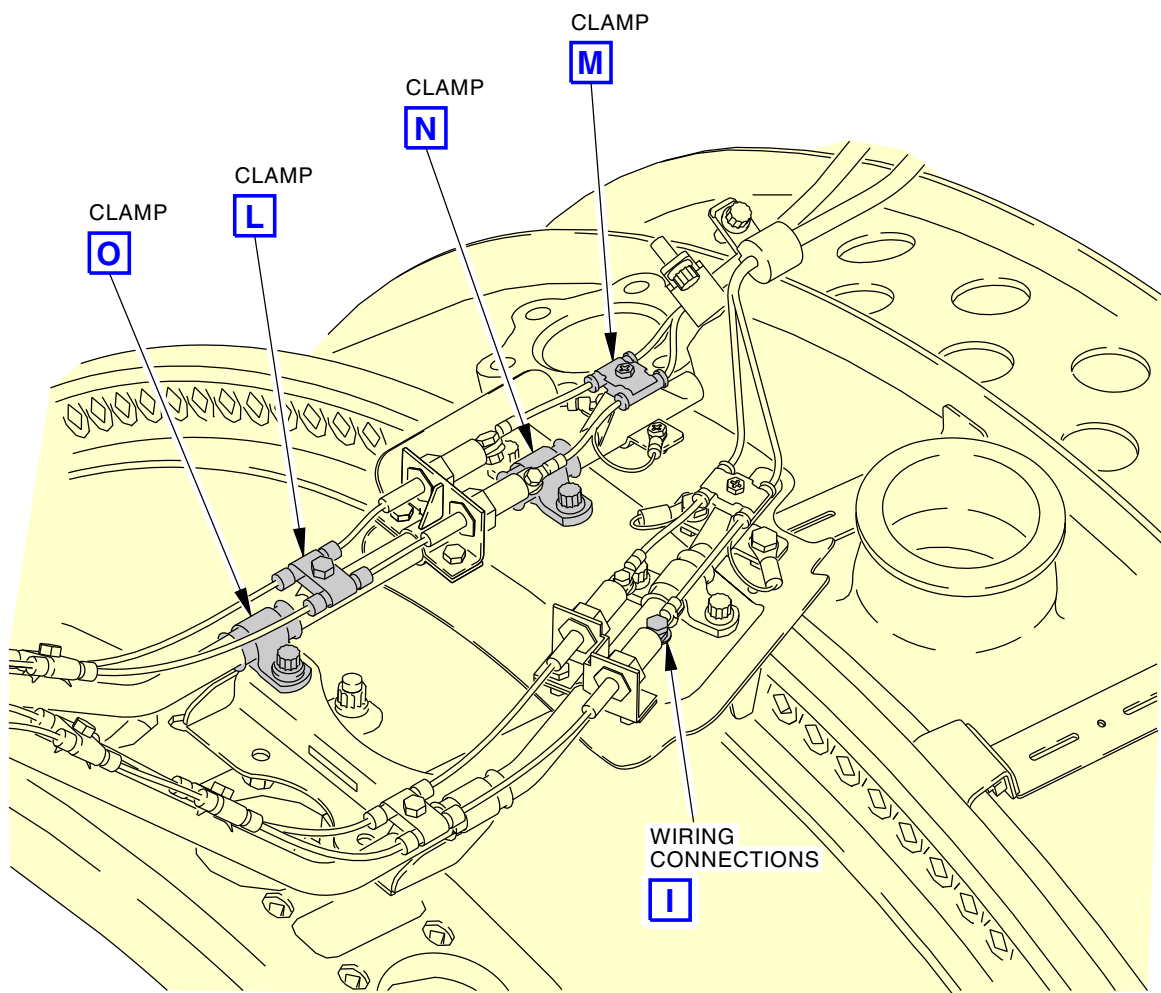
Engine Fire Detectors Installation (GE90-115B)
Figure 401/26-11-01-990-809-001 (Sheet 5 of 10)

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F

N73838 S0006411681_V2

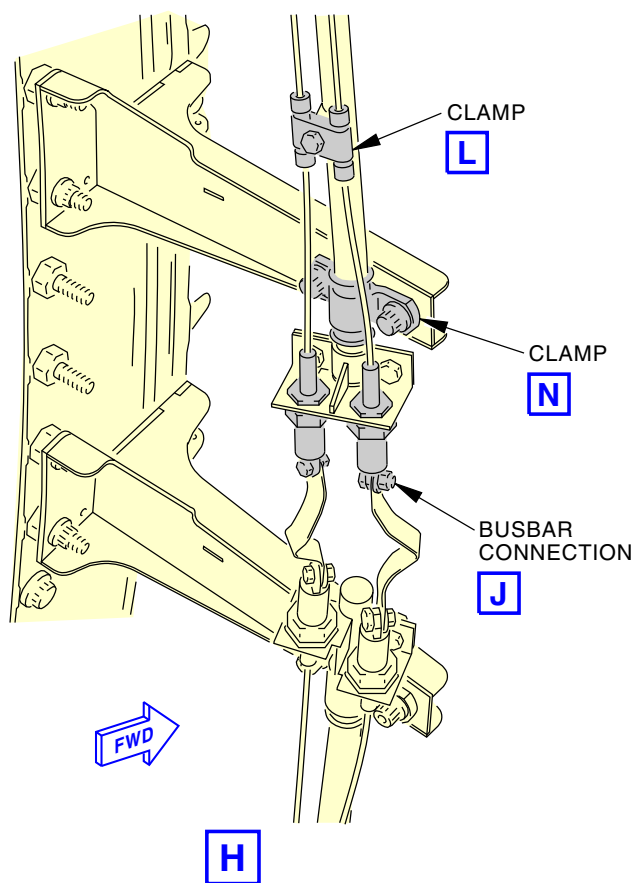
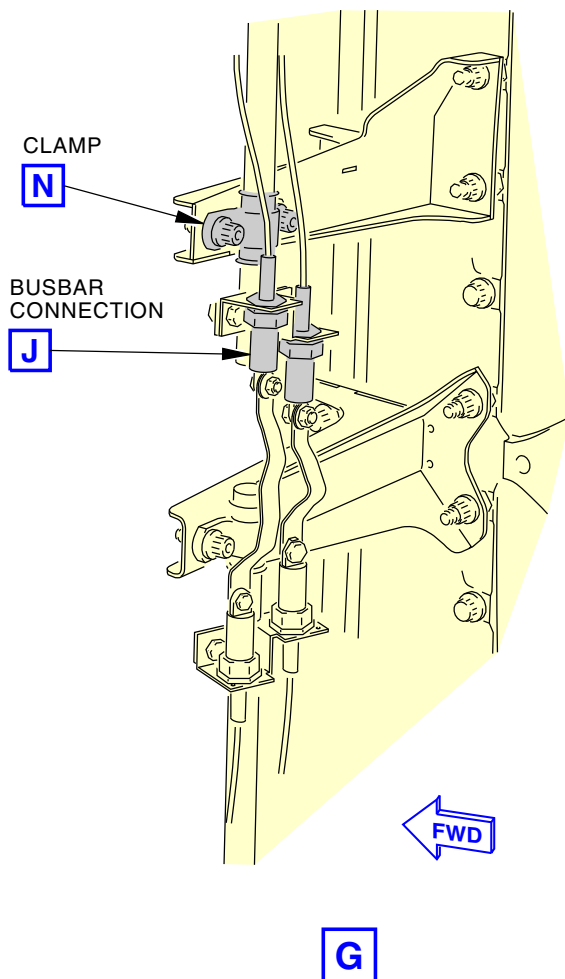
Engine Fire Detectors Installation (GE90-115B)
Figure 401/26-11-01-990-809-001 (Sheet 6 of 10)

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N73839 S0006411682_V2

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Figure 401/26-11-01-990-809-001 (Sheet 7 of 10)

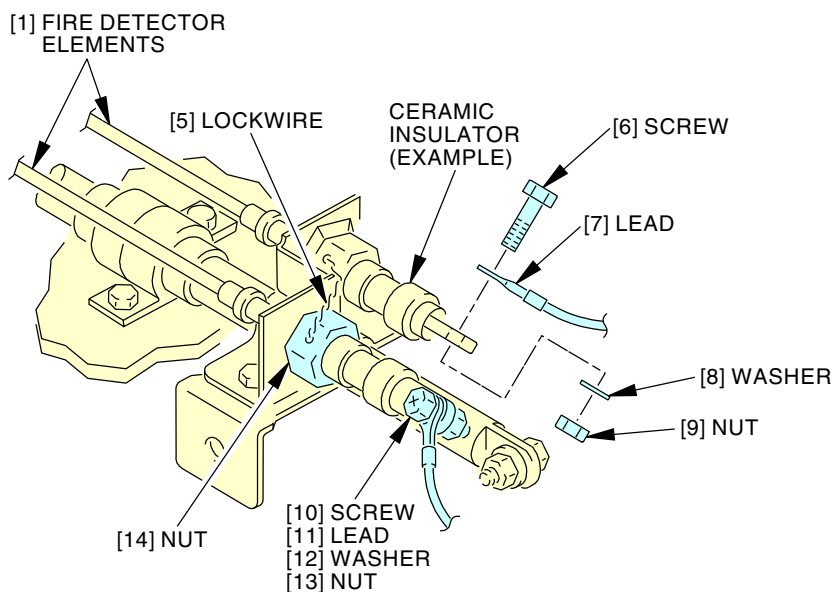
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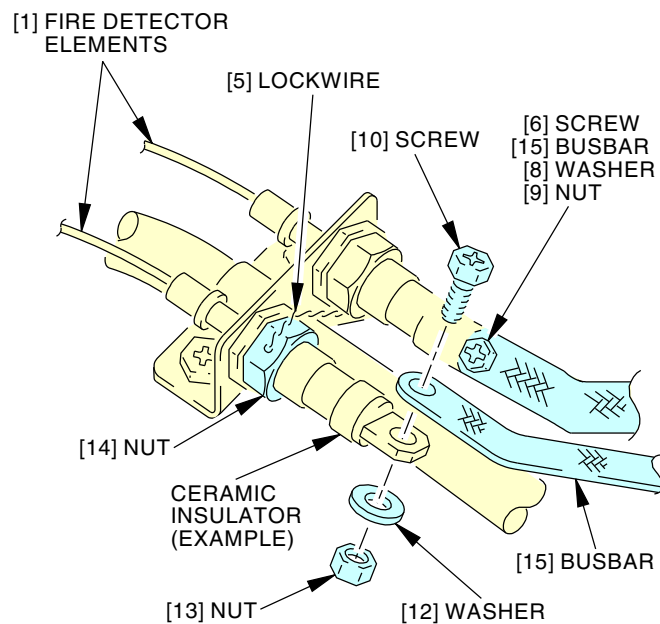
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**WIRING CONNECTION
(EXAMPLE)**

I



**BUSBAR CONNECTION
(EXAMPLE)**

J

N73840 S0006411683_V3

**Engine Fire Detectors Installation (GE90-115B)
Figure 401/26-11-01-990-809-001 (Sheet 8 of 10)**

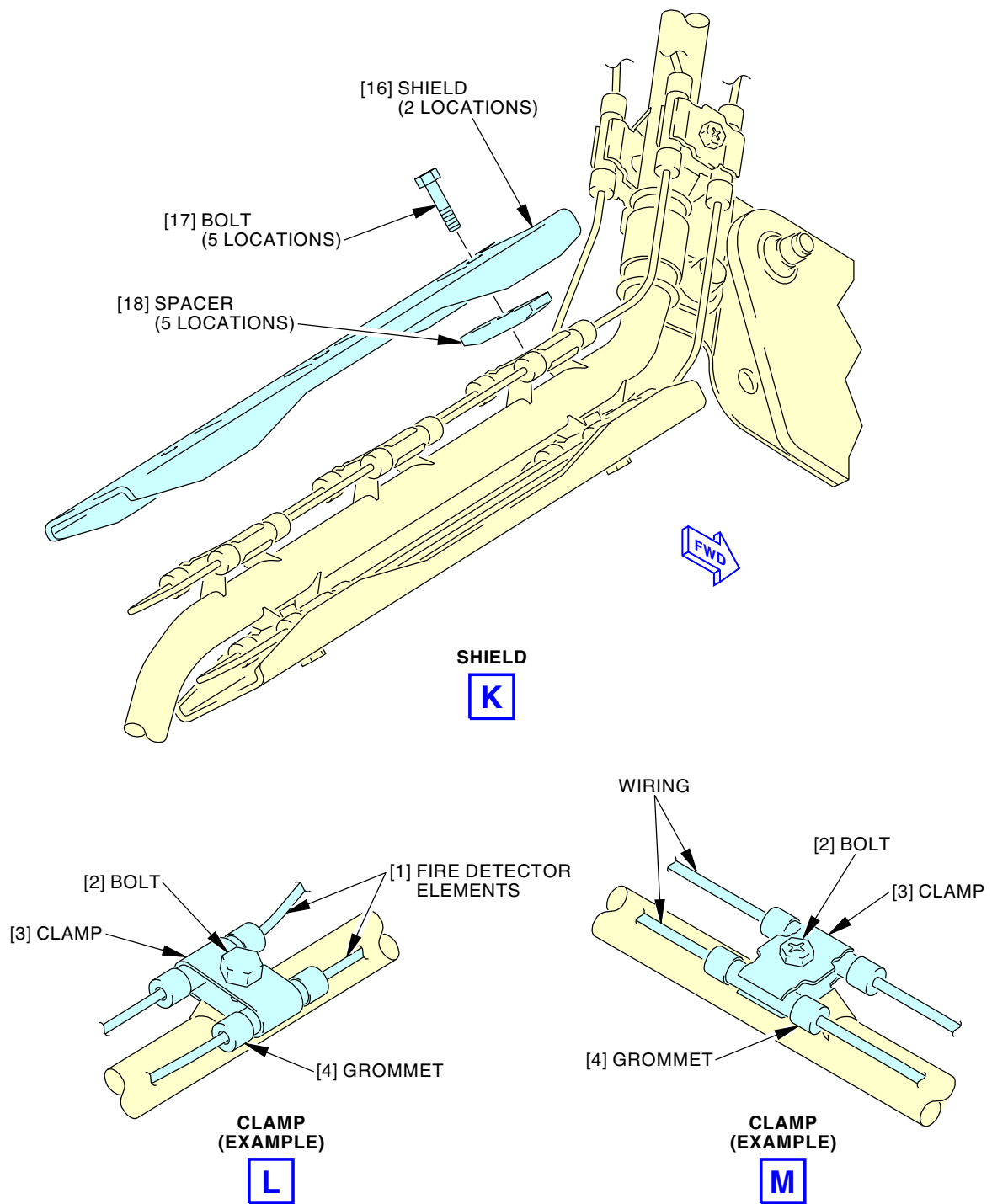
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N73842 S0006411684_V3

Engine Fire Detectors Installation (GE90-115B)
Figure 401/26-11-01-990-809-001 (Sheet 9 of 10)

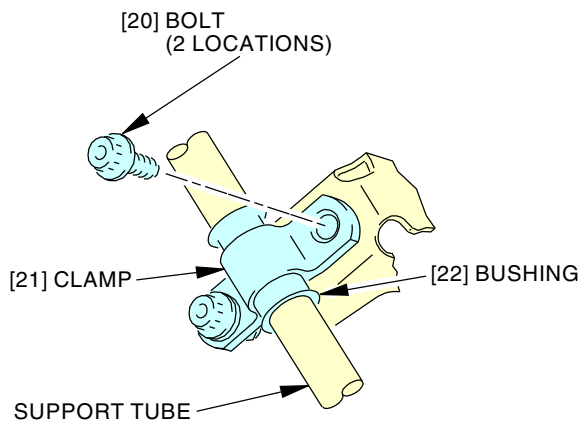
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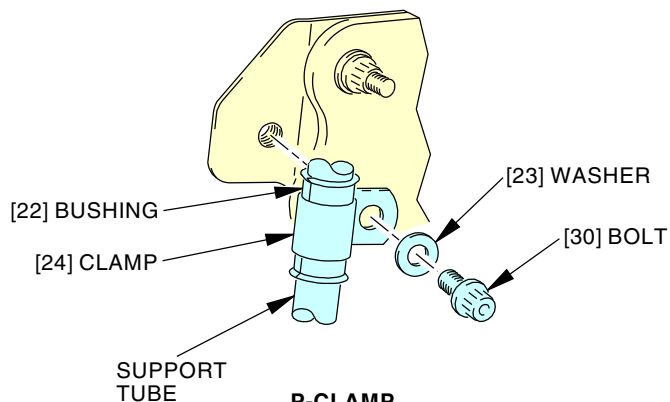
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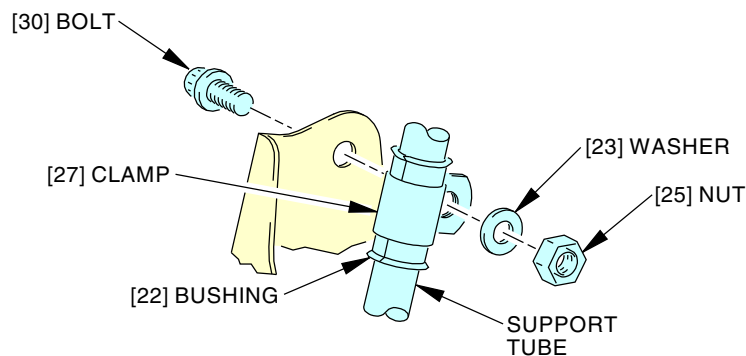
**SADDLE CLAMP
(EXAMPLE)**

N



**P-CLAMP
(EXAMPLE)**

O



**P-CLAMP
(EXAMPLE)**

P

N73843 S0006411685_V4

**Engine Fire Detectors Installation (GE90-115B)
Figure 401/26-11-01-990-809-001 (Sheet 10 of 10)**

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TASK 26-11-01-400-809-001

3. Engine Fire Detector Element Installation

(Figure 401)

A. General

- (1) Each fire detector has two elements: loop A/1 and loop B/2.
- (2) The ends of the fire detection elements are different dimensions to prevent an incorrect wire connection. Each fire detector element uses a No. 8 fastener on one end and a No. 10 fastener on the other end. You install the fire detector elements opposite each other. The ends of the detector assembly have a No. 8 connection and a No. 10 connection.

B. References

Reference	Title
26-11-00-710-801	Engine Fire Detection Operational Test (P/B 501)
27-81-00-440-801	Leading Edge Slat Reactivation (P/B 201)
71-11-04-410-814-H00	Close the Fan Cowl Panel (Selection) (P/B 201)
78-31-00-410-816-H00	Close the Thrust Reverser (Selection) (P/B 201)
78-31-00-440-805-H00	Thrust Reverser Activation After Ground Maintenance (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-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

D. Consumable Materials

Reference	Description	Specification
B00083	Solvent - VM&P Naphthas	TT-N-95 Type II, ASTM D-3735 Type III

E. Location Zones

Zone	Area
411	Engine, Left
421	Engine, Right

F. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
413AL	Left Fan Cowl Panel, Left Engine
414AR	Right Fan Cowl Panel, Left Engine
415AL	Left Thrust Reverser, Left Engine
416AR	Right Thrust Reverser, Left Engine
423AL	Left Fan Cowl Panel, Right Engine

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(Continued)

Number	Name/Location
424AR	Right Fan Cowl Panel, Right Engine
425AL	Left Thrust Reverser, Right Engine
426AR	Right Thrust Reverser, Right Engine

G. Prepare for the Installation

SUBTASK 26-11-01-010-040-001

- (1) Open this access door to get access to the System Cardfiles:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-11-01-860-026-001



WARNING

MAKE CERTAIN THAT APU MASTER SWITCH IN FLIGHT COMPARTMENT IS IN OFF POSITION.



WARNING

ENSURE THAT LH ENGINE IS NOT RUNNING.

- (2) Make sure that the power switches for these Engine Fire Detection Cards are in the OFF position:

- (a) To ensure that power is removed from the Left Engine Fire Detection Card, set the following switches to the OFF position:

NOTE: The step sequence is very important for the procedure that follows. Make sure that the common switch A3S7 is turned OFF after the APU Fire Detection Card switch (A3S6) and Left Engine Fire Detection Card switch (A18S1) are turned OFF.

- 1) APU Fire Detection Card (A9) in the Left System Cardfile (P85) - P85 A3S6
- 2) Left Engine Fire Detection Card (A10) in the Left Systems Cardfile (P85) - P85 A18S1
- 3) APU and Left Engine Fire Detection Card common - P85 A3S7.

- (b) Right Engine Fire Detection Card (A10) in the Right Systems Cardfile (P84).

H. Fire Detector Element Installation

SUBTASK 26-11-01-420-009-001



CAUTION

BE CAREFUL WHEN YOU INSTALL THE FIRE DETECTOR ELEMENT. THE CERAMIC INSULATORS AT THE ENDS OF THE ELEMENT ARE EASILY DAMAGED. IF YOU ARE NOT CAREFUL, YOU CAN CAUSE DAMAGE TO THE CERAMIC INSULATOR OR THE FIRE DETECTOR ELEMENT.

- (1) Do these steps to install one of the fire detector elements [1]:

- (a) Make sure that the ends of the fire detector element [1] and the brackets are clean.
- (b) Put one end of the fire detector element [1] in its position.

- 1) Make sure that the hole dimension in the fire detector element [1] is the same as in the lead [7] and lead [11] or busbar [15].

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- 2) If the dimensions are not the same, put the other end of the fire detector element [1] in the position.

NOTE: One end of the fire detector element has a No. 8 connection and the other end has a No. 10 connection. For the fire detector elements connected to the bus bar, there is a black stripe on the fire detector element. There is a black stripe on the bus bar for the No. 10 connection.

- (c) Install the nut [14] on the fire detector element [1].
- 1) Tighten the nut [14] with your hands.



CAUTION

BE CAREFUL WHEN YOU UNWIND THE ELEMENT. DO NOT MAKE KINKS IN THE ELEMENT. IF YOU MAKE KINKS IN THE ELEMENT, DAMAGE TO THE ELEMENT CAN OCCUR.

- (d) Unwind the applicable fire detector element [1] along the clamps [3].
- (e) Put the grommet [4] on the fire detector element [1] at each clamp [3] location.
- (f) Put the fire detector element [1] into each clamp [3].
- (g) For the forward lower detector, put the fire detector element [1] into each clamp [3], which is below the spacers [18] and shields [16].
- (h) For the forward lower detector, install the applicable bolts [17].
- (i) Tighten the bolts [17].
- (j) Adjust the length of the fire detector element [1] between each pair of clamps [3] until the lengths are approximately equal.
- (k) Tighten the bolt [2] on each applicable clamp [3].
- (l) For the forward lower detector, tighten the bolts [17] on each applicable shields [16].
- (m) Put the other end of the fire detector element [1] in its position.
- (n) Make sure the fire detector element [1] is fully installed in the mounting brackets.
- 1) Tighten the nut [14] on each end of the fire detector element [1] to approximately 100 in-lb (11 N·m).
- (o) If you connect the end of the fire detector element [1] to the wires, do this step:
- 1) Install the screw [6] or screw [10], the nut [9] or nut [13], the washer [8] or washer [12] to connect the lead [7] or lead [11] to the fire detector element [1].
- (p) If you connect the end of the fire detector element [1] to the busbar [15], do this step:
- 1) Install the screw [6] or screw [10], the nut [9] or nut [13], the washer [8] or washer [12] to connect the busbar [15] to the fire detector element [1].
- (q) Tighten the applicable No. 8 screw [6] to 22.5 ±2.5 in-lb (2.5 ±0.3 N·m).
- (r) Tighten the applicable No. 10 screw [10] to 32.5 ±2.5 in-lb (3.7 ±0.3 N·m).
- (s) Install the lockwire [5] on the nut [14] at the ends of the fire detector element [1].
- (t) Make sure that there is a minimum of 0.2 in. (5.1 mm) between the fire detector elements [1] and the support tube.
- (u) Make sure that there is a minimum of 0.375 in. (9.5 mm) clearance where the fire detector element [1] is not attached. Measure the clearance between the fire detector element [1] and the engine surface.

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SUBTASK 26-11-01-280-009-001

- (2) Do a check of the resistance between the fire detector element [1] and the airplane structure. Use a intrinsically safe approved bonding meter, COM-1550, which can measure 0.001 ohm.
 - (a) Make sure that the resistance is less than 0.010 ohm.
 - (b) If the resistance is more than 0.010 ohm, clean the surfaces which bond with the solvent, B00083. Do the check again.

SUBTASK 26-11-01-860-027-001

- (3) Move the power switches for these Engine Fire Detection Cards to the ON position:

NOTE: APU Fire Warning may appear after you set the power switches for the L Engine Fire Detection Card to the ON position. But this Warning does not show that APU Fire occurs. It will disappear after you set the power switches for the APU Fire Detection Cards to the ON position.

- (a) To apply power to the Left Engine Fire Detection Card, set the following switches to the ON position:

NOTE: The step sequence is very important for the procedure that follows. Make sure that the common switch A3S7 is turned ON before the APU Fire Detection Card switch (A3S6) and Left Engine Fire Detection Card switch (A18S1) are turned ON.

- 1) APU and Left Engine Fire Detection Card common - P85 A3S7
 - 2) Left Engine Fire Detection Card (A10) in the Left Systems Cardfile (P85) - P85 A18S1
 - 3) APU Fire Detection Card (A9) in the Left System Cardfile (P85) - P85 A3S6.
- (b) Right Engine Fire Detection Card (A10) in the Right Systems Cardfile (P84).

I. Engine Fire Detector Element Installation Test

SUBTASK 26-11-01-710-009-001

- (1) Do this task: Engine Fire Detection Operational Test, TASK 26-11-00-710-801.

J. Put the Airplane Back to Its Usual Condition

SUBTASK 26-11-01-840-009-001

- (1) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-11-01-410-013-001



DO ALL OF THE SPECIFIED TASKS IN THE CORRECT SEQUENCE TO CLOSE THE THRUST REVERSER. IF YOU DO NOT OBEY THIS INSTRUCTION, INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (2) Do these tasks in the sequence safely to close the left and right thrust reversers on the applicable engine:
 - (a) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-410-816-H00.

These are the thrust reversers:

<u>Number</u>	<u>Name/Location</u>
415AL	Left Thrust Reverser, Left Engine
416AR	Right Thrust Reverser, Left Engine

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<u>Number</u>	<u>Name/Location</u>

425AL	Left Thrust Reverser, Right Engine
426AR	Right Thrust Reverser, Right Engine

- (b) Do this task: Close the Fan Cowl Panel (Selection), TASK 71-11-04-410-814-H00.

These are the cowl panels:

<u>Number</u>	<u>Name/Location</u>

413AL	Left Fan Cowl Panel, Left Engine
414AR	Right Fan Cowl Panel, Left Engine
423AL	Left Fan Cowl Panel, Right Engine
424AR	Right Fan Cowl Panel, Right Engine

- (c) Do this task: Thrust Reverser Activation After Ground Maintenance, TASK 78-31-00-440-805-H00.
- (d) Do this task: Leading Edge Slat Reactivation, TASK 27-81-00-440-801.

————— **END OF TASK** —————

TASK 26-11-01-000-810-001

4. Engine Fire Detector Assembly Removal

(Figure 401)

A. References

<u>Reference</u>	<u>Title</u>
27-81-00-040-801	Leading Edge Slat - Deactivation (P/B 201)
27-81-00-860-805	Retract the Leading Edge Slats (P/B 201)
71-11-04-010-814-H00	Open the Fan Cowl Panel (Selection) (P/B 201)
78-31-00-010-816-H00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-040-806-H00	Thrust Reverser Deactivation For Ground Maintenance (P/B 201)

B. Location Zones

<u>Zone</u>	<u>Area</u>
411	Engine, Left
421	Engine, Right

C. Access Panels

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door
413AL	Left Fan Cowl Panel, Left Engine
414AR	Right Fan Cowl Panel, Left Engine
416AR	Right Thrust Reverser, Left Engine
423AL	Left Fan Cowl Panel, Right Engine
424AR	Right Fan Cowl Panel, Right Engine
426AR	Right Thrust Reverser, Right Engine

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D. Prepare for the Removal

SUBTASK 26-11-01-010-041-001



WARNING

MAKE CERTAIN THAT APU MASTER SWITCH IN FLIGHT COMPARTMENT IS IN OFF POSITION.

- (1) Open this access door to get access to the System Cardfiles:

Number

Name/Location

117AL

Main Equipment Center Access Door

SUBTASK 26-11-01-860-028-001



WARNING

MAKE CERTAIN THAT APU MASTER SWITCH IN FLIGHT COMPARTMENT IS IN OFF POSITION.



WARNING

ENSURE THAT LH ENGINE IS NOT RUNNING.

- (2) Move the power switches for these Engine Fire Detection Cards to the OFF position:

NOTE: APU Fire Warning may appear after you set the power switches for the L Engine Fire Detection Card to the OFF position. But this Warning does not show that APU Fire occurs. It will disappear after you set the power switches for the APU Fire Detection Cards to the OFF position.

- (a) To remove power from the Left Engine Fire Detection Card, set the following switches to the OFF position:

NOTE: The step sequence is very important for the procedure that follows. Make sure that the common switch A3S7 is turned OFF after the APU Fire Detection Card switch (A3S6) and Left Engine Fire Detection Card switch (A18S1) are turned OFF.

- 1) APU Fire Detection Card (A9) in the Left System Cardfile (P85) - P85 A3S6
- 2) Left Engine Fire Detection Card (A10) in the Left Systems Cardfile (P85) - P85 A18S1
- 3) APU and Left Engine Fire Detection Card common - P85 A3S7.

- (b) Right Engine Fire Detection Card (A10) in the Right Systems Cardfile (P84).

SUBTASK 26-11-01-010-042-001



WARNING

DO ALL OF THE SPECIFIED TASKS IN THE CORRECT SEQUENCE TO OPEN THE THRUST REVERSER. IF YOU DO NOT OBEY THIS INSTRUCTION, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (3) Do these tasks in the sequence safely to open the left and right thrust reverser on the applicable engine:

- (a) Do this task: Retract the Leading Edge Slats, TASK 27-81-00-860-805.
- (b) Do this task: Leading Edge Slat - Deactivation, TASK 27-81-00-040-801.

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- (c) Do this task: Thrust Reverser Deactivation For Ground Maintenance, TASK 78-31-00-040-806-H00.
- (d) For the left and right fan cowl panels, do this task: Open the Fan Cowl Panel (Selection), TASK 71-11-04-010-814-H00

Open these fan cowl panels:

<u>Number</u>	<u>Name/Location</u>
413AL	Left Fan Cowl Panel, Left Engine
414AR	Right Fan Cowl Panel, Left Engine
423AL	Left Fan Cowl Panel, Right Engine
424AR	Right Fan Cowl Panel, Right Engine

- (e) For the left and right thrust reversers, do this task: Open the Thrust Reverser (Selection), TASK 78-31-00-010-816-H00

Open these thrust reversers:

<u>Number</u>	<u>Name/Location</u>
416AR	Right Thrust Reverser, Left Engine
426AR	Right Thrust Reverser, Right Engine

E. Fire Detector Assembly Removal

SUBTASK 26-11-01-020-010-001



BE CAREFUL WHEN YOU REMOVE THE FIRE DETECTOR ASSEMBLY. THE CERAMIC INSULATORS AT THE ENDS OF THE ELEMENT ARE EASILY DAMAGED. IF YOU ARE NOT CAREFUL, YOU CAN CAUSE DAMAGE TO THE CERAMIC INSULATOR OR THE FIRE DETECTOR ELEMENT.

- (1) Do these steps to remove one of the fire detector assemblies:

NOTE: The fire detector assembly includes the support tube with the detector elements installed and the mounting fasteners.

- (a) Disconnect the lead [7] or lead [11], and the busbar [15] from the ends of the fire detector element [1].
- 1) Remove the applicable screw [6] or screw [10], the nut [9] or nut [13], and the washer [8] or washer [12] at the ends of the fire detector element [1].
- (b) At each applicable clamp location, remove these parts.
- The bolts [20] and bushing [22] (View N, Figure 401).
 - The bolt [30], bushing [22], and washer [23] (View O, Figure 401)
 - The bolt [30], bushing [22], washer [23], and nut [25] (View P, Figure 401).
- (c) Remove the detector assembly.

————— **END OF TASK** —————

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TASK 26-11-01-400-810-001

5. Engine Fire Detector Assembly Installation

(Figure 401)

A. General

- (1) Each fire detector has two elements: loop A/1 and loop B/2.
- (2) To prevent an incorrect wire connection, the ends of the elements are different dimensions. Each element uses a No. 8 fastener on one end and a No. 10 fastener on the other end. You install the elements opposite each other. The ends of the fire detector assembly have a No. 8 connection and a No. 10 connection.

B. References

Reference	Title
26-11-00-710-801	Engine Fire Detection Operational Test (P/B 501)
27-81-00-440-801	Leading Edge Slat Reactivation (P/B 201)
71-11-04-410-814-H00	Close the Fan Cowl Panel (Selection) (P/B 201)
78-31-00-410-816-H00	Close the Thrust Reverser (Selection) (P/B 201)
78-31-00-440-805-H00	Thrust Reverser Activation After Ground Maintenance (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-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

D. Consumable Materials

Reference	Description	Specification
B00083	Solvent - VM&P Naphthas	TT-N-95 Type II, ASTM D-3735 Type III

E. Location Zones

Zone	Area
411	Engine, Left
421	Engine, Right

F. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
413AL	Left Fan Cowl Panel, Left Engine
414AR	Right Fan Cowl Panel, Left Engine
415AL	Left Thrust Reverser, Left Engine
416AR	Right Thrust Reverser, Left Engine

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Number	Name/Location
423AL	Left Fan Cowl Panel, Right Engine
424AR	Right Fan Cowl Panel, Right Engine
425AL	Left Thrust Reverser, Right Engine
426AR	Right Thrust Reverser, Right Engine

G. Prepare for the Installation

SUBTASK 26-11-01-010-043-001

- (1) Open this access door to get access to the System Cardfiles:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-11-01-860-029-001



MAKE CERTAIN THAT APU MASTER SWITCH IN FLIGHT COMPARTMENT IS IN OFF POSITION.



ENSURE THAT LH ENGINE IS NOT RUNNING.

- (2) Make sure that the power switches for these Engine Fire Detection Cards are in the OFF position:
 - (a) To ensure that power is removed from the Left Engine Fire Detection Card, set the following switches to the OFF position:

NOTE: The step sequence is very important for the procedure that follows. Make sure that the common switch A3S7 is turned OFF after the APU Fire Detection Card switch (A3S6) and Left Engine Fire Detection Card switch (A18S1) are turned OFF.

 - 1) APU Fire Detection Card (A9) in the Left System Cardfile (P85) - P85 A3S6
 - 2) Left Engine Fire Detection Card (A10) in the Left Systems Cardfile (P85) - P85 A18S1
 - 3) APU and Left Engine Fire Detection Card common - P85 A3S7.
 - (b) Right Engine Fire Detection Card (A10) in the Right Systems Cardfile (P84).

H. Fire Detector Assembly Installation

SUBTASK 26-11-01-420-010-001



BE CAREFUL WHEN YOU INSTALL THE FIRE DETECTOR ASSEMBLY. THE CERAMIC INSULATORS AT THE ENDS OF THE ELEMENT ARE EASILY DAMAGED. IF YOU ARE NOT CAREFUL, YOU CAN CAUSE DAMAGE TO THE CERAMIC INSULATOR OR THE FIRE DETECTOR ELEMENT.

- (1) Do these steps to install one of the fire detector assemblies:
 - (a) Make sure that the ends of the fire detector elements [1] and the brackets are clean.
 - (b) If necessary, put the applicable bushings [22] and clamps [21], clamps [24], clamps [27] on the support tube.

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CAUTION DO NOT PUT TOO MUCH PRESSURE (MORE THAN 10 POUNDS OR 4.5 KG) ON THE FIRE DETECTOR ASSEMBLY BEFORE INSTALLATION. IF YOU PUT TOO MUCH PRESSURE ON THE FIRE DETECTOR ASSEMBLY, YOU CAN CAUSE DAMAGE TO IT.

- (c) Put the fire detector assembly in its position on the engine.

NOTE: For each fire detector assembly but the forward lower fire detector assembly, you can install a maximum of three spacers below the middle clamp.

- (d) At each applicable clamp location, install these parts.

- The bolts [20] and bushing [22] (View N, Figure 401).
 - The bolt [30], bushing [22], and washer [23] (View O, Figure 401).
 - The bolt [30], bushing [22], washer [23], and nut [25] (View P, Figure 401).
- 1) If necessary, install a maximum of three spacers [18].

- (e) Tighten the bolts [20] and bolts [30] with your hand.

- (f) Make sure that there is a minimum of 0.2 in. (5.1 mm) between the fire detector elements [1] and the support tube.

- (g) Make sure that there is a minimum of 0.375 in. (9.5 mm) clearance where the fire detector element [1] is not attached.

- 1) Measure the clearance between the fire detector element [1] and the engine surface.

- (h) Tighten the bolts [20] to 130 ±5 in-lb (15 ±1 N·m) and bolts [30] to 100 ±5 in-lb (11 ±1 N·m).

- (i) Do these steps to connect the wires to the fire detector element [1]:

- 1) Make sure that the hole dimension in the fire detector element [1] is the same as in the lead [7], lead [11] or busbar [15].
- 2) If the dimensions are not the same, put the other end of the fire detector element [1] in the position.

NOTE: One end of the element has a No. 8 connection and the other end has a No. 10 connection. For the elements connected to the bus bar, there is a black stripe on the element. There is a black stripe on the bus bar for the No. 10 connection.

- 3) If you connect the end of the fire detector element [1] to the wires, do this step:
 - a) Install the screw [6] or screw [10], the nut [9] or nut [13], and washer [8] or washer [12] to connect the lead [7] or lead [11] to the fire detector element [1].
- 4) If you connect the end of the fire detector element [1] to the busbar [15], do this step:
 - a) Install the screw [6] or screw [10], the nut [9] or nut [13], and washer [8] or washer [12] to connect the busbar [15] to the fire detector element [1].
- 5) Tighten the applicable No. 8 screw [6] to 22.5 ±2.5 in-lb (2.5 ±0.3 N·m).
- 6) Tighten the applicable No. 10 screw [10] to 32.5 ±2.5 in-lb (3.7 ±0.3 N·m).

SUBTASK 26-11-01-280-010-001

- (2) Do a check of the resistance between the fire detector element [1] and the airplane structure. Use a intrinsically safe approved bonding meter, COM-1550, which can measure 0.001 ohm.
- (a) Make sure that the resistance is less than 0.010 ohm.

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- (b) If the resistance is more than 0.010 ohm, clean the surfaces that bond with the solvent, B00083. Do the check again.

SUBTASK 26-11-01-860-030-001

- (3) Move the power switches for these Engine Fire Detection Cards to the ON position:

NOTE: APU Fire Warning may appear after you set the power switches for the L Engine Fire Detection Card to the ON position. But this Warning does not show that APU Fire occurs. It will disappear after you set the power switches for the APU Fire Detection Cards to the ON position.

- (a) To apply power to the Left Engine Fire Detection Card, set the following switches to the ON position:

NOTE: The step sequence is very important for the procedure that follows. Make sure that the common switch A3S7 is turned ON before the APU Fire Detection Card switch (A3S6) and Left Engine Fire Detection Card switch (A18S1) are turned ON.

- 1) APU and Left Engine Fire Detection Card common - P85 A3S7
- 2) Left Engine Fire Detection Card (A10) in the Left Systems Cardfile (P85) - P85 A18S1
- 3) APU Fire Detection Card (A9) in the Left System Cardfile (P85) - P85 A3S6.

- (b) Right Engine Fire Detection Card (A10) in the Right Systems Cardfile (P84).

I. Engine Fire Detector Assembly Installation Test

SUBTASK 26-11-01-710-010-001

- (1) Do this task: Engine Fire Detection Operational Test, TASK 26-11-00-710-801.

J. Put the Airplane Back to Its Usual Condition

SUBTASK 26-11-01-840-010-001

- (1) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-11-01-410-014-001



DO ALL OF THE SPECIFIED TASKS IN THE CORRECT SEQUENCE TO CLOSE THE THRUST REVERSERS. IF YOU DO NOT OBEY THIS INSTRUCTION, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (2) Do these tasks in the sequence safely to close the left and right thrust reversers on the applicable engine:

- (a) Do this task: Close the Thrust Reverser (Selection), TASK 78-31-00-410-816-H00.

These are the thrust reversers:

<u>Number</u>	<u>Name/Location</u>
415AL	Left Thrust Reverser, Left Engine
416AR	Right Thrust Reverser, Left Engine
425AL	Left Thrust Reverser, Right Engine
426AR	Right Thrust Reverser, Right Engine

- (b) Do this task: Close the Fan Cowl Panel (Selection), TASK 71-11-04-410-814-H00.

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These are the cowl panels:

<u>Number</u>	<u>Name/Location</u>
413AL	Left Fan Cowl Panel, Left Engine
414AR	Right Fan Cowl Panel, Left Engine
423AL	Left Fan Cowl Panel, Right Engine
424AR	Right Fan Cowl Panel, Right Engine

- (c) Do this task: Thrust Reverser Activation After Ground Maintenance, TASK 78-31-00-440-805-H00.
- (d) Do this task: Leading Edge Slat Reactivation, TASK 27-81-00-440-801.

———— **END OF TASK** ————

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ENGINE FIRE DETECTION CARD - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) Engine Fire Detection Card Removal
 - (2) Engine Fire Detection Card Installation.
- B. There are two fire detection cards for the engine fire detection system.
- (1) The card for the left engine fire detection system is in the left systems cardfile.
 - (2) The card for the right engine fire detection system is in the right systems cardfile.

TASK 26-11-03-000-801

2. Engine Fire Detection Card Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
20-41-01-000-801	ESDS Handling for Printed Circuit Board Removal (P/B 201)

B. Location Zones

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

C. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

D. Procedure

SUBTASK 26-11-03-010-001

- (1) Open this access door to get access to the system cardfiles:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-11-03-860-001



WARNING

MAKE CERTAIN THAT APU MASTER SWITCH IN FLIGHT COMPARTMENT IS IN OFF POSITION.



WARNING

ENSURE THAT LH ENGINE IS NOT RUNNING.

- (2) Set the power switch for the fire detection card to the OFF position.

NOTE: APU Fire Warning may appear after you set the power switches for the L Engine Fire Detection Card to the OFF position. But this Warning does not show that APU Fire occurs. It will disappear after you set the power switches for the APU Fire Detection Cards to the OFF position.

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- (a) To remove power from the left engine fire detection card set the following switches to OFF position:

NOTE: The step order is critical for the following procedure. Make sure the common switch A3S7 is turned OFF after that APU Fire Detection Card switch (A3S6) and Left Engine Fire Detection Card switch (A18S1) are turned OFF.

- 1) APU Fire Detection Card (A9) in the Left System Card File (P85) - P85 A3S6.
- 2) Left Engine Fire Detection Card (A10) in the Left System Card File (P85) - P85 A18S1.
- 3) APU and Left Engine Fire Detection Card common - P85 A3S7.

NOTE: Use the POWER CONTROL decal on the front of the cardfile to find the applicable switch.

SUBTASK 26-11-03-010-002

- (3) Open the door on the applicable (left or right) systems cardfile.

SUBTASK 26-11-03-020-001

 CAUTION	DO THE STEPS TO REMOVE THE CARD CAREFULLY. IF YOU DO THE STEPS INCORRECTLY, YOU CAN CAUSE DAMAGE TO THE EQUIPMENT

- (4) Remove the engine fire/overheat detection card [1]. To remove it, do this task: ESDS Handling for Printed Circuit Board Removal, TASK 20-41-01-000-801.

————— **END OF TASK** —————

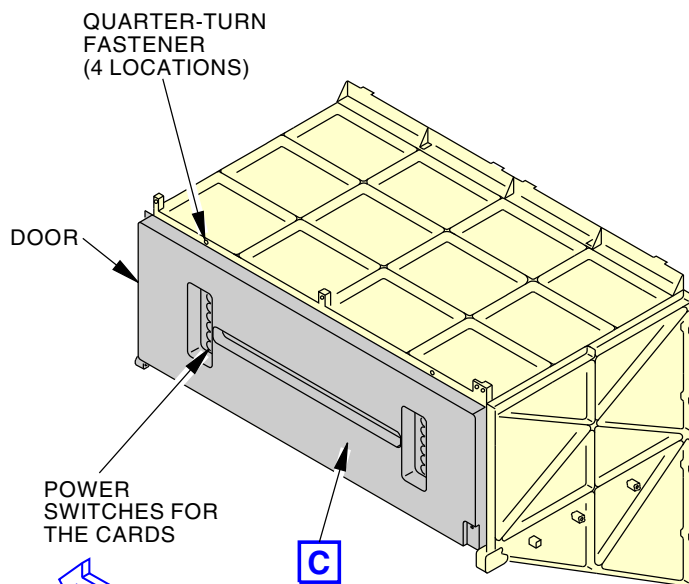
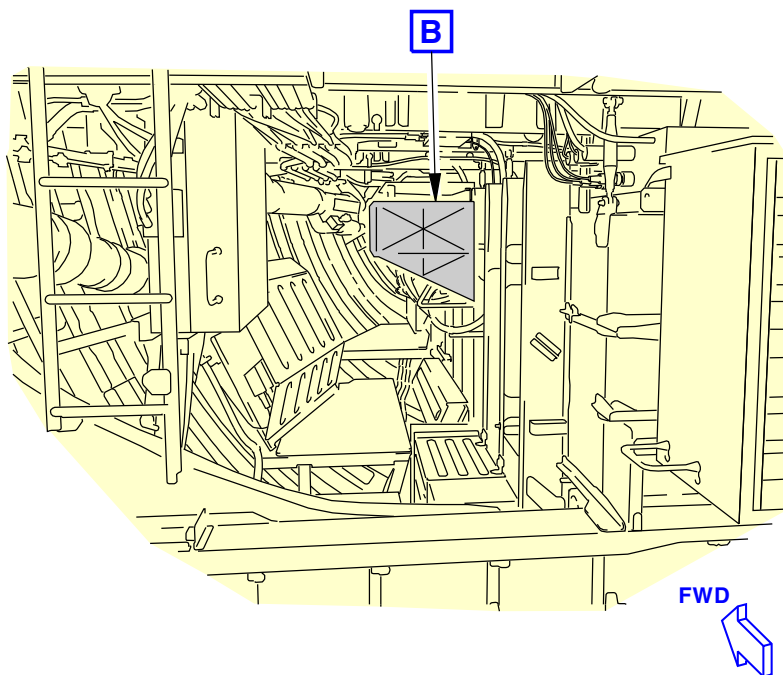
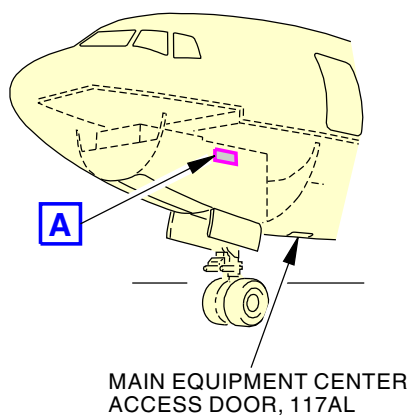
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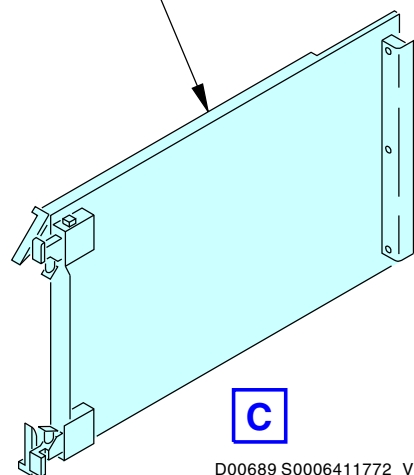
LEFT SYSTEMS CARD FILE, P85
(RIGHT SYSTEMS CARD FILE, P84, OPPOSITE)

B

AREA OUTBOARD OF THE
NOSE LANDING GEAR WHEEL WELL
(LEFT SIDE SHOWN, RIGHT SIDE OPPOSITE)

A

[1] ENGINE FIRE/OVERHEAT
DETECTION CONTROL CARD



Engine Fire/Overheat Detection Control Card Installation
Figure 401/26-11-03-990-801

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TASK 26-11-03-400-801

3. Engine Fire Detection Card Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
20-41-01-400-801	ESDS Handling for Printed Circuit Board Installation (P/B 201)
26-11-00-710-801	Engine Fire Detection Operational Test (P/B 501)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Card	26-11-03-01-005	ARO ALL
		26-15-03-01-005	ARO ALL

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. Procedure

SUBTASK 26-11-03-420-001



DO THE STEPS TO INSTALL THE CARD CAREFULLY. IF YOU DO THE STEPS INCORRECTLY, YOU CAN CAUSE DAMAGE TO THE EQUIPMENT.

- (1) Install the engine fire/overheat detection card [1]. To install it, do this task: ESDS Handling for Printed Circuit Board Installation, TASK 20-41-01-400-801.

SUBTASK 26-11-03-410-001

- (2) Close the door on the applicable (left or right) systems cardfile.

SUBTASK 26-11-03-860-002



MAKE CERTAIN THAT APU MASTER SWITCH IN FLIGHT COMPARTMENT IS IN OFF POSITION.



ENSURE THAT LH ENGINE IS NOT RUNNING.

- (3) Set the power switch for the control card to the ON position.

NOTE: APU Fire Warning may appear after you set the power switches for the L Engine Fire Detection Card to the ON position. But this Warning does not show that APU Fire occurs. It will disappear after you set the power switches for the APU Fire Detection Cards to the ON position.

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- (a) To apply power to the left engine fire detection card set the following switches to ON position:

NOTE: The step order is critical for the following procedure. Make sure that the common switch A3S7 is turned ON before the APU Fire Detection Card switch (A3S6) and Left Engine Fire Detection Card switch (A18S1) are turned ON.

- 1) APU and Left Engine Fire Detection Card common - P85 A3S7.
- 2) Left Engine Fire Detection Card (A10) in the Left System Cardfile (P85) - P85 A18S1.
- 3) APU Fire Detection Card (A9) in the Left System Cardfile (P85) - P85 A3S6.

NOTE: Use the POWER CONTROL decal on the front of the cardfile to find the applicable switch.

SUBTASK 26-11-03-410-002

- (4) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

F. Installation Test

SUBTASK 26-11-03-710-001

- (1) Do this task: Engine Fire Detection Operational Test, TASK 26-11-00-710-801.

————— **END OF TASK** —————

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LAVATORY SMOKE DETECTION - ADJUSTMENT/TEST

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has three tasks. The first task uses the Cabin Management System and does a test of the lavatory smoke detection system. The second task applies smoke to each smoke detector and makes sure that the applicable alarm indications occur. The third task uses the test switch on each smoke detector and makes sure that the applicable alarm indications occur.
- C. Each lavatory has a smoke detector installed in the ceiling. Each detector has a smoke sensor which senses smoke. When the concentration of smoke at the sensor gets to a threshold, the smoke detector alarms occur.
- D. You cannot adjust the sensitivity of the smoke detector. If the smoke detector does not work correctly, replace the smoke detector.

TASK 26-13-00-710-801

2. Lavatory Smoke Detection - Operational Test

NOTE: This procedure is a scheduled maintenance task.

A. General

- (1) This test uses the Cabin Management System to make sure that the lavatory smoke detection system operates correctly. This procedure does a full test of the lavatory smoke detection system. It is not necessary to do a smoke test or a detector test if you do this test. To do a test of each smoke detector, do the Self Test procedure.

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
WDM 23-33-12	CABIN MANAGEMENT SYSTEM

C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
200	Upper Half of Fuselage
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Procedure

SUBTASK 26-13-00-860-001

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

SUBTASK 26-13-00-740-001

- (2) Do this ALL TEST on the Cabin System Control Panel (CSCP):

NOTE: If you do not know where the CSCP is, refer to one of these:
(WDM 23-33-12).

- (a) Touch these selections on the CSCP:
 - 1) CABIN MAINTENANCE
 - 2) CABIN TESTS
 - 3) START ALL TEST

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- 4) CONTINUE TEST
- (b) After the ALL CABIN TEST is completed, make sure that no smoke detector faults show on the display.

————— **END OF TASK** —————

TASK 26-13-00-730-801

3. Lavatory Smoke Detection - Smoke Test

(Figure 501)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
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
COM-11202	Smoke Generator - Lavatory/Crew Rest Smoke Detector (or 737 Cargo Area Type Smoke Detectors) Part #: 25S Supplier: 61908 Part #: SOLOA10 Supplier: 1WU32 Opt Part #: SOLOA3 Supplier: 1WU32 Opt Part #: SOLOA4 Supplier: 1WU32

C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
200	Upper Half of Fuselage
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. Prepare for Smoke Test

SUBTASK 26-13-00-860-004

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

SUBTASK 26-13-00-010-002

- (2) Open this access door to get access to the Power Management Panels::

Number	Name/Location
117AL	Main Equipment Center Access Door

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SUBTASK 26-13-00-860-005

- (3) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
J	26	C26621	LAV SMOKE DETECT-L

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
K	3	C26619	LAV SMOKE DETECTOR RIGHT

ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS

F. Smoke Test

SUBTASK 26-13-00-860-006

- (1) Make sure that the POWER INDICATOR light (green) on the lavatory smoke detector is on.

SUBTASK 26-13-00-730-001

- (2) Use a smoke generator, COM-11202 to make smoke adjacent to the lavatory smoke detector.

SUBTASK 26-13-00-730-002

- (3) Make sure that these indications occur:
- (a) The horn on the lavatory smoke detector comes on.
 - (b) The ALARM INDICATOR light (red) on the lavatory smoke detector comes on.
 - (c) The applicable lavatory call lights flash.
 - (d) A message shows on the Cabin System Control Panel (CSCP) and on the Cabin Area Control Panels (CACPs).
 - (e) The chime related to the lavatory call lights comes on.
 - (f) The attendant call reset light external to the lavatory comes on.

SUBTASK 26-13-00-730-003

- (4) Push the ALARM INTERRUPT switch on the smoke detector with an applicable tool.

SUBTASK 26-13-00-730-004

- (5) Make sure that the alarm indications stop.

SUBTASK 26-13-00-730-005

- (6) Do the Smoke Test again for each of the other lavatory smoke detectors.

ARO ALL; AIRPLANES WITH KIDDE SMOKE DETECTORS

G. Smoke Test

SUBTASK 26-13-00-860-013

- (1) Make sure the STATUS INDICATOR light (solid green) on the smoke detector face comes on.

SUBTASK 26-13-00-730-028

- (2) Use a smoke generator, COM-11202 to make smoke adjacent to the lavatory smoke detector.

SUBTASK 26-13-00-730-029

- (3) Make sure that these indications occur:
- (a) The horn on the lavatory smoke detector comes on.
 - (b) The STATUS INDICATOR light (red) on the smoke detector face comes on.
 - (c) The applicable lavatory call lights flash.

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ARO ALL; AIRPLANES WITH KIDDE SMOKE DETECTORS (Continued)

- (d) A message shows on the Cabin System Control Panel (CSCP) and on the Cabin Area Control Panels (CACPs).
- (e) The chime related to the lavatory call lights comes on.
- (f) The attendant call reset light external to the lavatory comes on.

SUBTASK 26-13-00-730-023



DO NOT USE TOO MUCH FORCE TO PUSH THE SWITCH. TOO MUCH FORCE CAN DAMAGE THE SWITCH.

- (4) Push the HORN CANCEL switch on the smoke detector face with a small screwdriver or other applicable tool.

SUBTASK 26-13-00-730-024

- (5) Make sure that the alarm indications stop.

SUBTASK 26-13-00-730-025

- (6) Blow air into the smoke detector to clear it, to make it go back to the detect mode.

SUBTASK 26-13-00-730-026

- (7) Make sure the STATUS INDICATOR light (solid green) on the smoke detector face comes on when the smoke has cleared.

SUBTASK 26-13-00-730-027

- (8) Do the Smoke Test again for each of the other lavatory smoke detectors.

ARO ALL

H. Put the Airplane Back to Its Usual Condition

SUBTASK 26-13-00-410-002

- (1) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

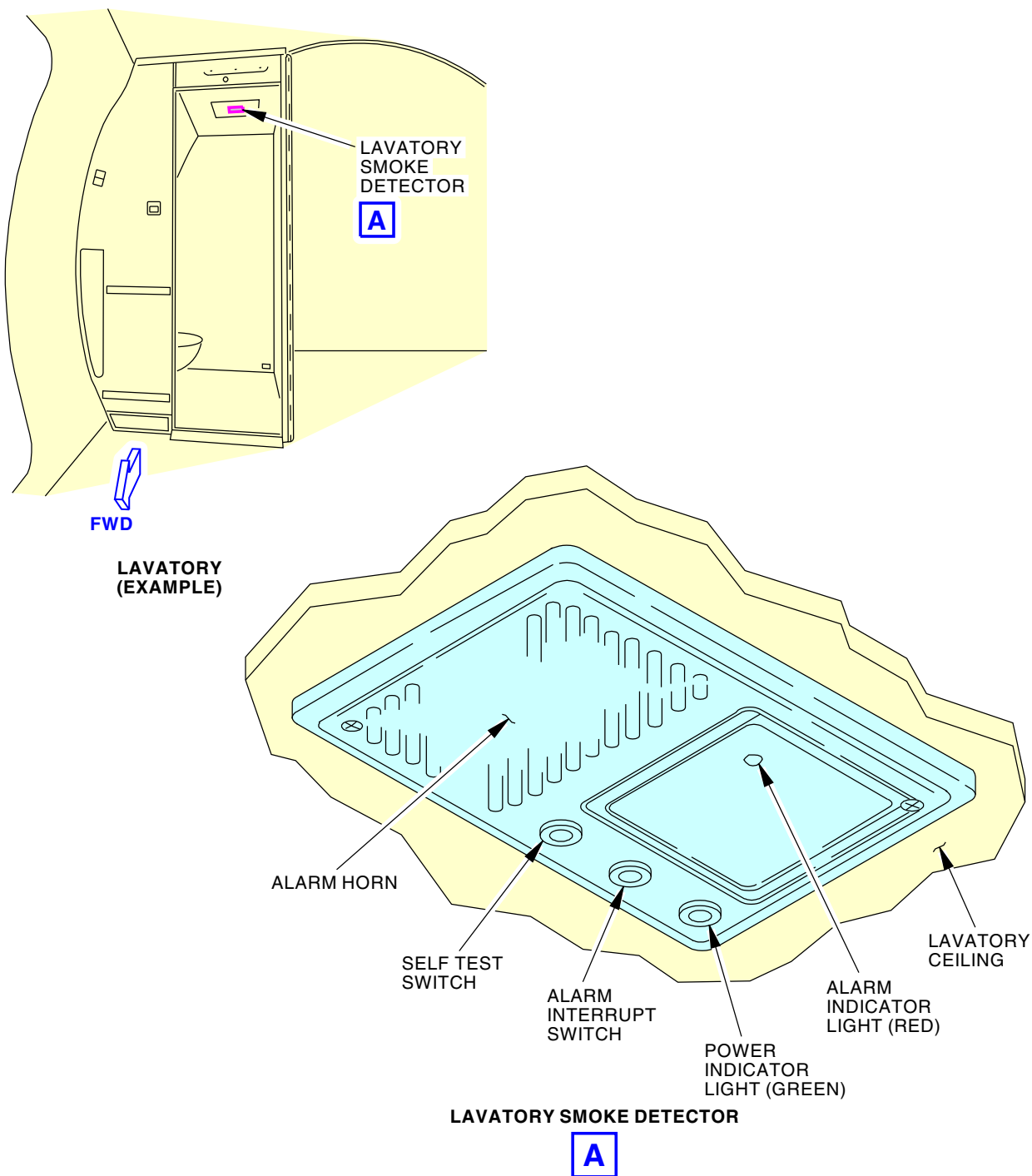
————— END OF TASK —————

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**Lavatory Smoke Detection Adjustment
Figure 501/26-13-00-990-802 (Sheet 1 of 2)**

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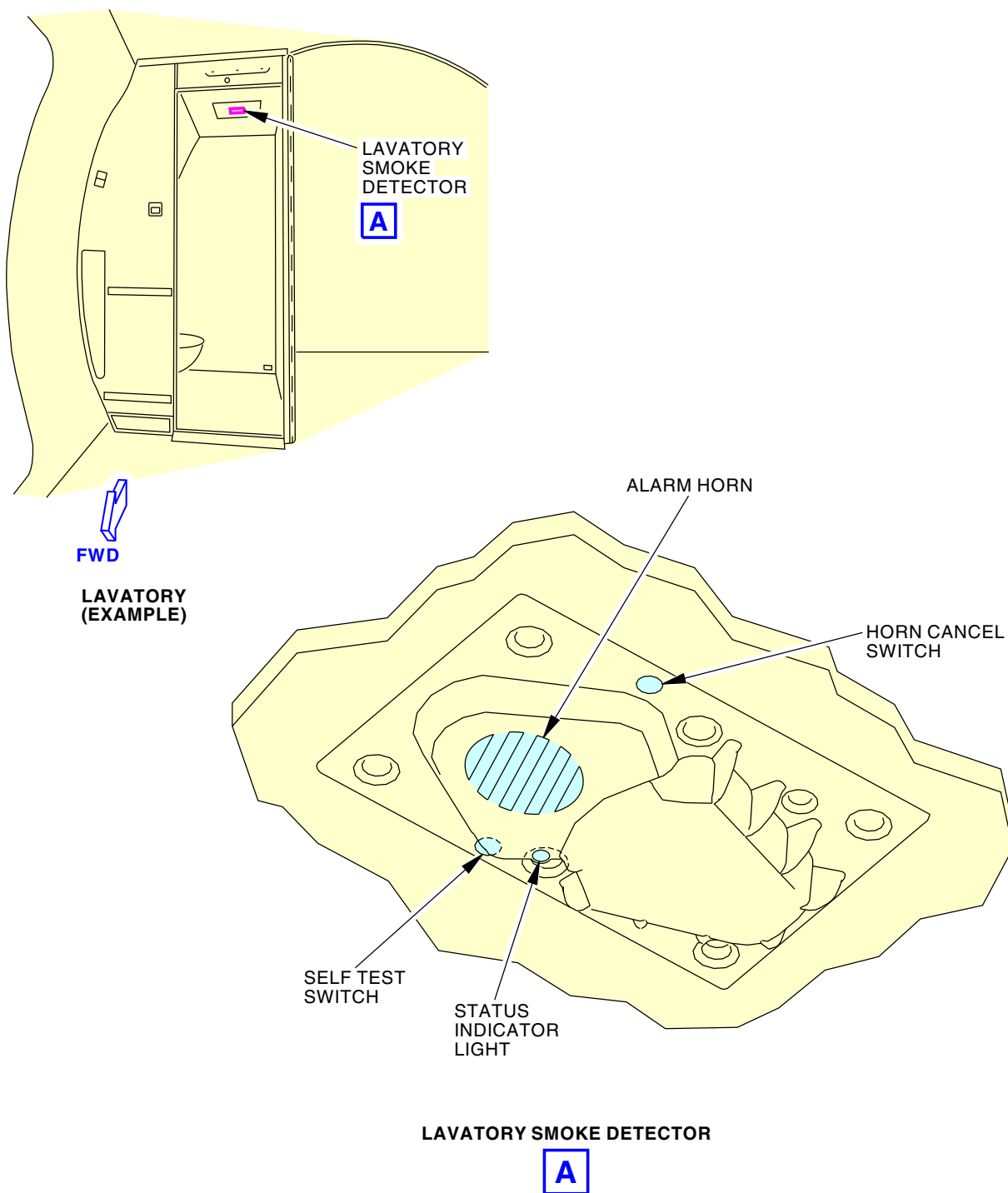
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Lavatory Smoke Detection Adjustment
Figure 501/26-13-00-990-802 (Sheet 2 of 2)

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TASK 26-13-00-740-801

4. Lavatory Smoke Detection - Self Test

(Figure 501)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)

B. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
200	Upper Half of Fuselage

C. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

D. Prepare for the Self Test

SUBTASK 26-13-00-860-007

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

SUBTASK 26-13-00-010-003

- (2) Open this access door to get access to the Power Management Panels:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-13-00-860-008

- (3) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
J	26	C26621	LAV SMOKE DETECT-L

Right Power Management Panel, P210

Row	Col	Number	Name
K	3	C26619	LAV SMOKE DETECTOR RIGHT

E. Self Test

ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS

SUBTASK 26-13-00-860-009

- (1) Make sure that the POWER INDICATOR light (green) on the lavatory smoke detector is on.

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SUBTASK 26-13-00-860-016

- (2) Make sure that the STATUS INDICATOR light (solid green) on the lavatory smoke detector is on.

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SUBTASK 26-13-00-730-006



CAUTION

DO NOT USE TOO MUCH FORCE TO PUSH THE SWITCH. TOO MUCH FORCE CAN DAMAGE THE SWITCH.

- (3) Push and hold the SELF TEST switch on the smoke detector with an applicable tool.

NOTE: The horn volume is high. Use ear protection if necessary.

SUBTASK 26-13-00-730-007

- (4) Make sure that these indications occur:
- (a) The horn on the lavatory smoke detector comes on.

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- (b) The ALARM INDICATOR light (red) on the lavatory smoke detector comes on.

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- (c) The STATUS INDICATOR light (red) on the lavatory smoke detector comes on.

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- (d) The applicable lavatory call lights flash.
- (e) The chime related to the lavatory call lights comes on.
- (f) The attendant call reset light external to the lavatory comes on.
- (g) A message shows on the Cabin System Control Panel (CSCP) and on the Cabin Area Control Panels (CACPs).

SUBTASK 26-13-00-730-008

- (5) Release the SELF TEST switch on the smoke detector.
- (a) Make sure that the alarm indications stop.

SUBTASK 26-13-00-730-009

- (6) Do the Self Test again for each of the other applicable lavatory smoke detectors.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 26-13-00-410-003

- (1) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

————— END OF TASK —————

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LAVATORY SMOKE DETECTORS - REMOVAL/INSTALLATION

1. General

- A. This procedure has two tasks. The first task removes the lavatory smoke detector. The second task installs the lavatory smoke detector.
- B. A smoke detector is installed in the ceiling of each lavatory. The procedure is the same for each smoke detector.

ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS

TASK 26-13-01-000-801

2. Lavatory Smoke Detector Removal

(Figure 401)

A. **References**

Reference	Title
26-13-01-100-801	Clean the Lavatory Smoke Detectors (P/B 701)

B. **Location Zones**

Zone	Area
200	Upper Half of Fuselage

C. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door

D. **Remove the Smoke Detector.**

SUBTASK 26-13-01-010-002

- (1) Open this access door to get access to the Power Management Panels:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-13-01-860-003

- (2) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
J	26	C26621	LAV SMOKE DETECT-L

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
K	3	C26619	LAV SMOKE DETECTOR RIGHT

SUBTASK 26-13-01-020-006

- (3) Loosen the face plate screws [3] on the face plate [4] of the smoke detector.

SUBTASK 26-13-01-020-002

- (4) Remove the face plate [4] from the smoke detector case [7].

SUBTASK 26-13-01-020-003

- (5) Remove the mounting screws [5] that hold the smoke detector to the ceiling bracket [1].

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SUBTASK 26-13-01-020-004

- (6) Disconnect the electrical connector [6] on the smoke detector from the airplane electrical connector.

SUBTASK 26-13-01-020-005

- (7) Remove the smoke detector and the ceiling bracket [1] from the ceiling.

NOTE: You do not have to remove the ceiling bracket from the smoke detector. The new smoke detector will usually have a ceiling bracket attached to it.

SUBTASK 26-13-01-160-003

- (8) If necessary, do this task: Clean the Lavatory Smoke Detectors, TASK 26-13-01-100-801.

———— **END OF TASK** ————

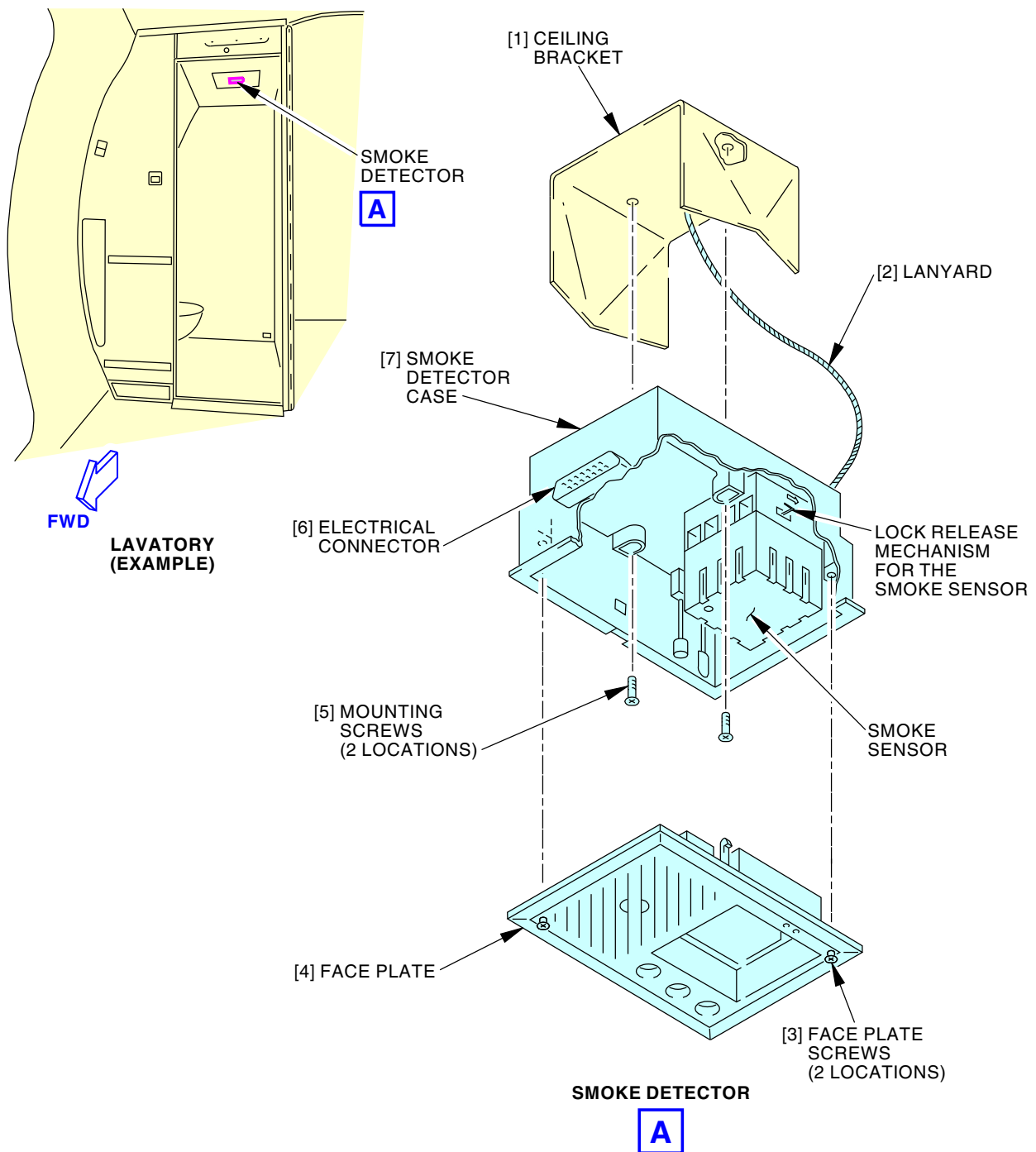
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NOTE:

THE SCREWS ATTACHED TO THE FACE PLATE CANNOT BE REMOVED.

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**Lavatory Smoke Detector Installation
Figure 401/26-13-01-990-804**

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TASK 26-13-01-000-803

3. Lavatory Smoke Detector Removal

(Figure 402)

A. References

Reference	Title
26-13-01-100-801	Clean the Lavatory Smoke Detectors (P/B 701)
26-13-01-100-802	Clean the Lavatory Smoke Detectors (P/B 701)

B. Location Zones

Zone	Area
200	Upper Half of Fuselage

C. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

D. Remove the Smoke Detector

SUBTASK 26-13-01-010-004

- (1) Open this access door to get access to the Power Management Panels:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-13-01-860-006

- (2) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
J	26	C26621	LAV SMOKE DETECT-L

Right Power Management Panel, P210

Row	Col	Number	Name
K	3	C26619	LAV SMOKE DETECTOR RIGHT

SUBTASK 26-13-01-020-009

- (3) Remove the two fasteners [4] which attach the smoke detector [1] to the mounting bracket [3].

SUBTASK 26-13-01-020-008

- (4) Disconnect the electrical connector [2].

SUBTASK 26-13-01-020-010

- (5) Remove the smoke detector [1].

SUBTASK 26-13-01-020-011

- (6) If necessary, do this task: Clean the Lavatory Smoke Detectors, TASK 26-13-01-100-801 or
Clean the Lavatory Smoke Detectors, TASK 26-13-01-100-802.

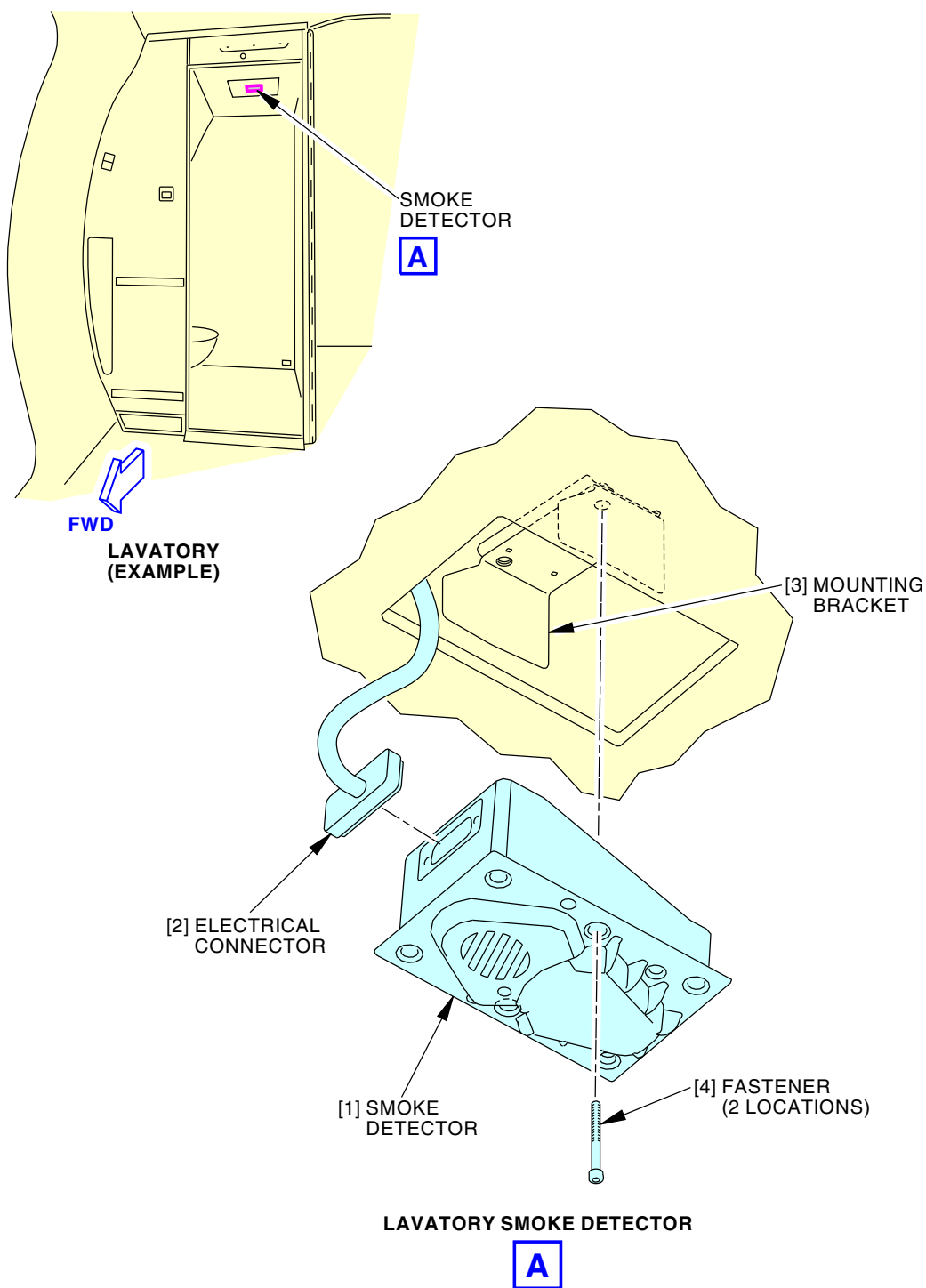
————— **END OF TASK** —————

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Lavatory Smoke Detector Installation
Figure 402/26-13-01-990-805

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ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS

TASK 26-13-01-400-801

4. Lavatory Smoke Detector Installation

(Figure 401)

A. References

Reference	Title
26-13-00-710-801	Lavatory Smoke Detection - Operational Test (P/B 501)

B. Location Zones

Zone	Area
200	Upper Half of Fuselage

C. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

D. Install the Smoke Detector

SUBTASK 26-13-01-010-003

- (1) Open this access door to get access to the Power Management Panels:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-13-01-860-004

- (2) Make sure that these circuit breakers are open:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
J	26	C26621	LAV SMOKE DETECT-L

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
K	3	C26619	LAV SMOKE DETECTOR RIGHT

SUBTASK 26-13-01-420-002

- (3) Do these steps before you put the smoke detector in its position in the lavatory ceiling:
- (a) If the lanyard [2] is not connected to the smoke detector, attach it from the ceiling bracket [1] to the smoke detector.
 - (b) If the ceiling bracket [1] is not connected to the smoke detector, install the mounting screw [5].
 - (c) If the face plate [4] is not connected to the smoke detector, install it to the smoke detector case [7] with the face plate screws [3].
 - (d) Connect the airplane electrical connector to the electrical connector [6] on the smoke detector.

SUBTASK 26-13-01-420-003

- (4) Put the smoke detector and ceiling bracket [1] in the correct position in the lavatory ceiling.

SUBTASK 26-13-01-420-004

- (5) Push the smoke detector until the ceiling bracket [1] is in the correct position.

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ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS (Continued)

SUBTASK 26-13-01-860-005

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
J	26	C26621	LAV SMOKE DETECT-L

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
K	3	C26619	LAV SMOKE DETECTOR RIGHT

SUBTASK 26-13-01-710-002

- (7) Do this task: Lavatory Smoke Detection - Operational Test, TASK 26-13-00-710-801.

SUBTASK 26-13-01-410-002

- (8) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

————— END OF TASK —————

ARO ALL; AIRPLANES WITH KIDDE SMOKE DETECTORS

TASK 26-13-01-400-802

5. Lavatory Smoke Detector Installation

(Figure 402)

A. References

<u>Reference</u>	<u>Title</u>
26-13-00-710-801	Lavatory Smoke Detection - Operational Test (P/B 501)

B. Location Zones

<u>Zone</u>	<u>Area</u>
200	Upper Half of Fuselage

C. Access Panels

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

D. Install the Smoke Detector

SUBTASK 26-13-01-010-005

- (1) Open this access door to get access to the Power Management Panels:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-13-01-860-007

- (2) Make sure that these circuit breakers are open:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
J	26	C26621	LAV SMOKE DETECT-L

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Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
K	3	C26619	LAV SMOKE DETECTOR RIGHT

SUBTASK 26-13-01-420-005

- (3) Connect the electrical connector [2].

SUBTASK 26-13-01-420-006

- (4) Attach the smoke detector [1] to the mounting bracket [3].

SUBTASK 26-13-01-420-007

- (5) Tighten the two fasteners [4].

SUBTASK 26-13-01-860-008

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
J	26	C26621	LAV SMOKE DETECT-L

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
K	3	C26619	LAV SMOKE DETECTOR RIGHT

SUBTASK 26-13-01-710-003

- (7) Do this task: Lavatory Smoke Detection - Operational Test, TASK 26-13-00-710-801.

SUBTASK 26-13-01-410-003

- (8) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

————— **END OF TASK** —————

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LAVATORY SMOKE DETECTORS - CLEANING/PAINTING

1. General

- A. This procedure has one task which cleans the lavatory smoke detectors.
- B. Each lavatory has a smoke detector installed in the ceiling. The procedure to clean the smoke detector is the same for each.

ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS

TASK 26-13-01-100-801

2. Clean the Lavatory Smoke Detectors

(Figure 701)

A. References

Reference	Title
26-13-00-710-801	Lavatory Smoke Detection - Operational Test (P/B 501)

B. Tools/Equipment

Reference	Description
STD-1083	Source - Air, Regulated, Dry Filtered, 0-10 PSIG
STD-1086	Gloves - Rubber

C. Consumable Materials

Reference	Description	Specification
B00068	Alcohol - Denatured, Ethyl (Ethanol)	AMS 3002, MIL-E-51454 Type II
B00130	Alcohol - Isopropyl	TT-I-735
B00541	Cleaner - General Purpose Household Detergent	
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	BMS15-5 Class A

D. Location Zones

Zone	Area
200	Upper Half of Fuselage
211	Flight Compartment, Left
212	Flight Compartment, Right

E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

F. Clean the Smoke Detector

SUBTASK 26-13-01-010-001

- (1) Open this access door to get access to the Power Management Panels:

Number	Name/Location
117AL	Main Equipment Center Access Door

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ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS (Continued)

SUBTASK 26-13-01-860-001

- (2) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
J	26	C26621	LAV SMOKE DETECT-L

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
K	3	C26619	LAV SMOKE DETECTOR RIGHT

SUBTASK 26-13-01-160-001



WARNING

OBEY THESE INSTRUCTIONS WHEN YOU CLEAN THE SMOKE DETECTOR AND TUBING: (1) MAKE SURE THAT THE AREA HAS SUFFICIENT AIRFLOW. (2) KEEP THE ALCOHOL AWAY FROM HEAT, SPARKS OR FLAMES. (3) DO NOT BREATHE THE FUMES FROM THE ALCOHOL. (4) PUT ON RUBBER GLOVES. ALCOHOL IS A FLAMMABLE AND POISONOUS SOLVENT THAT CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (3) Put on the rubber glove, STD-1086.

SUBTASK 26-13-01-160-002

- (4) Remove the dirt external to the smoke detector [1] with the cotton wiper, G00034 soaked with alcohol, B00068 or alcohol, B00130.

SUBTASK 26-13-01-020-001

- (5) Do these steps to remove and disassemble the smoke sensor [4]:
- (a) Put the pocket scale [3] between the smoke sensor [4] and the smoke detector [1].
 - (b) Push the lock release lever [2] with the pocket scale [3].
 - (c) Pull out the smoke sensor [4].
 - (d) Move the screwdriver [5] between the sensor assembly [6] and the sensor cover [7].
 - (e) Twist the screwdriver [5] to release the lock on the sensor cover [7].
 - (f) Remove the sensor cover [7] from the sensor assembly [6].



WARNING

DO NOT DISASSEMBLE THE SENSOR CELL ASSEMBLY. IT HAS RADIOACTIVE MATERIAL IN IT. RADIOACTIVE MATERIAL CAN CAUSE INJURIES TO PERSONNEL.



CAUTION

DO NOT TOUCH THE ELECTRODE IN THE SENSOR ASSEMBLY. DAMAGE TO THE SMOKE SENSOR CAN OCCUR.

- (g) Pull out the mesh [8] from the sensor assembly [6].

SUBTASK 26-13-01-210-001

- (6) Do these steps to clean the mesh [8] and the sensor assembly [6].
- (a) Examine the mesh [8] for dirt or other contamination.

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ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS (Continued)

- (b) If the mesh [8] is dirty, clean the mesh [8] with warm water and the general purpose household detergent cleaner, B00541.
- (c) If the mesh [8] is very dirty, replace it with a new mesh [8].
- (d) With the 0-10 psig dry filtered regulated air source, STD-1083, dry the mesh [8] fully.



CAUTION

BLOW THE AIR LIGHTLY INTO THE SENSOR ASSEMBLY. TOO MUCH FORCE CAN CAUSE STATIC ELECTRICITY ON THE ELECTRODES WHICH CAN CAUSE DAMAGE TO THE SMOKE SENSOR.

- (e) With the 0-10 psig dry filtered regulated air source, STD-1083, lightly blow dirt or particles out of the sensor assembly [6].

SUBTASK 26-13-01-420-001

- (7) Do these steps to install the smoke sensor [4]:
 - (a) Install the mesh [8] on the sensor assembly [6].
 - (b) Align the sensor cover [7] with the applicable hole in the sensor assembly [6].
 - (c) Install the sensor cover [7], sensor assembly [6], and smoke sensor [4] in the smoke detector [1].

SUBTASK 26-13-01-860-002

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
J	26	C26621	LAV SMOKE DETECT-L

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
K	3	C26619	LAV SMOKE DETECTOR RIGHT

SUBTASK 26-13-01-710-001

- (9) Do this task: Lavatory Smoke Detection - Operational Test, TASK 26-13-00-710-801.

SUBTASK 26-13-01-410-001

- (10) Close this access door

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

————— END OF TASK —————

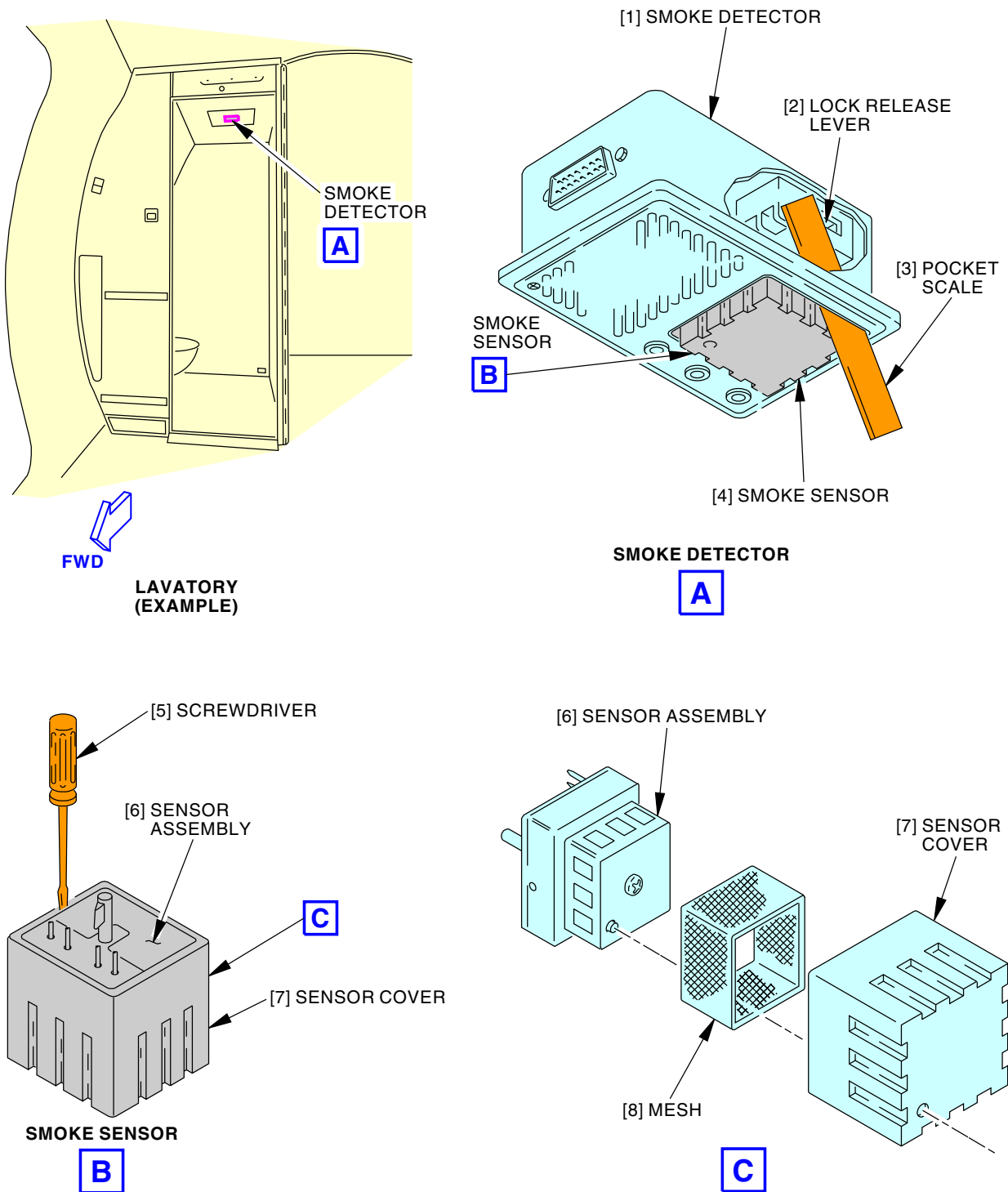
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Lavatory Smoke Detector Cleaning
Figure 701/26-13-01-990-801

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ARO ALL; AIRPLANES WITH KIDDE SMOKE DETECTORS

TASK 26-13-01-100-802

3. Clean the Lavatory Smoke Detectors

A. Tools/Equipment

Reference	Description
STD-123	Brush - Soft Bristle
STD-4107	Source - Air, Clean, Dry, 0 to 60 psi
STD-6402	Swab - Cotton

B. Consumable Materials

Reference	Description	Specification
B50026	Soap - Clear Liquid Dishwashing	
B50173	Alcohol - Isopropyl - ALC3001-008	AL3001-008
G01043	Cloth - Lint-free	
G50527	Water	

C. Location Zones

Zone	Area
200	Upper Half of Fuselage
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Procedure

SUBTASK 26-13-01-160-004



CAUTION

BE CAREFUL WHEN YOU REMOVE OR INSTALL THE SCREEN OF THE COVER ASSEMBLY AND LABYRINTH. THIS WILL HELP PREVENT SCRATCHES ON THE LABYRINTH. SCRATCHES ON THE LABYRINTH CAN CAUSE STRAY LIGHT REFLECTIONS AND INCORRECT CALIBRATIONS TO OCCUR.

- (1) Clean the non-electrical parts.



CAUTION

ESDS COMPONENTS AND UNITS MUST BE PROTECTED FROM STATIC DISCHARGE DAMAGE AT ALL TIMES.

- (a) Do these steps to clean all non-electrical parts.



WARNING

ISOPROPYL ALCOHOL IS FLAMMABLE. AVOID PROLONGED BREATHING OF VAPOR AND PROLONGED OR REPEATED CONTACT WITH SKIN. AVOID CONTACT WITH EYES. CLEAN PARTS IN WELL-VENTILATED AREA AND USE APPROVED SAFETY EQUIPMENT.

- 1) Clean the external surfaces with a lint-free cloth, G01043 moist with Isopropyl alcohol, B50173
 - 2) Dry the surfaces with a dry lint-free cloth, G01043.
- (b) Clean the screen of the Housing/Screen Assembly if necessary.
- 1) Remove the Labyrinth Assembly from the Housing/Screen Assembly.

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ARO ALL; AIRPLANES WITH KIDDE SMOKE DETECTORS (Continued)



WHEN YOU USE THE COMPRESSED AIR TO CLEAN, TO COOL OR TO DRY, DO NOT USE EXCEED 30 PSIG (207 KPA). MAKE SURE YOU WEAR EYE PROTECTION AND DO NOT DIRECT COMPRESSED AIR AT YOURSELF AND OTHERS. INJURY TO PERSONNEL CAN OCCUR.

- 2) Use a soft bristle brush, STD-123 or dry, clean air source 0 to 60 psi, STD-4107 at maximum pressure of 30 psig (207 kPa) to remove unwanted materials from the screen.

SUBTASK 26-13-01-160-005

- (2) Clean the electrical parts.
 - (a) Clean the connectors and other electrical components as follows:



ISOPROPYL ALCOHOL IS FLAMMABLE. AVOID PROLONGED BREATHING OF VAPOR AND PROLONGED OR REPEATED CONTACT WITH SKIN. AVOID CONTACT WITH EYES. CLEAN PARTS IN WELL-VENTILATED AREA AND USE APPROVED SAFETY EQUIPMENT.

- 1) Clean the circuit card and connectors with a soft bristle brush, STD-123 and Isopropyl alcohol, B50173.



WHEN YOU USE THE COMPRESSED AIR TO CLEAN, TO COOL OR TO DRY, DO NOT USE EXCEED 30 PSIG (207 KPA). MAKE SURE YOU WEAR EYE PROTECTION AND DO NOT DIRECT COMPRESSED AIR AT YOURSELF AND OTHERS. INJURY TO PERSONNEL CAN OCCUR.



BE CAREFUL WHEN YOU REMOVE OR INSTALL THE SCREEN OF THE COVER ASSEMBLY AND LABYRINTH. THIS WILL HELP PREVENT SCRATCHES ON THE LABYRINTH. SCRATCHES ON THE LABYRINTH CAN CAUSE STRAY LIGHT REFLECTIONS AND INCORRECT CALIBRATIONS TO OCCUR.

- 2) Dry the parts with dry, clean air source 0 to 60 psi, STD-4107 at a maximum pressure of 30 psig (207 kPa).

SUBTASK 26-13-01-160-006

- (3) Clean the Labyrinth Assembly



BE CAREFUL WHEN YOU REMOVE OR INSTALL THE SCREEN OF THE COVER ASSEMBLY AND LABYRINTH. THIS WILL HELP PREVENT SCRATCHES ON THE LABYRINTH. SCRATCHES ON THE LABYRINTH CAN CAUSE STRAY LIGHT REFLECTIONS AND INCORRECT CALIBRATIONS TO OCCUR.

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ARO ALL; AIRPLANES WITH KIDDE SMOKE DETECTORS (Continued)

(CAUTION PRECEDES)



CAUTION

ESDS COMPONENTS AND UNITS MUST BE PROTECTED FROM STATIC DISCHARGE DAMAGE AT ALL TIMES.

- (a) Remove the three fasteners, washers and nuts to remove the labyrinth top off the labyrinth assembly.
- (b) Make a solution of soap and water with one part soap, B50026 and twenty parts water, G50527.



CAUTION

DO NOT PUT THE LABYRINTH FULLY IN THE SOAP AND WATER SOLUTION WHEN YOU CLEAN THE LABYRINTH. LARGE QUANTITIES OF THE SOAP AND WATER SOLUTION CAN CAUSE DAMAGE TO THE LABYRINTH.

- (c) Clean the unwanted material from the inner area of the labyrinth with a soft bristle brush, STD-123 and dry, clean air source 0 to 60 psi, STD-4107.
NOTE: You can also use the soap and water solution. Remove the soap and water solution with clean water.
- (d) Clean the inner area of the labyrinth with a clean cotton swab, STD-6402 moist with the soap and water solution.
- (e) Dry the lenses with a clean, dry cotton swab, STD-6402.
- (f) Remove the remaining soap or contamination from the lenses.
- (g) Make sure that the labyrinth assembly is fully dry before you assembly the smoke detector.

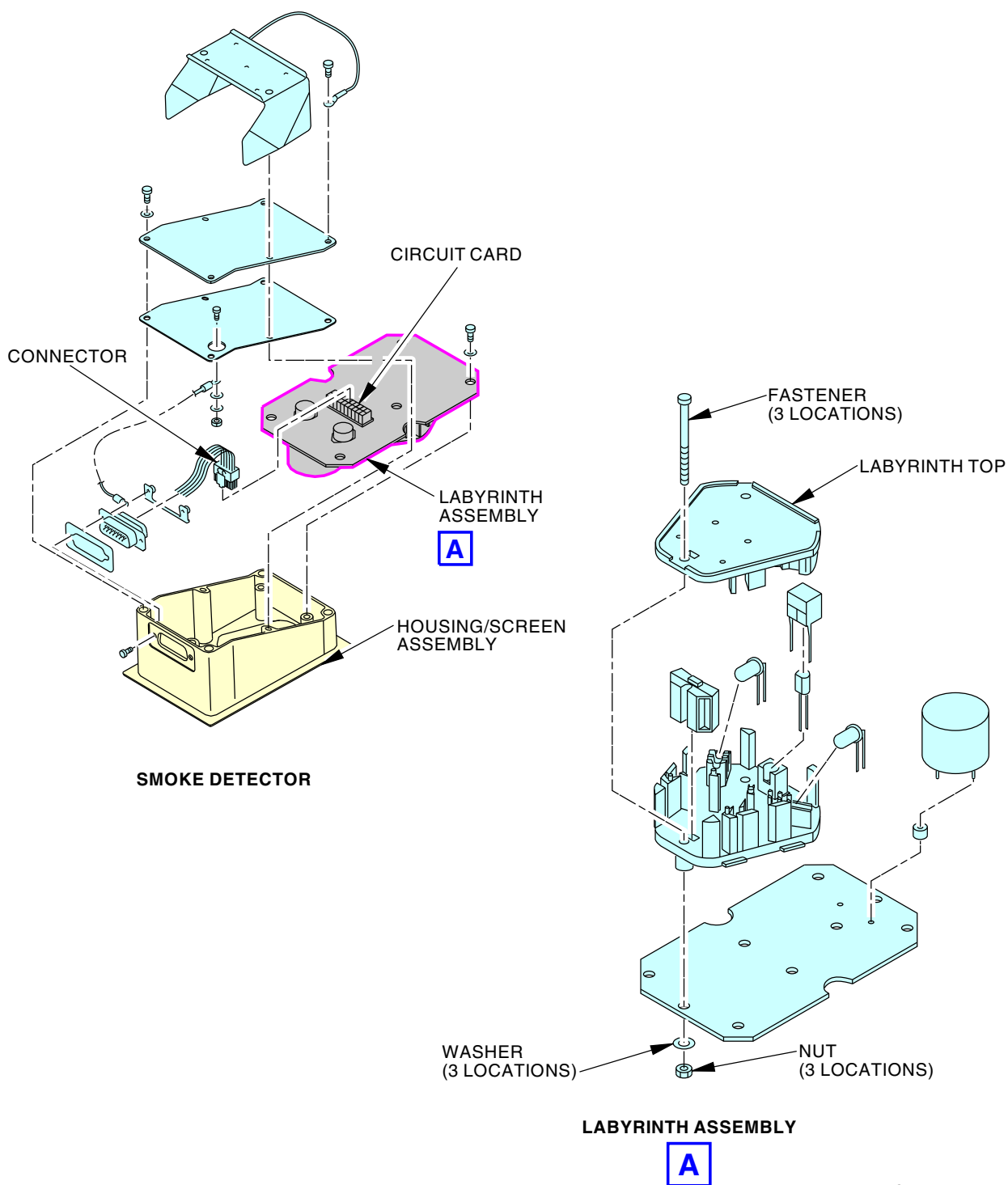
————— **END OF TASK** —————

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**Lavatory Smoke Detector Cleaning
Figure 702/26-13-01-990-806**

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FLIGHT CREW REST SMOKE DETECTION - ADJUSTMENT/TEST

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has three tasks. The first task, with the Cabin Management System, does a full test of the flight crew rest smoke detection system. The second task applies smoke to each smoke detector and makes sure that the applicable alarm indications occur. The third task uses the self test switch on each smoke detector and makes sure that the applicable alarm indications occur.
- C. The flight crew rest has three smoke detectors, one in each of the two bunks and one in the common area adjacent to the top bunk. Each detector has a smoke sensor which detects smoke. When the concentration of smoke at the sensor gets to a threshold, the smoke detector alarms occur.
- D. You cannot adjust the sensitivity of the smoke detector. If the smoke detector does not work correctly, replace the smoke detector.

TASK 26-14-10-710-801

2. Flight Crew Rest Smoke Detection - Operational Test

NOTE: This procedure is a scheduled maintenance task.

A. **General**

- (1) This test uses the Cabin Management System to make sure that the flight crew rest smoke detection system operates correctly. This procedure does a full test of the flight crew rest smoke detection system. It is not necessary to do a smoke test or a self test at each detector if you do this test. To do a test of each smoke detector individually, do the Self Test procedure.

B. **References**

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)

C. **Location Zones**

Zone	Area
200	Upper Half of Fuselage

D. **Procedure**

SUBTASK 26-14-10-860-001

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

SUBTASK 26-14-10-740-001

- (2) Do this ALL TEST on the Cabin System Control Panel (CSCP):

NOTE: You will find the CSCP at a main attendants station in the Door 1 or Door 2 area.

- (a) Touch these selections on the CSCP:

- 1) CABIN MAINTENANCE
- 2) CABIN TESTS
- 3) START ALL TEST
- 4) CONTINUE TEST

- (b) After the ALL CABIN TEST is completed (approximately five minutes), make sure that no flight crew rest smoke detector faults show on the display.

———— **END OF TASK** ————

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TASK 26-14-10-730-801

3. Flight Crew Rest Smoke Detection - Functional Smoke Test

(Figure 501)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
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
COM-11202	Smoke Generator - Lavatory/Crew Rest Smoke Detector (or 737 Cargo Area Type Smoke Detectors) Part #: 25S Supplier: 61908 Part #: SOLOA10 Supplier: 1WU32 Opt Part #: SOLOA3 Supplier: 1WU32 Opt Part #: SOLOA4 Supplier: 1WU32

C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
221	Passenger Compartment, Left - Section 41

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. Prepare for Smoke Test

SUBTASK 26-14-10-860-002

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

SUBTASK 26-14-10-860-028

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

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	1	C74401	L ENG STBY IGN 1
A	2	C74407	L ENG STBY IGN 2
A	5	C28001	L ENGINE FUEL SPAR VALVE
A	14	C74400	R ENG STBY IGN 1
A	15	C74406	R ENG STBY IGN 2
A	19	C28002	R ENGINE FUEL SPAR VALVE
E	1	C74403	L ENG IGN 1
E	2	C74404	R ENG IGN 2
E	14	C74405	L ENG IGN 2

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(Continued)

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	15	C74402	R ENG IGN 1

SUBTASK 26-14-10-860-021

- (3) Set the left and right FUEL CONTROL switches on the P10 control stand are set to RUN.

SUBTASK 26-14-10-010-001

- (4) Open this access door to get access to the left Power Management Panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-14-10-860-003

- (5) Make sure that this circuit breaker is closed:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	18	C21693	DR 1 CREW REST CTRL/SMK DET PWR

F. Smoke Test

ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS

SUBTASK 26-14-10-860-004

- (1) Make sure that the Power Indicator light (green) on each flight crew rest (FCR) smoke detector is on.

ARO ALL; AIRPLANES WITH KIDDE SMOKE DETECTORS

SUBTASK 26-14-10-860-023

- (2) Make sure that the Status Indicator light (solid green) on each flight crew rest (FCR) smoke detector is on.

ARO ALL

SUBTASK 26-14-10-730-019

- (3) Use a smoke generator, COM-11202 to make smoke adjacent to the FCR smoke detector, M26035.

SUBTASK 26-14-10-730-002

- (4) Make sure that these alarm indications occur:
- (a) The alarm horn on the FCR smoke detector comes on.

ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS

- (b) The Alarm Indicator light (red) on the FCR smoke detector comes on.

ARO ALL; AIRPLANES WITH KIDDE SMOKE DETECTORS

- (c) The Status Indicator light (red) on the FCR smoke detector comes on.

ARO ALL

- (d) The attendant call switch (external to the FCR), flashes.
- (e) In the flight deck, the EICAS caution message, SMOKE CREW REST F/D, shows on a display.

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- (f) The message, FLT CREW RST, shows on a CMS cabin area control panel.

NOTE: Messages which show on the CMS cabin area control panels are part of the CSS Database and can be changed. Messages other than FLT CREW RST are possible. This does not impact the functionality associated with the smoke alert annunciations and is only used to show the location(s) of where smoke has been detected.

ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS

SUBTASK 26-14-10-730-003

- (5) Push the Alarm Interrupt switch on the smoke detector with an applicable tool.

ARO ALL; AIRPLANES WITH KIDDE SMOKE DETECTORS

SUBTASK 26-14-10-730-021



DO NOT USE TOO MUCH FORCE TO PUSH THE SWITCH. TOO MUCH FORCE CAN DAMAGE THE SWITCH.

- (6) Push the Horn Cancel switch on the smoke detector.

ARO ALL

SUBTASK 26-14-10-730-004

- (7) Make sure that the alarm indications stop.

SUBTASK 26-14-10-730-005

- (8) Do the Smoke Test again for each of the other flight crew rest smoke detectors.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 26-14-10-410-001

- (1) Make sure that the left and right FUEL CONTROL switches on the P10 control stand are set to CUTOFF.

SUBTASK 26-14-10-860-029

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

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C74401	L ENG STBY IGN 1
A	2	C74407	L ENG STBY IGN 2
A	5	C28001	L ENGINE FUEL SPAR VALVE
A	14	C74400	R ENG STBY IGN 1
A	15	C74406	R ENG STBY IGN 2
A	19	C28002	R ENGINE FUEL SPAR VALVE
E	1	C74403	L ENG IGN 1
E	2	C74404	R ENG IGN 2
E	14	C74405	L ENG IGN 2
E	15	C74402	R ENG IGN 1

SUBTASK 26-14-10-860-016

- (3) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

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————— END OF TASK —————

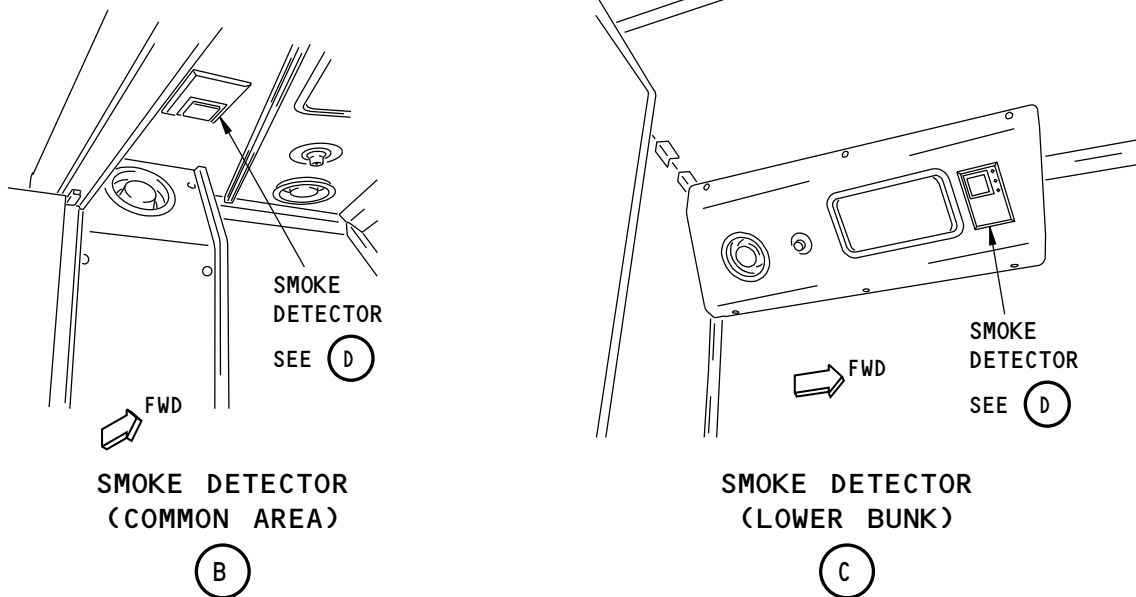
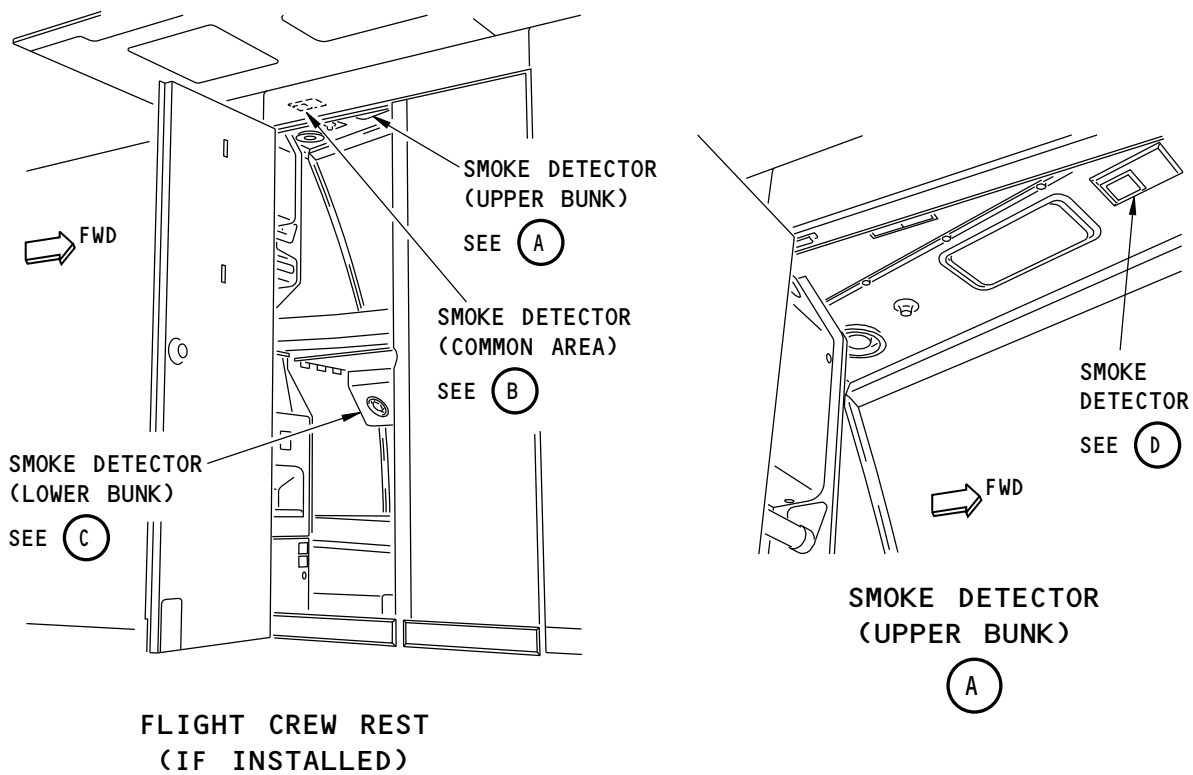
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G45806 S0006411822_V1

**Flight Crew Rest Smoke Detection Adjustment
Figure 501/26-14-10-990-801 (Sheet 1 of 4)**

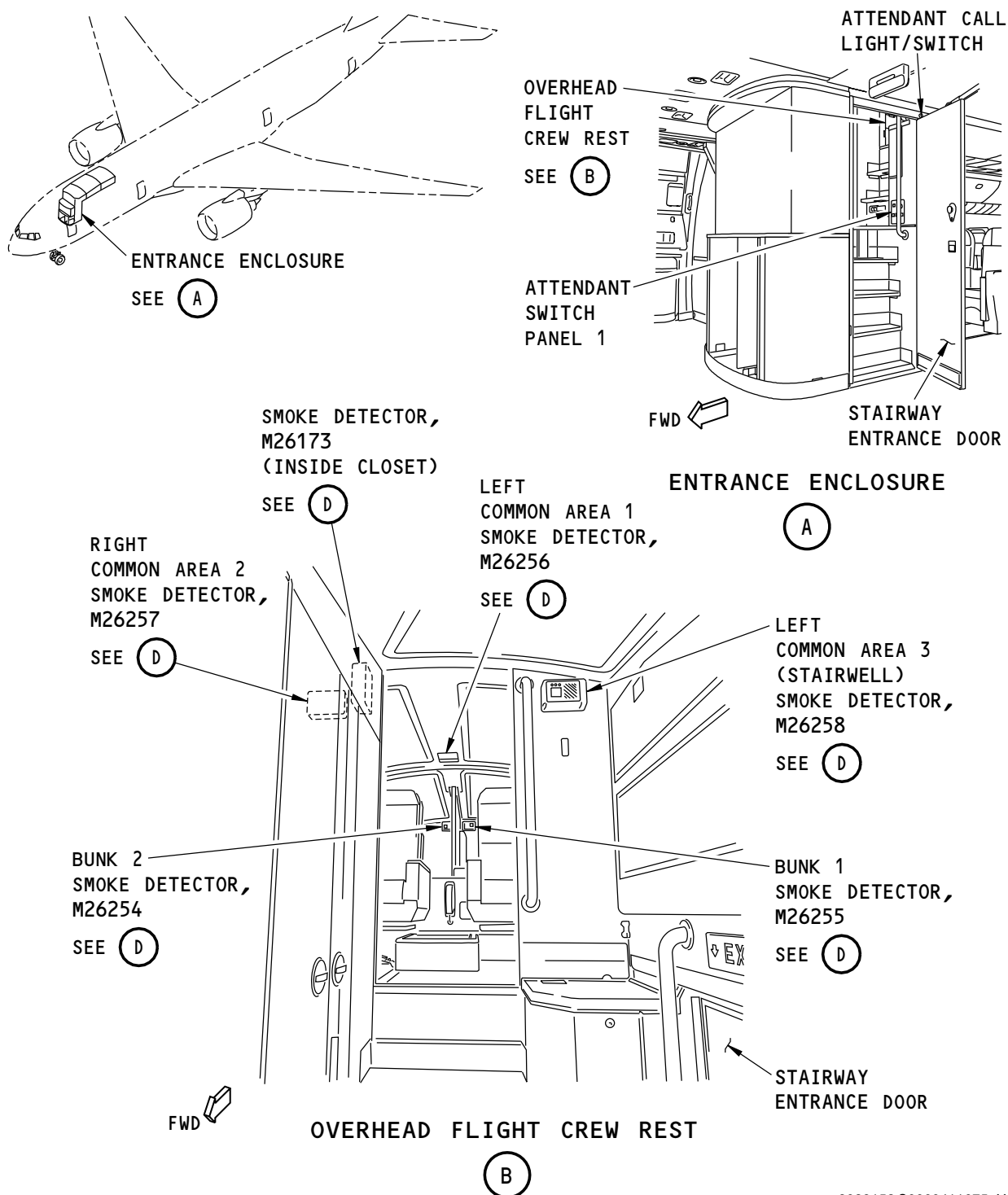
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**Flight Crew Rest Smoke Detection Adjustment
Figure 501/26-14-10-990-801 (Sheet 2 of 4)**

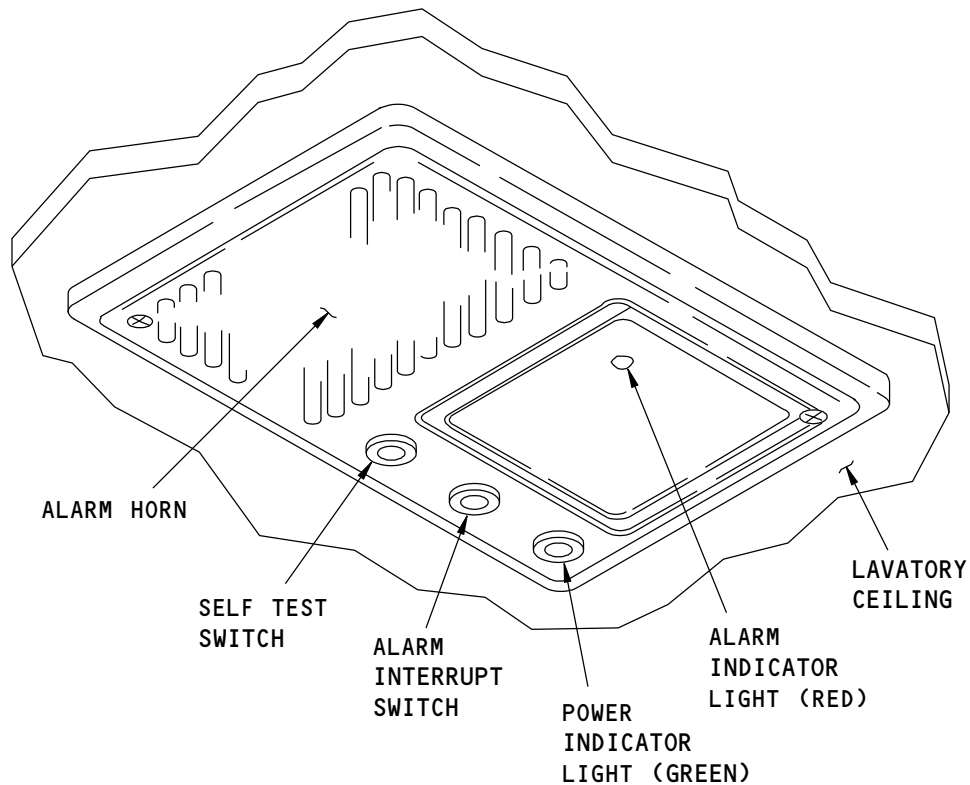
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FLIGHT CREW REST SMOKE DETECTOR

(D)

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Flight Crew Rest Smoke Detection Adjustment
Figure 501/26-14-10-990-801 (Sheet 3 of 4)

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ARO ALL; AIRPLANES WITH JAMCO SMOKE
DETECTORS

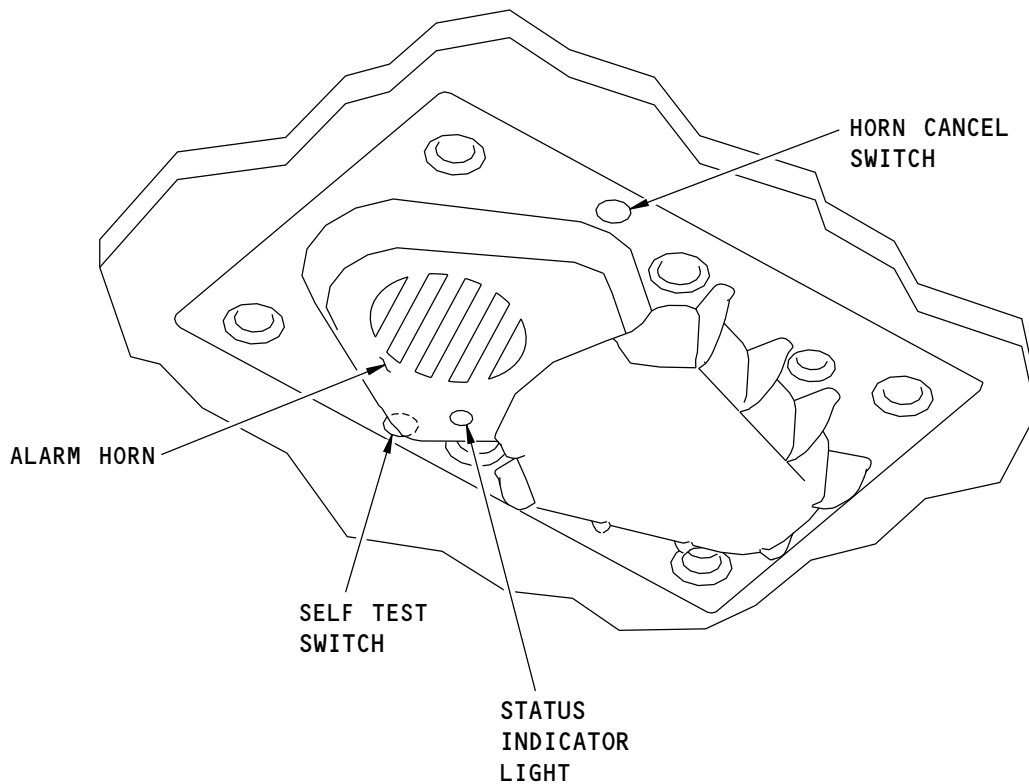
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FLIGHT CREW REST SMOKE DETECTOR

D

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Flight Crew Rest Smoke Detection Adjustment
Figure 501/26-14-10-990-801 (Sheet 4 of 4)

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ARO ALL; AIRPLANES WITH KIDDE SMOKE
DETECTORS

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TASK 26-14-10-740-801

4. Flight Crew Rest Smoke Detection - Self Test

(Figure 501)

A. References

Reference	Title
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
COM-11202	Smoke Generator - Lavatory/Crew Rest Smoke Detector (or 737 Cargo Area Type Smoke Detectors) Part #: 25S Supplier: 61908 Part #: SOLOA10 Supplier: 1WU32 Opt Part #: SOLOA3 Supplier: 1WU32 Opt Part #: SOLOA4 Supplier: 1WU32

C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
221	Passenger Compartment, Left - Section 41

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. Prepare for the Self Test

SUBTASK 26-14-10-860-005

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

SUBTASK 26-14-10-010-002

- (2) Open this access door to get access to the left Power Management Panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-14-10-860-006

- (3) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

Row	Col	Number	Name
L	18	C21693	DR 1 CREW REST CTRL/SMK DET PWR

F. Self Test

ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS

SUBTASK 26-14-10-860-007

- (1) Make sure that the Power Indicator light (green) on the flight crew rest (FCR) smoke detectors is not on.

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ARO ALL; AIRPLANES WITH KIDDE SMOKE DETECTORS

SUBTASK 26-14-10-860-024

- (2) Make sure that the Status Indicator light (solid green) on the flight crew rest (FCR) smoke detectors is not on.

ARO ALL

SUBTASK 26-14-10-860-009

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	18	C21693	DR 1 CREW REST CTRL/SMK DET PWR

ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS

SUBTASK 26-14-10-860-010

- (4) Make sure that the Power Indicator light (green) on the FCR smoke detectors is on.

ARO ALL; AIRPLANES WITH KIDDE SMOKE DETECTORS

SUBTASK 26-14-10-860-025

- (5) Make sure that the Status Indicator light (solid green) on the FCR smoke detectors is on.

ARO ALL

SUBTASK 26-14-10-860-017

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

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C74401	L ENG STBY IGN 1
A	2	C74407	L ENG STBY IGN 2
A	5	C28001	L ENGINE FUEL SPAR VALVE
A	14	C74400	R ENG STBY IGN 1
A	15	C74406	R ENG STBY IGN 2
A	19	C28002	R ENGINE FUEL SPAR VALVE
E	1	C74403	L ENG IGN 1
E	2	C74404	R ENG IGN 2
E	14	C74405	L ENG IGN 2
E	15	C74402	R ENG IGN 1

SUBTASK 26-14-10-860-012

- (7) Set the left and right FUEL CONTROL SWITCHES on the P10 control stand to RUN.

SUBTASK 26-14-10-700-002



CAUTION

DO NOT USE TOO MUCH FORCE TO PUSH THE SWITCH. TOO MUCH FORCE CAN DAMAGE THE SWITCH.

ARO ALL; AIRPLANES WITH JAMCO OR KIDDE AND NOT 474560-4X/5X SMOKE DETECTORS

- (8) Push and hold the Self Test switch on one of the smoke detectors.

NOTE: The test switch is to be depressed continuously until all flight deck and cabin indications have been checked.

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ARO ALL; AIRPLANES WITH JAMCO OR KIDDE AND NOT 474560-4X/5X SMOKE DETECTORS (Continued)

- (a) If necessary, use ear protection.

NOTE: The alarm horn is loud.

ARO ALL; AIRPLANES WITH KIDDE 474560-4X/5X SMOKE DETECTORS

- (9) Use a smoke generator, COM-11202, to make smoke adjacent to one of the smoke detectors.

- (a) Apply smoke in 1 second bursts at 5 second intervals (or after every second pulse of the SD horn) to the smoke detector until all cabin indications have been checked.
- (b) If necessary, use ear protection.

NOTE: The alarm horn is loud.

ARO ALL

SUBTASK 26-14-10-730-007

- (10) Make sure that these alarm indications occur:

- (a) The alarm horn on the FCR smoke detector comes on.

ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS

- (b) The Alarm Indicator light (red) on the FCR smoke detector comes on.

ARO ALL; AIRPLANES WITH KIDDE SMOKE DETECTORS

- (c) The Status Indicator light (red) on the FCR smoke detector comes on.

ARO ALL

- (d) In the flight compartment, the Master Caution lights come on.
- (e) In the flight compartment, the chime comes on.
- (f) In the flight compartment, the EICAS caution message, SMOKE CREW REST F/D, shows on the display.
- (g) The message, FLT CREW RST, shows on a CMS cabin area control panel.

NOTE: Messages which show on the CMS cabin area control panels are part of the CSS Database and can be changed. Messages other than FLT CREW RST are possible. This does not impact the functionality associated with the smoke alert annunciations and is only used to show the location(s) of where smoke has been detected.

- (h) The attendant call switch (external to the FCR module) flashes.

SUBTASK 26-14-10-730-010

- (11) Push the attendant call switch.

SUBTASK 26-14-10-730-011

- (12) Make sure that these alarm indications do not occur:

- (a) The alarm horn does not come on.
- (b) The message, FLT CREW RST, does not show on a CMS cabin area control panel.

SUBTASK 26-14-10-730-008

ARO ALL; AIRPLANES WITH JAMCO OR KIDDE AND NOT 474560-4X/5X SMOKE DETECTORS

- (13) Release the Self Test switch on the smoke detector.

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ARO ALL; AIRPLANES WITH KIDDE 474560-4X/5X SMOKE DETECTORS

(14) Clear the smoke.

ARO ALL

SUBTASK 26-14-10-730-009

(15) Do the Self Test again for each of the other applicable flight crew rest smoke detectors.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 26-14-10-860-013

(1) Set the left and right FUEL CONTROL switches to CUTOFF.

SUBTASK 26-14-10-440-001

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

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C74401	L ENG STBY IGN 1
A	2	C74407	L ENG STBY IGN 2
A	5	C28001	L ENGINE FUEL SPAR VALVE
A	14	C74400	R ENG STBY IGN 1
A	15	C74406	R ENG STBY IGN 2
A	19	C28002	R ENGINE FUEL SPAR VALVE
E	1	C74403	L ENG IGN 1
E	2	C74404	R ENG IGN 2
E	14	C74405	L ENG IGN 2
E	15	C74402	R ENG IGN 1

SUBTASK 26-14-10-410-002

(3) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

————— END OF TASK —————

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FLIGHT CREW REST SMOKE DETECTORS - REMOVAL/INSTALLATION

1. General

- A. This procedure has two tasks. The first task removes the flight crew rest smoke detectors. The second task installs the flight crew rest smoke detectors.
- B. There are three smoke detectors installed in the flight crew rest; one in each of the two bunks and one in the common area. The removal and installation procedure is the same for each smoke detector.

TASK 26-14-11-000-801

2. Flight Crew Rest Smoke Detector Removal

A. References

Reference	Title
26-13-01-100-801	Clean the Lavatory Smoke Detectors (P/B 701)
26-14-11-100-801	Clean the Flight Crew Rest Smoke Detectors (P/B 701)

B. Location Zones

Zone	Area
200	Upper Half of Fuselage

C. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS

D. Remove the Smoke Detector.

SUBTASK 26-14-11-010-001

- (1) Open this access door to get access to the left Power Management Panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-14-11-860-001

- (2) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	18	C21693	DR 1 CREW REST CTRL/SMK DET PWR

SUBTASK 26-14-11-020-001

- (3) Loosen the screws [3] on the face plate [4] of the smoke detector Figure 401

SUBTASK 26-14-11-020-002

- (4) Remove the face plate [4] from the smoke detector case [7].

SUBTASK 26-14-11-020-003

- (5) Remove the mounting screws [5] that hold the smoke detector to the bracket [1].

SUBTASK 26-14-11-020-004

- (6) Disconnect the electrical connector [6] on the smoke detector from the airplane electrical connector.

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ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS (Continued)

SUBTASK 26-14-11-020-005

- (7) Remove the smoke detector and the bracket [1].

NOTE: You do not have to remove the bracket from the smoke detector. The new smoke detector will usually have a bracket attached to it.

SUBTASK 26-14-11-160-001

- (8) If it is necessary, do this task: Clean the Lavatory Smoke Detectors, TASK 26-13-01-100-801.

ARO ALL; AIRPLANES WITH KIDDE SMOKE DETECTORS

E. Remove the Smoke Detector.

SUBTASK 26-14-11-010-004

- (1) Open this access door to get access to the left Power Management Panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-14-11-860-006

- (2) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	18	C21693	DR 1 CREW REST CTRL/SMK DET PWR

SUBTASK 26-14-11-020-007

- (3) Disconnect the electrical connector [2].

SUBTASK 26-14-11-020-008

- (4) Remove the two fasteners [4] which attach the smoke detector [1] to the mounting bracket [3].

SUBTASK 26-14-11-020-009

- (5) Remove the smoke detector [1].

SUBTASK 26-14-11-160-004

- (6) If it is necessary, do this task: Clean the Flight Crew Rest Smoke Detectors, TASK 26-14-11-100-801.

ARO ALL

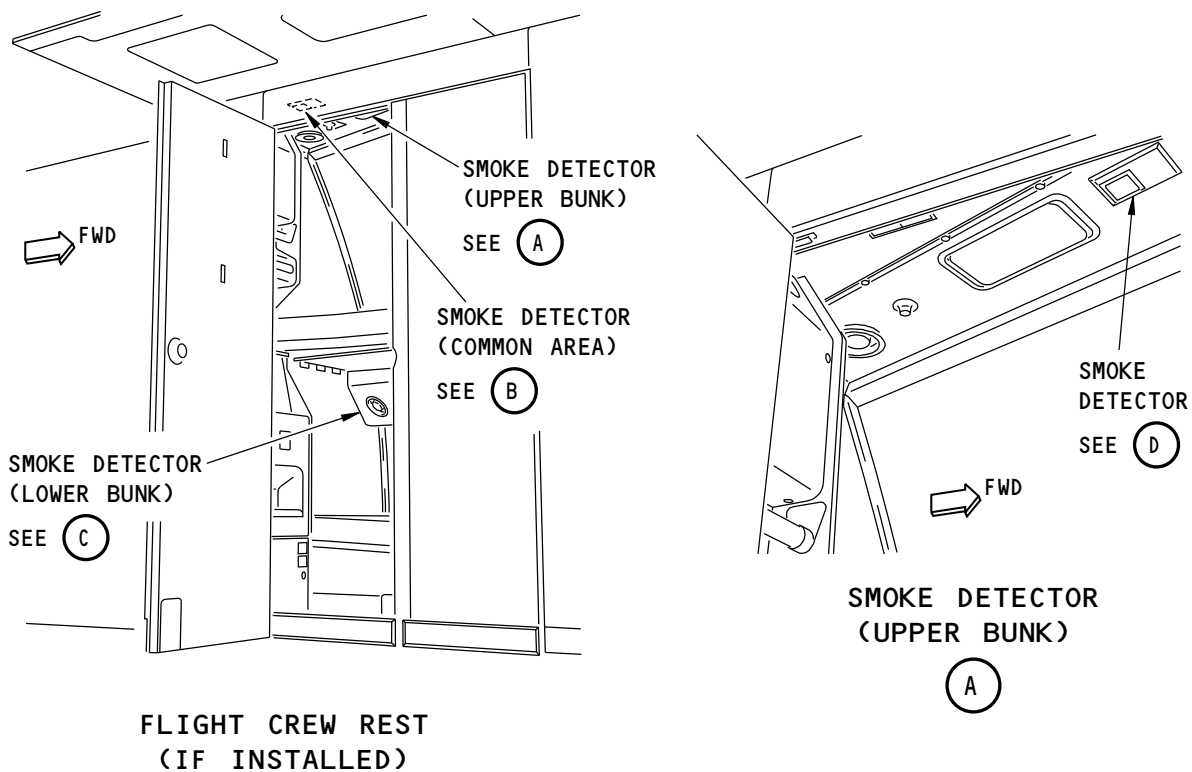
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**Flight Crew Rest Smoke Detector Installation
Figure 401/26-14-11-990-801 (Sheet 1 of 4)**

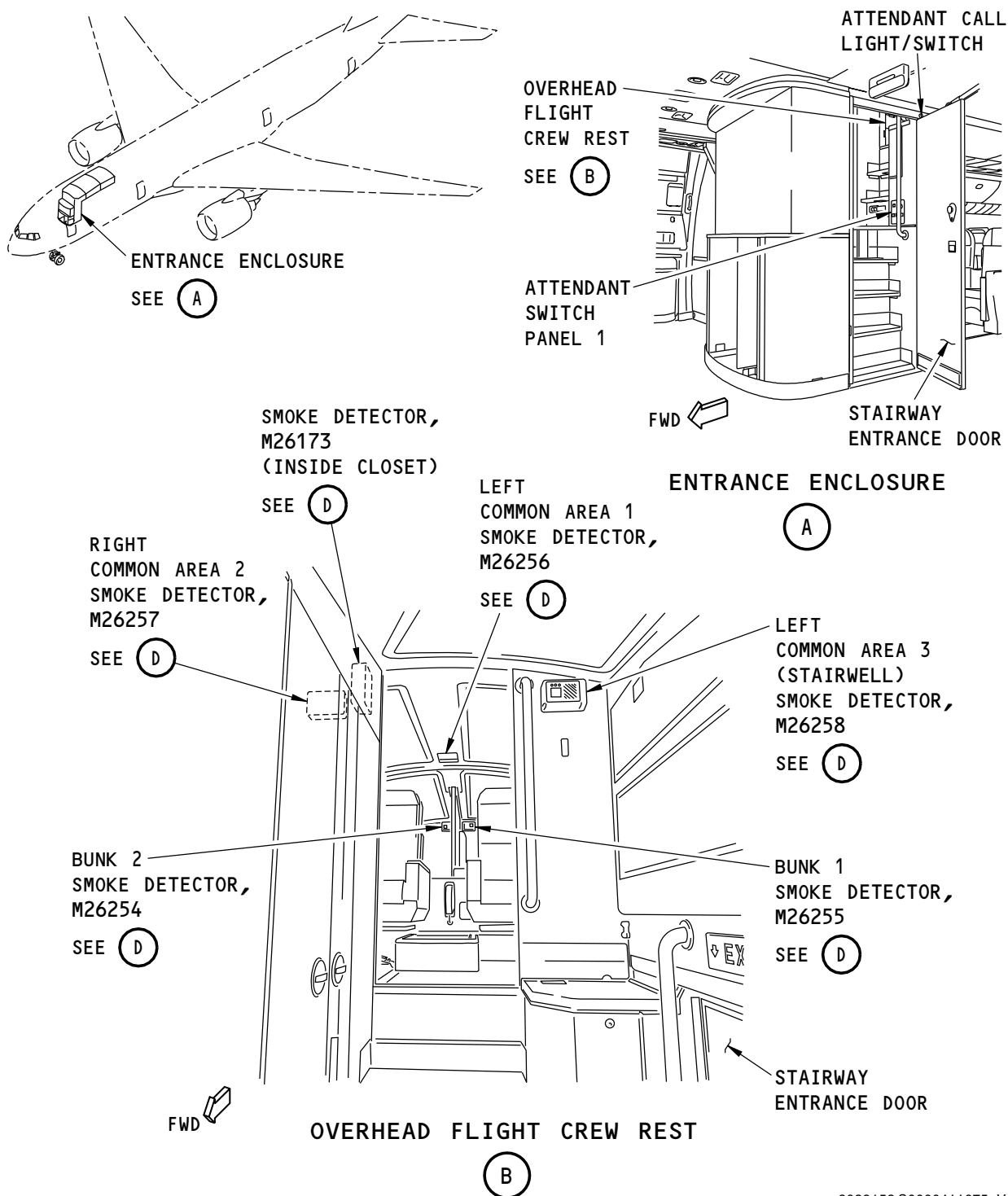
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**Flight Crew Rest Smoke Detector Installation
Figure 401/26-14-11-990-801 (Sheet 2 of 4)**

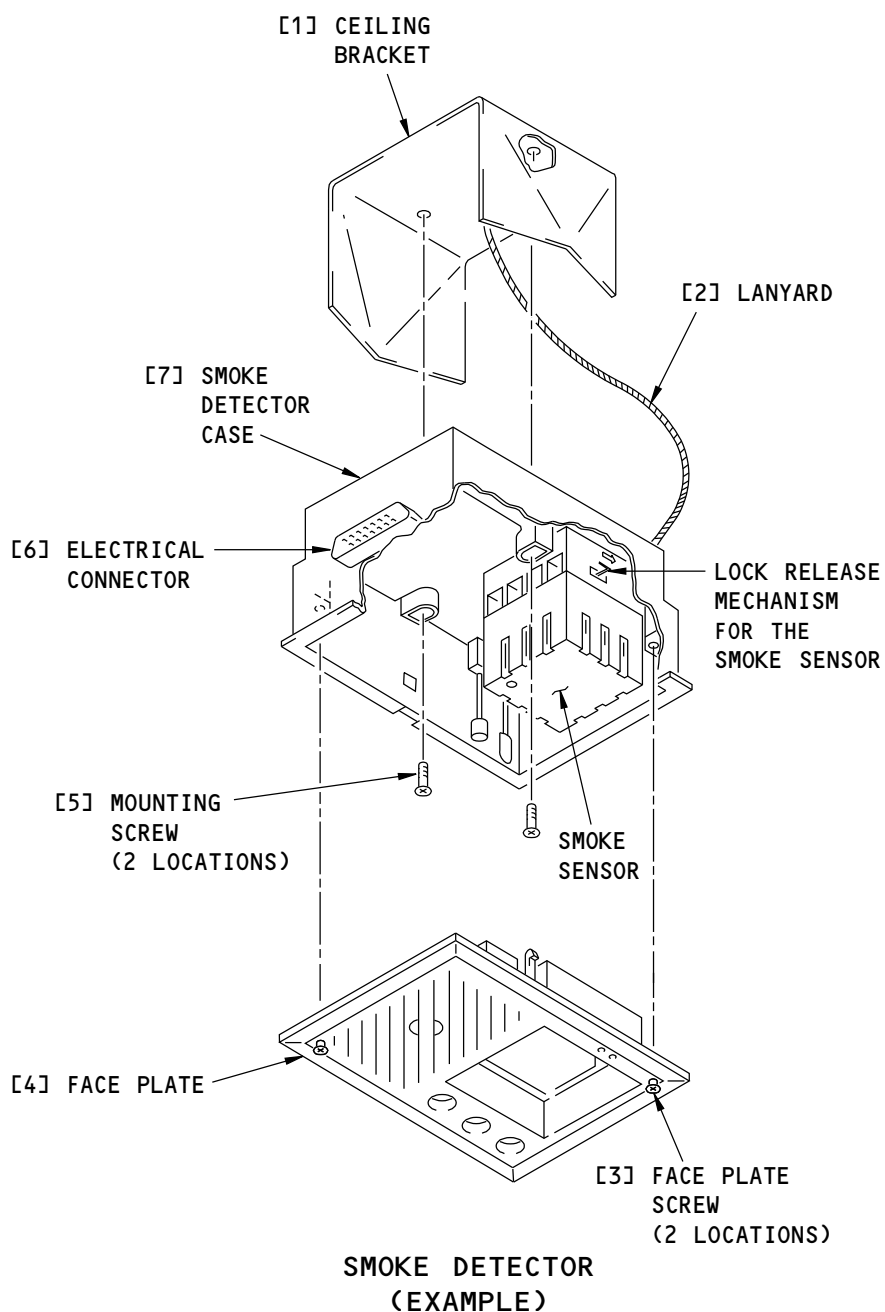
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D

NOTE: THE SCREWS ATTACHED TO THE FACE PLATE CANNOT BE REMOVED.

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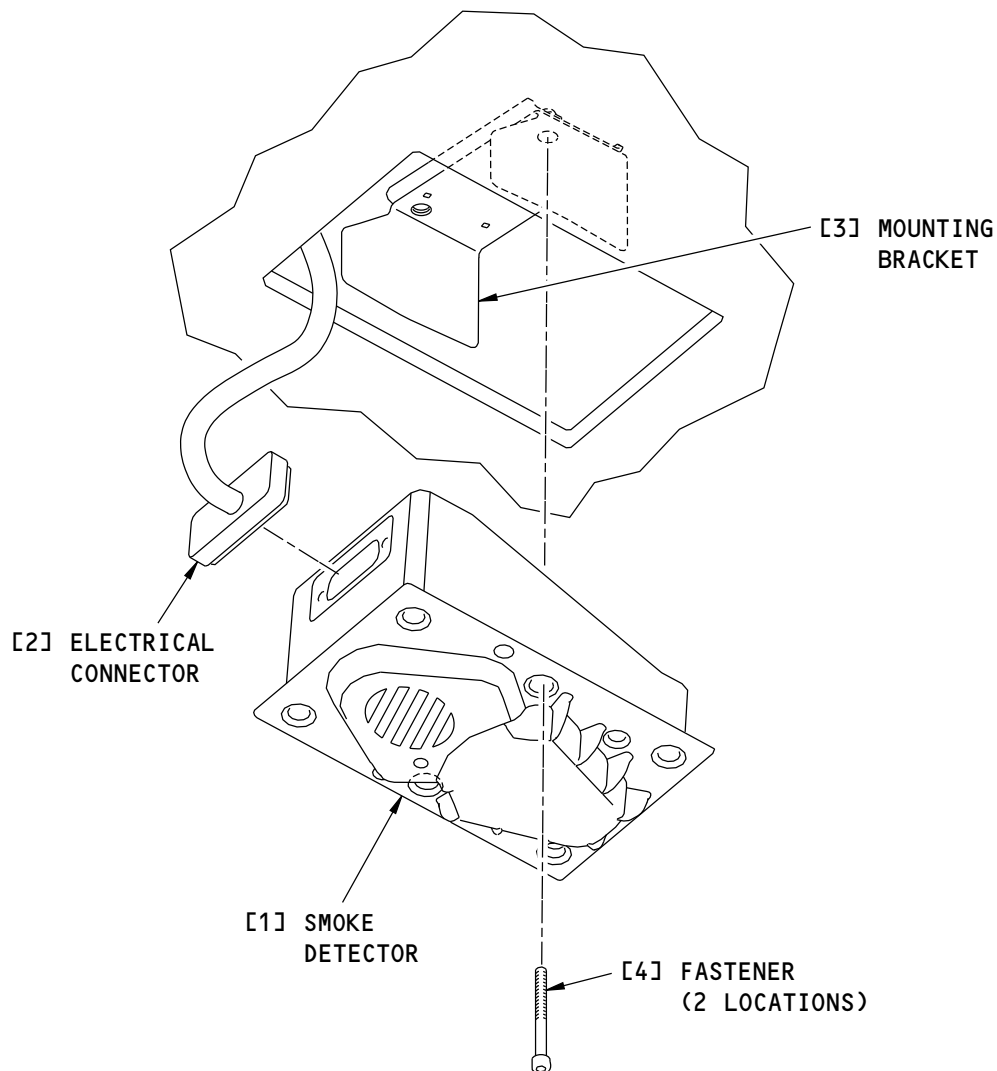
**Flight Crew Rest Smoke Detector Installation
Figure 401/26-14-11-990-801 (Sheet 3 of 4)**

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ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS

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**SMOKE DETECTOR
(EXAMPLE)**

D

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**Flight Crew Rest Smoke Detector Installation
Figure 401/26-14-11-990-801 (Sheet 4 of 4)**

EFFECTIVITY
**ARO ALL; AIRPLANES WITH KIDDE SMOKE
DETECTORS**

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TASK 26-14-11-400-801

3. Flight Crew Rest Smoke Detector Installation

(Figure 401)

A. References

Reference	Title
26-14-10-710-801	Flight Crew Rest Smoke Detection - Operational Test (P/B 501)

B. Location Zones

Zone	Area
221	Passenger Compartment, Left - Section 41

C. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS

D. Install the Smoke Detector

SUBTASK 26-14-11-010-002

- (1) Open this access door to get access to the left Power Management Panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-14-11-860-002

- (2) Make sure that this circuit breaker is open:

Left Power Management Panel, P110

Row	Col	Number	Name
L	18	C21693	DR 1 CREW REST CTRL/SMK DET PWR

SUBTASK 26-14-11-420-001

- (3) Do these steps before you put the smoke detector in its position:

- If the lanyard [2] is not connected to the smoke detector, attach it from the bracket [1] to the smoke detector.
- If the bracket [1] is not connected to the smoke detector, install the mounting screw [5] to attach it.
- If the face plate [4] is not connected to the smoke detector, install the face plate [4] to the smoke detector case [7] with the screws [3].
- Connect the airplane electrical connector to the electrical connector [6] on the smoke detector.

SUBTASK 26-14-11-420-002

- (4) Put the smoke detector and bracket [1] in the correct position.

SUBTASK 26-14-11-420-003

- (5) Push the smoke detector until the bracket [1] is in the correct position.

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ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS (Continued)

SUBTASK 26-14-11-860-003

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	18	C21693	DR 1 CREW REST CTRL/SMK DET PWR

ARO ALL

SUBTASK 26-14-11-710-001

- (7) Do this task: Flight Crew Rest Smoke Detection - Operational Test, TASK 26-14-10-710-801.

ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS

SUBTASK 26-14-11-410-001

- (8) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

ARO ALL; AIRPLANES WITH KIDDE SMOKE DETECTORS

E. Install the Smoke Detector

SUBTASK 26-14-11-010-005

- (1) Open this access door to get access to the left Power Management Panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-14-11-860-007

- (2) Make sure that this circuit breaker is open:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	18	C21693	DR 1 CREW REST CTRL/SMK DET PWR

SUBTASK 26-14-11-420-005

- (3) Connect the electrical connector [2].

SUBTASK 26-14-11-420-006

- (4) Attach the smoke detector [1] to the mounting bracket [3].

SUBTASK 26-14-11-420-007

- (5) Tighten the two fasteners [4].

SUBTASK 26-14-11-860-008

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	18	C21693	DR 1 CREW REST CTRL/SMK DET PWR

ARO ALL

SUBTASK 26-14-11-710-004

- (7) Do this task: Flight Crew Rest Smoke Detection - Operational Test, TASK 26-14-10-710-801.

ARO ALL; AIRPLANES WITH KIDDE SMOKE DETECTORS

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ARO ALL; AIRPLANES WITH KIDDE SMOKE DETECTORS (Continued)

SUBTASK 26-14-11-410-003

(8) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

————— END OF TASK —————

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FLIGHT CREW REST SMOKE DETECTORS - CLEANING/PAINTING

1. General

- A. This procedure has one task which cleans the flight crew rest smoke detectors.
- B. The flight crew rest has three smoke detectors, one in each of the two bunks and one in the common area. The procedure to clean the smoke detector is the same for each.

TASK 26-14-11-100-801

2. Clean the Flight Crew Rest Smoke Detectors

A. **References**

Reference	Title
26-14-10-710-801	Flight Crew Rest Smoke Detection - Operational Test (P/B 501)

B. **Tools/Equipment**

Reference	Description
STD-123	Brush - Soft Bristle
STD-1083	Source - Air, Regulated, Dry Filtered, 0-10 PSIG
STD-1086	Gloves - Rubber
STD-4107	Source - Air, Clean, Dry, 0 to 60 psi
STD-6402	Swab - Cotton

C. **Consumable Materials**

Reference	Description	Specification
B00068	Alcohol - Denatured, Ethyl (Ethanol)	AMS 3002, MIL-E-51454 Type II
B00130	Alcohol - Isopropyl	TT-I-735
B00541	Cleaner - General Purpose Household Detergent	
B50026	Soap - Clear Liquid Dishwashing	
B50173	Alcohol - Isopropyl - ALC3001-008	AL3001-008
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	BMS15-5 Class A
G01043	Cloth - Lint-free	
G50527	Water	

D. **Location Zones**

Zone	Area
211	Flight Compartment, Left
212	Flight Compartment, Right
221	Passenger Compartment, Left - Section 41

E. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door

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ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS

F. Clean the Smoke Detector

SUBTASK 26-14-11-010-003

- (1) Open this access door to get access to the left Power Management Panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-14-11-860-004

- (2) Open this circuit breaker and install safety tag:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	18	C21693	DR 1 CREW REST CTRL/SMK DET PWR

SUBTASK 26-14-11-160-002



OBEY THESE INSTRUCTIONS WHEN YOU CLEAN THE SMOKE DETECTOR AND TUBING: (1) MAKE SURE THAT THE AREA HAS SUFFICIENT AIRFLOW. (2) KEEP THE ALCOHOL AWAY FROM HEAT, SPARKS OR FLAMES. (3) DO NOT BREATHE THE FUMES FROM THE ALCOHOL. (4) PUT ON RUBBER GLOVES. ALCOHOL IS A FLAMMABLE AND POISONOUS SOLVENT THAT CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (3) Put on the rubber glove, STD-1086.

SUBTASK 26-14-11-160-003

- (4) Remove the dirt external to the smoke detector [1] with the cotton wiper, G00034 soaked with alcohol, B00068 or alcohol, B00130.

SUBTASK 26-14-11-020-006

- (5) Do these steps to remove and disassemble the smoke sensor [4]:
- (a) Put the pocket scale [3] between the smoke sensor [4] and the smoke detector [1].
 - (b) Push the lock release lever [2] with the pocket scale [3].
 - (c) Pull out the smoke sensor [4].
 - (d) Move the screwdriver [5] between the sensor assembly and the sensor cover [7].
 - (e) Twist the screwdriver [5] to release the lock on the sensor cover [7].
 - (f) Remove the sensor cover [7] from the sensor assembly [6].



DO NOT TOUCH THE ELECTRODE IN THE SENSOR ASSEMBLY OR DAMAGE TO THE SMOKE SENSOR CAN OCCUR.

- (g) Pull out the mesh [8] from the sensor assembly [6].

SUBTASK 26-14-11-210-001

- (6) Do these steps to clean the mesh [8] and the sensor assembly [6].
- (a) Examine the mesh [8] for dirt or other contamination.
 - (b) If the mesh [8] is dirty, clean the mesh [8] with warm water and general purpose household detergent cleaner, B00541.
 - (c) If the mesh [8] is very dirty, replace it with a new mesh [8].
 - (d) With the 0-10 psig dry filtered regulated air source, STD-1083, dry the mesh [8] fully.

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ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS (Continued)



CAUTION

BLOW THE AIR LIGHTLY INTO THE SENSOR ASSEMBLY. TOO MUCH FORCE CAN CAUSE STATIC ELECTRICITY ON THE ELECTRODES WHICH CAN CAUSE DAMAGE TO THE SMOKE SENSOR.

- (e) With the 0-10 psig dry filtered regulated air source, STD-1083, lightly blow dirt or particles out of the sensor assembly [6].

SUBTASK 26-14-11-420-004

- (7) Do these steps to install the smoke sensor [4]:
 - (a) Install the mesh [8] on the sensor assembly [6].
 - (b) Align the sensor cover [7] with the applicable hole in the sensor assembly [6].
 - (c) Install the sensor cover [7], sensor assembly [6], and smoke sensor [4] in the smoke detector [1].

SUBTASK 26-14-11-860-005

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	18	C21693	DR 1 CREW REST CTRL/SMK DET PWR

ARO ALL

SUBTASK 26-14-11-710-002

- (9) Do this task: Flight Crew Rest Smoke Detection - Operational Test, TASK 26-14-10-710-801.

ARO ALL; AIRPLANES WITH JAMCO SMOKE DETECTORS

SUBTASK 26-14-11-410-002

- (10) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

ARO ALL; AIRPLANES WITH KIDDE SMOKE DETECTORS

G. Clean the Smoke Detector

SUBTASK 26-14-11-160-005



CAUTION

BE CAREFUL WHEN YOU REMOVE OR INSTALL THE SCREEN OF THE COVER ASSEMBLY AND LABYRINTH. THIS WILL HELP PREVENT SCRATCHES ON THE LABYRINTH. SCRATCHES ON THE LABYRINTH CAN CAUSE STRAY LIGHT REFLECTIONS AND INCORRECT CALIBRATIONS TO OCCUR.

- (1) Clean the non-electrical parts.



CAUTION

ESDS COMPONENTS AND UNITS MUST BE PROTECTED FROM STATIC DISCHARGE DAMAGE AT ALL TIMES.

- (a) Do these steps to clean all non-electrical parts.

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ISOPROPYL ALCOHOL IS FLAMMABLE. AVOID PROLONGED BREATHING OF VAPOR AND PROLONGED OR REPEATED CONTACT WITH SKIN. AVOID CONTACT WITH EYES. CLEAN PARTS IN WELL-VENTILATED AREA AND USE APPROVED SAFETY EQUIPMENT.

- 1) Clean the external surfaces with a lint-free cloth, G01043 moist with Isopropyl alcohol, B50173
- 2) Dry the surfaces with a dry lint-free cloth, G01043.
- (b) Clean the screen of the Housing/Screen Assembly if necessary.
 - 1) Remove the Labyrinth Assembly from the Housing/Screen Assembly.



WHEN YOU USE THE COMPRESSED AIR TO CLEAN, TO COOL OR TO DRY, DO NOT USE EXCEED 30 PSIG (207 KPA). MAKE SURE YOU WEAR EYE PROTECTION AND DO NOT DIRECT COMPRESSED AIR AT YOURSELF AND OTHERS. INJURY TO PERSONNEL CAN OCCUR.

- 2) Use a soft bristle brush, STD-123 or dry, clean air source 0 to 60 psi, STD-4107 at maximum pressure of 30 psig (207 kPa) to remove unwanted materials from the screen.

SUBTASK 26-14-11-160-006

- (2) Clean the electrical parts.
 - (a) Clean the connectors and other electrical components as follows:



ISOPROPYL ALCOHOL IS FLAMMABLE. AVOID PROLONGED BREATHING OF VAPOR AND PROLONGED OR REPEATED CONTACT WITH SKIN. AVOID CONTACT WITH EYES. CLEAN PARTS IN WELL-VENTILATED AREA AND USE APPROVED SAFETY EQUIPMENT.

- 1) Clean the circuit card and connectors with a soft bristle brush, STD-123 and Isopropyl alcohol, B50173.



WHEN YOU USE THE COMPRESSED AIR TO CLEAN, TO COOL OR TO DRY, DO NOT USE EXCEED 30 PSIG (207 KPA). MAKE SURE YOU WEAR EYE PROTECTION AND DO NOT DIRECT COMPRESSED AIR AT YOURSELF AND OTHERS. INJURY TO PERSONNEL CAN OCCUR.



BE CAREFUL WHEN YOU REMOVE OR INSTALL THE SCREEN OF THE COVER ASSEMBLY AND LABYRINTH. THIS WILL HELP PREVENT SCRATCHES ON THE LABYRINTH. SCRATCHES ON THE LABYRINTH CAN CAUSE STRAY LIGHT REFLECTIONS AND INCORRECT CALIBRATIONS TO OCCUR.

- 2) Dry the parts with dry, clean air source 0 to 60 psi, STD-4107 at a maximum pressure of 30 psig (207 kPa).

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SUBTASK 26-14-11-160-007

(3) Clean the Labyrinth Assembly



CAUTION

BE CAREFUL WHEN YOU REMOVE OR INSTALL THE SCREEN OF THE COVER ASSEMBLY AND LABYRINTH. THIS WILL HELP PREVENT SCRATCHES ON THE LABYRINTH. SCRATCHES ON THE LABYRINTH CAN CAUSE STRAY LIGHT REFLECTIONS AND INCORRECT CALIBRATIONS TO OCCUR.



CAUTION

ESDS COMPONENTS AND UNITS MUST BE PROTECTED FROM STATIC DISCHARGE DAMAGE AT ALL TIMES.

- (a) Remove the three fasteners, washers and nuts to remove the labyrinth top off the labyrinth assembly.
- (b) Make a solution of soap and water with one part soap, B50026 and twenty parts water, G50527.



CAUTION

DO NOT PUT THE LABYRINTH FULLY IN THE SOAP AND WATER SOLUTION WHEN YOU CLEAN THE LABYRINTH. LARGE QUANTITIES OF THE SOAP AND WATER SOLUTION CAN CAUSE DAMAGE TO THE LABYRINTH.

- (c) Clean the unwanted material from the inner area of the labyrinth with a soft bristle brush, STD-123 and dry, clean air source 0 to 60 psi, STD-4107.
NOTE: You can also use the soap and water solution. Remove the soap and water solution with clean water.
- (d) Clean the inner area of the labyrinth with a clean cotton swab, STD-6402 moist with the soap and water solution.
- (e) Dry the lenses with a clean, dry cotton swab, STD-6402.
- (f) Remove the remaining soap or contamination from the lenses.
- (g) Make sure that the labyrinth assembly is fully dry before you assembly the smoke detector.

ARO ALL

———— **END OF TASK** ————

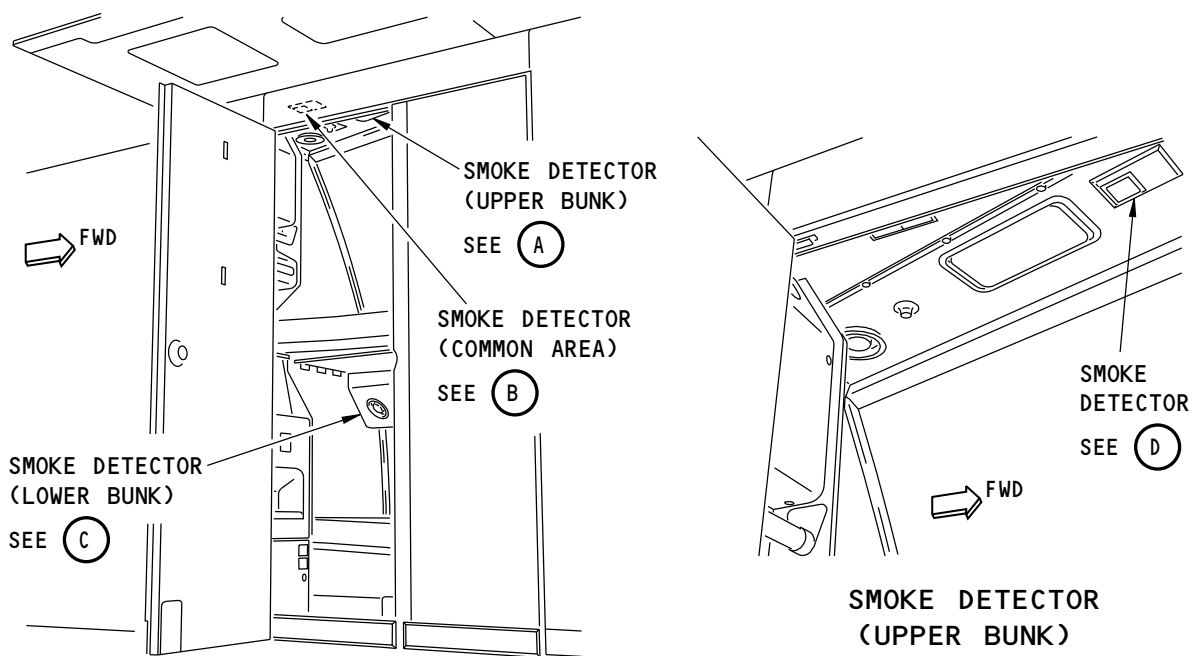
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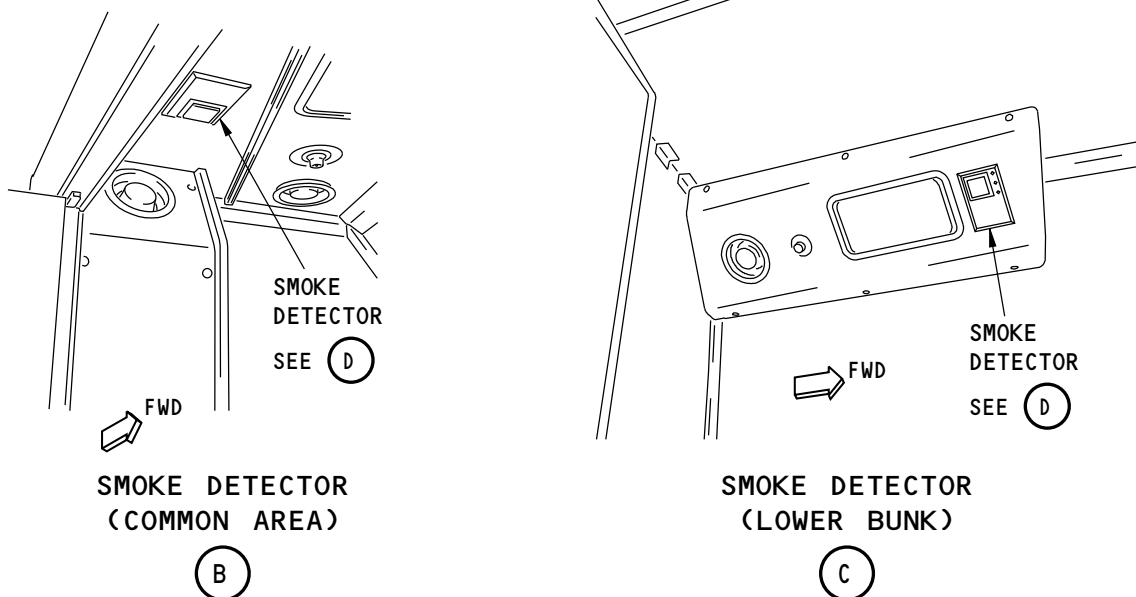
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**FLIGHT CREW REST
(IF INSTALLED)**



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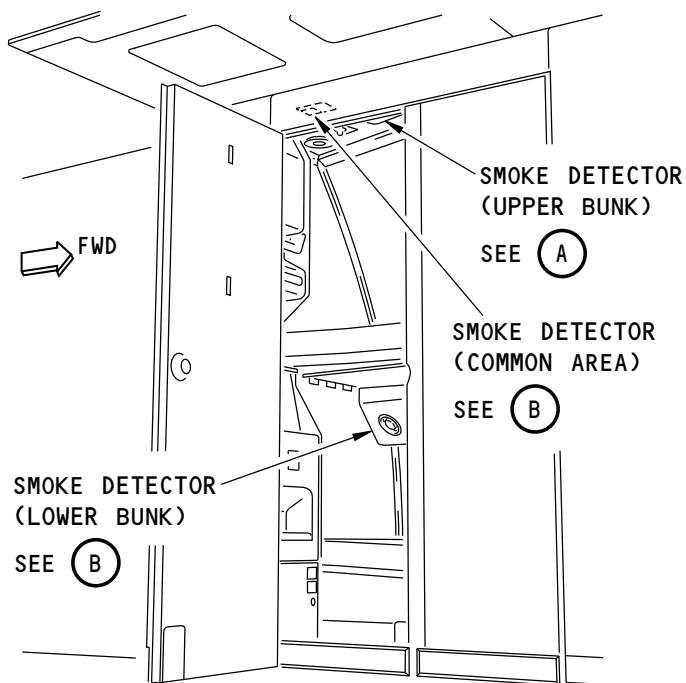
**Flight Crew Rest Smoke Detector Cleaning
Figure 701/26-14-11-990-803 (Sheet 1 of 4)**

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DETECTORS**

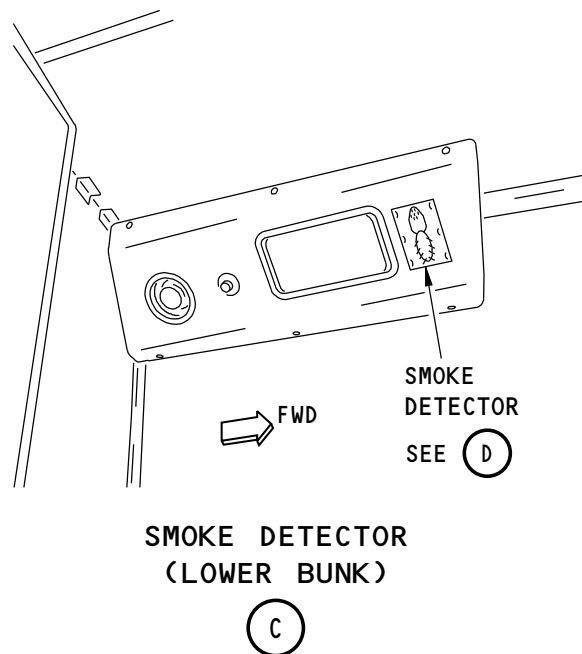
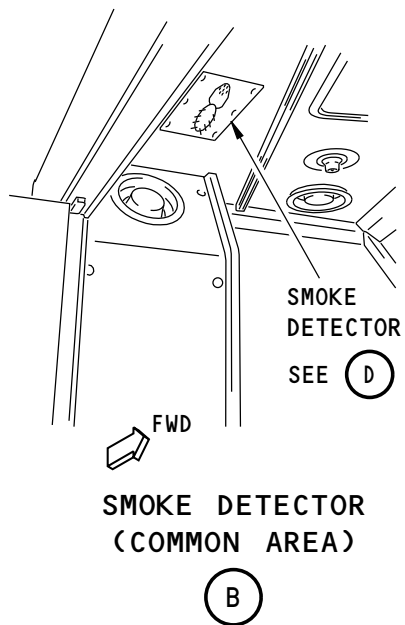
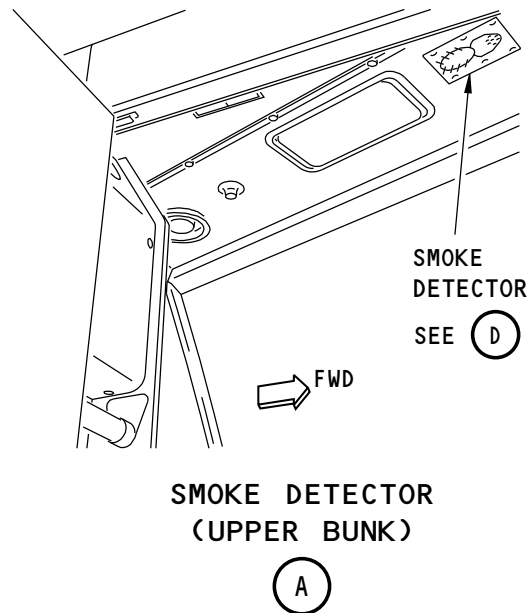
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**FLIGHT CREW REST
(IF INSTALLED)**



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**Flight Crew Rest Smoke Detector Cleaning
Figure 701/26-14-11-990-803 (Sheet 2 of 4)**

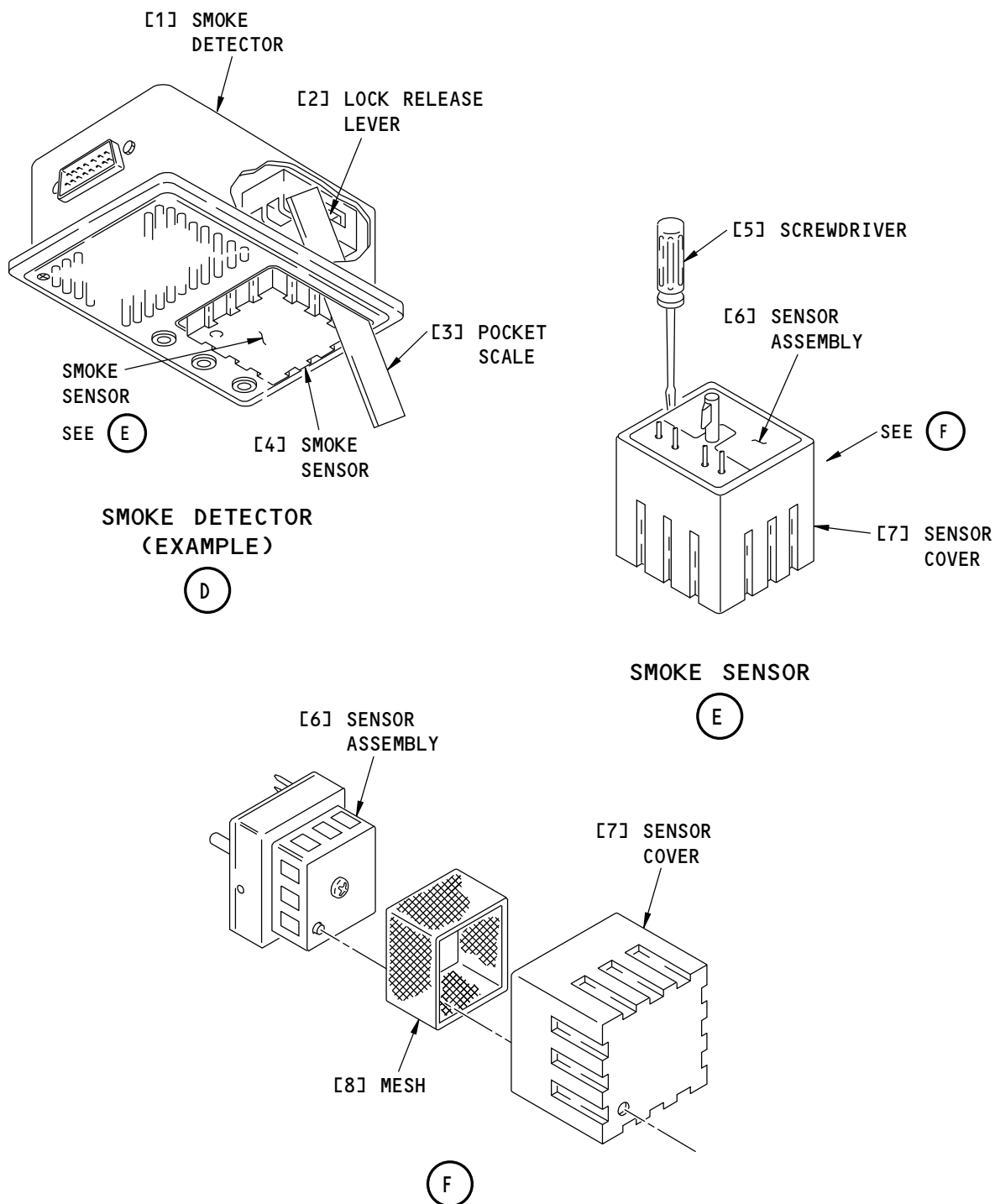
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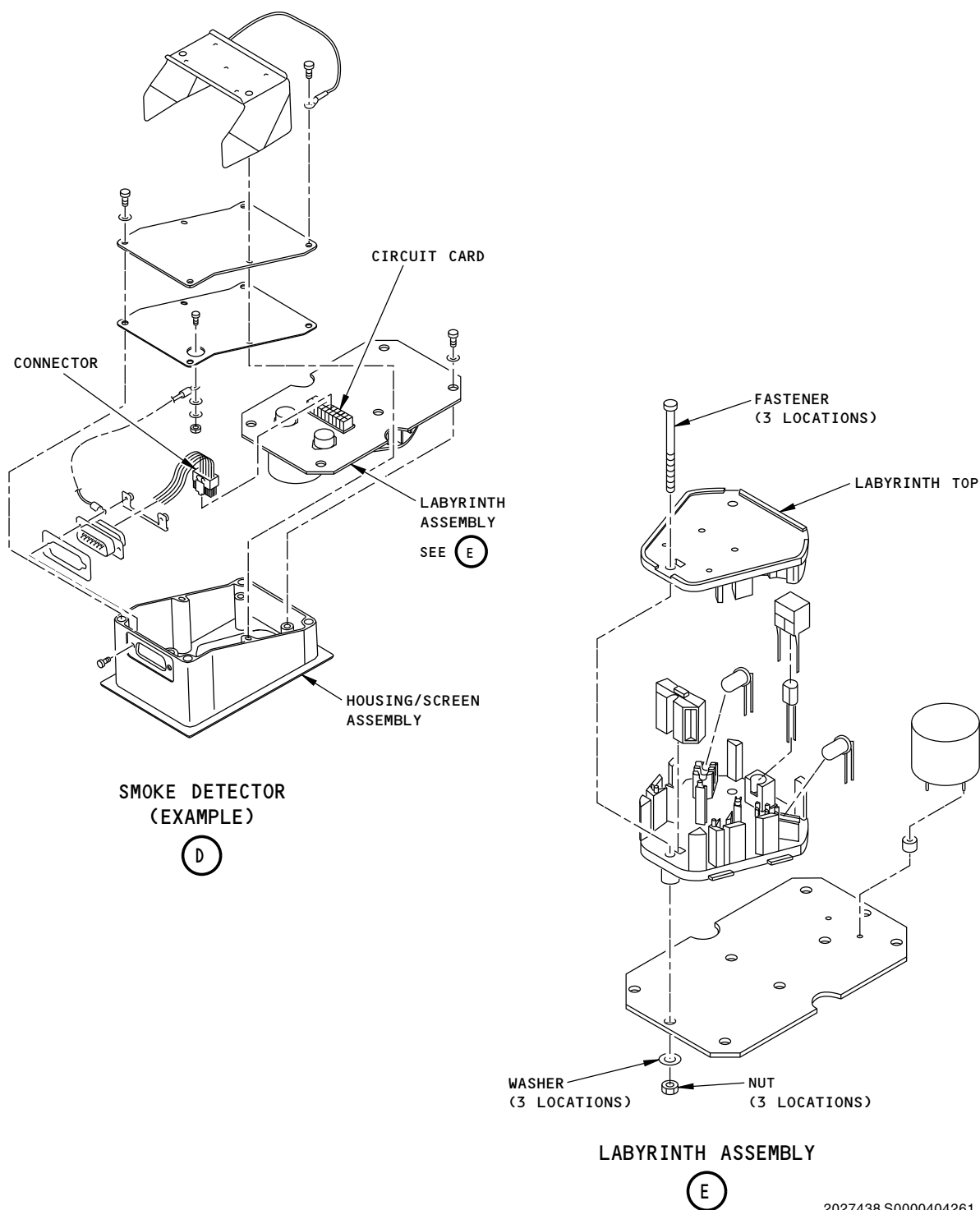
**Flight Crew Rest Smoke Detector Cleaning
Figure 701/26-14-11-990-803 (Sheet 3 of 4)**

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**Flight Crew Rest Smoke Detector Cleaning
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AUXILIARY POWER UNIT (APU) FIRE DETECTION - ADJUSTMENT/TEST

1. General

A. This procedure has these tasks:

- (1) An operational test of the APU fire detection system
- (2) A maintenance message check for the APU fire detection system.

TASK 26-15-00-710-801

2. APU Fire Detection Operational Test

(Figure 501)

A. **General**

- (1) The operational test makes sure that the APU fire detection system operates correctly. The operational test uses only equipment that is installed on the airplane.

B. **References**

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
32-09-00-860-801	Air/Ground Mode Simulation (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. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door

E. **Prepare for the Operational Test**

SUBTASK 26-15-00-010-001

- (1) Open this access panel to get access to the Power Management Panels:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-15-00-840-002

- (2) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	6	C49601	APUC 1

Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	7	C49600	APU INLET DR ACTR

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Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

Open this circuit breaker and install safety tag:

APU Auxiliary Panel, P49

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	3	C49602	APUC 2

SUBTASK 26-15-00-840-003

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

F. APU Fire Detection Operational Test

SUBTASK 26-15-00-710-001

- (1) Set the Maintenance Access Terminal (MAT) to the air mode. To set the MAT to the air mode, do this task: Air/Ground Mode Simulation, TASK 32-09-00-860-801.

SUBTASK 26-15-00-710-002

- (2) Push and hold the FIRE/OVHT TEST switch on the P5 panel.

SUBTASK 26-15-00-710-003

- (3) In the flight compartment, after approximately 15 seconds make sure that these indications occur:
 - (a) The EICAS warning message, FIRE TEST IN PROG, shows.
 - (b) The left WARNING light on the glare shield comes on
 - (c) The right WARNING light on the glare shield comes on
 - (d) The left warning speaker comes on
 - (e) The right warning speaker comes on
 - (f) The light on the APU Fire Switch comes on.

SUBTASK 26-15-00-710-004

- (4) On the P40 panel on the nose landing gear, make sure that these indications occur:
 - (a) The APU Fire light comes on
 - (b) The APU Fire warning horn does not come on.

SUBTASK 26-15-00-710-011

- (5) Release the FIRE/OVHT TEST switch after one of these EICAS Warning messages shows on the center top display unit:
 - (a) FIRE TEST PASS
 - (b) FIRE TEST FAIL

NOTE: One of these messages will show after approximately five seconds.

 - (c) Make sure that the fire indications stop.

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SUBTASK 26-15-00-710-008

- (6) Make sure that these EICAS status messages do not show on the lower EICAS display:
- (a) FIRE CARD APU
 - (b) FIRE LOOP 1 APU
 - (c) FIRE LOOP 2 APU

SUBTASK 26-15-00-710-009

- (7) Make sure that this EICAS advisory message does not show on the top EICAS display:
- (a) DET FIRE APU

SUBTASK 26-15-00-710-010

- (8) Make sure that this EICAS warning message does not show on the top EICAS display:
- (a) FIRE APU

SUBTASK 26-15-00-710-005

- (9) Set the MAT to the ground mode. To set the MAT to the ground mode, do this task: Air/Ground Mode Simulation, TASK 32-09-00-860-801.

SUBTASK 26-15-00-710-006

- (10) Push and hold the FIRE/OVHT TEST switch on the P5 panel.

SUBTASK 26-15-00-710-007

- (11) On the P40 panel on the nose landing gear, make sure that these indications occur:
- (a) The APU Fire light comes on
 - (b) The APU Fire Warning Horn comes on.

SUBTASK 26-15-00-710-012

- (12) Release the FIRE/OVHT TEST switch after one of these EICAS Warning messages shows on the center top display unit:
- (a) FIRE TEST PASS
 - (b) FIRE TEST FAIL
- NOTE: One of these messages will show after approximately five seconds.
- (c) Make sure that the fire indications stop.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 26-15-00-840-004

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	6	C49601	APUC 1

Remove the safety tag and close this circuit breaker:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	7	C49600	APU INLET DR ACTR

Remove the safety tag and close this circuit breaker:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

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Remove the safety tag and close this circuit breaker:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

Remove the safety tag and close this circuit breaker:

APU Auxiliary Panel, P49

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	3	C49602	APUC 2

SUBTASK 26-15-00-840-006

(2) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

———— **END OF TASK** ————

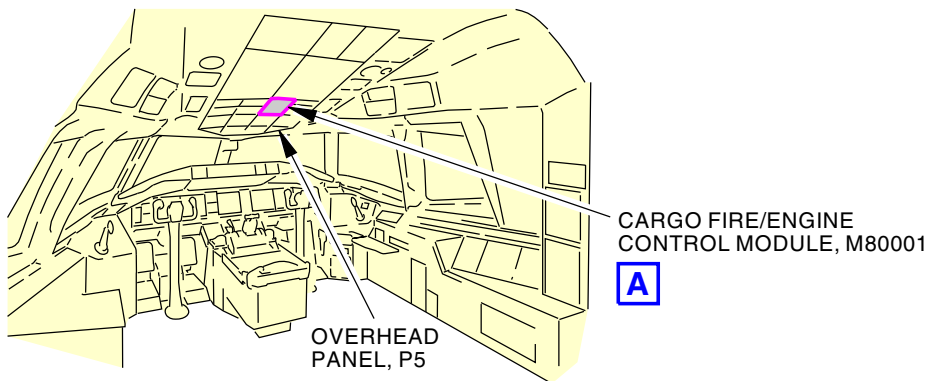
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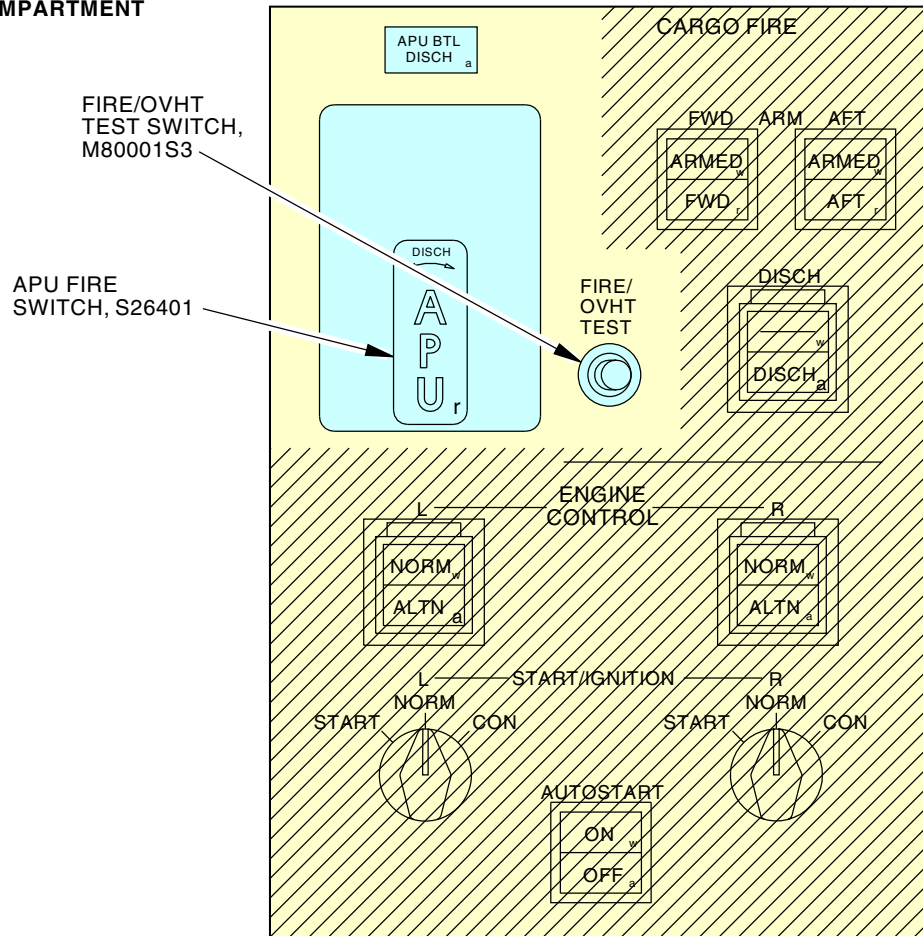
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FLIGHT COMPARTMENT



CARGO FIRE/ENGINE CONTROL MODULE, M80001

A

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Auxiliary Power Unit Fire Detection Test
Figure 501/26-15-00-990-802 (Sheet 1 of 2)

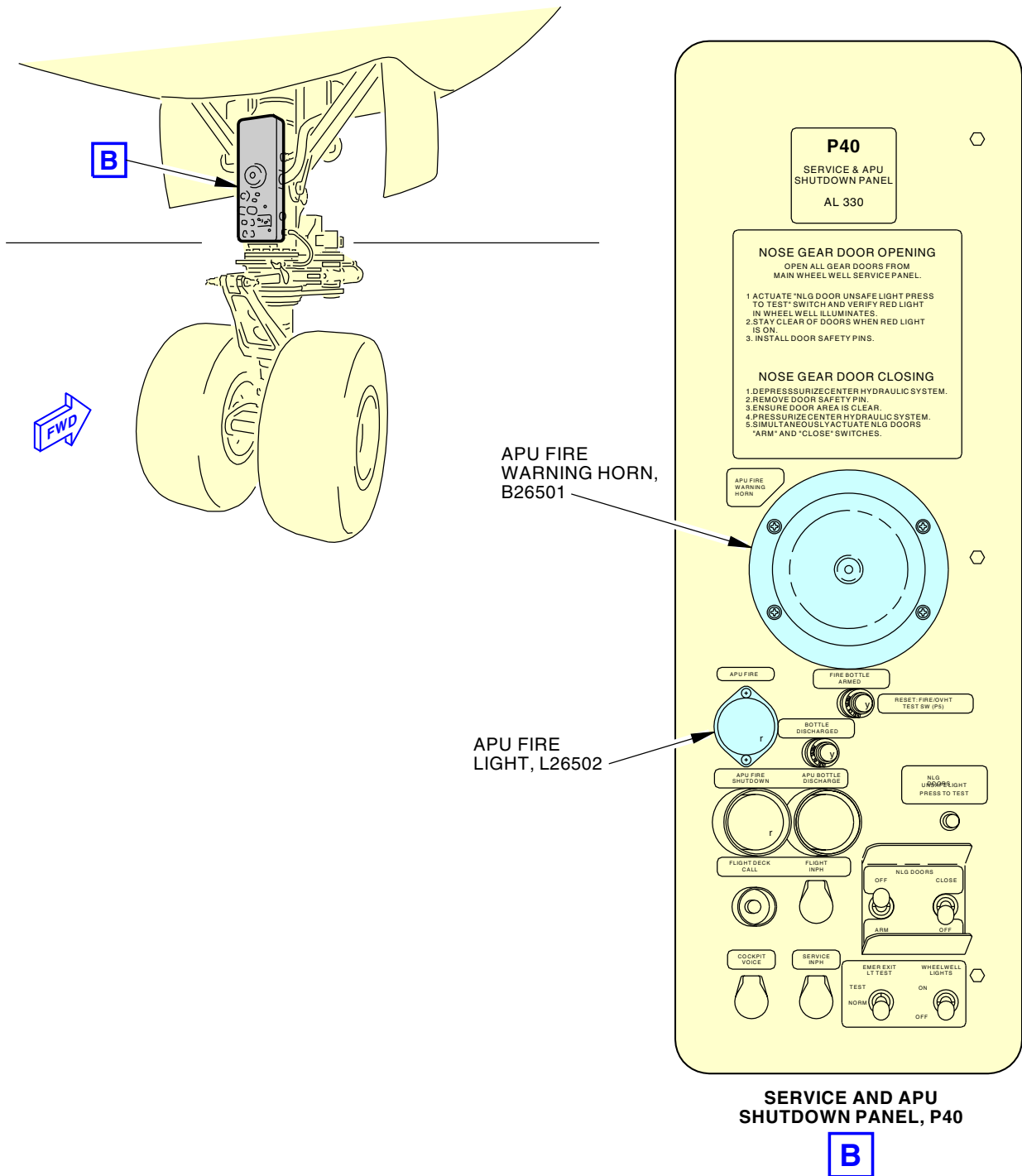
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Auxiliary Power Unit Fire Detection Test
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TASK 26-15-00-740-801

3. APU Fire Detection Maintenance Message Check

A. General

- (1) This procedure uses the maintenance access terminal (MAT) to show the faults and maintenance messages related to the APU Fire Detection System.
- (2) A maintenance access terminal is necessary for this procedure. To get more instructions on how to use a maintenance access terminal or how to find the faults, 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
212	Flight Compartment, Right

D. APU Fire Detection Maintenance Message Check

SUBTASK 26-15-00-860-001

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

SUBTASK 26-15-00-740-001

- (2) Use a maintenance access terminal (MAT) to look for maintenance messages for the APU Fire Detection System:
 - (a) Make these selections on the MAT:
 - 1) ONBOARD MAINTENANCE
 - 2) EXTENDED MAINTENANCE
 - 3) EXISTING FAULTS
 - (b) Look for 26 APU Fire Detection System.

NOTE: If 26 APU Fire Detection System does not show, then there are no maintenance messages in faults for the APU Fire Detection System.
 - (c) If 26 APU Fire Detection System shows, do this:
 - 1) Set 26 APU Fire Detection System.
 - 2) Set CONTINUE.
 - 3) Look at the maintenance messages that show. Make sure that there are no maintenance messages for the APU Fire Detection System.
 - 4) If a maintenance message for the APU Fire Detection System shows, do one of these steps:
 - Refer to the Maintenance Message Index in the FIM.
 - Set the maintenance message and MAINTENANCE MESSAGE DATA

————— **END OF TASK** —————

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APU FIRE DETECTORS - REMOVAL/INSTALLATION

1. General

A. This procedure has two tasks:

- (1) A removal of the APU fire detector elements
- (2) An installation of the APU fire detector elements
- (3) A removal of the APU fire detector assemblies
- (4) An installation of the APU fire detector assemblies.

B. There are three different fire detectors in the APU compartment. One fire detector is installed on the edge of the left APU door. One is installed in the top aft area of the APU compartment. One is installed in the top forward area of the APU compartment. All three of the fire detectors are dual loop detectors. Each fire detector assembly has two elements which you can remove. The removal and installation procedures are the same for each fire detector assembly or element.

TASK 26-15-01-000-801

2. APU Fire Detector Element Removal

(Figure 401)

A. **References**

Reference	Title
26-15-03-000-801	APU Fire Control Card Removal (P/B 401)

B. **Location Zones**

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
315	APU Compartment, Left
316	APU Compartment, Right

C. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door
315AL	Auxiliary Power Unit (APU) Access Door, Left
316AR	Auxiliary Power Unit (APU) Access Door, Right

D. **Prepare for the Removal**

SUBTASK 26-15-01-010-001

- (1) Open this access door to get access to the Power Management Panels:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-15-01-840-001

- (2) Open these circuit breakers and install safety tags:

APU Auxiliary Panel, P49

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	3	C49602	APUC 2

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Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	6	C49601	APUC 1
B	7	C49600	APU INLET DR ACTR
C	4	C26623	APU RMT FIRE IND/AUTO DISCH ARM
L	5	C26636	FIRE EXT APU
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

SUBTASK 26-15-01-840-005



FAILURE TO REMOVE THE APU FIRE CONTROL CARD PRIOR TO REMOVING THE APU FIRE DETECTOR ELEMENT CAN CAUSE AN AUTO-DISCHARGE OF THE FIRE APU FIRE BOTTLE WHICH WILL RESULT IN POSSIBLE INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT.

- (3) Remove the APU fire control card (TASK 26-15-03-000-801).

SUBTASK 26-15-01-010-002

- (4) Open these access doors to get access to the APU compartment:

<u>Number</u>	<u>Name/Location</u>
315AL	Auxiliary Power Unit (APU) Access Door, Left
316AR	Auxiliary Power Unit (APU) Access Door, Right

E. APU Fire Detector Element Removal

SUBTASK 26-15-01-000-001



DO NOT TOUCH THE THREE GEARBOX HEATER PADS. THE GEARBOX HEATER PADS STAY HOT WHEN THE AIRPLANE HAS AC POWER. HOT COMPONENTS CAN BURN YOU.



BE CAREFUL WHEN YOU REMOVE THE FIRE DETECTOR ELEMENT. THE CERAMIC INSULATORS AT THE ENDS OF THE ELEMENT ARE EASILY DAMAGED. IF YOU ARE NOT CAREFUL, YOU CAN CAUSE DAMAGE TO THE CERAMIC INSULATOR OR THE FIRE DETECTOR ELEMENT.

- (1) Do these steps to remove the applicable fire detector element [1], element [22], or element [29]:
- Remove the lockwires [9] from the applicable nuts [2].
 - Disconnect the screws [10], washers [11], leads [12], and nuts [13] from one end of the applicable element.
 - Disconnect the screws [14], washers [15], leads [16], and nuts [17] from the other end of the applicable element.
 - Disconnect the nuts [2] from each end of the applicable element.
 - Loosen the bolt [37] on each clamp [35] that holds the applicable element in its position.
 - Pull the applicable element from the clamps [35].
 - Remove the grommet [36] from the applicable element.
 - Keep it for the new element.
 - Remove the applicable element.

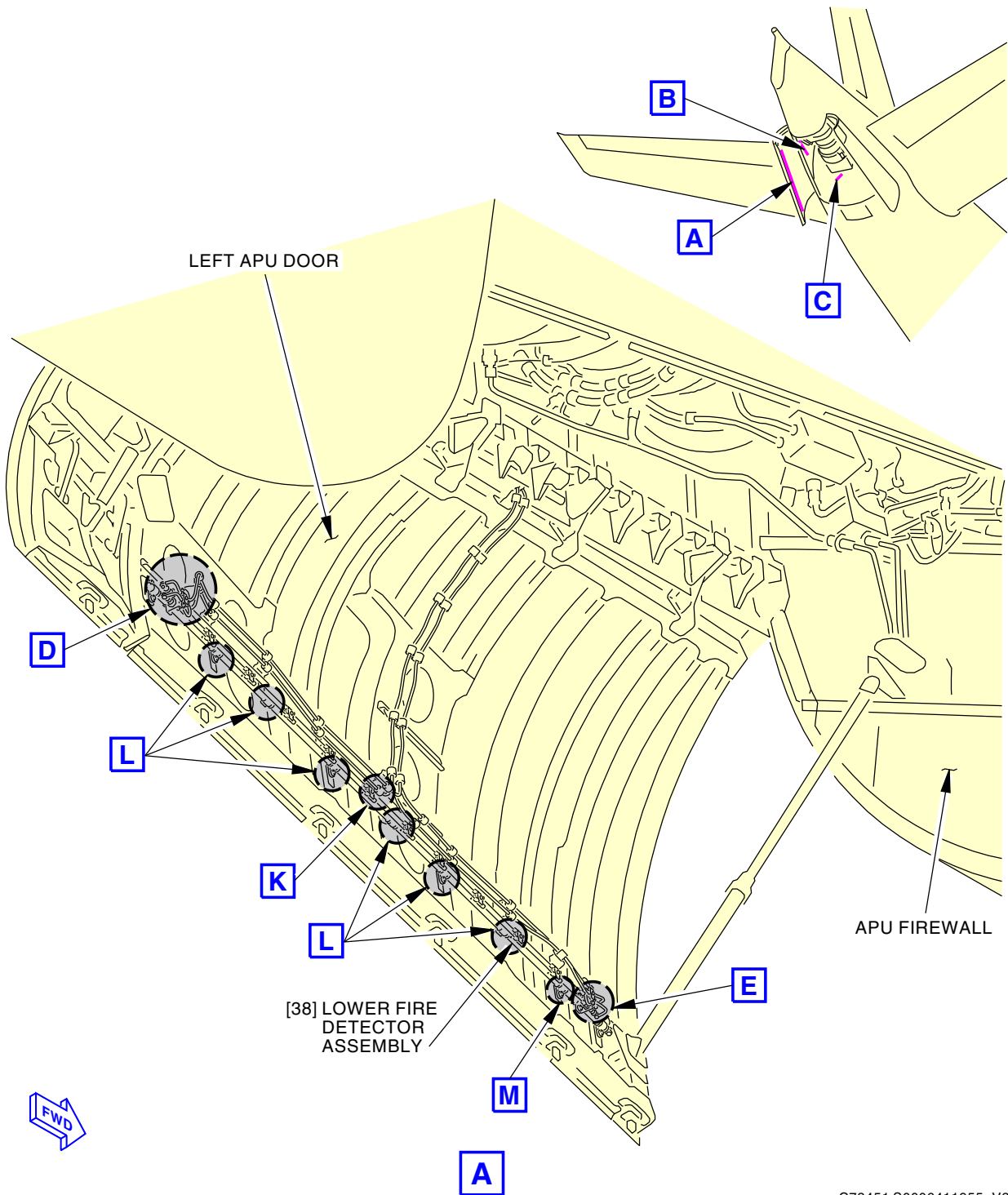
————— END OF TASK —————

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C73451 S0006411955_V2

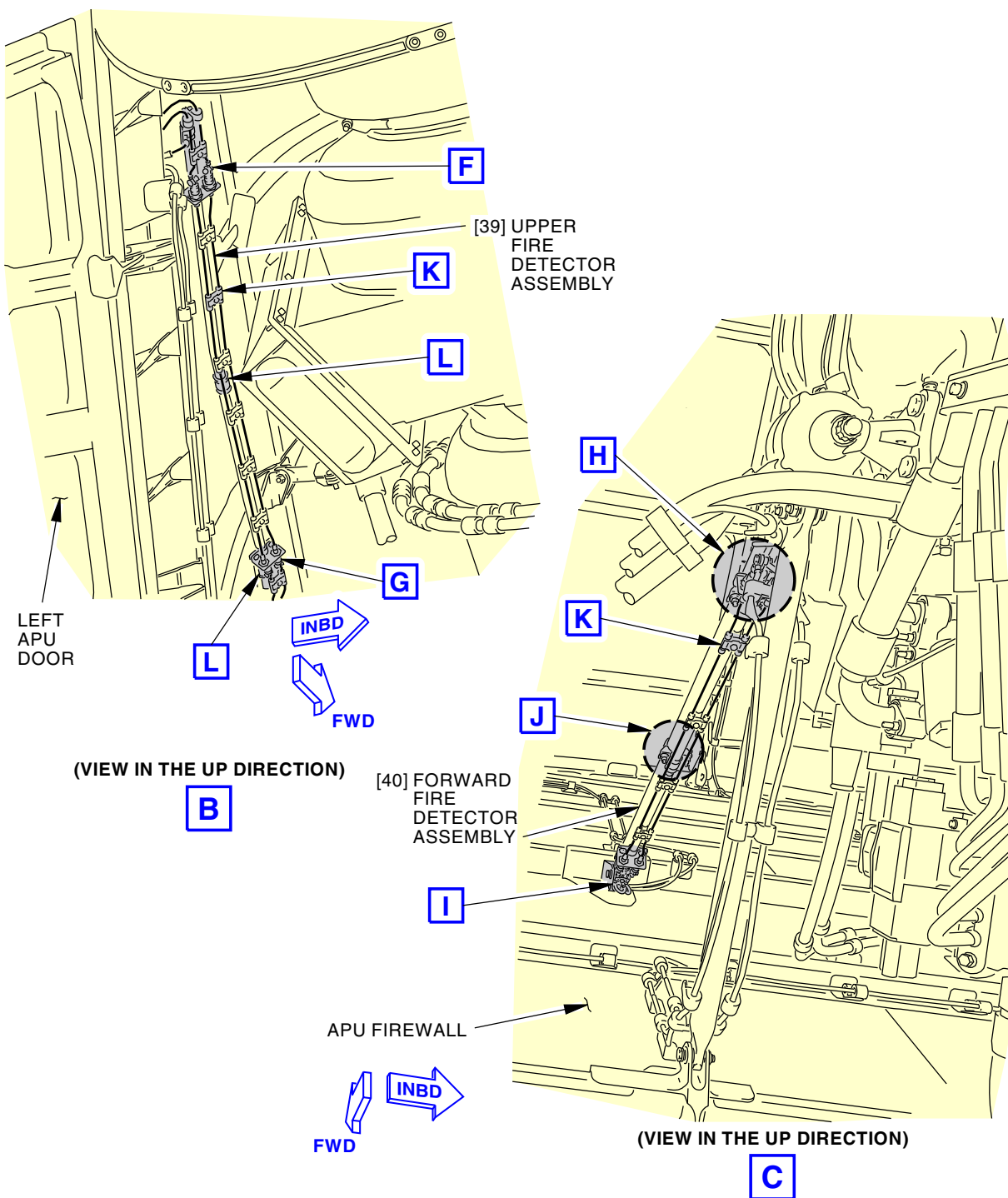
Auxiliary Power Unit (APU) Fire Detectors Installation
Figure 401/26-15-01-990-801 (Sheet 1 of 4)

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C73459 S0006411956_V2

Auxiliary Power Unit (APU) Fire Detectors Installation
Figure 401/26-15-01-990-801 (Sheet 2 of 4)

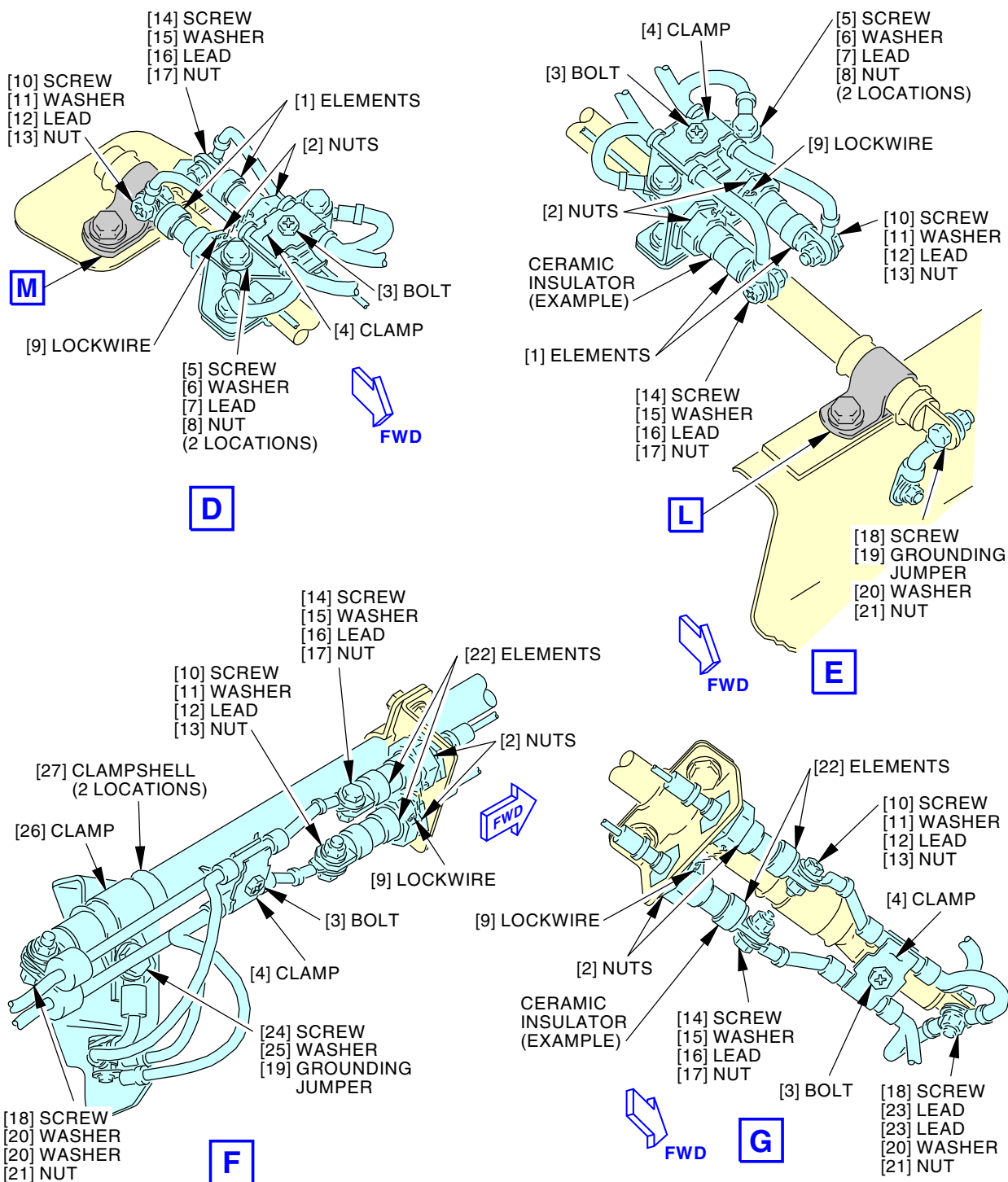
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F09167 S0006411957_V3

Auxiliary Power Unit (APU) Fire Detectors Installation
Figure 401/26-15-01-990-801 (Sheet 3 of 4)

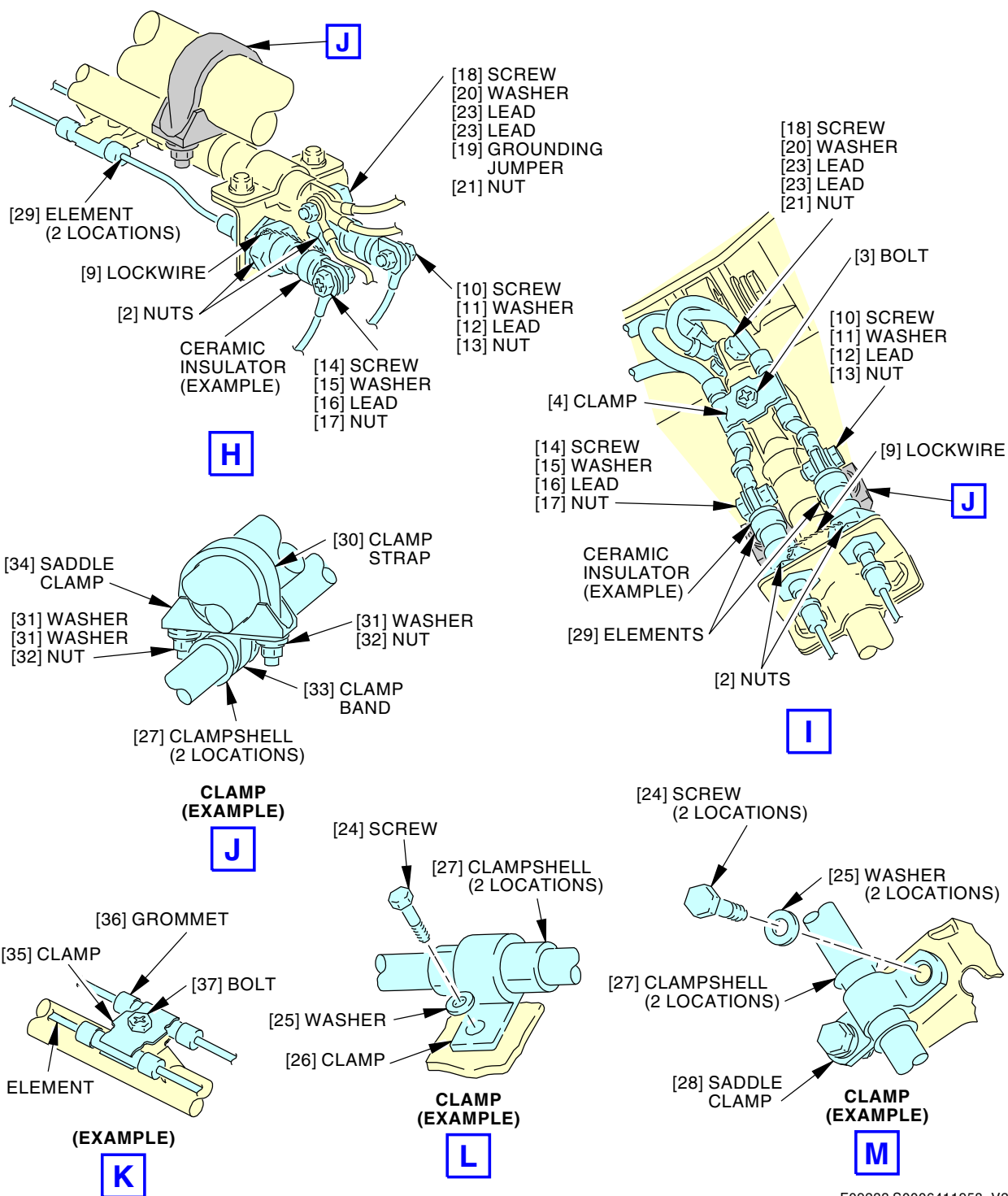
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F09233 S0006411958_V2

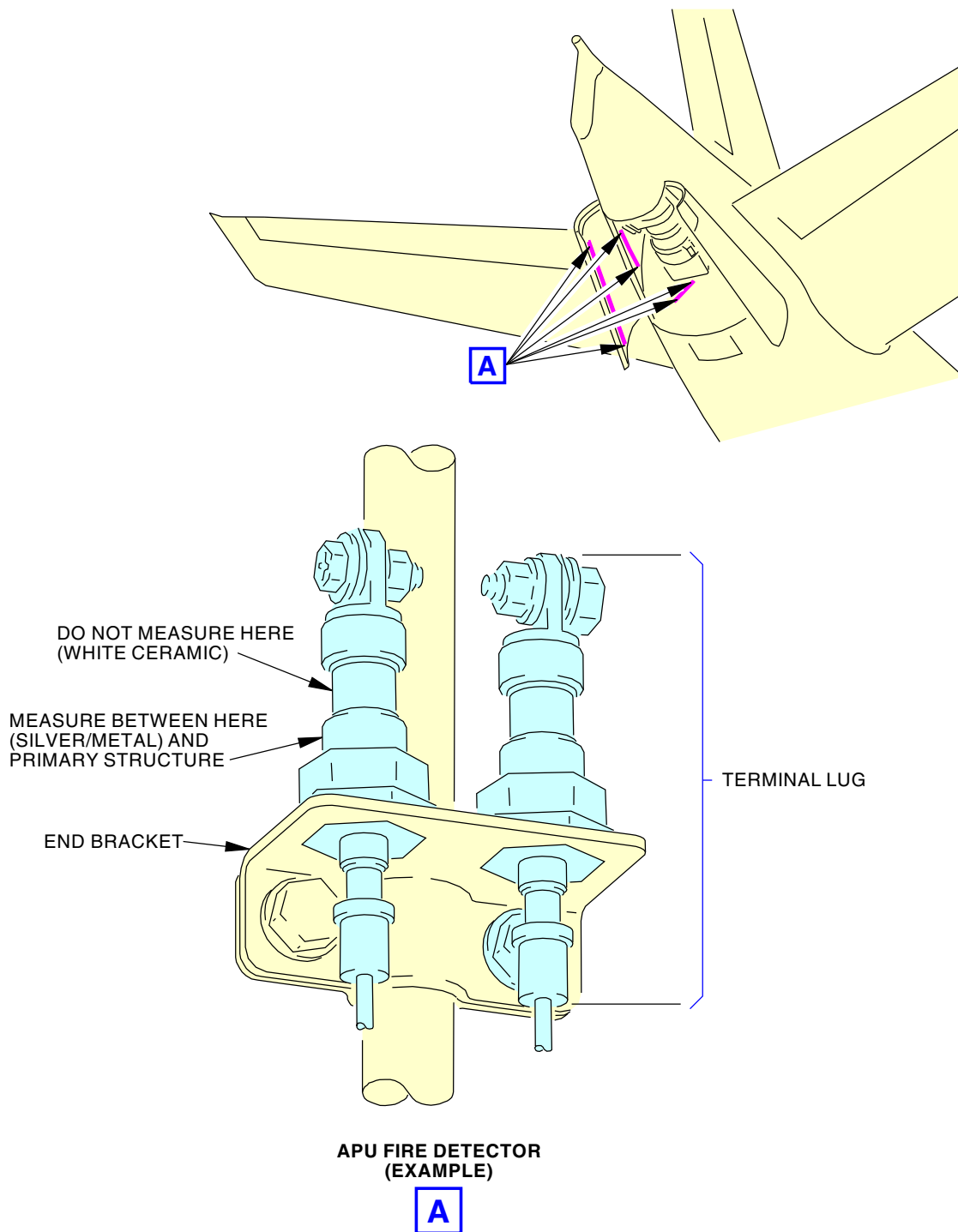
Auxiliary Power Unit (APU) Fire Detectors Installation
Figure 401/26-15-01-990-801 (Sheet 4 of 4)

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W66362 S0000127926_V2

**Bonding Resistance Check
Figure 402/26-15-01-990-802**

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TASK 26-15-01-400-801

3. APU Fire Detector Element Installation

(Figure 401)

A. General

- (1) Each detector has two elements: loop A/1 and Loop B/2.
- (2) The ends of the elements are different dimensions to prevent an incorrect wire connection. Each element uses a No. 8 fastener on one end and a No. 10 fastener on the other end. You install the elements opposite each other. The ends of the detector assembly have a No. 8 connection and a No. 10 connection.

B. References

Reference	Title
26-15-00-710-801	APU Fire Detection Operational Test (P/B 501)
26-15-03-400-801	APU Fire Control Card 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-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

D. Consumable Materials

Reference	Description	Specification
B00083	Solvent - VM&P Naphthas	TT-N-95 Type II, ASTM D-3735 Type III

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Element	26-15-01-50-220	ARO ALL
22	Element	26-15-01-50-340	ARO ALL
29	Element	26-15-01-50-095	ARO ALL

F. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
315	APU Compartment, Left
316	APU Compartment, Right

G. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

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(Continued)

Number	Name/Location

315AL	Auxiliary Power Unit (APU) Access Door, Left
316AR	Auxiliary Power Unit (APU) Access Door, Right

H. APU Fire Detector Element Installation

SUBTASK 26-15-01-010-003

- (1) Open this access door to get access to the Power Management Panels:

Number	Name/Location

117AL	Main Equipment Center Access Door

SUBTASK 26-15-01-840-002

- (2) Make sure that these circuit breakers are open and have safety tags:

APU Auxiliary Panel, P49

Row	Col	Number	Name
A	3	C49602	APUC 2

Standby Power Management Panel, P310

Row	Col	Number	Name
B	6	C49601	APUC 1
B	7	C49600	APU INLET DR ACTR
C	4	C26623	APU RMT FIRE IND/AUTO DISCH ARM
L	5	C26636	FIRE EXT APU
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

SUBTASK 26-15-01-860-001

- (3) Make sure that APU master switch in fight compartment is in OFF position.

SUBTASK 26-15-01-860-002

- (4) Make sure that LH engine is not running.

SUBTASK 26-15-01-860-003

- (5) Make sure that the power switches for these fire detection cards are in the OFF position.
- (a) The order of steps is critical for the following procedure.
 - (b) Make sure that common switch A3S7 is turned OFF AFTER APU Fire Detection Card switch (A3S6) and Left Engine Fire Detection Card switch (A18S1) are turned OFF.
 - (c) APU Fire Detection Card (A9) in the Left System Cardfile (P85) - P85 A3S6.
 - (d) Left Engine Fire Detection Card (A10) in the Left Systems Cardfile (P85) - P85 A18S1.
 - (e) APU and Left Engine Fire Detection Card common - P85 A3S7.

SUBTASK 26-15-01-010-004

- (6) Open these access doors to get access to the APU compartment:

Number	Name/Location

315AL	Auxiliary Power Unit (APU) Access Door, Left
316AR	Auxiliary Power Unit (APU) Access Door, Right

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SUBTASK 26-15-01-420-001



DO NOT TOUCH THE THREE GEARBOX HEATER PADS. THE GEARBOX HEATER PADS STAY HOT WHEN THE AIRPLANE HAS AC POWER. HOT COMPONENTS CAN BURN YOU.



BE CAREFUL WHEN YOU INSTALL THE FIRE DETECTOR ELEMENT. THE CERAMIC INSULATORS AT THE ENDS OF THE ELEMENT ARE EASILY DAMAGED. IF YOU ARE NOT CAREFUL, YOU CAN CAUSE DAMAGE TO THE CERAMIC INSULATOR OR THE FIRE DETECTOR ELEMENT.

- (7) Do these steps to install the applicable fire detector element [1], element [22], or element [29]:
- (a) Make sure that the area near the fire detector and the surfaces that bond are clean.
 - 1) Clean the area and surfaces that bond with the solvent, B00083, if they are not clean.
 - (b) Put one end of the applicable fire detector element [1], element [22], or element [29] in its position.
 - (c) Make sure that the hole dimension in the element is the same as the hole dimension in the lead.
 - 1) If the dimensions are not the same, put the other end of the element in the location.
- NOTE: One end of the element has a No. 8 connection and the other end has a No. 10 connection.
- (d) Install the nuts [2].



BE CAREFUL WHEN YOU UNWIND THE ELEMENT. DO NOT MAKE KINKS IN THE ELEMENT. IF YOU MAKE KINKS IN THE ELEMENT, DAMAGE TO THE ELEMENT CAN OCCUR.

- (e) Unwind the element along the clamps [35].
- (f) Put a grommet [36] on the element at each clamp [35] location.
- (g) Put the element into each clamp [35].
- (h) Put the other end of the element in its position.
- (i) Install the nut [2].
- (j) Tighten the bolts [37] on each clamp [35].
- (k) Connect the screws [10], washers [11], leads [12], and nuts [13] to the end of the element.
- (l) Connect the screws [14], washers [15], leads [16], and nuts [17] to the end of the element.
 - 1) Tighten the No. 8 screws [10] or screws [14] to 22.5 ± 2.5 in-lb (2.5 ± 0.3 N·m).
 - 2) Tighten the No. 10 screws [10] or screws [14] to 32.5 ± 2.5 in-lb (3.7 ± 0.3 N·m).
- (m) Install the lockwires [9] on the applicable nuts [2].

SUBTASK 26-15-01-280-001

- (8) Do a check of the resistance between the applicable nut [13], nut [17], and the airplane structure (Figure 402).

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- (a) Use a intrinsically safe approved bonding meter, COM-1550, which can measure 0.0001 ohm.
- (b) Make sure that the resistance is less than 0.0025 ohm.
- (c) If the resistance is more than 0.0025 ohm, clean the surfaces that bond with the solvent, B00083, and do the check again.

SUBTASK 26-15-01-840-006

- (9) Install the APU fire control card (TASK 26-15-03-400-801).

I. APU Fire Detector Element Installation Test

SUBTASK 26-15-01-710-001

- (1) Do this task: APU Fire Detection Operational Test, TASK 26-15-00-710-801.

J. Put the Airplane Back to Its Usual Condition

SUBTASK 26-15-01-840-003

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

APU Auxiliary Panel, P49

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	3	C49602	APUC 2

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	6	C49601	APUC 1
B	7	C49600	APU INLET DR ACTR
C	4	C26623	APU RMT FIRE IND/AUTO DISCH ARM
L	5	C26636	FIRE EXT APU
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

SUBTASK 26-15-01-840-004

- (2) Close these access doors

<u>Number</u>	<u>Name/Location</u>
315AL	Auxiliary Power Unit (APU) Access Door, Left
316AR	Auxiliary Power Unit (APU) Access Door, Right

SUBTASK 26-15-01-010-005

- (3) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

————— END OF TASK —————

TASK 26-15-01-000-802

4. APU Fire Detector Assembly Removal

(Figure 401)

A. References

<u>Reference</u>	<u>Title</u>
26-15-03-000-801	APU Fire Control Card Removal (P/B 401)

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B. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
315	APU Compartment, Left
316	APU Compartment, Right

C. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
315AL	Auxiliary Power Unit (APU) Access Door, Left
316AR	Auxiliary Power Unit (APU) Access Door, Right

D. Prepare for the Removal

SUBTASK 26-15-01-010-007

- (1) Open this access door to get access to the Power Management Panels:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-15-01-840-007

- (2) Open these circuit breakers and install safety tags:

APU Auxiliary Panel, P49

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	3	C49602	APUC 2

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	6	C49601	APUC 1
B	7	C49600	APU INLET DR ACTR
C	4	C26623	APU RMT FIRE IND/AUTO DISCH ARM
L	5	C26636	FIRE EXT APU
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

SUBTASK 26-15-01-840-008

- (3) Remove the APU fire control card (TASK 26-15-03-000-801).

SUBTASK 26-15-01-010-008

- (4) Open these access doors to get access to the APU compartment:

<u>Number</u>	<u>Name/Location</u>
315AL	Auxiliary Power Unit (APU) Access Door, Left
316AR	Auxiliary Power Unit (APU) Access Door, Right

E. APU Fire Detector Assembly Removal

SUBTASK 26-15-01-020-001



DO NOT TOUCH THE THREE GEARBOX HEATER PADS. THE GEARBOX HEATER PADS STAY HOT WHEN THE AIRPLANE HAS AC POWER. HOT COMPONENTS CAN BURN YOU.

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(WARNING PRECEDES)

 CAUTION	BE CAREFUL WHEN YOU REMOVE THE FIRE DETECTOR ELEMENT. THE CERAMIC INSULATORS AT THE ENDS OF THE ELEMENT ARE EASILY DAMAGED. IF YOU ARE NOT CAREFUL, YOU CAN CAUSE DAMAGE TO THE CERAMIC INSULATOR OR THE FIRE DETECTOR ELEMENT.

- (1) Do these steps to remove the applicable fire detector assembly [38], assembly [39] or assembly [40]:

NOTE: The fire detector assembly includes the support tube with the detector elements installed and the mounting fasteners.

 - (a) Disconnect the applicable screws [10], washers [11], leads [12], and nuts [13] from the ends of the applicable elements.
 - (b) Disconnect the applicable screws [14], washers [15], leads [16], and nuts [17] from the ends of the applicable elements.
 - (c) Loosen the bolt [3] on each clamp [4] that holds the applicable wires in its position.
 - (d) Pull the applicable wires from the clamps [4].
 - (e) For the lower detector assembly, remove the screw [5], washer [6], leads [7], and nuts [8] if necessary.
 - (f) Remove the applicable screw [18], grounding jumpers [19], leads [23], washer [20], and nut [21].
 - (g) For the forward detector assembly, remove the nuts [32], washers [31], clamp straps [30], clamp bands [33], and saddle clamps [34].
 - (h) Disconnect the applicable screws [24], washers [25], saddle clamps [28] or clamps [26].
 - (i) If necessary, remove the clampshells [27] to use when you install the fire detector assembly.
 - (j) Remove the applicable fire detector assembly.

————— **END OF TASK** —————

TASK 26-15-01-400-802

5. APU Fire Detector Assembly Installation

(Figure 401)

A. General

- (1) Each detector has two elements: loop A/1 and Loop B/2.
- (2) The ends of the elements are different dimensions to prevent an incorrect wire connection. Each element uses a No. 8 fastener on one end and a No. 10 fastener on the other end. You install the elements opposite each other. The ends of the detector assembly have a No. 8 connection and a No. 10 connection.

B. References

Reference	Title
26-15-00-710-801	APU Fire Detection Operational Test (P/B 501)
26-15-03-400-801	APU Fire Control Card Installation (P/B 401)

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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

D. Consumable Materials

Reference	Description	Specification
B00083	Solvent - VM&P Naphthas	TT-N-95 Type II, ASTM D-3735 Type III

E. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
38	Assembly	26-15-01-01-115	ARO ALL
39	Assembly	26-15-01-01-075	ARO ALL
40	Assembly	26-15-01-01-030	ARO ALL

F. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
315	APU Compartment, Left
316	APU Compartment, Right

G. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
315AL	Auxiliary Power Unit (APU) Access Door, Left
316AR	Auxiliary Power Unit (APU) Access Door, Right

H. APU Fire Detector Assembly Installation

SUBTASK 26-15-01-010-009

- (1) Open this access door to get access to the Power Management Panels:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-15-01-840-009

- (2) Make sure that these circuit breakers are open and have safety tags:

APU Auxiliary Panel, P49

Row	Col	Number	Name
A	3	C49602	APUC 2

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Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	6	C49601	APUC 1
B	7	C49600	APU INLET DR ACTR
C	4	C26623	APU RMT FIRE IND/AUTO DISCH ARM
L	5	C26636	FIRE EXT APU
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

SUBTASK 26-15-01-860-004

- (3) Make sure that APU master switch in fight compartment is in OFF position.

SUBTASK 26-15-01-860-005

- (4) Make sure that LH engine is not running.

SUBTASK 26-15-01-010-010

- (5) Make sure that the power switches for these fire detection cards are in the OFF position.
- (a) The order of steps is critical for the following procedure.
 - (b) Make sure that common switch A3S7 is turned OFF AFTER APU Fire Detection Card switch (A3S6) and Left Engine Fire Detection Card switch (A18S1) are turned OFF.
 - (c) APU Fire Detection Card (A9) in the Left System Cardfile (P85) - P85 A3S6.
 - (d) Left Engine Fire Detection Card (A10) in the Left Systems Cardfile (P85) - P85 A18S1.
 - (e) APU and Left Engine Fire Detection Card common - P85 A3S7.

SUBTASK 26-15-01-010-011

- (6) Open these access doors to get access to the APU compartment:

<u>Number</u>	<u>Name/Location</u>
315AL	Auxiliary Power Unit (APU) Access Door, Left
316AR	Auxiliary Power Unit (APU) Access Door, Right

SUBTASK 26-15-01-420-002



DO NOT TOUCH THE THREE GEARBOX HEATER PADS. THE GEARBOX HEATER PADS STAY HOT WHEN THE AIRPLANE HAS AC POWER. HOT COMPONENTS CAN BURN YOU.



BE CAREFUL WHEN YOU INSTALL THE FIRE DETECTOR ELEMENT. THE CERAMIC INSULATORS AT THE ENDS OF THE ELEMENT ARE EASILY DAMAGED. IF YOU ARE NOT CAREFUL, YOU CAN CAUSE DAMAGE TO THE CERAMIC INSULATOR OR THE FIRE DETECTOR ELEMENT.

- (7) Do these steps to install the applicable fire detector assembly [38], assembly [39] or assembly [40]:

NOTE: The fire detector assembly includes the support tube with the detector elements installed and the mounting fasteners.

- (a) Make sure that the area near the fire detector and the surfaces that bond are clean.
 - 1) Clean the area and surfaces that bond with the solvent, B00083, if they are not clean.
- (b) If necessary, put the applicable clampshells [27], saddle clamps [28], and clamps [26] on the support tube.

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CAUTION

DO NOT PUT TOO MUCH PRESSURE (MORE THAN 10 POUNDS OR 4.5 KG) ON THE FIRE DETECTOR ASSEMBLY BEFORE INSTALLATION. IF YOU PUT TOO MUCH PRESSURE ON THE FIRE DETECTOR ASSEMBLY, YOU CAN CAUSE DAMAGE TO IT.

- (c) Put the fire detector assembly [38], assembly [39], or assembly [40] in its position.
- (d) Install the applicable screws [24] and washers [25] to the saddle clamps [28] or clamps [26].
- (e) Install the applicable screw [18], grounding jumpers [19], leads [23], washer [20], and nut [21].
- (f) For the forward detector assembly, install the nuts [32], washers [31], clamp straps [30], clamp bands [33], and saddle clamps [34].
- (g) For the lower detector assembly, install the screw [5], washer [6], leads [7], and nuts [8] if necessary.
- (h) Put the applicable wires in the clamps [4].
- (i) Tighten the bolt [3] on each clamp [4].
- (j) Do these steps to connect the wires to the detector elements:
 - 1) Make sure that the hole dimension in the element is the same as the hole dimension in the lead.

NOTE: One end of the element has a No. 8 connection and the other end has a No. 10 connection.

- 2) Connect the applicable screws [10], washers [11], leads [12], and nuts [13] to the ends of the applicable elements.
- 3) Connect the applicable screws [14], washers [15], leads [16], and nuts [17] to the ends of the applicable elements.
- 4) Tighten the applicable No. 8 screws [10] or screws [14] to 22.5 ±2.5 in-lb (2.5 ±0.3 N·m).
- 5) Tighten the applicable No. 10 screws [10] or screws [14] to 32.5 ±2.5 in-lb (3.7 ±0.3 N·m).

SUBTASK 26-15-01-280-002

- (8) Do a check of the resistance between the terminal lug fitting (silver/metal) and the airplane structure (Figure 402).
 - (a) Use an intrinsically safe approved bonding meter, COM-1550, which can measure 0.0001 ohm.
 - (b) Do not measure from the ceramic (white) portion of the element to the airplane structure.
 - (c) Make sure that the resistance is less than 0.0025 ohm.
 - (d) If the resistance is more than 0.0025 ohm, clean the surfaces that bond with the solvent, B00083, and do the check again.

SUBTASK 26-15-01-840-010

- (9) Install the APU fire control card (TASK 26-15-03-400-801).

I. APU Fire Detector Element Installation Test

SUBTASK 26-15-01-710-002

- (1) Do this task: APU Fire Detection Operational Test, TASK 26-15-00-710-801.

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J. Put the Airplane Back to Its Usual Condition

SUBTASK 26-15-01-840-011

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

APU Auxiliary Panel, P49

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	3	C49602	APUC 2

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	6	C49601	APUC 1
B	7	C49600	APU INLET DR ACTR
C	4	C26623	APU RMT FIRE IND/AUTO DISCH ARM
L	5	C26636	FIRE EXT APU
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

SUBTASK 26-15-01-840-012

- (2) Close these access doors:

<u>Number</u>	<u>Name/Location</u>
315AL	Auxiliary Power Unit (APU) Access Door, Left
316AR	Auxiliary Power Unit (APU) Access Door, Right

SUBTASK 26-15-01-010-012

- (3) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

———— **END OF TASK** ————

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APU FIRE WARNING HORN - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) The removal of the APU Fire Warning Horn.
 - (2) The installation of the APU Fire Warning Horn.
- B. The APU Fire Warning Horn B26501 is on the P40 Nose Gear Electrical Service Panel.

TASK 26-15-02-000-801

2. APU Fire Warning Horn Removal

(Figure 401)

A. **Location Zones**

Zone	Area
117	Main Equipment Center, Left

B. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door

C. **APU Fire Warning Horn Removal**

SUBTASK 26-15-02-010-001

- (1) Open this access door to get access to the Power Management Panels:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-15-02-860-001

- (2) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	4	C26623	APU RMT FIRE IND/AUTO DISCH ARM

SUBTASK 26-15-02-020-001

- (3) Open the front cover of the P40 service and APU shutdown panel to get access to the APU warning horn.

SUBTASK 26-15-02-020-002

- (4) Tag each electrical wire with its location.

SUBTASK 26-15-02-020-007

- (5) Loosen the terminal lugs.

SUBTASK 26-15-02-020-008

- (6) Disconnect the electrical wires from the APU fire warning horn, B26501 [1].

SUBTASK 26-15-02-020-003

- (7) Loosen the fasteners of the APU fire warning horn, B26501 [1].

SUBTASK 26-15-02-020-004

- (8) Remove the APU fire warning horn, B26501 [1] from its position.

———— **END OF TASK** ————

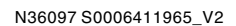
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APU Fire Warning Horn Installation

Figure 401/26-15-02-990-801



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TASK 26-15-02-400-801

3. APU Fire Warning Horn Installation

(Figure 401)

A. References

Reference	Title
26-15-00-710-801	APU Fire Detection Operational Test (P/B 501)

B. Location Zones

Zone	Area
117	Main Equipment Center, Left

C. APU Fire Warning Horn Installation

SUBTASK 26-15-02-860-002

- (1) Make sure that this circuit breaker is open:

Standby Power Management Panel, P310

Row	Col	Number	Name
C	4	C26623	APU RMT FIRE IND/AUTO DISCH ARM

SUBTASK 26-15-02-020-005

- (2) Open the front cover of the P40 service and APU shutdown panel.

SUBTASK 26-15-02-020-009

- (3) Put the APU fire warning horn, B26501 [1] into its position for installation

SUBTASK 26-15-02-020-006

- (4) Attach the APU fire warning horn, B26501 [1] with the fasteners.

SUBTASK 26-15-02-420-001

- (5) Connect each of the electrical terminals to the APU fire warning horn, B26501 [1] using tag data.

SUBTASK 26-15-02-430-001

- (6) Remove the tags from each electrical wire.

SUBTASK 26-15-02-860-003

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

Standby Power Management Panel, P310

Row	Col	Number	Name
C	4	C26623	APU RMT FIRE IND/AUTO DISCH ARM

D. APU Fire Warning Horn Installation Test

SUBTASK 26-15-02-720-001

- (1) Do this task: APU Fire Detection Operational Test, TASK 26-15-00-710-801.

————— END OF TASK —————

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AUXILIARY POWER UNIT (APU) FIRE CONTROL CARD - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) A removal of the APU fire control card
 - (2) An installation of the APU fire control card.
- B. There is one APU fire control card. It is installed in the Left Systems Card File, P85. The card files are in the main equipment center. The APU fire control card has the same part number as the engine fire control card.

TASK 26-15-03-000-801

2. APU Fire Control Card Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. **References**

Reference	Title
20-41-01-000-801	ESDS Handling for Printed Circuit Board Removal (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)

B. **Location Zones**

Zone	Area
117	Main Equipment Center, Left
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. **APU Fire Control Card Removal**

SUBTASK 26-15-03-840-001

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

SUBTASK 26-15-03-010-001

- (2) Open this access door to get access to the System Card Files:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-15-03-860-001



MAKE CERTAIN THAT APU MASTER SWITCH IN FLIGHT COMPARTMENT IS IN OFF POSITION.

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(WARNING PRECEDES)



WARNING

ENSURE THAT LH ENGINE IS NOT RUNNING.

- (3) Move the power switches for these Fire Detection Cards to the OFF position:

NOTE: L Engine Fire Warning may appear after you set the power switches for the APU Fire Detection Card to the OFF position. But this Warning does not show that L Engine Fire occurs. It will disappear after you set the power switches for the L Engine Fire Detection Cards to the OFF position.

NOTE: The placard on the card file door shows the power switches that control power to the APU Fire Control printed-circuit card.

NOTE: The step sequence is very important for the procedure that follows. Make sure that the common switch A3S7 is turned OFF after the APU Fire Detection Card switch (A3S6) and Left Engine Fire Detection Card switch (A18S1) are turned OFF.

- (a) APU Fire Detection Card (A9) in the Left System Card File (P85) - P85 A3S6
- (b) Left Engine Fire Detection Card (A10) in the Left System Card File (P85) - P85 A18S1
- (c) APU and Left Engine Fire Detection Card common - P85 A3S7.

SUBTASK 26-15-03-020-001



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.

- (4) Remove the APU Fire Control card [1]. To remove it, do this task: ESDS Handling for Printed Circuit Board Removal, TASK 20-41-01-000-801.

————— **END OF TASK** —————

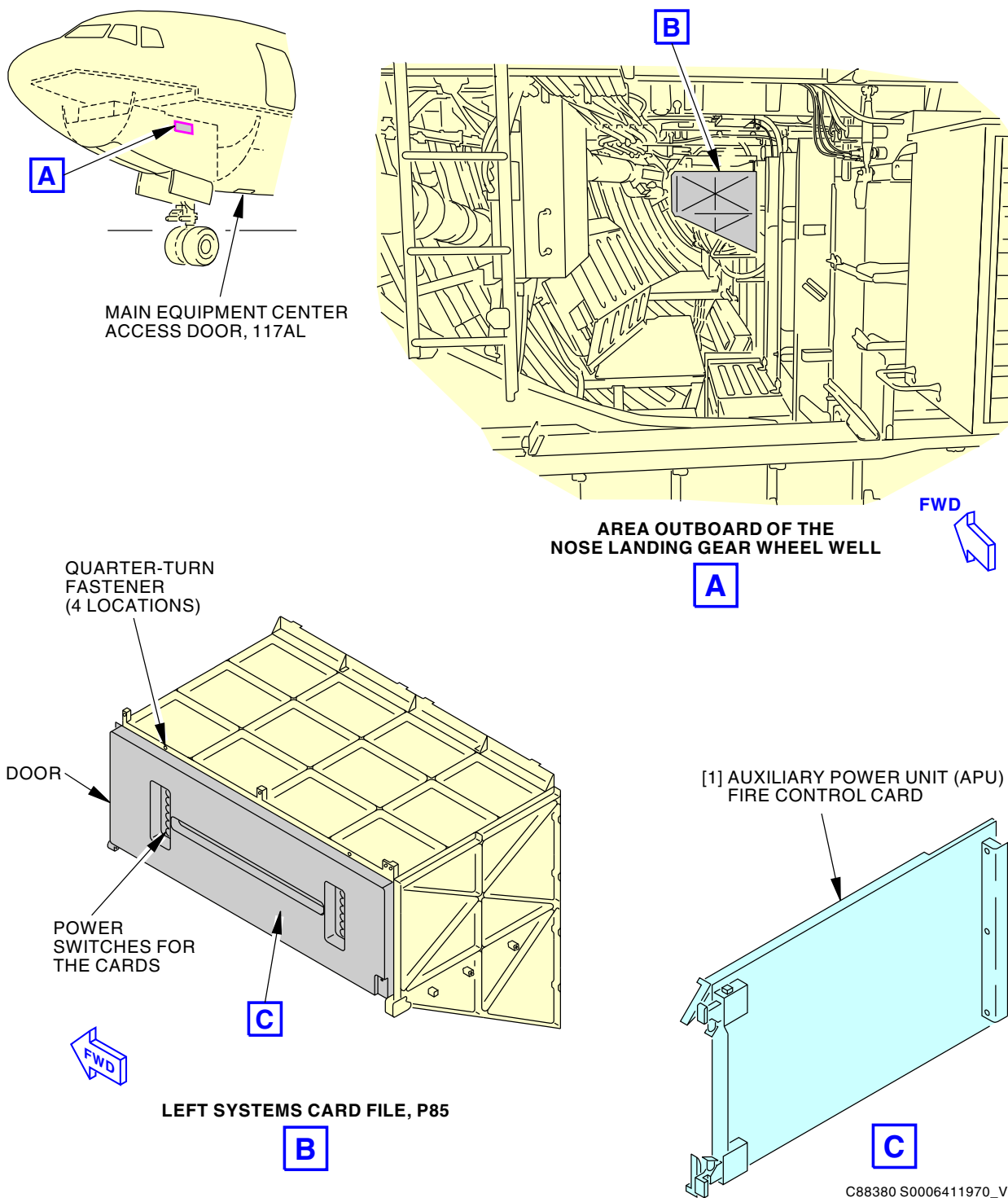
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**Auxiliary Power Unit (APU) Fire Control Card Installation
Figure 401/26-15-03-990-801**

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TASK 26-15-03-400-801

3. APU Fire Control Card Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. General

- (1) The logic card has a locking mechanism on the end opposite the electrical connectors to prevent an incorrect installation. The card file door has a marker that shows the correct position of the card installation.

B. References

Reference	Title
20-41-01-400-801	ESDS Handling for Printed Circuit Board Installation (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
26-15-00-710-801	APU Fire Detection Operational Test (P/B 501)

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Card	26-15-03-01-005	ARO ALL

D. Location Zones

Zone	Area
117	Main Equipment Center, Left
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. APU Fire Control Card Installation

SUBTASK 26-15-03-840-002

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

SUBTASK 26-15-03-010-002

- (2) Open this access door to get access to the Systems Card Files:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-15-03-860-002



WARNING

MAKE CERTAIN THAT APU MASTER SWITCH IN FLIGHT COMPARTMENT IS IN OFF POSITION.

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(WARNING PRECEDES)



WARNING

ENSURE THAT LH ENGINE IS NOT RUNNING.

- (3) Make sure that the power switches for these Fire Detection Cards are in the OFF position:

NOTE: The placard on the card file door shows the power switches that control power to the APU Fire Control printed-circuit card.

NOTE: The step sequence is very important for the procedure that follows. Make sure that the common switch A3S7 is turned OFF after the APU Fire Detection Card switch (A3S6) and Left Engine Fire Detection Card switch (A18S1) are turned OFF.

- (a) APU Fire Detection Card (A9) in the Left System Cardfile (P85) - P85 A3S6
- (b) Left Engine Fire Detection Card (A10) in the Left System Cardfile (P85) - P85 A18S1
- (c) APU and Left Engine Fire Detection Card common - P85 A3S7.

SUBTASK 26-15-03-420-001



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.

- (4) Install the APU Fire Control card [1]. To install it, do this task: ESDS Handling for Printed Circuit Board Installation, TASK 20-41-01-400-801.

SUBTASK 26-15-03-860-003

- (5) Apply power to the APU Fire Detection Card. Set the switches that follow to the ON position:

NOTE: L Engine Fire Warning may appear after you set the power switches for the APU Fire Detection Card to the ON position. But this Warning does not show that L Engine Fire occurs. It will disappear after you set the power switches for the L Engine Fire Detection Cards to the ON position.

NOTE: The step sequence is very important for the procedure that follows. Make sure that the common switch A3S7 is turned ON before the APU Fire Detection Card switch (A3S6) and Left Engine Fire Detection Card switch (A18S1) are turned ON.

- (a) APU and Left Engine Fire Detection Card common - P85 A3S7
- (b) Left Engine Fire Detection Card (A10) in the Left System Card File (P85) - P85 A18S1
- (c) APU Fire Detection Card (A9) in the Left System Card File (P85) - P85 A3S6.

SUBTASK 26-15-03-710-001

- (6) Do this task: APU Fire Detection Operational Test, TASK 26-15-00-710-801.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 26-15-03-840-003

- (1) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

————— **END OF TASK** —————

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LOWER CARGO COMPARTMENT & E/E COOLING SMOKE DETECTION - ADJUSTMENT/TEST

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has four tasks. The first task does an operational test of the smoke detection system in the lower cargo compartment. The second task does a system test of the smoke detection heater system. The third task does a functional test of the smoke detection tubing system. The fourth task does a system test of the lower compartment smoke detection system.
 - (1) The operational test makes sure that the smoke detection system operates correctly. It uses the FIRE/OVHT TEST switch on the Cargo Fire/Engine Control Module on the P5 panel. It also uses the Maintenance Access Terminal (MAT) to do a test of the cargo smoke detection system.
 - (2) The system test makes sure that all parts of the system operate correctly. The test uses external equipment and includes these tests:
 - Configuration check
 - Connection Test
 - Forward Tubing Test
 - Aft Tubing Test
 - E/E Cooling Smoke Detection Test
 - Forward Heater Test
 - Aft Heater Test
 - (3) The functional test uses external equipment and makes sure that the air flows correctly through the tubing.
- C. There are two cargo smoke detectors installed on the airplane. One is installed in the forward cargo compartment and one is installed in the aft cargo compartment. The forward cargo smoke detector is in the left side of the airplane. It is at the same station line as the Forward Cargo Door. The aft cargo smoke detector is in the left side of the airplane. It is at the same station line as the Aft Cargo Door. To get access to the detectors, you must move the cargo lining which includes the detector.
- D. The Electrical/Electronic (E/E) cooling smoke detector is installed in the main equipment center on the right side. The smoke detector monitors the air in the cooling supply duct and the exhaust duct for smoke. The forward cargo smoke detector controls the E/E cooling smoke detector.

TASK 26-16-00-710-801

2. Lower Cargo Compartment Smoke Detection Operational Test

(Figure 501, Figure 502, Figure 504)

A. General

- (1) This procedure does an operational test of the Cargo Smoke Detection System with the FIRE/OVHT test switch. It also does the 26 Cargo Smoke Detection System MAT test.
- (2) A maintenance access terminal is necessary for this procedure. For instructions on how to use a maintenance access terminal, do this task: (TASK 45-10-00-740-808).
- (3) This operation test is to be performed for a situation where all or some of the cargo doors are not to be closed. Thus, the proximity sensor test set is installed to the door. If the test is to be performed in a line environment where all the cargo doors are to be closed then do not install the proximity sensor test at the door.

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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. 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
117	Main Equipment Center, Left
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 Operational Test

SUBTASK 26-16-00-840-001

- (1) Open this access door to get access to the Power Management Panels:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-16-00-840-038

- (2) Apply a proximity sensor test set, SPL-1690 to the Fwd Large Door Closed Sensor, S52021.

SUBTASK 26-16-00-840-039

- (3) Apply tape to the Bulk Cargo Door CIs/Latched & Lock Sw, S52020, to keep it in the depressed position.

SUBTASK 26-16-00-840-002

- (4) Make sure the applicable circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

Row	Col	Number	Name
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2

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Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

NOTE: These circuit breakers must be closed simultaneously. Failure to do this will cause fault indications for the EE cooling smoke detectors.

SUBTASK 26-16-00-840-003

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

G. Operational Test with the FIRE/OVHT Test Switch

NOTE: The cargo smoke detection system operates on 115 VAC power. For the smoke detection system to operate you must have external power, engine power or APU power. Battery power is not sufficient to operate the smoke detection system. If you do the FIRE/OVHT test with only battery power supplied to the airplane, you can not do the test.

SUBTASK 26-16-00-710-001

(1) Make sure that these EICAS Status messages do not show on the lower display unit:

- (a) DET CHAN 1 CARGO FWD
- (b) DET CHAN 2 CARGO FWD
- (c) DET CHAN 1 CARGO AFT
- (d) DET CHAN 2 CARGO AFT
- (e) DET FAN 1 CARGO FWD
- (f) DET FAN 2 CARGO FWD
- (g) DET FAN 1 CARGO AFT
- (h) DET FAN 2 CARGO AFT
- (i) DET ZONE 1 CARGO FWD
- (j) DET ZONE 2 CARGO FWD
- (k) DET ZONE 3 CARGO FWD
- (l) DET ZONE 4 CARGO FWD
- (m) DET ZONE 1 CARGO AFT
- (n) DET ZONE 2 CARGO AFT
- (o) DET ZONE 3 CARGO AFT
- (p) DET ZONE 4 CARGO AFT
- (q) DET CHAN 1 E/E SMOKE
- (r) DET CHAN 2 E/E SMOKE

SUBTASK 26-16-00-710-002

(2) Make sure that these EICAS Warning messages do not show on the top display unit:

- (a) FIRE CARGO FWD
- (b) FIRE CARGO AFT

SUBTASK 26-16-00-710-003

(3) Make sure that these EICAS Advisory messages do not show on the top display unit:

- (a) DET FIRE CARGO FWD
- (b) DET FIRE CARGO AFT

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SUBTASK 26-16-00-710-004

- (4) Open these circuit breakers:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

SUBTASK 26-16-00-710-005

- (5) Push and hold the FIRE/OVHT TEST switch on the Cargo Fire/Engine Control Module on the P5 Panel.

SUBTASK 26-16-00-710-006

- (6) In the flight compartment, make sure that these fire alarm indications occur:
- (a) The fire bell comes on
 - (b) The two master WARNING lights come on
 - (c) On the Cargo Fire/Engine Control Module, the FWD light for the FWD ARM switch comes on
 - (d) On the Cargo Fire/Engine Control Module, the AFT light for the AFT ARM switch comes on.

NOTE: Fire alarm indications for other fire protection systems will also occur in the flight compartment.

SUBTASK 26-16-00-710-019

- (7) Release the FIRE/OVHT TEST switch after one of these EICAS Warning messages shows on the center top display unit:
- (a) FIRE TEST PASS
 - (b) FIRE TEST FAIL

NOTE: One of these messages will show after approximately five seconds.

SUBTASK 26-16-00-710-007

- (8) Make sure that the fire alarm indications stop.

SUBTASK 26-16-00-710-008

- (9) Make sure that these EICAS Status messages show on the lower display unit:
- (a) DET CHAN 1 CARGO FWD
 - (b) DET CHAN 1 CARGO AFT
 - (c) DET CHAN 1 E/E SMOKE

SUBTASK 26-16-00-710-009

- (10) Close these circuit breakers:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

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SUBTASK 26-16-00-710-010

- (11) Open these circuit breakers:

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-00-710-011

- (12) Push and hold the FIRE/OVHT TEST switch on the Cargo Fire/Engine Control Module.

SUBTASK 26-16-00-710-012

- (13) In the flight compartment, make sure these fire alarm indications occur:

- (a) The fire bell comes on
- (b) The two master warning lights come on
- (c) On the Cargo Fire/Engine Control Module, the FWD switchlight for the FWD ARM switch comes on
- (d) On the Cargo Fire/Engine Control Module, the AFT switchlight for the AFT ARM switch comes on.

NOTE: Fire alarm indications for other fire protection systems will also occur in the flight compartment.

SUBTASK 26-16-00-710-020

- (14) Release the FIRE/OVHT TEST switch after one of these EICAS Warning messages shows on the center upper display unit:

- (a) FIRE TEST PASS
- (b) FIRE TEST FAIL

NOTE: One of these messages will show after approximately five seconds.

SUBTASK 26-16-00-710-013

- (15) Make sure the fire alarm indications stop.

SUBTASK 26-16-00-710-014

- (16) Make sure that these EICAS Status messages show on the center lower display unit:

- (a) DET CHAN 2 CARGO FWD
- (b) DET CHAN 2 CARGO AFT
- (c) DET CHAN 2 E/E SMOKE

SUBTASK 26-16-00-710-015

- (17) Close these circuit breakers:

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-00-710-017

- (18) Make sure that these EICAS Status messages do not show on the center lower display unit:

- (a) DET CHAN 2 CARGO FWD
- (b) DET CHAN 2 CARGO AFT
- (c) DET CHAN 2 E/E SMOKE

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H. Cargo Smoke Detection MAT Test

SUBTASK 26-16-00-710-018

(1) Description:

This test makes sure that the forward and aft lower cargo compartment smoke detectors operate correctly.

Approximate time to run the test: less than one minute

Airplane Effects: - none

Limitations/Special Requirements: - none

TO RUN THE TEST:

1. Set the GND TEST switch on the P61 panel to the ENABLE position.
2. Select CONTINUE below.

SUBTASK 26-16-00-740-001

(2) Use a maintenance access terminal (MAT) to do the system test of the applicable cargo smoke detection system:

(a) Make these selections on the MAT:

- 1) ONBOARD MAINTENANCE
- 2) LINE MAINTENANCE
- 3) GROUND TESTS
- 4) 26 Cargo Smoke Detection System
- 5) SYSTEM TEST
- 6) Fwd Cargo Smoke Detection System
or
Aft Cargo Smoke Detection System
- 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, select the maintenance message and select MAINTENANCE MESSAGE DATA or refer to the applicable Maintenance Message Index in the FIM.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 26-16-00-840-041

(1) Remove the proximity sensor test set, SPL-1690 to the Fwd Large Door Closed Sensor, S52021.

SUBTASK 26-16-00-840-042

(2) Remove the tape from the Bulk Cargo Door CIs/Latched & Lock Sw, S52020.

SUBTASK 26-16-00-840-004

(3) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

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————— END OF TASK —————

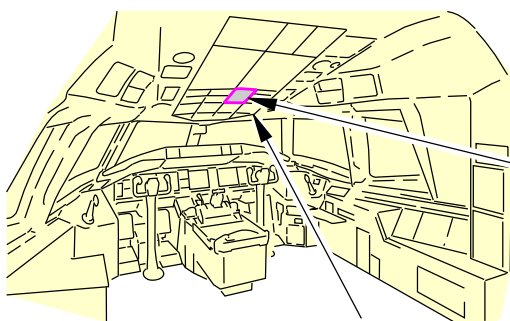
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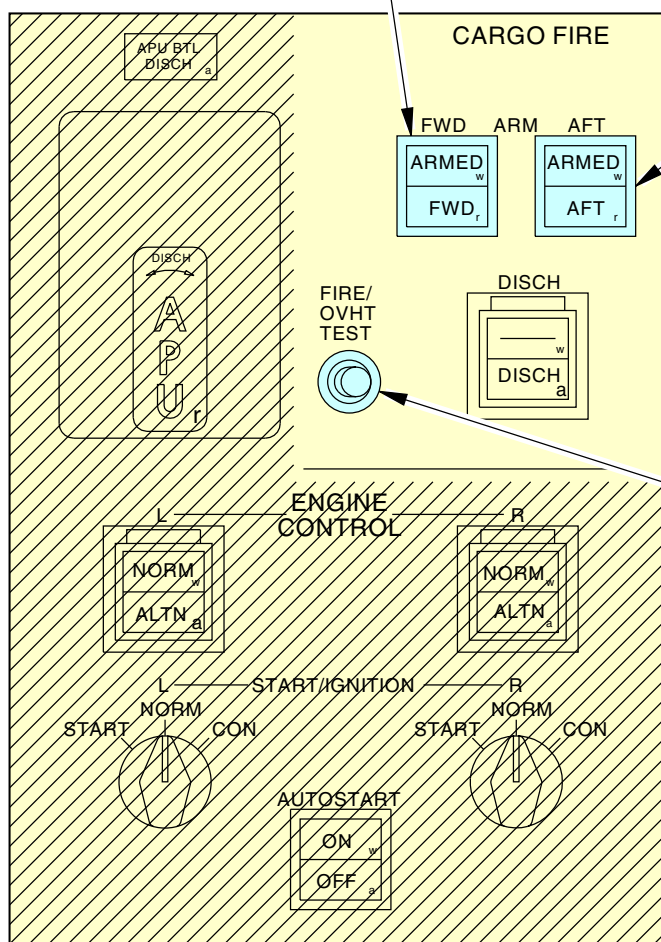
CARGO
FIRE/ENGINE
CONTROL MODULE,
M80001

A

P5 PANEL

FLIGHT COMPARTMENT

FORWARD ARM SWITCH,
M80001S1



AFT ARM SWITCH,
M80001S2

FIRE/OVHT
TEST SWITCH,
M80001S3

CARGO FIRE/ENGINE CONTROL MODULE, M80001

A

C99752 S0006411976_V2

Cargo Control Module
Figure 501/26-16-00-990-801

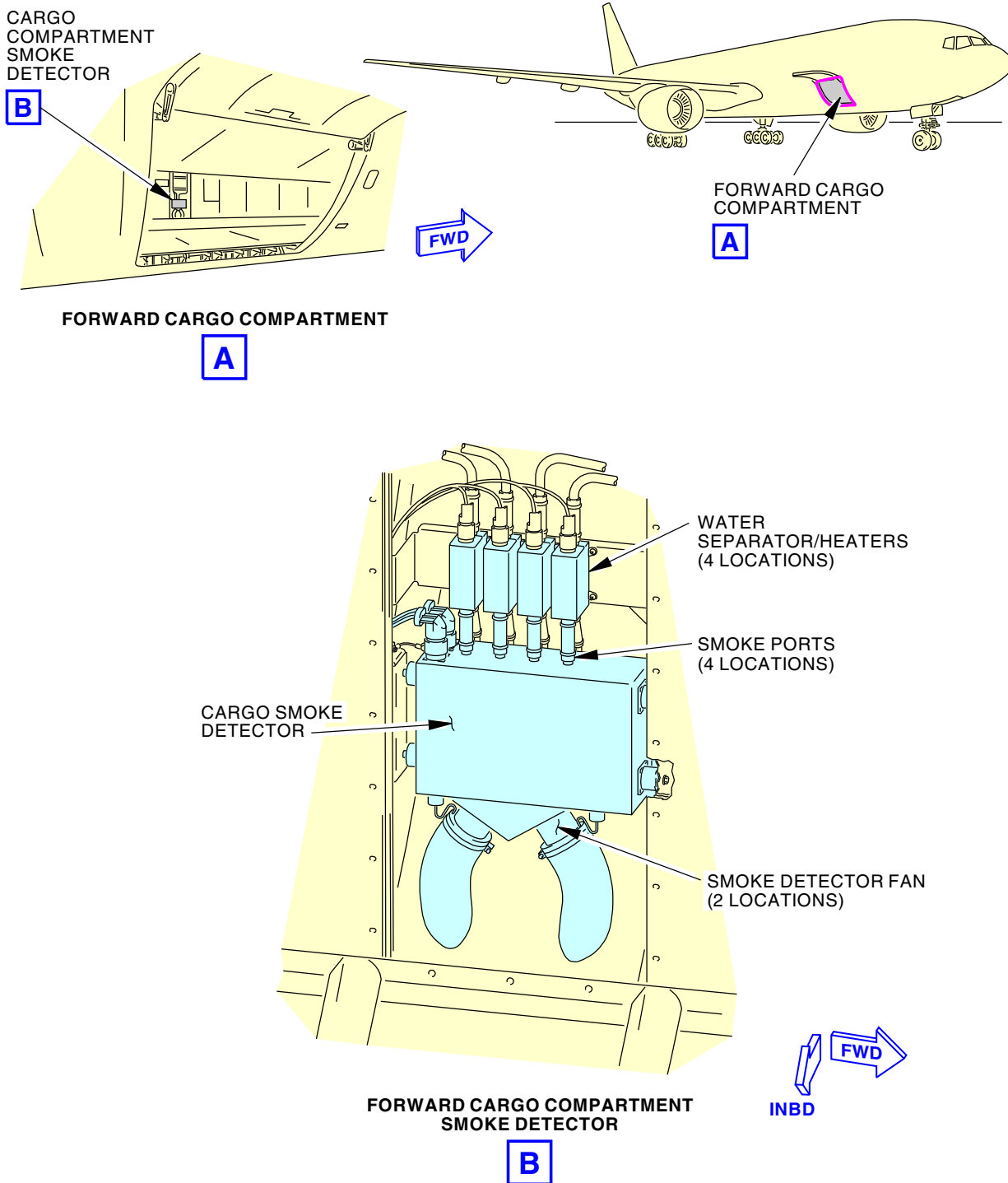
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492517 S0000147098_V2

Smoke Detector and Heater Component Location
Figure 502/26-16-00-990-806 (Sheet 1 of 2)

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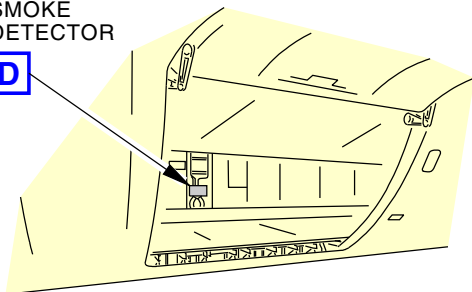
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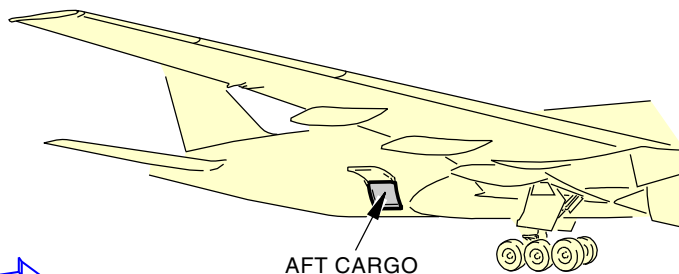
CARGO
COMPARTMENT
SMOKE
DETECTOR

D



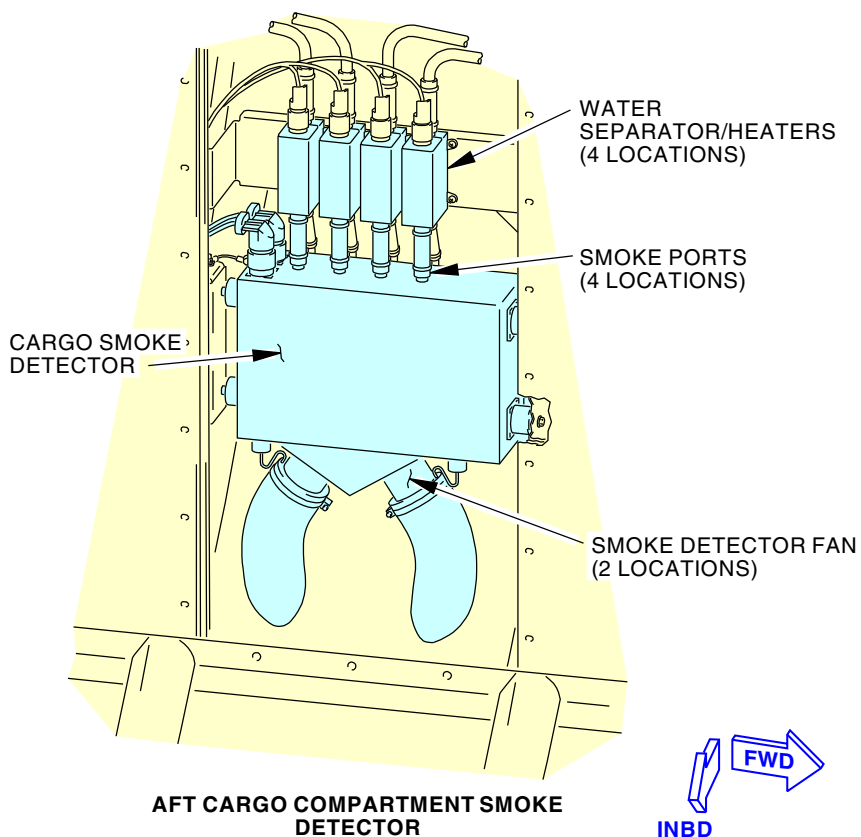
AFT CARGO
COMPARTMENT

C



FORWARD CARGO COMPARTMENT

C



AFT CARGO COMPARTMENT SMOKE
DETECTOR

D



492520 S0000147099_V2

Smoke Detector and Heater Component Location
Figure 502/26-16-00-990-806 (Sheet 2 of 2)

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TASK 26-16-00-710-804

3. Lower Cargo Compartment Smoke Detector Heater System Test

(Figure 502)

NOTE: This procedure is a scheduled maintenance task.

A. General

(1) This procedure does a system test of the Cargo Smoke Detection Heater System.

B. References

Reference	Title
25-52-06 P/B 401	SIDEWALL LINERS - 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-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 260 Supplier: 55026 Opt Part #: 27 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536 Opt Part #: MODEL 27 Supplier: 89536
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
117	Main Equipment Center, Left
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

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F. Prepare for the Test

SUBTASK 26-16-00-840-015

- (1) Open this access door to get access to the Power Management Panels:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

- (2) Remove the applicable sidewall liners SIDEWALL LINERS - REMOVAL/INSTALLATION, PAGEBLOCK 25-52-06/401.

SUBTASK 26-16-00-840-037

- (3) Apply a proximity sensor test set, SPL-1690 to the Fwd Large Door Closed Sensor, S52021.

SUBTASK 26-16-00-840-040

- (4) Apply tape to the Bulk Cargo Door CIs/Latched & Lock Sw, S52020, to keep it in the depressed position.

G. Forward Cargo Smoke Detection Heater System Test

SUBTASK 26-16-00-700-001

- (1) Use a maintenance access terminal (MAT) to do a check of the heater wiring.

- (a) Make these selections on the MAT:

- 1) ONBOARD MAINTENANCE
- 2) EXTENDED MAINTENANCE
- 3) EXISTING FAULTS
- 4) 26 Cargo Smoke Detection System

NOTE: The 26 Cargo Smoke Detection System will not be present if there are no faults logged by Cargo Smoke Detection.

- 5) CONTINUE

- (b) Make sure the following messages do not show on the display unit:

- 1) CARGO SMOKE DETECT HEATER ZONE (1,2,3,4) CHANNEL 1 (LWR FWD) CIRCUIT IS OPEN OR SHORTED. (maintenance message number 26-21091)
- 2) CARGO SMOKE DETECTOR HEATER ZONE (1,2,3,4) CHANNEL 2 (LWR FWD) CIRCUIT IS OPEN OR SHORTED. (maintenance message number 26-21093)
- 3) CARGO SMOKE DETECTOR HEATER ZONE (1,2,3,4) (LWR FWD) CIRCUIT IS OPEN OR SHORTED. (maintenance message number 26-21099)

SUBTASK 26-16-00-860-024

- (2) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-00-730-066

- (3) Disconnect the electrical connector, DB26021, from the smoke detector Heater FWD, B26021.
- (a) Wait a minimum of ten seconds.

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SUBTASK 26-16-00-860-025

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-00-420-016

- (5) Make sure the EICAS message, DET HTR CARGO FWD, shows on the display unit.

SUBTASK 26-16-00-750-002

- (6) Make these selections on the MAT:

- (a) ONBOARD MAINTENANCE
- (b) EXTENDED MAINTENANCE
- (c) EXISTING FAULTS
- (d) 26 Cargo Smoke Detection System

NOTE: The 26 Cargo Smoke Detection System will not be present if there are no faults logged by Cargo Smoke Detection.

- (e) CONTINUE

SUBTASK 26-16-00-730-135

- (7) Make sure the following messages show on the display unit:

- (a) CARGO SMOKE DETECT HEATER ZONE (1,2,3,4) CHANNEL 1 (LWR FWD) CIRCUIT IS OPEN OR SHORTED. (maintenance message number 26-21091)
- (b) CARGO SMOKE DETECTOR HEATER ZONE (1,2,3,4) CHANNEL 2 (LWR FWD) CIRCUIT IS OPEN OR SHORTED. (maintenance message number 26-21093)
- (c) CARGO SMOKE DETECTOR HEATER ZONE (1,2,3,4) (LWR FWD) CIRCUIT IS OPEN OR SHORTED. (maintenance message number 26-21099)

SUBTASK 26-16-00-860-026

- (8) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-00-730-069

- (9) Connect the electrical connector, DB26021, to the smoke detector heater, B26021.

SUBTASK 26-16-00-730-136

- (10) Disconnect the electrical connector, DM26060A, from the fwd cargo smoke detector.

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SUBTASK 26-16-00-730-137

- (11) Use a digital/analog multimeter, COM-1793 to measure the resistance between pin 38 and pin 39 of the DM26060A connector.
- (a) Make sure the measured resistance is not less than 70 ohms and not more than 96 ohms.

SUBTASK 26-16-00-730-138

- (12) Connect the electrical connector, DM26060A, to the fwd cargo smoke detector.

SUBTASK 26-16-00-730-139

- (13) Disconnect the electrical connector, DM26060B, from the fwd cargo smoke detector.

SUBTASK 26-16-00-730-140

- (14) Use a digital/analog multimeter, COM-1793 to measure the resistance between pin 38 and pin 39 of the DM26060B connector.
- (a) Make sure the measured resistance is not less than 70 ohms and not more than 96 ohms.

SUBTASK 26-16-00-730-067

- (15) Connect the electrical connector, DM26060B, to the fwd cargo smoke detector.

SUBTASK 26-16-00-730-142

- (16) Wait a minimum of ten seconds.

SUBTASK 26-16-00-860-027

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-00-710-037

- (18) Make sure the following EICAS messages do not show on the display unit:
- (a) DET HTR CARGO FWD
- (b) DET CHAN 1 CARGO FWD
- (c) DET CHAN 2 CARGO FWD
- (d) DET CHAN 1 E/E SMOKE
- (e) DET CHAN 2 E/E SMOKE
- (f) DET ZONE 1 CARGO FWD
- (g) DET ZONE 2 CARGO FWD
- (h) DET ZONE 3 CARGO FWD
- (i) DET ZONE 4 CARGO FWD
- (j) DET FAN 1 CARGO FWD
- (k) DET FAN 2 CARGO FWD

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H. Aft Compartment Cargo Smoke Detection Heater System Test

SUBTASK 26-16-00-700-002

- (1) Use a maintenance access terminal (MAT) to do a check of the heater wiring.
 - (a) Make these selections on the MAT:
 - 1) ONBOARD MAINTENANCE
 - 2) EXTENDED MAINTENANCE
 - 3) EXISTING FAULTS
 - 4) 26 Cargo Smoke Detection System

NOTE: The 26 Cargo Smoke Detection System will not be present if there are no faults logged by Cargo Smoke Detection.
 - 5) CONTINUE
- (b) Make sure the following messages do not show on the display unit:
 - 1) CARGO SMOKE DETECT HEATER ZONE (1,2,3,4) CHANNEL 1 (LWR AFT) CIRCUIT IS OPEN OR SHORTED. (maintenance message number 26-21092)
 - 2) CARGO SMOKE DETECTOR HEATER ZONE (1,2,3,4) CHANNEL 2 (LWR AFT) CIRCUIT IS OPEN OR SHORTED. (maintenance message number 26-21094)
 - 3) CARGO SMOKE DETECTOR HEATER ZONE (1,2,3,4) (LWR AFT) CIRCUIT IS OPEN OR SHORTED. (maintenance message number 26-21100)

SUBTASK 26-16-00-860-028

- (2) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-00-710-038

- (3) Disconnect the DB26025 connector from the AFT smoke detector heater, B26025.

SUBTASK 26-16-00-020-023

- (4) Wait a minimum of ten seconds.

SUBTASK 26-16-00-860-029

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-00-420-017

- (6) Make sure the EICAS message, DET HTR CARGO AFT, shows on the display unit.

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SUBTASK 26-16-00-700-010

(7) Make these selections on the MAT:

- (a) ONBOARD MAINTENANCE
- (b) EXTENDED MAINTENANCE
- (c) EXISTING FAULTS
- (d) 26 Cargo Smoke Detection System

NOTE: The 26 Cargo Smoke Detection System will not be present if there are no faults logged by Cargo Smoke Detection.

- (e) CONTINUE

SUBTASK 26-16-00-750-003

(8) Make sure the following messages show on the display unit:

- (a) CARGO SMOKE DETECT HEATER ZONE (1,2,3,4) CHANNEL 1 (LWR AFT) CIRCUIT IS OPEN OR SHORTED. (maintenance message number 26-21092)
- (b) CARGO SMOKE DETECTOR HEATER ZONE (1,2,3,4) CHANNEL 2 (LWR AFT) CIRCUIT IS OPEN OR SHORTED. (maintenance message number 26-21094)
- (c) CARGO SMOKE DETECTOR HEATER ZONE (1,2,3,4) (LWR AFT) CIRCUIT IS OPEN OR SHORTED. (maintenance message number 26-21100)

SUBTASK 26-16-00-860-030

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-00-730-070

(10) Connect the electrical connector, DB26025, to the smoke detector heater, B26025.

SUBTASK 26-16-00-730-143

(11) Disconnect the electrical connector, DM26061A, from the aft cargo smoke detector.

SUBTASK 26-16-00-730-144

(12) Use a digital/analog multimeter, COM-1793 to measure the resistance between pin 38 and pin 39 of the DM26061A connector.

- (a) Make sure the measured resistance is not less than 70 ohms and not more than 96 ohms.

SUBTASK 26-16-00-730-145

(13) Connect the electrical connector, DM26061A, to the aft cargo smoke detector.

SUBTASK 26-16-00-730-146

(14) Disconnect the electrical connector, DM26061B, from the aft cargo smoke detector.

SUBTASK 26-16-00-730-147

(15) Use a digital/analog multimeter, COM-1793 to measure the resistance between pin 38 and pin 39 of the DM26061B connector.

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- (a) Make sure the measured resistance is not less than 70 ohms and not more than 96 ohms.

SUBTASK 26-16-00-730-148

- (16) Connect the electrical connector, DM26061B, to the aft cargo smoke detector.

SUBTASK 26-16-00-730-149

- (17) Wait a minimum of ten seconds.

SUBTASK 26-16-00-860-031

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-00-710-039

- (19) Make sure the following EICAS messages do not show on the display unit:
- (a) DET HTR CARGO AFT
 - (b) DET CHAN 1 CARGO AFT
 - (c) DET CHAN 2 CARGO AFT
 - (d) DET ZONE 1 CARGO AFT
 - (e) DET ZONE 2 CARGO AFT
 - (f) DET ZONE 3 CARGO AFT
 - (g) DET ZONE 4 CARGO AFT
 - (h) DET FAN 1 CARGO AFT
 - (i) DET FAN 2 CARGO AFT

I. Put the Airplane Back to Its Usual Condition

SUBTASK 26-16-00-840-043

- (1) Remove the proximity sensor test set, SPL-1690 from the Fwd Large Door Closed Sensor, S52021.

SUBTASK 26-16-00-840-044

- (2) Remove the tape from the Bulk Cargo Door CIs/Latched & Lock Sw, S52020.

SUBTASK 26-16-00-840-063

- (3) Close the applicable sidewall liners SIDEWALL LINERS - REMOVAL/INSTALLATION, PAGEBLOCK 25-52-06/401.
- (4) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

————— END OF TASK —————

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TASK 26-16-00-720-803

4. Lower Cargo Compartment Smoke Detection Water Separator Tubing Functional Test

NOTE: This procedure is a scheduled maintenance task.

A. General

- (1) This procedure does a functional test of the Lower Cargo Compartment Smoke Detection Water Separator Tubing System.

B. References

Reference	Title
25-52-06 P/B 401	SIDEWALL LINERS - 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-2545	Meter - Flow Part #: RMB-52 Supplier: 85274
COM-4917	Fitting - Hose, Barbed Brass Part #: 125HBL-6-4 Supplier: 93061
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. Consumable Materials

Reference	Description	Specification
G50409	Tubing - Heat Shrinkable, Teflon Sleeve (TFE-2X, Chemplast Inc (V18632) or Zeus Industrial Products (V32039))	

E. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

F. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

G. Prepare for the Functional Test

SUBTASK 26-16-00-840-017

- (1) Open the access door to get access to the Power Management Panels:

Number	Name/Location
117AL	Main Equipment Center Access Door

- (2) Remove the applicable sidewall liners SIDEWALL LINERS - REMOVAL/INSTALLATION, PAGEBLOCK 25-52-06/401.

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SUBTASK 26-16-00-860-043

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-00-700-017

- (4) Apply a proximity sensor test set, SPL-1690 to the Fwd Large Door Closed Sensor, S52021.

SUBTASK 26-16-00-700-018

- (5) Apply tape to the Bulk Cargo Door CIs/Latched & Lock Sw, S52020, to keep it in the depressed position.

NOTE: This step is for the Aft cargo smoke detection tubing functional test only.

H. Lower Cargo Compartment Smoke Detection Water Separator Tubing Functional Test

SUBTASK 26-16-00-020-042

- (1) Disconnect the flexible water drain tube from the Fwd cargo smoke detector heater for zone 1.
- (a) If a sampling tube is blocked, squeeze the sampling port to clean it. If it is still blocked, remove the sampling ports and disconnect the other end of the tube. Use compressed air to clean the tube.

SUBTASK 26-16-00-040-001

- (2) Attach the barbed brass hose fitting, COM-4917 and tubing, G50409 (0.375 ID x 0.062 wall x 12-inch, commercially available) to the flow meter, COM-2545 and connect to the end of the water drain tube.

NOTE: The outlet of the air flow meter is the top fitting. The air flow meter must be held in a vertical orientation for proper measurements.

- (a) Make sure the air flow through the meter is 18 SCFH or more.

SUBTASK 26-16-00-020-067

- (3) Disconnect the air flow meter assembly from the water drain tube.

SUBTASK 26-16-00-420-037

- (4) Connect the flow meter, COM-2545, tubing, G50409, and the barbed brass hose fitting, COM-4917 to the drain port on the Fwd zone 1 smoke detector heater.
- (a) Make sure the air flow through the meter is 9 SCFH or more.

SUBTASK 26-16-00-020-044

- (5) Remove the air flow meter assembly from the drain port on the smoke detector heater for zone 1.

SUBTASK 26-16-00-420-025

- (6) Reconnect the flexible water drain tube to the Fwd smoke detector heater for zone 1.
- (a) Make sure that the flexible water drain tube is installed with a minimum of 2 straps on the outside of the heater assembly.

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SUBTASK 26-16-00-720-059

- (7) Repeat test in every zone of the Fwd and Aft cargo compartments.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 26-16-00-030-008

- (1) Remove the proximity sensor test set, SPL-1690 from the Fwd Large Door Closed Sensor, S52021.

SUBTASK 26-16-00-030-009

- (2) Remove the tape from the Bulk Cargo Door CIs/Latched & Lock Sw, S52020.

SUBTASK 26-16-00-840-074

- (3) Close the applicable sidewall liners SIDEWALL LINERS - REMOVAL/INSTALLATION, PAGEBLOCK 25-52-06/401.
- (4) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

————— **END OF TASK** —————

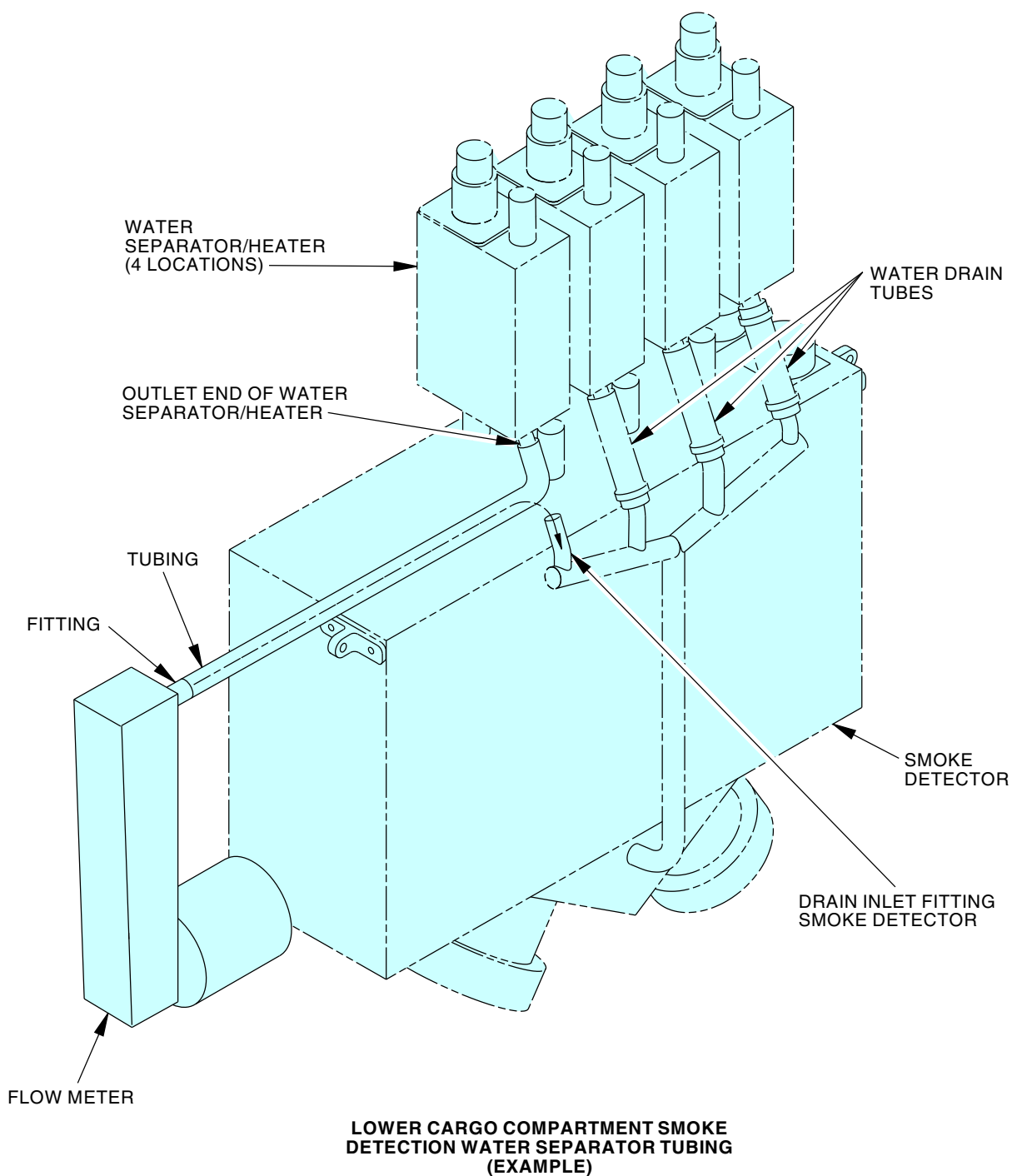
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Lower Cargo Compartment Heater Tubing
Figure 503/26-16-00-990-809

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TASK 26-16-00-730-801

5. Lower Cargo Compartment Smoke Detection System Test

(Figure 501, Figure 504)

A. General

- (1) The cargo smoke detector configuration check makes sure that the cargo smoke detectors have 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, (TASK 45-10-00-740-808).

NOTE: Corona smoke generators require the supply kit and smoke fluid identified below. These items must be ordered separately from Corona.

- Refill Kit - COLT SUPPLY KIT - Corona Integrated Technologies, Inc.
- Smoke fluid - CFC100AUSP - Corona Integrated Technologies, Inc.

B. References

Reference	Title
21-27-02-000-801	Equipment Cooling Air Filter Removal (P/B 401)
24-22-00-860-805	Supply Electrical Power (P/B 201)
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
26-16-01-400-802	Cargo Smoke Detectors Software Installation (P/B 201)
32-09-00-860-801	Air/Ground Mode Simulation (P/B 201)
45-10-00-740-808	How to Use the Central Maintenance Computing System (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-1600	Anemometer - Air Velocity/Temperature Part #: 8384A Supplier: 24575 Part #: 9515 Supplier: 24575 Part #: 9535 Supplier: 24575 Part #: 9535-A Supplier: 24575 Part #: 9545 Supplier: 24575 Opt Part #: 8345 Supplier: 24575 Opt Part #: 8346 Supplier: 24575 Opt Part #: 8350 Supplier: 24575 Opt Part #: 8352 Supplier: 24575 Opt Part #: 8357 Supplier: 24575 Opt Part #: 8384 Supplier: 24575

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Reference	Description
COM-1645	Smoke Generator - Draw-Thru/Photoelectric Type Smoke Detector Part #: 200 82220 XXXX Supplier: 86807 Part #: 458481 Supplier: 00VT4 Part #: COLT4B110VD Supplier: U4925 Part #: COLT4B110VD8.5 Supplier: U4925 Part #: COLT4TB110VD-AVF Supplier: U4925 Opt Part #: MODEL 1500 Supplier: 86807 Opt Part #: MODEL 1600 Supplier: 86807
SPL-1646	Adapter - Hot Wire Anemometer Part #: G26005-24 Supplier: 81205 Opt Part #: G26005-17 Supplier: 81205

D. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
121	Forward Cargo Compartment, Left
122	Forward Cargo Compartment, Right
151	Aft Cargo Compartment, Left
152	Aft Cargo Compartment, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door
823	Aft Small Cargo Door

F. Prepare for System Test

SUBTASK 26-16-00-840-006

- (1) Open this access door to get access to the Power Management Panels:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-16-00-840-007

- (2) Make sure the applicable circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

Row	Col	Number	Name
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

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SUBTASK 26-16-00-840-010

- (3) Open the applicable cargo doors:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door
823	Aft Small Cargo Door

SUBTASK 26-16-00-840-008

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

G. Configuration Check

SUBTASK 26-16-00-750-001

- (1) Use a maintenance access terminal (MAT) to do a software configuration check of the Cargo Smoke Detection system:

NOTE: Make sure you know the correct software part number for the cargo smoke detector when you look at the software part number on the display. For the cargo smoke detector 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) 26 Cargo Smoke Detection System
- 5) CONTINUE

- (b) Find these components on the display and make sure that the software part numbers are correct:

NOTE: The configuration check will show a failure if the operational program software (OPS) is not installed.

- 1) Cargo smoke Detector Ch 1 (lwr aft)
- 2) Cargo smoke Detector Ch 1 (lwr fwd)
- 3) Cargo smoke Detector Ch 2 (lwr aft)
- 4) Cargo smoke Detector Ch 2 (lwr fwd)

- (c) Select GO BACK to remove the configuration display.

SUBTASK 26-16-00-700-021

- (2) If the part number is incorrect, do this task: Cargo Smoke Detectors Software Installation, TASK 26-16-01-400-802.

H. Connection Test

SUBTASK 26-16-00-710-016

- (1) Do the Lower Cargo Compartment Smoke Detection Operational Test.

SUBTASK 26-16-00-730-001

- (2) Set the Maintenance Access Terminal (MAT) to the air mode. To set the MAT to the air mode, do this task: Air/Ground Mode Simulation, TASK 32-09-00-860-801.

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SUBTASK 26-16-00-730-002

- (3) Open this circuit breaker:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

SUBTASK 26-16-00-730-003

- (4) Make sure that these EICAS Status messages show on the lower display unit:

- (a) DET CHAN 1 CARGO FWD
- (b) DET CHAN 1 E/E SMOKE

SUBTASK 26-16-00-730-004

- (5) Open this circuit breaker:

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-00-730-005

- (6) Make sure that these EICAS Status messages show on the lower display unit:

- (a) DET CHAN 1 CARGO FWD
- (b) DET CHAN 1 E/E SMOKE
- (c) DET CHAN 2 CARGO FWD
- (d) DET CHAN 2 E/E SMOKE

SUBTASK 26-16-00-730-006

- (7) Make sure that the EICAS Advisory message, DET FIRE CARGO FWD, shows on the upper display unit.

SUBTASK 26-16-00-730-007

- (8) Close these circuit breakers:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-00-730-008

- (9) Open this circuit breaker:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1

SUBTASK 26-16-00-730-009

- (10) Make sure that the EICAS Status message, DET CHAN 1 CARGO AFT, shows on the lower display unit.

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SUBTASK 26-16-00-730-010

- (11) Open this circuit breaker:

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-00-730-011

- (12) Make sure that the EICAS Advisory message, DET FIRE CARGO AFT, shows on the upper display unit.

SUBTASK 26-16-00-730-012

- (13) Make sure that these EICAS Status messages show on the lower display unit:
- (a) DET CHAN 1 CARGO AFT
 - (b) DET CHAN 2 CARGO AFT

SUBTASK 26-16-00-730-013

- (14) Close these circuit breakers:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-00-730-014

- (15) Make sure that these EICAS Status messages do not show on the lower display unit:
- (a) DET CHAN 1 CARGO FWD
 - (b) DET CHAN 2 CARGO FWD
 - (c) DET CHAN 1 CARGO AFT
 - (d) DET CHAN 2 CARGO AFT
 - (e) DET FAN 1 CARGO FWD
 - (f) DET FAN 2 CARGO FWD
 - (g) DET FAN 1 CARGO AFT
 - (h) DET FAN 2 CARGO AFT
 - (i) DET ZONE 1 CARGO FWD
 - (j) DET ZONE 2 CARGO FWD
 - (k) DET ZONE 3 CARGO FWD
 - (l) DET ZONE 4 CARGO FWD
 - (m) DET ZONE 1 CARGO AFT
 - (n) DET ZONE 2 CARGO AFT
 - (o) DET ZONE 3 CARGO AFT
 - (p) DET ZONE 4 CARGO AFT
 - (q) DET CHAN 1 E/E SMOKE
 - (r) DET CHAN 2 E/E SMOKE

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SUBTASK 26-16-00-730-015

- (16) Make sure that these EICAS Warning messages do not show on the upper display unit:
- (a) FIRE CARGO FWD
 - (b) FIRE CARGO AFT

SUBTASK 26-16-00-730-016

- (17) Make sure that these EICAS Advisory messages do not show on the upper display unit:
- (a) DET FIRE CARGO FWD
 - (b) DET FIRE CARGO AFT

SUBTASK 26-16-00-730-057

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

I. Forward Plumbing Test

SUBTASK 26-16-00-730-017

- (1) With the air velocity/temperature anemometer, COM-1600 and hot wire anemometer adapter, SPL-1646, do these steps to measure the flow velocity at the sampling ports in the forward cargo compartment ceiling:

NOTE: The sampling ports are in the ceiling of the cargo compartment. Each zone has 5 or 6 sampling ports which are connected to the smoke tubes at the smoke detector. Use the hot wire anemometer and adapter to measure the flow velocity. Let the anemometer warm-up for at least ten minutes. Hold the anemometer in position for at least 20 seconds so the measurement becomes stable.

- (a) Measure the flow velocity at each of the six sampling ports in the forward area of the forward cargo compartment.

NOTE: The six forward sampling ports are approximately between stations 420 and 570.

- (b) Make a record of the flow velocities.

Table 501/26-16-00-993-801

Velocity

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- (c) Make sure that the highest flow velocity is not more than 1.5 times the lowest flow velocity for these sampling ports.

NOTE: For example, if the lowest flow velocity is 75 ft/min, then the highest flow velocity must be less than 113 ft/min.

NOTE: The flow velocities should be 75 ft/min. If the flow velocities are significantly less than this, make sure the smoke detector fan is operating correctly.

- (d) Check that the sampling tube is not blocked. If the sampling tube is blocked, squeeze the sampling port with your fingers to clean it. If still blocked, removed the sampling ports and disconnect the other end of the tube. Use compressed air (0-50 psig) to clean the tubes.

SUBTASK 26-16-00-730-155

- (2) Measure the flow velocity at each of the six sampling ports in the center area of the forward cargo compartment.

NOTE: The six center sampling ports are approximately between stations 600 and 750.

- (a) Make a record of the flow velocities.

Table 502/26-16-00-993-802

Velocity

- (b) Make sure that the highest flow velocity is not more than 1.5 times the lowest flow velocity for these sampling ports.

- (c) Check that the sampling tube is not blocked. If the sampling tube is blocked, squeeze the sampling port with your fingers to clean it. If still blocked, removed the sampling ports and disconnect the other end of the tube. Use compressed air (0-50 psig) to clean the tubes.

SUBTASK 26-16-00-730-157

- (3) Measure the flow velocity at each of the six sampling ports in the aft area of the forward cargo compartment.

NOTE: The six aft sampling ports are approximately between stations 800 and 950.

- (a) Make a record of the flow velocities.

Table 503/26-16-00-993-805

Velocity

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- (b) Make sure that the highest flow velocity is not more than 1.5 times the lowest flow velocity for these sampling ports.
- (c) Check that the sampling tube is not blocked. If the sampling tube is blocked, squeeze the sampling port with your fingers to clean it. If still blocked, removed the sampling ports and disconnect the other end of the tube. Use compressed air (0-50 psig) to clean the tubes.

SUBTASK 26-16-00-730-018



DO NOT BREATHE THE SMOKE. USE EYE PROTECTION. IF YOU USE THE VENTILATION SMOKE TUBE, DO NOT LET THE SMOKE TOUCH YOUR SKIN. TOO MUCH SMOKE FROM THE SMOKE TUBE CAN CAUSE CORROSION TO THE MATERIALS IN THE SMOKE DETECTION SYSTEM. IF THERE IS NOT SUFFICIENT AIR MOVEMENT IN THE AREA OR YOU GET RESPIRATORY PROBLEMS, USE AN APPLICABLE RESPIRATOR. IF YOU DO NOT OBEY THESE INSTRUCTIONS, INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR.



DO NOT USE CANNED OR AEROSOL SMOKE. CANNED OR AEROSOL SMOKE CAN CAUSE CONTAMINATION OF THE DETECTOR AND SAMPLING TUBES. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

- (4) Use the smoke generator, COM-1645 and apply smoke adjacent to one of the sampling ports in the aft area of the forward cargo compartment.

SUBTASK 26-16-00-730-019

- (5) In the flight compartment, make sure these fire alarm indications occur:
 - (a) The fire bell comes on
 - (b) The two master WARNING lights come on
 - (c) On the Cargo Fire/Engine Control Module, the FWD light for the FWD ARM switch comes on
 - (d) The EICAS warning message, FIRE CARGO FWD, shows on the upper display unit.
 - (e) The EICAS advisory message, EQUIP COOLING OVRD, shows on the upper display unit.

SUBTASK 26-16-00-730-020

- (6) Push the master WARNING/CAUTION switchlight to stop the fire bell.
 - (a) Make sure the fire bell stops.

SUBTASK 26-16-00-730-021

- (7) Remove the smoke from the cargo compartment or let the concentration of smoke decrease.

SUBTASK 26-16-00-730-022

- (8) After approximately two minutes, make sure these indications occur:
 - (a) The two master WARNING lights are off
 - (b) On the Cargo Fire/Engine Control Module, the FWD light for the FWD ARM switch is not on
 - (c) The EICAS warning message, FIRE CARGO FWD, does not show on the upper display unit.

SUBTASK 26-16-00-730-023

- (9) Use the smoke generator, COM-1645 and apply smoke adjacent to one of the sampling ports in the forward area of the forward cargo compartment.

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- (a) In the flight compartment, make sure the fire bell comes on.

SUBTASK 26-16-00-730-024

- (10) Push the master WARNING/CAUTION switchlight to stop the fire bell.

- (a) Make sure the fire bell stops.

SUBTASK 26-16-00-730-025

- (11) Remove the smoke from the cargo compartment or let the concentration of smoke decrease.

- (a) After approximately two minutes, make sure the FWD light for the FWD ARM switch is not on.

SUBTASK 26-16-00-730-026

- (12) Use the smoke generator, COM-1645 and apply smoke adjacent to one of the sampling ports in the center area of the forward cargo compartment.

- (a) In the flight compartment, make sure the fire bell comes on.

SUBTASK 26-16-00-730-027

- (13) Push the master WARNING/CAUTION switchlight to stop the fire bell.

- (a) Make sure the fire bell stops.

SUBTASK 26-16-00-730-028

- (14) Remove the smoke from the cargo compartment or let the concentration of smoke decrease.

- (a) After approximately two minutes, make sure the FWD light for the FWD ARM switch is not on.

J. Aft Plumbing Test

SUBTASK 26-16-00-730-048

- (1) With the air velocity/temperature anemometer, COM-1600 and hot wire anemometer adapter, SPL-1646, do these steps to measure the flow velocity at the sampling ports in the aft cargo compartment ceiling:

NOTE: The sampling ports are in the ceiling of the cargo compartment. Each zone has 5 or 6 sampling ports that are connected to the smoke tubes at the smoke detector. Use the hot wire anemometer and adapter to measure the flow velocity. Let the anemometer warm-up for at least ten minutes. Hold the anemometer in position for at least 20 seconds so the measurement becomes stable.

SUBTASK 26-16-00-730-159

- (2) Measure the flow velocity at each of the six sampling ports in the forward area of the aft cargo compartment.

NOTE: The six forward sampling ports are approximately between stations 1434 + 23 and 1434 + 170.

- (a) Make a record of the flow velocities.

Table 504/26-16-00-993-809

Velocity

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Table 504/26-16-00-993-809 (Continued)

Velocity

- (b) Make sure that the highest flow velocity is not more than 1.5 times the lowest flow velocity for these sampling ports.

NOTE: For example, if the lowest flow velocity is 75 ft/min, then the highest flow velocity must be less than 113 ft/min.

NOTE: The flow velocities should be 75 ft/min. If the flow velocities are significantly less than this, make sure the smoke detector fan is operating correctly.

SUBTASK 26-16-00-730-161

- (3) Measure the flow velocity at each of the six sampling ports in the center area of the aft cargo compartment.

NOTE: The six center sampling ports are approximately between stations 1680 and 1870.

- (a) Make a record of the flow velocities.

Table 505/26-16-00-993-811

Velocity

- (b) Make sure that the highest flow velocity is not more than 1.5 times the lowest flow velocity for these sampling ports.

SUBTASK 26-16-00-730-162

- (4) Measure the flow velocity at each of the five sampling ports in the aft area of the aft cargo compartment.

NOTE: The five aft sampling ports are approximately between stations 1900 and 2050.

- (a) Make a record of the flow velocities.

Table 506/26-16-00-993-812

Velocity

- (b) Make sure that the highest flow velocity is not more than 1.5 times the lowest flow velocity for these sampling ports.

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SUBTASK 26-16-00-730-029



DO NOT BREATHE THE SMOKE. USE EYE PROTECTION. IF YOU USE THE VENTILATION SMOKE TUBE, DO NOT LET THE SMOKE TOUCH YOUR SKIN. TOO MUCH SMOKE FROM THE SMOKE TUBE CAN CAUSE CORROSION TO THE MATERIALS IN THE SMOKE DETECTION SYSTEM. IF THERE IS NOT SUFFICIENT AIR MOVEMENT IN THE AREA OR YOU GET RESPIRATORY PROBLEMS, USE AN APPLICABLE RESPIRATOR. IF YOU DO NOT OBEY THESE INSTRUCTIONS, INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR.



DO NOT USE CANNED OR AEROSOL SMOKE. CANNED OR AEROSOL SMOKE CAN CAUSE CONTAMINATION OF THE DETECTOR AND SAMPLING TUBES. THIS CAN CAUSE DAMAGE TO THE EQUIPMENT.

- (5) Use the smoke generator, COM-1645 and apply smoke adjacent to one of the sampling ports in the aft area of the aft cargo compartment.

SUBTASK 26-16-00-730-030

- (6) In the flight compartment, make sure these fire alarm indications occur:
- (a) The fire bell comes on
 - (b) The two master WARNING lights come on
 - (c) On the Cargo Fire/Engine Control Module, the AFT light for the AFT ARM switch comes on
 - (d) The EICAS warning message, FIRE CARGO AFT, shows on the upper display unit.

SUBTASK 26-16-00-730-031

- (7) Push the master WARNING/CAUTION switchlight to stop the fire bell.
- (a) Make sure the fire bell stops.

SUBTASK 26-16-00-730-032

- (8) Remove the smoke from the cargo compartment or let the concentration of smoke decrease.

SUBTASK 26-16-00-730-033

- (9) After approximately two minutes, make sure these indications occur:
- (a) The two master WARNING lights are off
 - (b) On the Cargo Fire/Engine Control Module, the AFT light for the AFT ARM switch is not on
 - (c) The EICAS warning message, FIRE CARGO AFT, does not show on the upper display unit.

SUBTASK 26-16-00-730-034

- (10) Use the smoke generator, COM-1645 and apply smoke adjacent to one of the sampling ports in the forward area of the aft cargo compartment.
- (a) In the flight compartment, make sure the fire bell comes on.

SUBTASK 26-16-00-730-035

- (11) Push the master WARNING/CAUTION switchlight to stop the fire bell.
- (a) Make sure the fire bell stops.

SUBTASK 26-16-00-730-036

- (12) Remove the smoke from the cargo compartment or let the concentration of smoke decrease.

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- (a) After approximately two minutes, make sure the AFT light for the AFT ARM switch is not on.

SUBTASK 26-16-00-730-037

- (13) Use the smoke generator, COM-1645 and apply smoke adjacent to one of the sampling ports in the center area of the aft cargo compartment.
 - (a) In the flight compartment, make sure the fire bell comes on.

SUBTASK 26-16-00-730-038

- (14) Push the master WARNING/CAUTION switchlight to stop the fire bell.
 - (a) Make sure the fire bell stops.

SUBTASK 26-16-00-730-039

- (15) Remove the smoke from the cargo compartment or let the concentration of smoke decrease.
 - (a) After approximately two minutes, make sure the AFT light for the AFT ARM switch is not on.

K. E/E Cooling Smoke Detection Test

SUBTASK 26-16-00-730-040

- (1) On the P5 panel in the flight compartment, make sure that the EQUIP COOLING switch on the Air Conditioning Module is in the AUTO position.

SUBTASK 26-16-00-730-041

- (2) Remove the sidewall liner to get access to the equipment cooling air filter (TASK 21-27-02-000-801). To remove the sidewall liner, do this task: Sidewall Liner Removal, TASK 25-52-06-000-801.

NOTE: The air filter is behind the sidewall liner forward of the forward cargo smoke detector.

SUBTASK 26-16-00-730-042



DURING THE E/E COOLING SMOKE DETECTION TEST, DO NOT LEAVE THE EQUIPMENT COOLING FANS OFF FOR MORE THAN APPROXIMATELY TEN MINUTES. IF THE EQUIPMENT COOLING FANS ARE OFF FOR TOO LONG, DAMAGE TO THE EQUIPMENT CAN OCCUR.

- (3) Use the smoke generator, COM-1645 and apply smoke into the equipment cooling air filter.

NOTE: To get a smoke detection indication for the E/E cooling smoke detector, it is necessary to use more smoke than used at the sampling ports in the ceiling of the cargo compartments.

- (a) Make sure the EICAS Advisory message, EQUIP COOLING OVRD, shows on the upper display unit.

SUBTASK 26-16-00-730-043

- (4) Remove the smoke from the equipment cooling air filter or let the concentration of smoke decrease.

SUBTASK 26-16-00-730-044

- (5) Wait a minimum of 60 seconds, make sure that the EICAS Advisory message, EQUIP COOLING OVRD, does not show on the upper display unit.

NOTE: The E/E cooling smoke alarm must be off to set the EQUIP COOLING switch back to the AUTO position. Push the EQUIP COOLING switch two times to set it back to AUTO.

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SUBTASK 26-16-00-730-045

- (6) In the Main Equipment Center, use the smoke generator, COM-1645 and apply smoke under the top of the E1 or E2 rack.
 - (a) Make sure the EICAS Advisory message, EQUIP COOLING OVRD, shows on the upper display unit.

SUBTASK 26-16-00-730-046

- (7) Remove the smoke from the E1 or E2 rack or let the concentration of smoke decrease.

SUBTASK 26-16-00-730-047

- (8) After at least two minutes, set the EQUIP COOLING switch back to the AUTO position.
 - (a) Make sure the EICAS Advisory message, EQUIP COOLING OVRD, does not show on the upper display unit.

SUBTASK 26-16-00-410-001



SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, THE FIRE EXTINGUISHING AGENT OR SMOKE CAN GET INTO THE PASSENGER COMPARTMENT DURING A FIRE.

- (9) Do this task: Sidewall Liner Installation, TASK 25-52-06-400-801.

L. Put the Airplane Back to Its Usual Condition

SUBTASK 26-16-00-840-009

- (1) Close the access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-16-00-840-011

- (2) Close the applicable cargo doors:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door
823	Aft Small Cargo Door

SUBTASK 26-16-00-840-081

- (3) Set the Maintenance Access Terminal (MAT) to the ground mode. Do this task: Air/Ground Mode Simulation, TASK 32-09-00-860-801.

————— **END OF TASK** —————

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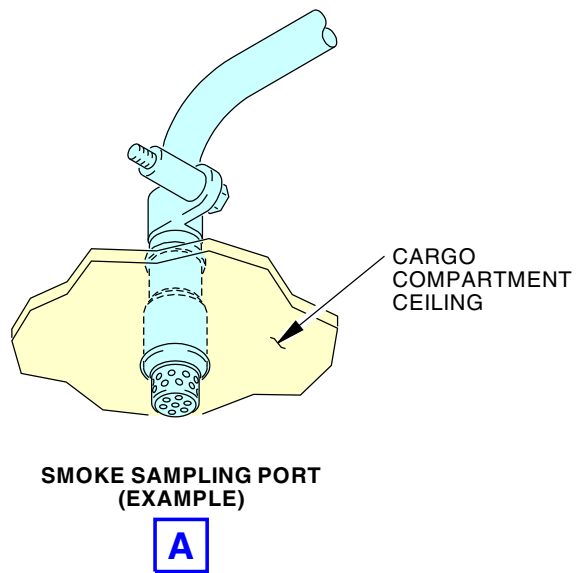
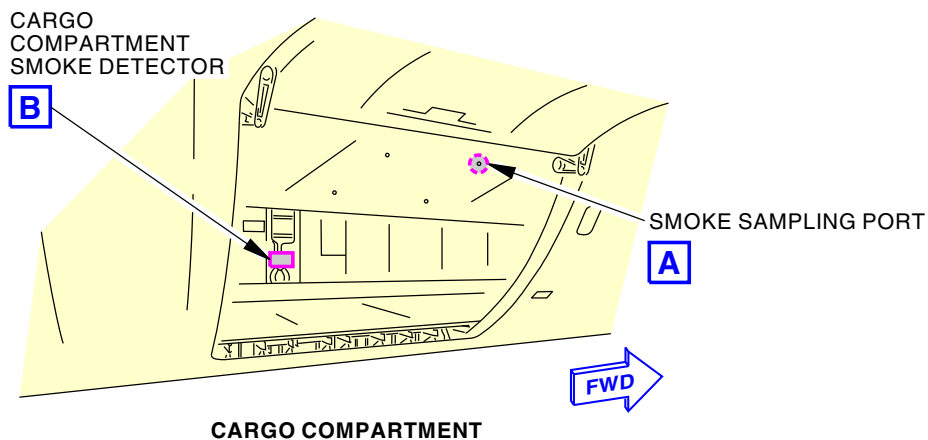
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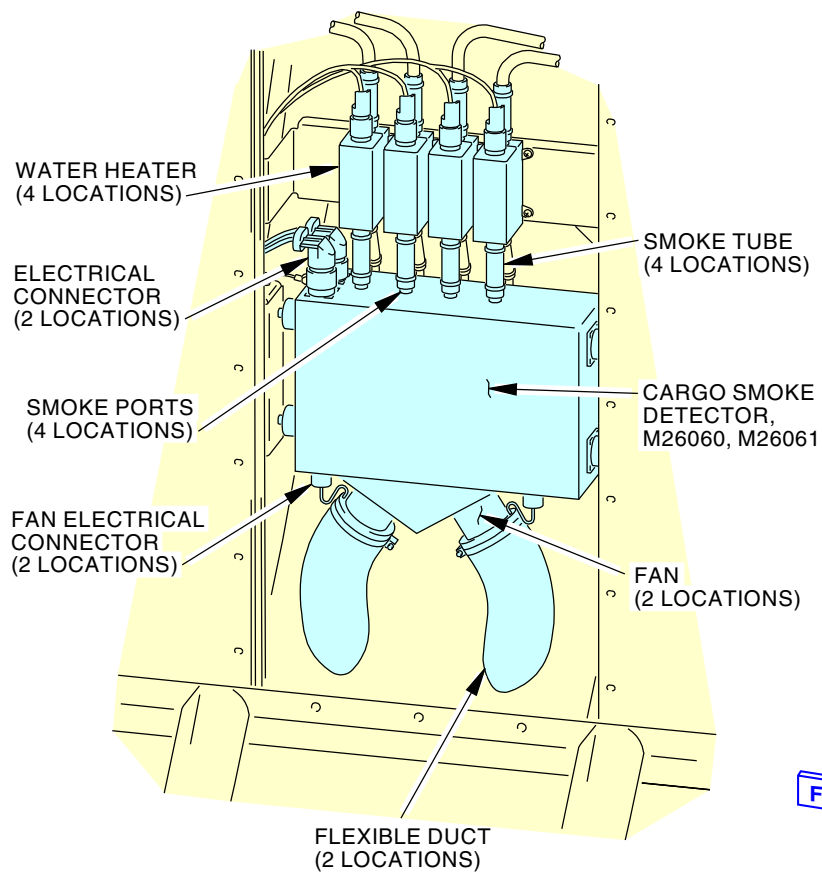
**Cargo Compartment Smoke Detection Test
Figure 504/26-16-00-990-803 (Sheet 1 of 2)**

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**CARGO COMPARTMENT SMOKE DETECTOR
(EXAMPLE)**

B

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**Cargo Compartment Smoke Detection Test
Figure 504/26-16-00-990-803 (Sheet 2 of 2)**

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LOWER CARGO COMPARTMENT SMOKE DETECTION TUBE - CLEANING/PAINTING

1. **General**

- A. Each of the forward and aft cargo compartments has three smoke sampling zones. Each zone consists of up to six diffusers which function as smoke sampling ports connected by tubing through a water separator to an inlet port on the cargo smoke detector.
- B. This procedure has a task which provides cleaning instructions for the lower cargo compartment smoke detection tubing. Performing the task cleans the tubing from a single sampling port to the water separator. The task is repeated for each sample port in the zone and is performed for each zone as required.

TASK 26-16-00-100-803

2. **Clean the Lower Cargo Compartment Smoke Detection Tubes**

(Figure 701)

A. **References**

Reference	Title
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-09-000-801	Ceiling Liner Removal (P/B 401)
26-16-00-710-801	Lower Cargo Compartment Smoke Detection Operational Test (P/B 501)

B. **Tools/Equipment**

Reference	Description
STD-1086	Gloves - Rubber
STD-1114	Air Source - Regulated, Dry, Filtered 0-150 PSIG with Pressure Gauge range 100 PSIG, 1 PSIG increment and +/-1 psi minimum accuracy

C. **Consumable Materials**

Reference	Description	Specification
B00068	Alcohol - Denatured, Ethyl (Ethanol)	AMS 3002, MIL-E-51454 Type II
B00130	Alcohol - Isopropyl	TT-I-735
G00034	Cotton Wiper - Process Cleaning Absorbent Wiper (Cheesecloth, Gauze)	BMS15-5 Class A
G00039	Cord - Fibrous, Nylon (100 Lb Strength)	MIL-C-5040 Type IA

D. **Location Zones**

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

E. **Clean the Smoke Detection Tubing**

NOTE: Two persons are necessary to put the cord into the tubing. One person pulls the cord from the spool and the other puts the cord into the tubing. You clean the tubes from a sample port to the water heater/separator in the zone. Then you do the procedure again for each sample port in the zone.

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SUBTASK 26-16-00-865-001

- (1) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-00-010-004

- (2) Remove the access panels to the water heater/separator (Ceiling Liner Removal, TASK 25-52-09-000-801).

NOTE: The sidewall panel locations are as follows:

<u>Location</u>	<u>Zone</u>	<u>Panel</u>
Fwd	1	121LW
	2, 3	121JW
Aft	1, 2	151KW
	3	151JW

SUBTASK 26-16-00-010-005

- (3) Cut the plastic tie. Remove the sampling port from the smoke detector rigid tubing.

SUBTASK 26-16-00-020-066

- (4) Remove the water heater/separator.

SUBTASK 26-16-00-030-001

- (5) Attach a 3/8-inch diameter nut to the end of the nylon cord, G00039.

SUBTASK 26-16-00-030-002

- (6) Put the nut end of the cord in the sample port.

NOTE: You can not easily put the cord directly from the spool into the tubing. You can more easily put the cord into the tubing when you put loose coils on a flat surface. You can also pull the cord from the spool manually (two persons).

- (a) With the air source, Regulated Dry Filtered Air Source, STD-1114, put compressed air immediately behind the nut. Keep a sufficient clearance between the air source and the smoke tube. Continue to put the cord into the tube. Stop when it comes out at the water heater/seperator location.

SUBTASK 26-16-00-030-003



OBEY THESE INSTRUCTIONS WHEN YOU CLEAN THE SMOKE DETECTOR AND TUBING: (1) MAKE SURE THAT THE AREA HAS SUFFICIENT AIRFLOW. (2) KEEP THE ALCOHOL AWAY FROM HEAT, SPARKS OR FLAMES. (3) DO NOT BREATHE THE FUMES FROM THE ALCOHOL. (4) PUT ON RUBBER GLOVES. ALCOHOL IS A FLAMMABLE AND POISONOUS SOLVENT THAT CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (7) Put the rubber glove, STD-1086 on.

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SUBTASK 26-16-00-030-004

- (8) Attach a 3-inch by 16-inch cotton wiper, G00034, soaked with alcohol, B00068 or alcohol, B00130, at its middle to the cord at the sampling port end.

SUBTASK 26-16-00-720-056

- (9) From the nut end of the cord, pull the cloth through the tubing.

SUBTASK 26-16-00-700-022

- (10) Examine the cloth for contamination which can prevent airflow in the tubing. Do the procedure again with a new cloth soaked with alcohol, B00068 or alcohol, B00130 until the cloth is free from contamination.

SUBTASK 26-16-00-940-001

- (11) Remove the cord and cloth from the tubing.

SUBTASK 26-16-00-430-001

- (12) Connect the sampling port and install a plastic tie.

SUBTASK 26-16-00-720-057

- (13) Do the procedure again for each sample port in the zone.

SUBTASK 26-16-00-410-002

- (14) Install the water heater/separator.

SUBTASK 26-16-00-410-003

- (15) Install the access panels.

SUBTASK 26-16-00-865-002

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

F. Blowing Out Procedure for Smoke Sampling Tubes

NOTE: This procedure is an optional procedure to clean the Lower Cargo Compartment Smoke Detection Tubes.

SUBTASK 26-16-00-860-048

- (1) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2

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(Continued)

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-00-010-011

- (2) Remove the sidewall lining to get access to the Cargo Smoke Detector (Sidewall Liner Removal, TASK 25-52-06-000-801).

SUBTASK 26-16-00-020-070

- (3) Disconnect tube for each zone from water separator.

SUBTASK 26-16-00-800-002

- (4) Cover all of the sampling ports in Cargo Compartment by cotton wiper, G00034.

SUBTASK 26-16-00-780-002

- (5) Blow out using air nozzle (gradually increase pressure to approximately 50 psi) for 1 minute from the disconnecting point to the sampling ports (opposite direction of the flow from normal operation) (Figure 702).

SUBTASK 26-16-00-020-071

- (6) Remove all of the cotton wiper, G00034 and discard them.

SUBTASK 26-16-00-210-002

- (7) Do a visual inspection for all of the ports area, and clean them up if necessary.

SUBTASK 26-16-00-420-039

- (8) Connect tube to Cargo Smoke Detector.

SUBTASK 26-16-00-160-026

- (9) Do the blowing out procedure for each of the remaining zones 2, 3 and 4.

SUBTASK 26-16-00-410-008

- (10) Close the sidewall lining which was opened.

SUBTASK 26-16-00-860-049

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-00-710-063

- (12) Do this task: (Lower Cargo Compartment Smoke Detection Operational Test, TASK 26-16-00-710-801).
- (a) During the test check to make sure that there is air flow on each sampling port.

SUBTASK 26-16-00-160-027

- (13) Repeat the blowing out procedure for the AFT and Forward cargo compartment.

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SUBTASK 26-16-00-840-059

- (14) Put the airplane back to the normal condition.

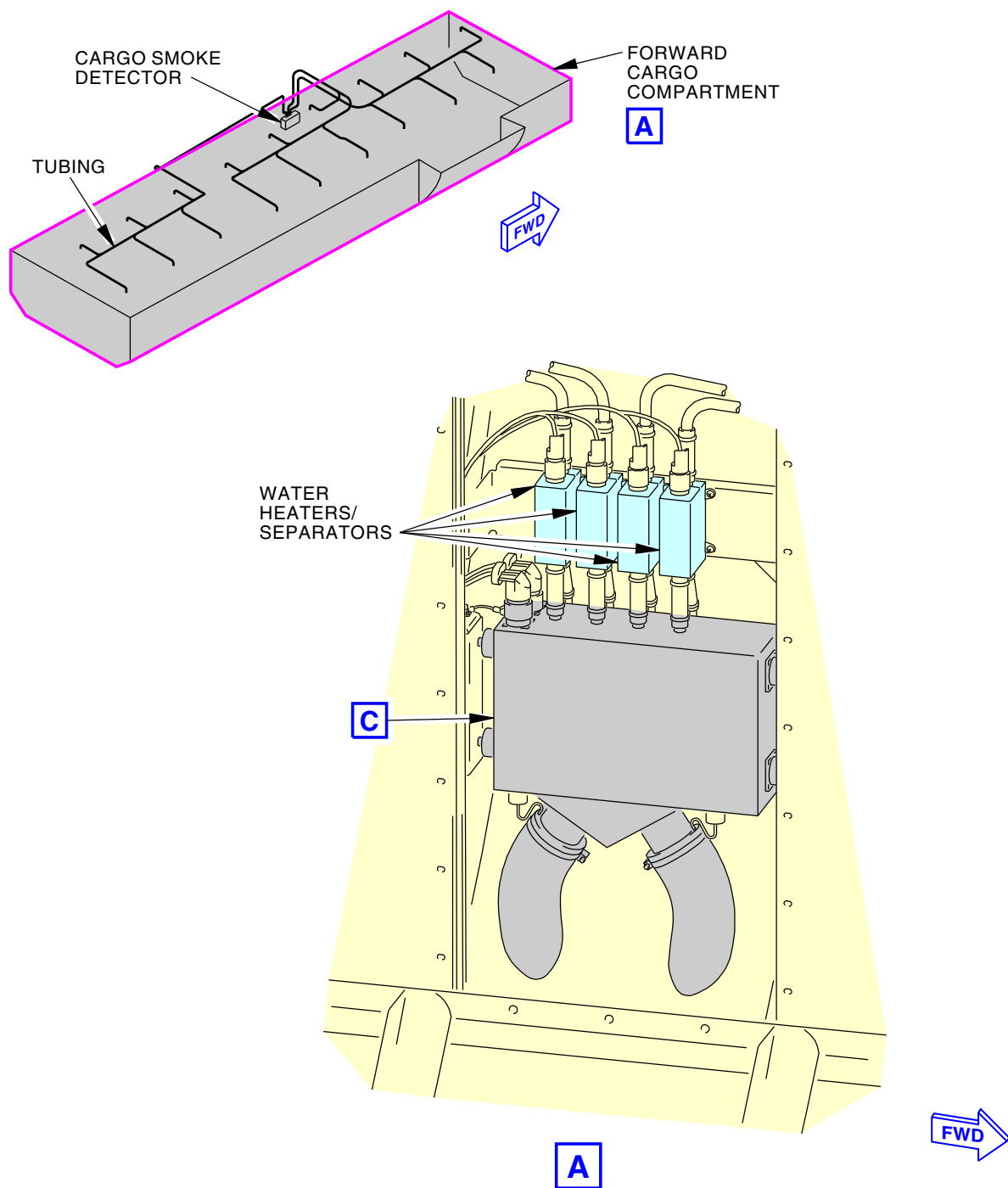
———— **END OF TASK** ————

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W50673 S0000125450_V2

**Smoke Detection Tube Cleaning
Figure 701/26-16-00-990-805 (Sheet 1 of 3)**

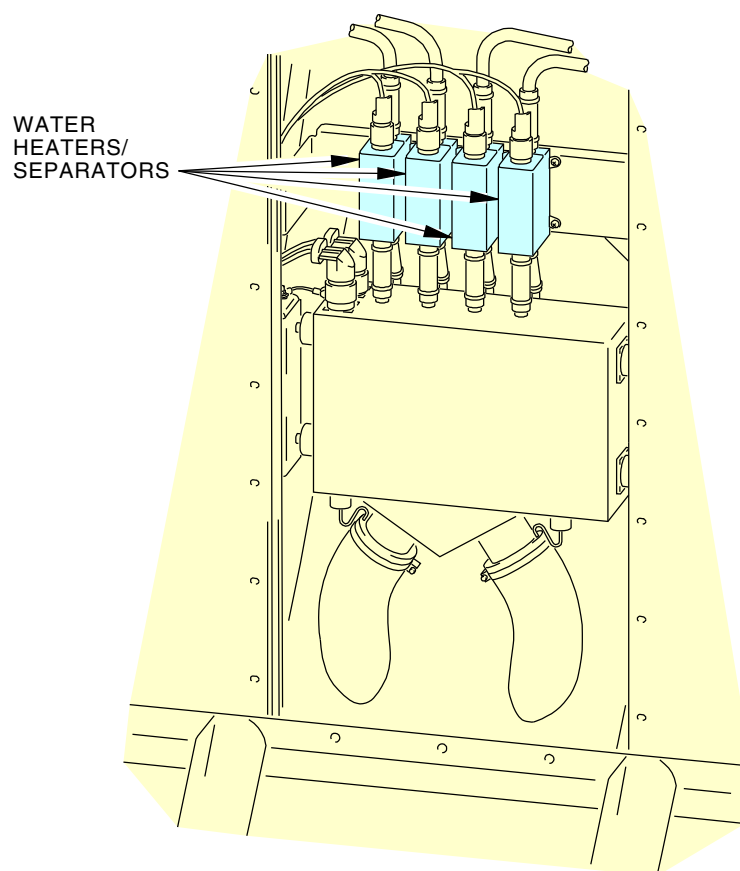
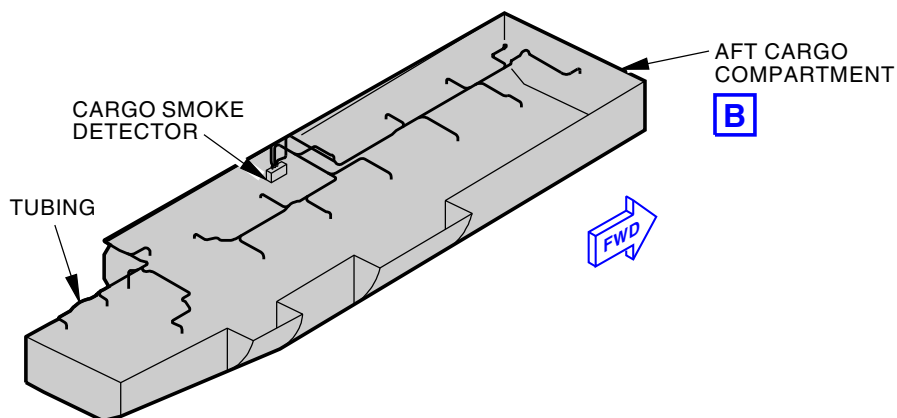
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W50672 S0000125451_V2

**Smoke Detection Tube Cleaning
Figure 701/26-16-00-990-805 (Sheet 2 of 3)**

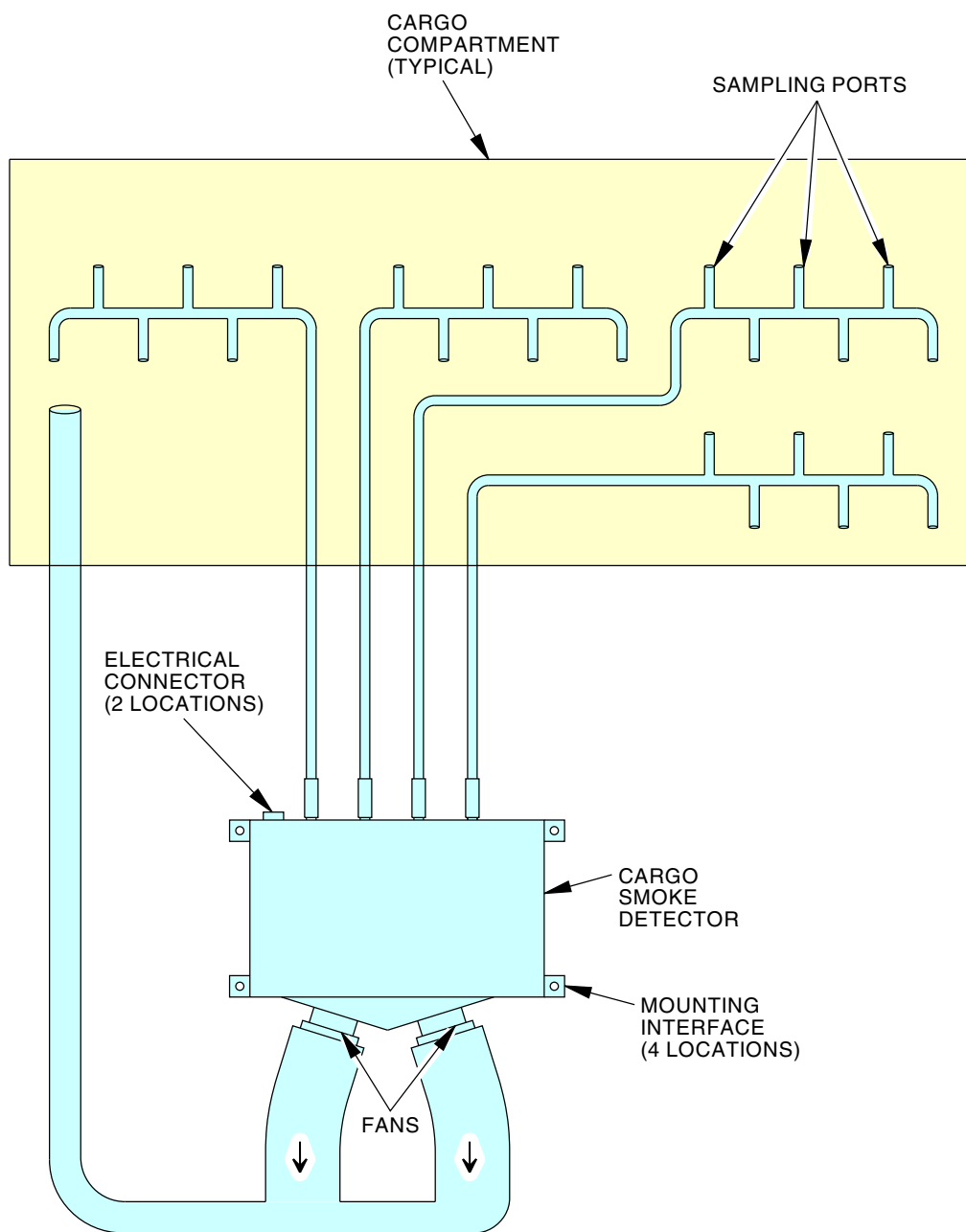
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NOTE:
WATER HEATERS/SEPARATORS
NOT SHOWN FOR CLARITY.



W50670 S0000125452_V3

Smoke Detection Tube Cleaning
Figure 701/26-16-00-990-805 (Sheet 3 of 3)

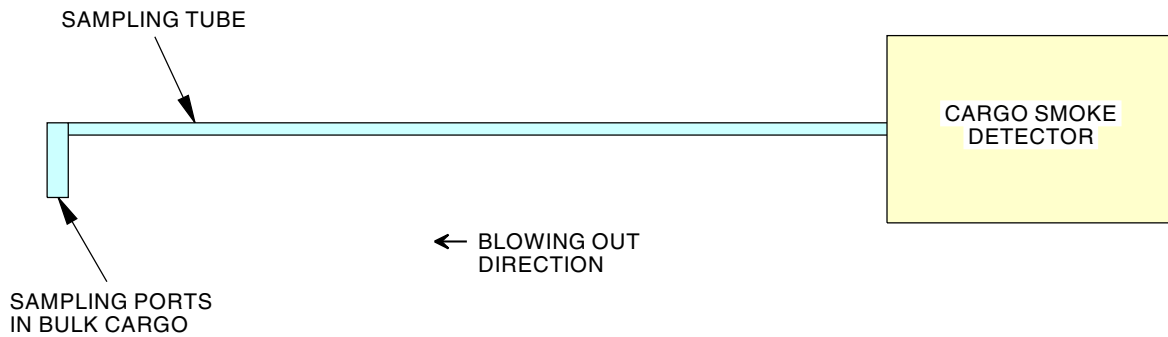
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**BLOW OUT AIR IN THE OPPOSITE
 DIRECTION OF NORMAL AIR FLOW
 (AS SHOWN BY ARROW)**

2451761 S0000569621_V2

Simplified Diagram For Sampling Tube Blow-Out Procedure
Figure 702/26-16-00-990-813

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LOWER CARGO SMOKE DETECTORS - MAINTENANCE PRACTICES

TASK 26-16-01-400-802

1. Cargo Smoke Detectors Software Installation

A. General

- (1) This procedure tells you how to install software in the Cargo Smoke Detector (CSD).
 - (a) The name of the software part loaded into each channel of a CSD follows:
CSDS Operational Program Software (OPS)
REF: AIPC 46-00-00-26C
Using the name, the specific software part number for an aircraft can be identified in the Illustrated Parts Catalog (IPC).
- (2) You must install software in each channel of the CSDs.
- (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) If you do not know if the CSD 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: Lower Cargo Smoke Detector Installation, TASK 26-16-01-400-801.
 - (a) You can find the software configuration check in this task: Lower Cargo Smoke Detector Installation, TASK 26-16-01-400-801
- (5) You can use the Ground Support Equipment (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.
- (6) You can install the software from disks, the Maintenance Access Terminal (MAT) hard drive or the PMAT hard drive (if available). It is recommended that you install software from the MAT or PMAT hard drive. To install new software on the MAT or PMAT hard drive, 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 CSD, the load process first erases the old software and then installs the new software. If you install software directly to the CSD 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 CSD.
 - (a) It is recommended that you remove old software part numbers from the MAT or PMAT hard drive 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.

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- (7) 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.

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- (8) The airplane must be on the ground with the engines off before you can install software.
- (9) 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)
26-16-01-400-801	Lower Cargo Smoke Detector Installation (P/B 401)
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)
AIPC 46-00-00-26C	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 26-16-01-860-004

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

SUBTASK 26-16-01-470-001

- (2) Do these steps to prepare for the software calibration.
 - (a) Remove the loose dirt, fluid and other unwanted materials from the forward and aft cargo compartments.

NOTE: You can use a vacuum cleaner, broom, brush, wiper or sponge to remove loose material. If necessary, you can use compressed air to remove unwanted material in hard areas to access.

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(b) Close and lock all cargo compartment doors. After 30 minutes install the software.

NOTE: The calibration of the CSD will automatically start after the new V07.01 is installed, if three conditions are met: 1) Cargo Doors are closed, 2) Weight on Wheels (ground mode), and 3) Engines are off. The CSD calibration will be one hour if those conditions are correct. But, if the cargo door opens, the calibration will stop. The calibration will start again when all three conditions are correct.

NOTE: You can install the V07.01 software on the spare CSD in the shop. But the CSD will not start to calibrate until it is on the airplane and the three conditions described above are correct. Calibration is a ONE TIME event. After a CSD is calibrated, you can take it off and use it as spare. To install the CSD on another airplane, it is not necessary to do the one hour calibration again.

NOTE: There are no instructions to "stop/prevent" the calibration on a CSD with V07.01 software. The alternative is to install the previous version software V06.00 on the CSD. If necessary, the airline can install the V06.00 in one cargo compartment and V07.01 in the other.

NOTE: You can install the software again to start a new calibration procedure.

SUBTASK 26-16-01-420-009

(3) Use a MAT to install software in the cargo smoke detectors:

NOTE: Make sure that you know the correct software part number.

(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 for the component that will receive the software:

- 1) SELECT DESTINATION
- 2) 26 Cargo Smoke Detection System
 - a) Cargo Smoke Detector Ch 1 (CSD) (lower aft)
or
 - b) Cargo Smoke Detector Ch 1 (CSD) (lower forward)
or
 - c) Cargo Smoke Detector Ch 2 (CSD) (lower aft)
or
 - d) Cargo Smoke Detector Ch 2 (CSD) (lower forward)

3) CONTINUE

(d) Make these selections for the source of the software:

- 1) SELECT SOURCE
- 2) Set the source of the software.

NOTE: The selection is not necessary if the Disk Drive is the only source.

- 3) Set the correct software part number from the display.
- 4) CONTINUE

(e) Set START to start the software installation.

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- (f) When the software installation is completed, make sure that the correct software part number shows on the display.
- (g) Set CONTINUE to remove the configuration display.

SUBTASK 26-16-01-420-010

- (4) Install software in the other channel.

———— **END OF TASK** ————

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LOWER CARGO SMOKE DETECTORS - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) A removal of the cargo compartment smoke detector
 - (2) An installation of the cargo compartment smoke detector.
- B. There are two cargo smoke detectors. One is in the left side of the aft cargo compartment behind the cargo liner opposite the cargo door. The other is in the left side of the forward cargo compartment behind the cargo liner opposite the cargo door.
- C. The cargo smoke detector can be only part number 2119835-7. The smoke detector has a water drain manifold attached to it.

TASK 26-16-01-000-801

2. Lower Cargo Smoke Detector Removal

(Figure 401, Figure 402)

NOTE: This procedure is a scheduled maintenance task.

A. **References**

Reference	Title
25-52-06-000-801	Sidewall Liner Removal (P/B 401)

B. **Location Zones**

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
121	Forward Cargo Compartment, Left
151	Aft Cargo Compartment, Left
211	Flight Compartment, Left
212	Flight Compartment, Right

C. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door
823	Aft Small Cargo Door

D. **Prepare for the Removal**

SUBTASK 26-16-01-010-001

- (1) Open this access door to get access to the Power Management Panels:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-16-01-840-001

- (2) Open the applicable circuit breakers and install safety tags:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

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Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-01-840-002

- (3) Open the applicable cargo doors:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door
823	Aft Small Cargo Door

E. Lower Cargo Smoke Detector Removal

SUBTASK 26-16-01-010-002

- (1) Remove the sidewall lining to get access to the applicable cargo smoke detector (TASK 25-52-06-000-801).

SUBTASK 26-16-01-020-001

- (2) Do these steps:
- Remove the insulation blanket [17].
 - Disconnect the two electrical connectors [11] from the top of the smoke detector [5] (Figure 401).
 - Remove the screws [16], washers [15], washers [13], and nuts [14] to disconnect the bonding jumpers [12] from the smoke detector [5].
 - Let the bonding jumpers [12] stay attached to the airplane structure.
 - Disconnect the smoke tubes [1] from the smoke ports [10].
 - Make a note that shows the smoke port [10] to which each smoke tube [1] was connected.
 - Remove water drain tubes [2] from the water drain manifold [18].
 - Put caps or plastic bags on the smoke tubes [1] and water drain tube [2] to keep dirt or contamination out of the tubes.
 - Disconnect the fan electrical connectors [9] from the smoke detector [5].
 - Loosen the clamps [8] that hold the flexible ducts [7] to the fans [6].
 - Disconnect the flexible ducts [7] from the fans [6].
 - Remove the four mounting bolts [3] and washers [4] that hold the smoke detector [5] to the airplane structure.
 - Remove the smoke detector [5].

————— END OF TASK —————

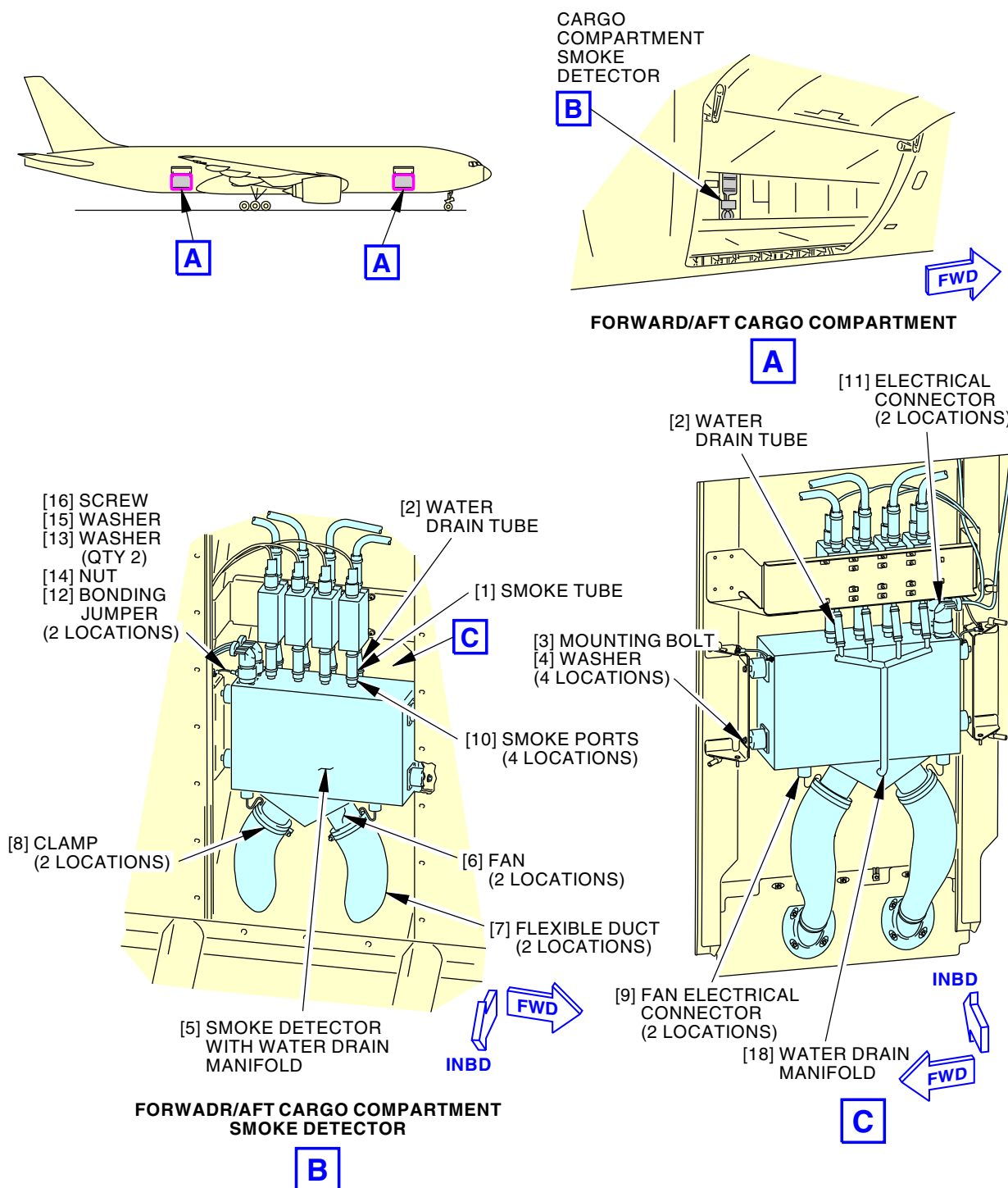
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2589238 S0000625724_V1

Cargo Compartment Smoke Detector Installation
Figure 401/26-16-01-990-803

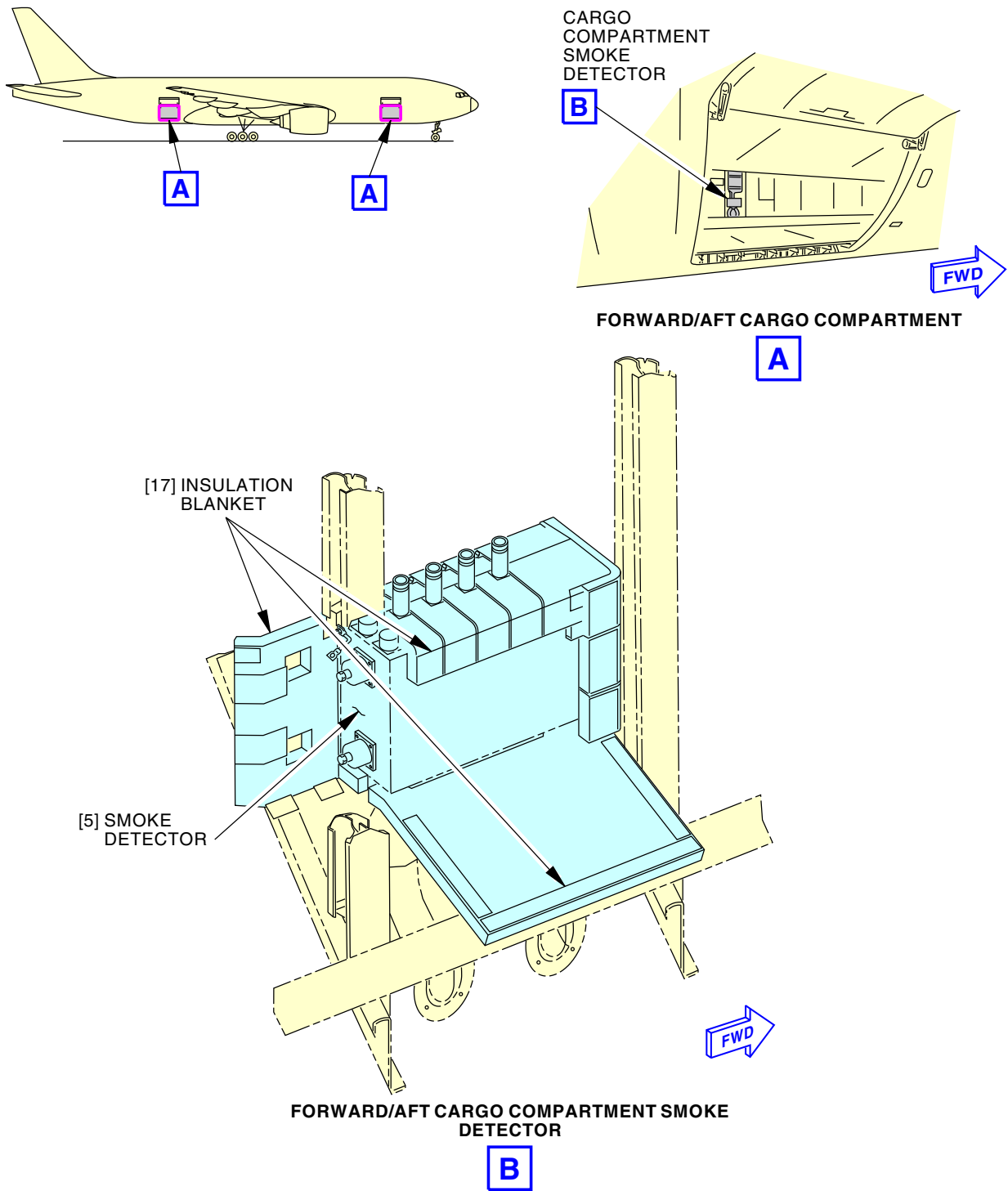
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2201349 S0000490003_V3

**Cargo Compartment Smoke Detector Insulation Blanket
Figure 402/26-16-01-990-806**

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TASK 26-16-01-400-801

3. Lower Cargo Smoke Detector Installation

(Figure 401, Figure 402)

NOTE: This procedure is a scheduled maintenance task.

A. General

- (1) Do the installation test after the installation. The installation test makes sure that the cargo smoke detector has the correct software.
- (2) Make sure that the Operational Program Software (OPS) is installed. The configuration check will show if the 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.

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
26-16-00-710-801	Lower Cargo Compartment Smoke Detection Operational Test (P/B 501)
26-16-01-400-802	Cargo Smoke Detectors Software Installation (P/B 201)
45-10-00-740-808	How to Use the Central Maintenance Computing System (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-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-1082	Source - Air, Regulated, Dry Filtered, 0-50 PSIG

D. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
121	Forward Cargo Compartment, Left
151	Aft Cargo Compartment, Left
211	Flight Compartment, Left
212	Flight Compartment, Right

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E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door
823	Aft Small Cargo Door

F. Prepare for the Installation

SUBTASK 26-16-01-010-003

- (1) Open this access door to get access to the Power Management Panels:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-16-01-860-001

- (2) Make sure the applicable circuit breakers are open and have safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

Row	Col	Number	Name
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-01-840-003

- (3) Open the applicable cargo doors:

Number	Name/Location
821	Forward Large Cargo Door
823	Aft Small Cargo Door

G. Lower Cargo Smoke Detector Installation

SUBTASK 26-16-01-860-002

- (1) Do these steps:
- Remove the caps or plastic bags that are installed on the water drain tube [2] and smoke tubes [1] (Figure 401).
 - Use the 0-50 psig dry filtered regulated air source, STD-1082, to blow air through the smoke tubes [1].
 - Put the smoke detector [5] in the correct position.
 - Install the four mounting bolts [3] and washers [4] that hold the smoke detector [5] to the airplane structure.
 - Connect the flexible ducts [7] to the fans [6].
 - Tighten the clamps [8] to 13 ±3 in-lb (1 ±1 N·m).
 - Connect the smoke tubes [1] to the applicable smoke ports [10].
 - Make sure that the tube insulation is in position.
 - Connect two bonding jumpers [12] to the smoke detector [5] with the screws [16], washers [13], washers [15], and nuts [14].
 - Tighten the nuts [14].

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- (h) Connect the water drain tubes [2] to the water drain manifold [18].
- (i) Connect the two electrical connectors [11] to the top of the smoke detector [5].
- (j) Make sure that the two fan electrical connectors [11] are connected to the smoke detector [5].
- (k) Do a check of the resistance between the nuts [14] and the airplane structure.
 - 1) Use a intrinsically safe approved bonding meter, COM-1550, which can measure 0.0001 ohm.
 - 2) Make sure that the resistance is less than 0.0025 ohm.
 - 3) If the resistance is more than 0.0025 ohm, do these steps:
 - a) Clean the mating surfaces with the solvent, B0003.
 - b) Do a resistance check between the nuts [14] and the airplane structure again.
- (l) Put the insulation blanket [17] on the smoke detector [5].
 - 1) Fold the insulation blanket [17] around the smoke detector [5] only.
 - 2) Make sure that all slits are fully closed.



WARNING

SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, THE FIRE EXTINGUISHING AGENT OR SMOKE CAN CAUSE INJURIES.

- (m) Do this task: Sidewall Liner Installation, TASK 25-52-06-400-801.

SUBTASK 26-16-01-860-003

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

H. Lower Cargo Smoke Detector Installation Test

SUBTASK 26-16-01-860-005

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

SUBTASK 26-16-01-750-001

- (2) Use a Maintenance Access Terminal (MAT) to do a software configuration check of the Cargo Smoke Detection system:

NOTE: Make sure that you know the correct software part number for the cargo smoke detector. Look for the software part number on the display. For the cargo smoke detector to be an approved installation, the correct software part number must be installed.

- (a) Make these selections on the MAT:
 - 1) ONBOARD MAINTENANCE

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- 2) LINE MAINTENANCE
 - 3) SYSTEM CONFIGURATION
 - 4) 26 Cargo Smoke Detection System
 - 5) CONTINUE
- (b) Find these components on the display and make sure that the software part numbers are correct:

NOTE: The configuration check will show a failure if the OPS is not installed.

- 1) Cargo Smoke Detector Ch 1 (CSD) (lwr aft)
 - 2) Cargo Smoke Detector Ch 1 (CSD) (lwr fwd)
 - 3) Cargo Smoke Detector Ch 2 (CSD) (lwr aft)
 - 4) Cargo Smoke Detector Ch 2 (CSD) (lwr fwd)
- (c) Select GO BACK to remove the configuration display.

SUBTASK 26-16-01-750-002

- (3) If the part number is incorrect, do this task: Cargo Smoke Detectors Software Installation, TASK 26-16-01-400-802.

SUBTASK 26-16-01-710-001

- (4) Do this task: Lower Cargo Compartment Smoke Detection Operational Test, TASK 26-16-00-710-801.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 26-16-01-010-004

- (1) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-16-01-840-004

- (2) Close the applicable cargo doors:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door
823	Aft Small Cargo Door

———— **END OF TASK** ————

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LOWER CARGO SMOKE DETECTOR FANS - REMOVAL/INSTALLATION

1. General

- A. This procedure has two tasks. The first task removes the fans on the smoke detector in the lower cargo compartment. The second task installs the fans on the smoke detector in the lower cargo compartment.
- B. There are two smoke detectors in the lower cargo compartments. One smoke detector is in the left side of the aft cargo compartment behind the cargo lining. The other is in the left side of the forward cargo compartment behind the cargo lining. Each smoke detector has two fans. It is not necessary to remove the smoke detector to replace the fans.

TASK 26-16-02-000-801

2. Lower Cargo Smoke Detector Fans Removal

(Figure 401)

A. **References**

Reference	Title
25-52-06-000-801	Sidewall Liner Removal (P/B 401)

B. **Location Zones**

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
121	Forward Cargo Compartment, Left
151	Aft Cargo Compartment, Left

C. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door
823	Aft Small Cargo Door

D. **Prepare for the Removal**

SUBTASK 26-16-02-010-001

- (1) Open this access door to get access to the Power Management Panels::

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-16-02-840-001

- (2) Open the applicable circuit breakers and install safety tags:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

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SUBTASK 26-16-02-840-003

- (3) Open the applicable cargo doors:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door
823	Aft Small Cargo Door

E. Remove the Fan

SUBTASK 26-16-02-010-002

- (1) To get access to the applicable cargo smoke detector, do this task: Sidewall Liner Removal, TASK 25-52-06-000-801.

SUBTASK 26-16-02-020-001

- (2) Disconnect the fan electrical connector [2] from the smoke detector [1].

SUBTASK 26-16-02-020-002

- (3) Loosen the clamp [4] that holds the flexible duct [5] to the fan [3].

SUBTASK 26-16-02-020-003

- (4) Disconnect the flexible duct [5] from the fan [3].

SUBTASK 26-16-02-020-004

- (5) Remove the screws [6] that hold the fan [3] to the smoke detector [1].
- (a) Keep the screws [6] to use when you do the smoke detector fan installation.
- NOTE: Some fans have a ring [7] which can be removed. The ring is used with the screws [6] to attach the fan [3] to the smoke detector [1]. Make sure to keep this ring.

SUBTASK 26-16-02-020-008

- (6) Remove the fan [3].

————— END OF TASK —————

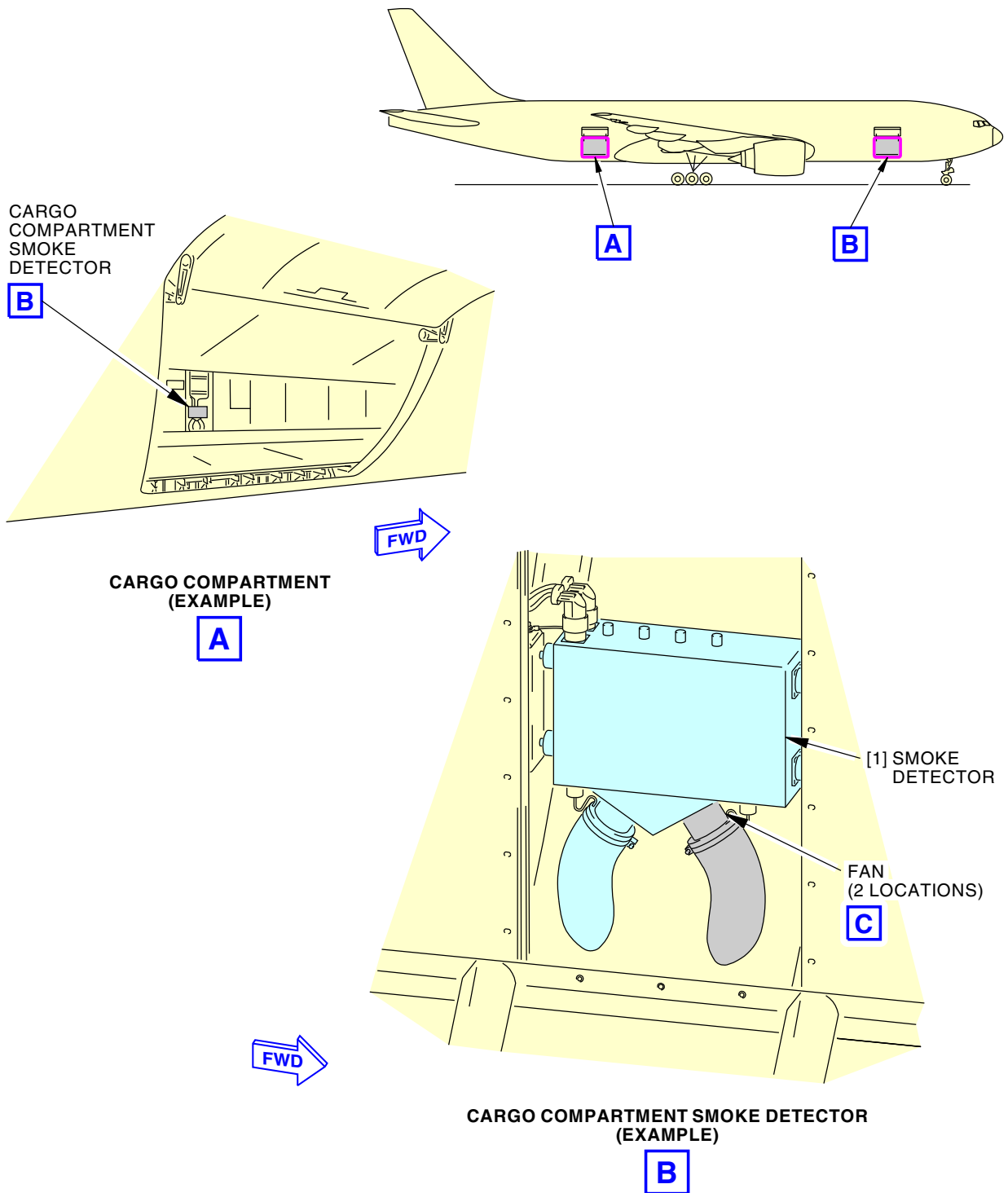
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C67981 S0006412019_V2

Cargo Compartment Smoke Detector Fan Installation
Figure 401/26-16-02-990-801 (Sheet 1 of 2)

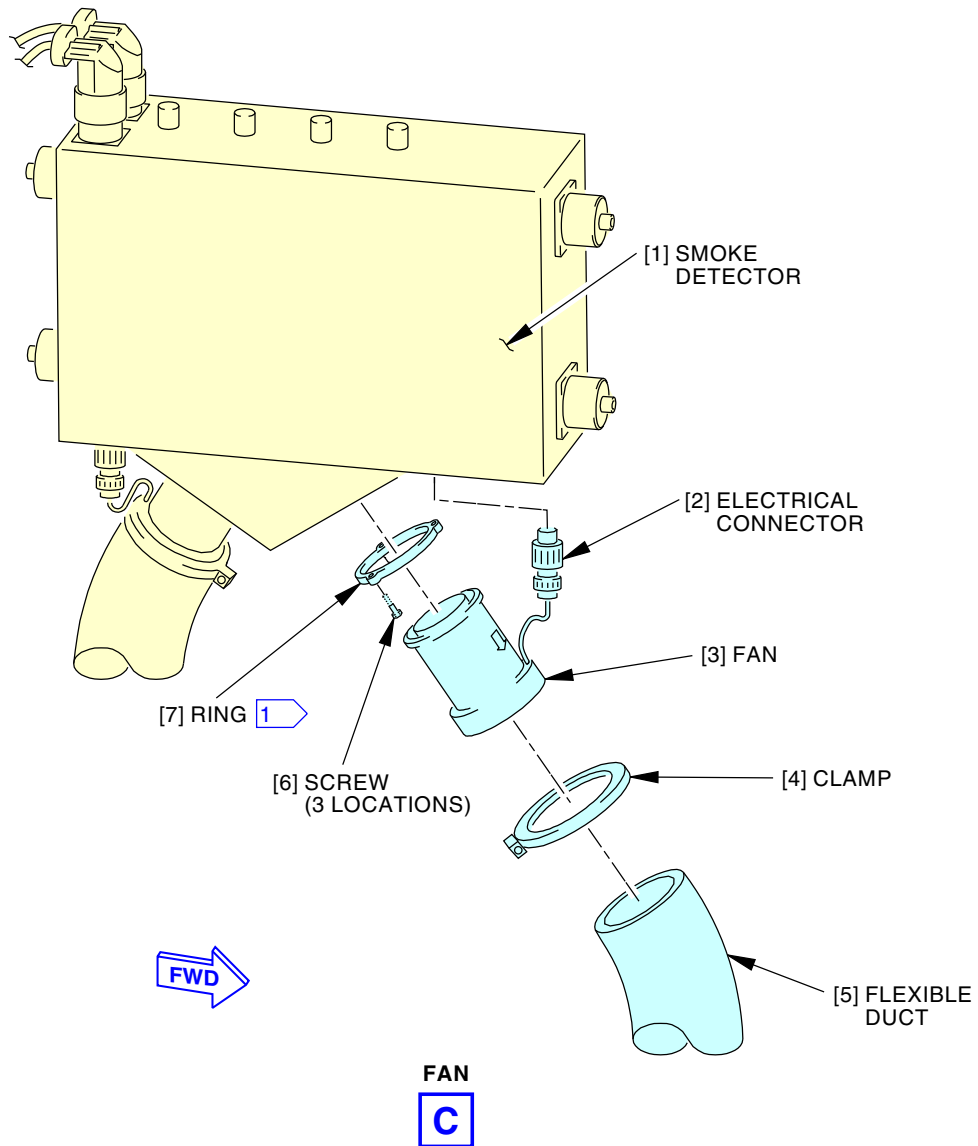
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1 SOME FANS HAVE AN OPTIONAL CONFIGURATION WITH A RING, WHICH CAN BE REMOVED.

C67982 S0006412020_V3

Cargo Compartment Smoke Detector Fan Installation
Figure 401/26-16-02-990-801 (Sheet 2 of 2)

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TASK 26-16-02-400-801

3. Lower Cargo Smoke Detector Fans Installation

(Figure 401)

A. References

Reference	Title
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
26-16-00-710-801	Lower Cargo Compartment Smoke Detection Operational Test (P/B 501)

B. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
121	Forward Cargo Compartment, Left
151	Aft Cargo Compartment, Left
211	Flight Compartment, Left
212	Flight Compartment, Right

C. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door
823	Aft Small Cargo Door

D. Prepare for the Installation

SUBTASK 26-16-02-010-003

- (1) Open this access door to get access to the Power Management Panels:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-16-02-840-002

- (2) Make sure the applicable circuit breakers are open and have safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

Row	Col	Number	Name
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-02-840-004

- (3) Open the applicable cargo doors:

Number	Name/Location
821	Forward Large Cargo Door
823	Aft Small Cargo Door

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E. Install the Fan

SUBTASK 26-16-02-420-001

- (1) If the ring [7] is available then install the ring [7] on the fan [3].
 - (a) Put the fan [3] in the correct position and install the screws [6] that hold the fan [3] to the smoke detector [1].

SUBTASK 26-16-02-420-002

- (2) If the ring [7] is not available then use the screws [6] to install the fan [3] to the smoke detector [1].

SUBTASK 26-16-02-420-003

- (3) Connect the fan electrical connector [2] to the smoke detector [1].

SUBTASK 26-16-02-420-004

- (4) Connect the flexible duct [5] to the fan [3].

SUBTASK 26-16-02-420-005

- (5) Tighten the clamp [4] to 13 ±3 in-lb (1 ±1 N·m).

SUBTASK 26-16-02-410-001



SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, THE SMOKE CAN GET INTO THE PASSENGER COMPARTMENT DURING A FIRE.

- (6) Do this task: Sidewall Liner Installation, TASK 25-52-06-400-801.

F. Lower Cargo Smoke Detector Fan - Installation Test

SUBTASK 26-16-02-840-006

- (1) Remove the safety tags and close the applicable circuit breakers:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-02-710-001

- (2) Do this task: Lower Cargo Compartment Smoke Detection Operational Test, TASK 26-16-00-710-801.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 26-16-02-010-004

- (1) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

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SUBTASK 26-16-02-840-005

- (2) Close the applicable cargo doors:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door
823	Aft Small Cargo Door

———— **END OF TASK** ————

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LOWER CARGO HEATER - REMOVAL/INSTALLATION

1. General

- A. This procedure has two tasks. The first task removes a lower cargo heater in the lower cargo compartment. The second task installs a lower cargo heater in the lower cargo compartment.
- B. There are eight heaters in the lower cargo compartment. Four heaters are on the smoke detector in the forward cargo compartment. Four more heaters are on the smoke detector in the aft cargo compartment.

TASK 26-16-06-000-801

2. Lower Cargo Heater Removal

(Figure 401)

A. References

Reference	Title
25-52-06-000-801	Sidewall Liner Removal (P/B 401)

B. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
121	Forward Cargo Compartment, Left
151	Aft Cargo Compartment, Left

C. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door
823	Aft Small Cargo Door

D. Prepare for the Removal

SUBTASK 26-16-06-010-001

- (1) Open this access door to get access to the Power Management Panels:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-16-06-840-001

- (2) Open the applicable circuit breakers and install safety tags:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

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SUBTASK 26-16-06-840-002

- (3) Open the applicable cargo doors:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door
823	Aft Small Cargo Door

E. Remove the Heater

SUBTASK 26-16-06-010-002

- (1) To get access to the applicable cargo heater, do this task: Sidewall Liner Removal, TASK 25-52-06-000-801.

SUBTASK 26-16-06-020-001

- (2) Disconnect the electrical connector from the top of the water heater [1].

SUBTASK 26-16-06-020-002

- (3) Disconnect the straps [2] and tube assemblies from the top and bottom of the water heater [1].

SUBTASK 26-16-06-020-003

- (4) Remove the four screws [3] that connect the water heater [1] to the bracket.

SUBTASK 26-16-06-020-004

- (5) Remove the water heater [1].

————— END OF TASK —————

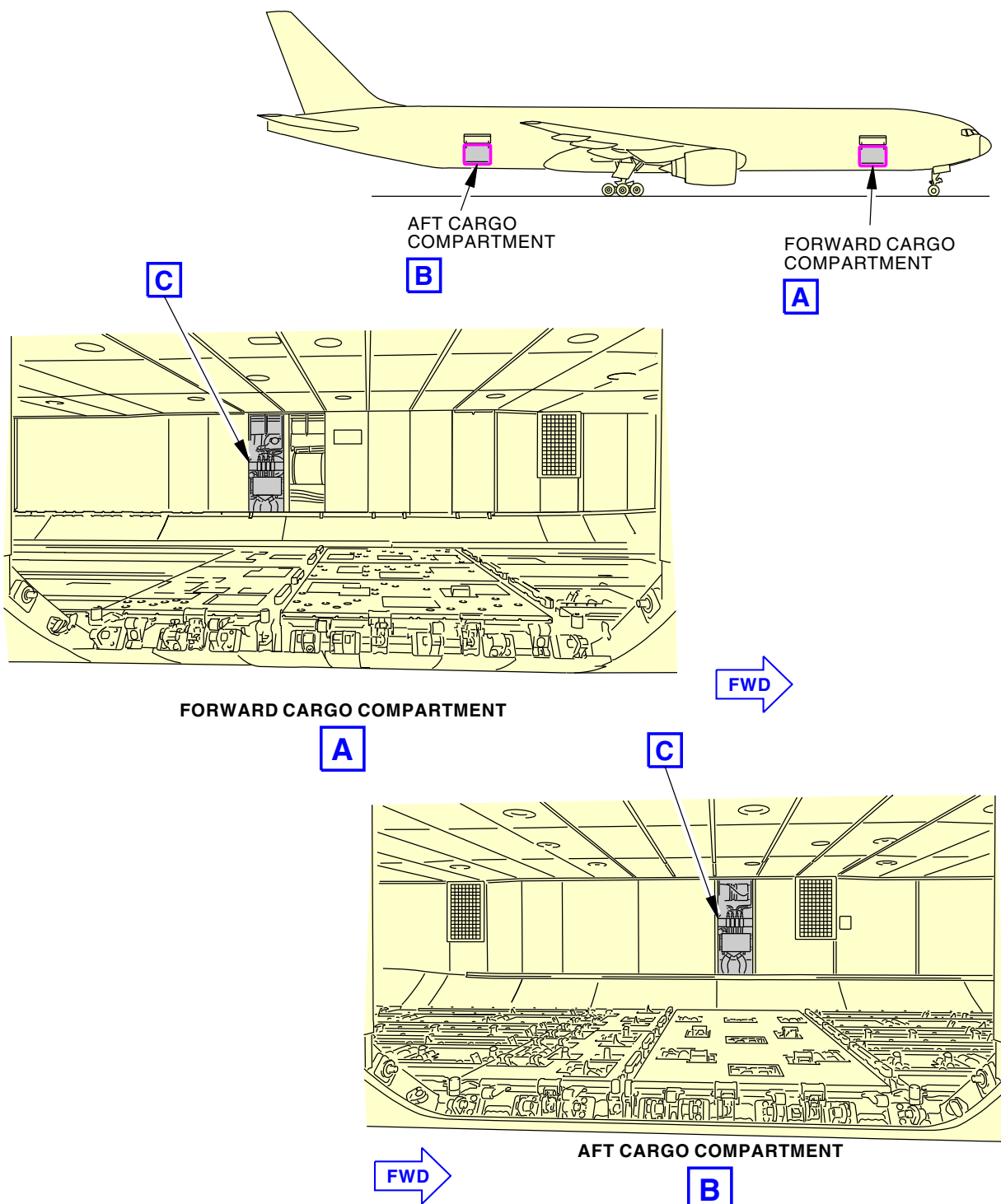
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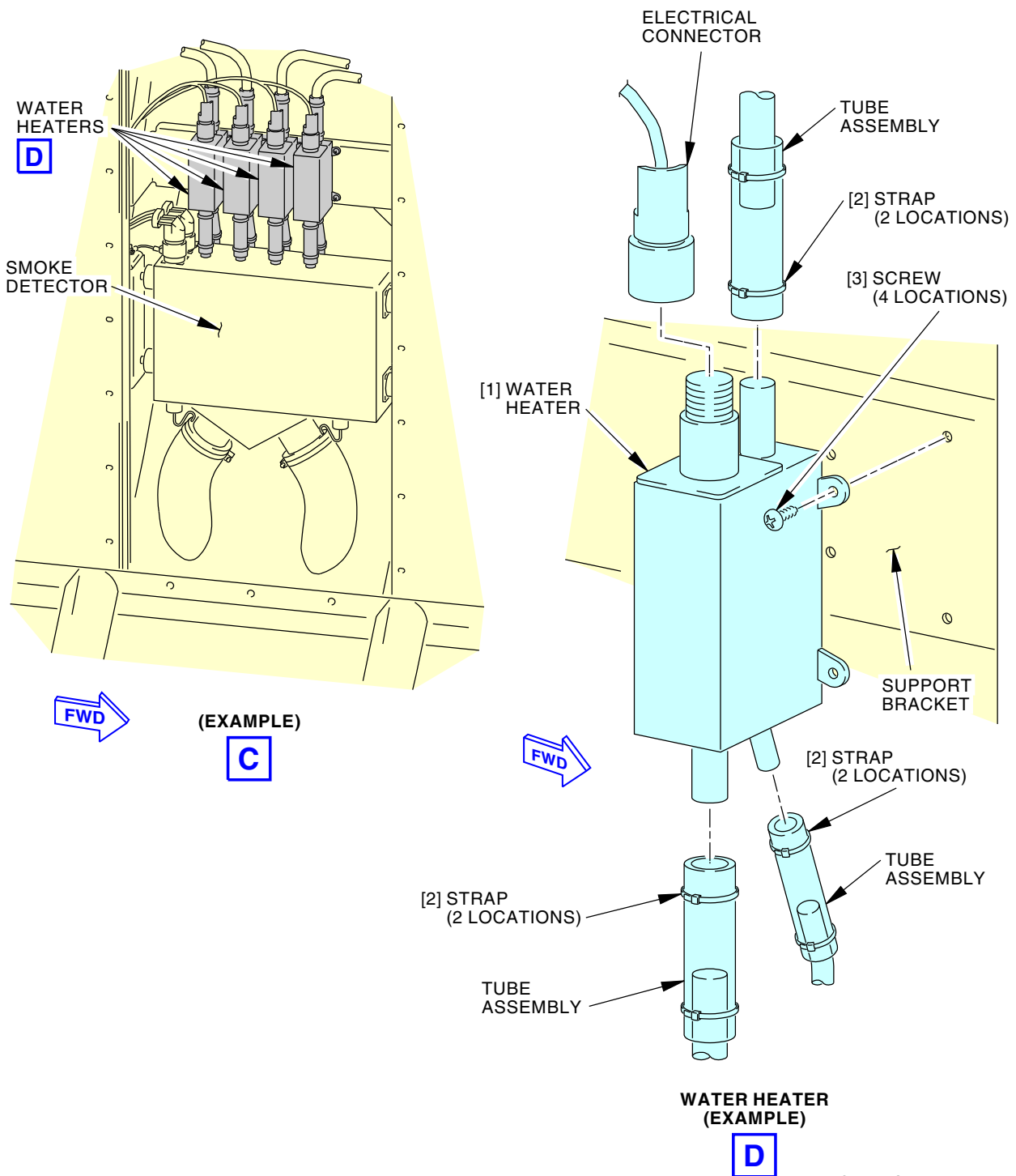
Lower Cargo Compartment Heater Installation
Figure 401/26-16-06-990-801 (Sheet 1 of 2)

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**Lower Cargo Compartment Heater Installation
Figure 401/26-16-06-990-801 (Sheet 2 of 2)**

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TASK 26-16-06-400-801

3. Lower Cargo Heater Installation

(Figure 401)

A. References

Reference	Title
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
26-16-00-710-804	Lower Cargo Compartment Smoke Detector Heater System Test (P/B 501)

B. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
121	Forward Cargo Compartment, Left
151	Aft Cargo Compartment, Left
211	Flight Compartment, Left
212	Flight Compartment, Right

C. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door
823	Aft Small Cargo Door

D. Prepare for the Installation

SUBTASK 26-16-06-010-003

- (1) Open this access door to get access to the Power Management Panels:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-16-06-840-003

- (2) Make sure the applicable circuit breakers are open and has safety tags:

Left Power Management Panel, P110

Row	Col	Number	Name
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

Row	Col	Number	Name
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-06-840-004

- (3) Open the applicable cargo doors:

Number	Name/Location
821	Forward Large Cargo Door
823	Aft Small Cargo Door

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E. Install the Heater

SUBTASK 26-16-06-420-001

- (1) Put the water heater [1] in the correct position.

SUBTASK 26-16-06-420-004

- (2) Install the four screws [3] to attach the water heater [1] to the bracket

SUBTASK 26-16-06-420-002

- (3) Connect the straps and tube assemblies to the top and bottom of the water heater [1].

SUBTASK 26-16-06-420-003

- (4) Connect the electrical connector to the top of the water heater [1].

SUBTASK 26-16-06-410-001

- (5) Do this task: Sidewall Liner Installation, TASK 25-52-06-400-801.

F. Lower Cargo Heater - Installation Test

SUBTASK 26-16-06-840-005

- (1) Remove the safety tags and close the applicable circuit breakers:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

SUBTASK 26-16-06-710-001

- (2) Do this task: Lower Cargo Compartment Smoke Detector Heater System Test, TASK 26-16-00-710-804.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 26-16-06-010-004

- (1) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-16-06-840-006

- (2) Close the applicable access doors:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door
823	Aft Small Cargo Door

————— END OF TASK —————

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WHEEL WELL FIRE DETECTORS - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) A removal of the fire detector elements, referred to as elements, in the wheel well
 - (2) An installation of the elements in the wheel well.
- B. The fire detector elements are installed in the top of the left and right bays of the main wheel well.

TASK 26-17-01-000-801

2. Wheel Well Fire Detectors Removal

(Figure 401 or Figure 402)

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. **Consumable Materials**

Reference	Description	Specification
G50470	Compound - Electrical Insulating (Dow Corning 4)	SAE AS8660 (Supercedes MIL-S-8660)

C. **Location Zones**

Zone	Area
117	Main Equipment Center, Left
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

D. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door

E. **Prepare for the Removal**

SUBTASK 26-17-01-010-001

- (1) Open this access door to get access to the Systems Cardfiles:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-17-01-860-001

- (2) Move the power switches for these Duct Leak and Overheat Detection System (DLODS) Cards to the OFF position:
- (a) Right DLODS Control Card (A05) in the Right Systems Cardfile (P84)
 - (b) Center DLODS Control Card (A08) in the Right Systems Cardfile (P84)
 - (c) Left DLODS Control Card (A05) in the Left Systems Cardfile (P85)

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SUBTASK 26-17-01-040-001



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.

- (3) 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 26-17-01-040-002



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.

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

F. Wheel Well Fire Detector Element Removal

SUBTASK 26-17-01-020-001

- (1) Do these steps to remove the applicable elements [1]:
- (a) Remove the lockwires [3] on the applicable connectors [2] and nuts [4].
 - (b) Loosen the screws [6] on the mounting clips [5] that hold the elements [1] in its position.
 - (c) Disconnect the connector [2] from one end of the elements [1].
 - 1) Remove the Compound, G50470 if you see it on the connector [2].
 - (d) Disconnect the connector [2] and nut [4] from the other end of the applicable elements [1].
 - 1) Remove the Compound, G50470 if you see it on the connector [2].
 - (e) Pull the elements [1] from the mounting clips [5].
 - (f) Remove the grommets [7] from the elements [1] to use on the new elements [1].

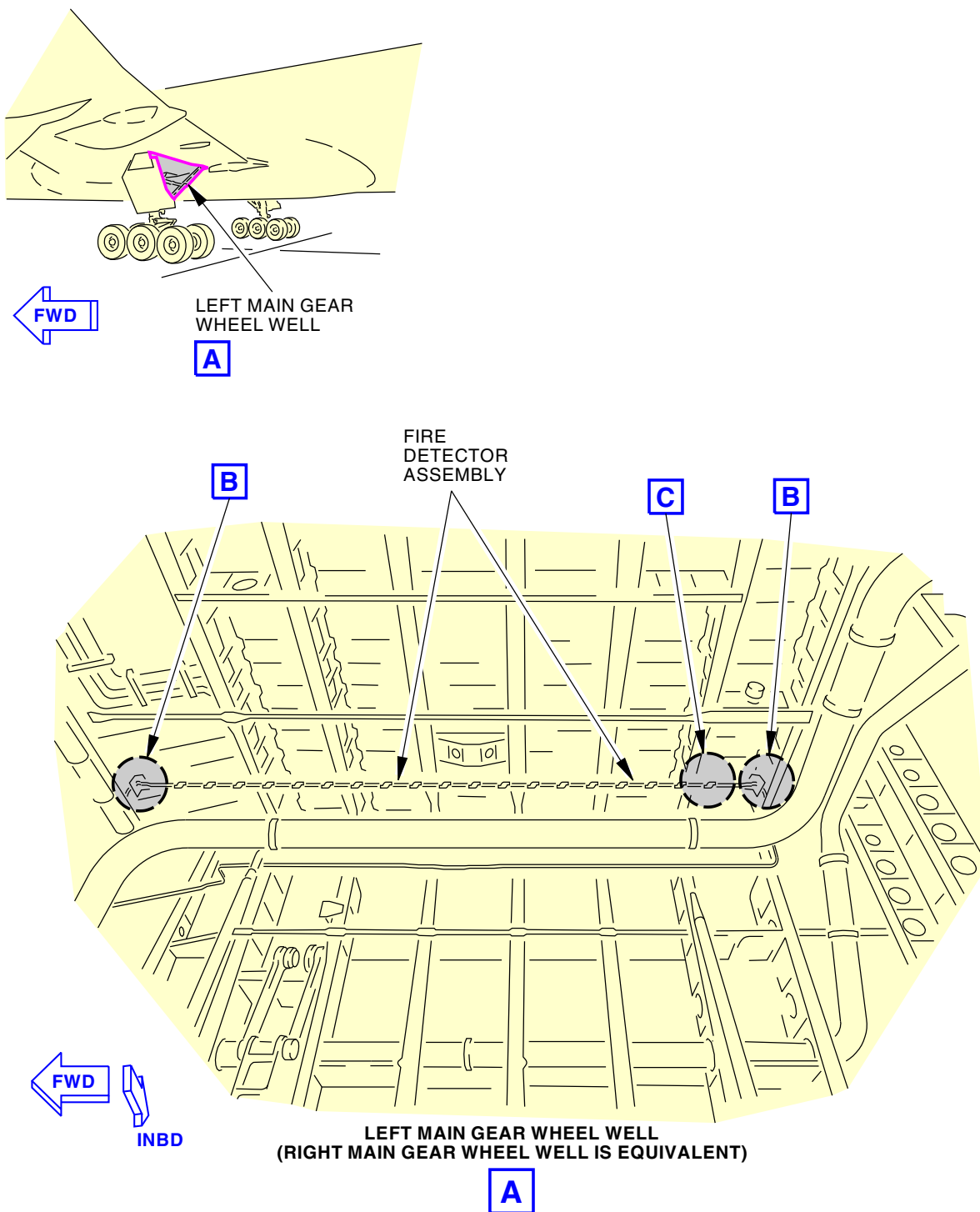
————— **END OF TASK** —————

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**Wheel Well Fire Detector Installation
Figure 401/26-17-01-990-801 (Sheet 1 of 2)**

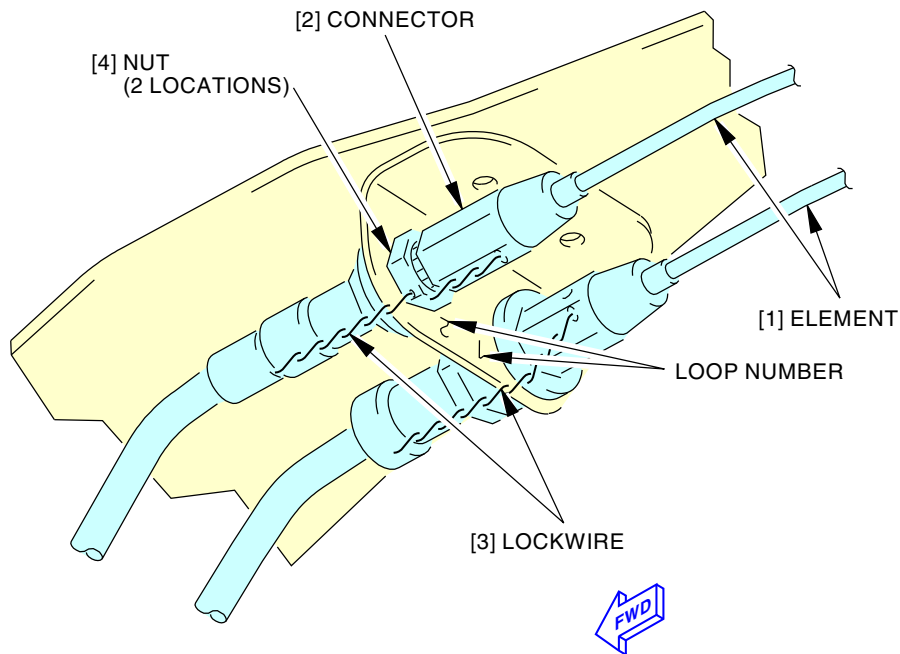
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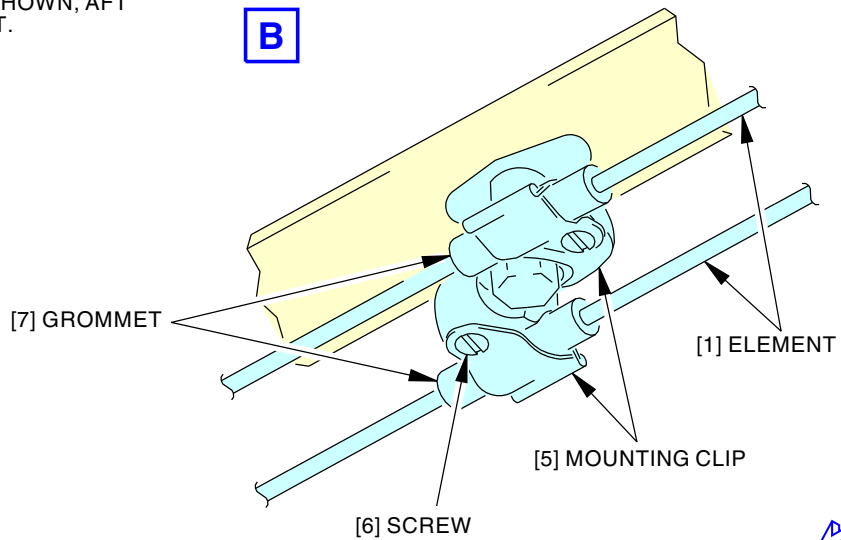
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NOTE:
FORWARD CONNECTOR SHOWN, AFT
CONNECTOR EQUIVALENT.



(EXAMPLE)

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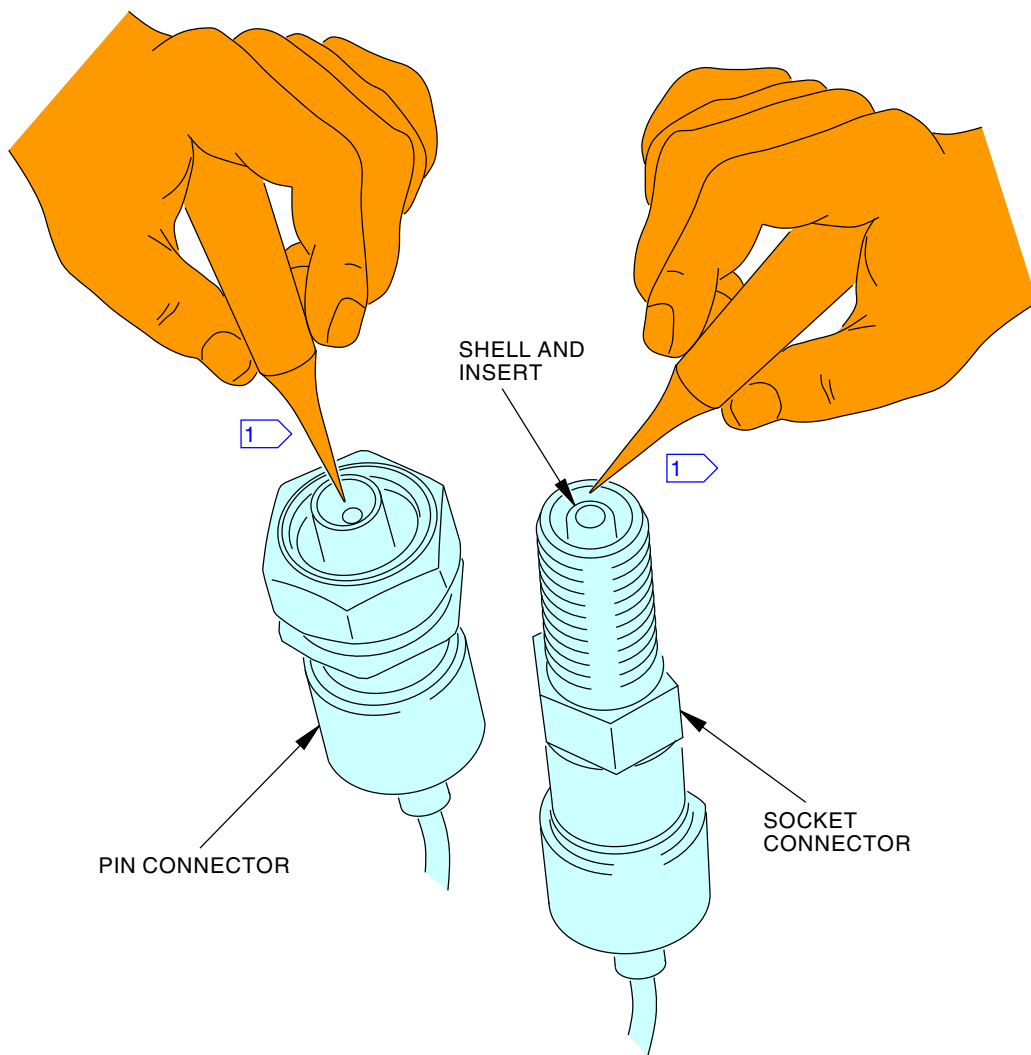
Wheel Well Fire Detector Installation
Figure 401/26-17-01-990-801 (Sheet 2 of 2)

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1 ONLY APPLY DC-4 COMPOUND TO THE CONNECTORS IN THE UNPRESSURIZED AREA OF THE AIRPLANE (WHEEL WELL, WING/BODY FAIRING AND TAIL SECTION)

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Application of DC-4 Compound to Connectors
Figure 402/26-17-01-990-802

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TASK 26-17-01-400-801

3. Wheel Well Fire Detectors Installation

(Figure 401 or Figure 402)

A. References

Reference	Title
26-10-00-710-803	Fire/Overheat Detection Maintenance Message Checks (P/B 501)
26-18-04 P/B 701	BODY DUCT LEAK DETECTORS - CLEANING/PAINTING
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)

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-13635	Syringe - Gage Size 20 Needle (commercial available)
STD-13636	Syringe - Gage Size 22 Needle (commercial available)

C. Consumable Materials

Reference	Description	Specification
B00083	Solvent - VM&P Naphthas	TT-N-95 Type II, ASTM D-3735 Type III
G50470	Compound - Electrical Insulating (Dow Corning 4)	SAE AS8660 (Supersedes MIL-S-8660)

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Element	26-17-01-05-030	ARO ALL

E. Location Zones

Zone	Area
117	Main Equipment Center, Left
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

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F. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

G. Prepare for the Installation

SUBTASK 26-17-01-010-002

- (1) Make sure that this access panel is open:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-17-01-860-002

- (2) Make sure the power switches for these DLODS Control Cards are in the OFF position:
- (a) Right DLODS Control Card (A05) in the Right Systems Cardfile (P84)
 - (b) Center DLODS Control Card (A08) in the Right Systems Cardfile (P84)
 - (c) Left DLODS Control Card (A05) in the Left Systems Cardfile (P85)

SUBTASK 26-17-01-040-003



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.

- (3) 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 26-17-01-040-004



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) If the door safety pins are not installed, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

H. Wheel Well Fire Detector Element Installation

SUBTASK 26-17-01-420-001

- (1) Do these steps to install the applicable element [1]:
- (a) Examine the ends of the connectors [2] and the connector mating areas to make sure there is no contamination.
 - (b) Put one end of the elements [1] in its position.
 - (c) Clean and dry the connectors (PAGEBLOCK 26-18-04/701).
 - (d) Apply the Compound, G50470 to the connectors in the unpressurized area of the airplane only.
 - 1) Fill a syringe, STD-13635 or syringe, STD-13636 with Compound, G50470.
 - 2) For the socket connector end, use the syringe, STD-13635 or syringe, STD-13636 with Compound, G50470 to inject the Compound, G50470 into the shell and insert (ceramic socket) and between the threaded barrel and the shell and insert (ceramic socket) of the element connector.
 - a) Inject the Compound, G50470 until it is flush with the connector sleeve.

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- 3) For the pin connector end, use the syringe, STD-13635 or syringe, STD-13636 with Compound, G50470 to inject the Compound, G50470 into the area surrounding the pin (between the pin and the pin shield) of the pin connector.
 - a) Inject the Compound, G50470 into this area until it is full.
 - 4) Carefully install the connectors and remove any excess Compound, G50470 from the outside of the connection.
- (e) If applicable, install the nut [4].
- (f) Tighten the connector [2] or nut [4].



CAUTION

WHEN YOU INSTALL THE ELEMENT, DO NOT BEND THE ELEMENT TO A RADIUS THAT IS LESS THAN ONE INCH. IF THE BEND RADIUS IS LESS THAN ONE INCH, DAMAGE TO THE ELEMENT CAN OCCUR.



CAUTION

BE CAREFUL WHEN YOU UNWIND THE ELEMENT. DO NOT MAKE KINKS IN THE ELEMENT. IF YOU MAKE KINKS IN THE ELEMENT, DAMAGE TO THE ELEMENT CAN OCCUR.

- (g) Unwind the elements [1] along the mounting clips [5].
- (h) Put a grommets [7] on the elements [1] at each mounting clip [5] location.
- (i) Tighten the screws [6] on the mounting clips [5] that hold the elements [1] in its position.
- (j) Put the other end of the elements [1] in its position.
- (k) If applicable, install the nut [4].
- (l) Adjust the length of the elements [1] between each pair of mounting clips [5] until the lengths are approximately equal.
- (m) Tighten the connectors [2] or nuts [4] at the end of the elements [1].
- (n) Make sure that there is a minimum of 0.25 in. (6.35 mm) between the element and the airplane structure.
- (o) Make sure that there is a minimum of 0.70 in. (17.78 mm) between the elements for loop 1 and loop 2.
- (p) Make sure that there is a minimum of 0.50 in. (12.70 mm) between the element and other airplane systems.
- (q) Tighten the connectors [2] and nuts [4] to 60 ±10 in-lb (7 ±1 N·m).
- (r) Install the lockwires [3] on the connectors [2] and nuts [4].

SUBTASK 26-17-01-280-001

- (2) Do a check of the resistance between the nuts [4] and the airplane structure using an intrinsically safe approved bonding meter, COM-1550 which can measure 0.001 ohm.
 - (a) Make sure that the resistance is less than 0.020 ohm.
 - (b) If the resistance is more than 0.020 ohm, clean the surfaces that bond with the solvent, B00083.
 - (c) Do the check again.

I. Wheel Well Fire Detector Element Installation Test

SUBTASK 26-17-01-710-001

- (1) For the DLODS, do this task: Fire/Overheat Detection Maintenance Message Checks, TASK 26-10-00-710-803.

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J. Put the Airplane Back to Its Usual Condition

SUBTASK 26-17-01-840-001



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 safety pins if they are not necessary (TASK 32-00-15-080-801).

SUBTASK 26-17-01-840-002

- (2) Remove the downlock pins on the nose and main landing gear if they are not necessary (TASK 32-00-30-080-801).

SUBTASK 26-17-01-010-003

- (3) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

———— **END OF TASK** ————

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FAN CASE OVERHEAT DETECTORS - REMOVAL/INSTALLATION

1. General

- A. This procedure has two tasks. The first task removes the fan case overheat detectors from the engines. The second task installs the fan case overheat detectors on the engines.
- B. The left and right fan case overheat detection system senses an overheat condition from leaks in the Engine Anti-Ice (EAI) System. The overheat detection system has one dual loop detector for each engine. Each detector attaches to the engine fan case above the Electronic Engine Control (EEC).

TASK 26-18-01-000-807-001

2. Fan Case Overheat Detectors Removal

(Figure 401)

A. References

Reference	Title
71-11-04-010-814-H00	Open the Fan Cowl Panel (Selection) (P/B 201)

B. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
414	Right Fan Cowl - Left Engine
424	Right Fan Cowl - Right Engine

C. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
414AR	Right Fan Cowl Panel, Left Engine
424AR	Right Fan Cowl Panel, Right Engine

D. Prepare for the Removal

SUBTASK 26-18-01-010-031-001

- (1) Open this access door to get access to the System Cardfiles:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-18-01-860-013-001

- (2) Move the power switches for these Duct Leak and Overheat Detection System (DLODS) Cards to the OFF position:
- (a) Right DLODS Control Card (A05) in the Right Systems Cardfile (P84)
 - (b) Center DLODS Control Card (A08) in the Right Systems Cardfile (P84)
 - (c) Left DLODS Control Card (A05) in the Left Systems Cardfile (P85)

SUBTASK 26-18-01-010-032-001

- (3) Do these tasks for the right fan cowl panels on the applicable engine:

Open the Fan Cowl Panel (Selection), TASK 71-11-04-010-814-H00

<u>Number</u>	<u>Name/Location</u>
414AR	Right Fan Cowl Panel, Left Engine
424AR	Right Fan Cowl Panel, Right Engine

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E. Fan Case Overheat Detector Removal

SUBTASK 26-18-01-020-039-001

(1) Remove the nut [7] and wire lug [6] from the bolt [3] at each location.

SUBTASK 26-18-01-020-040-001

(2) Remove the nut [5], washer [4], and bolt [3] at each location from the overheat detector [1].

SUBTASK 26-18-01-020-041-001

(3) Hold the overheat detector [1] and remove the bolt [2] at each location.

SUBTASK 26-18-01-020-042-001

(4) Remove the overheat detector [1] from the mounting bracket.

———— **END OF TASK** ————

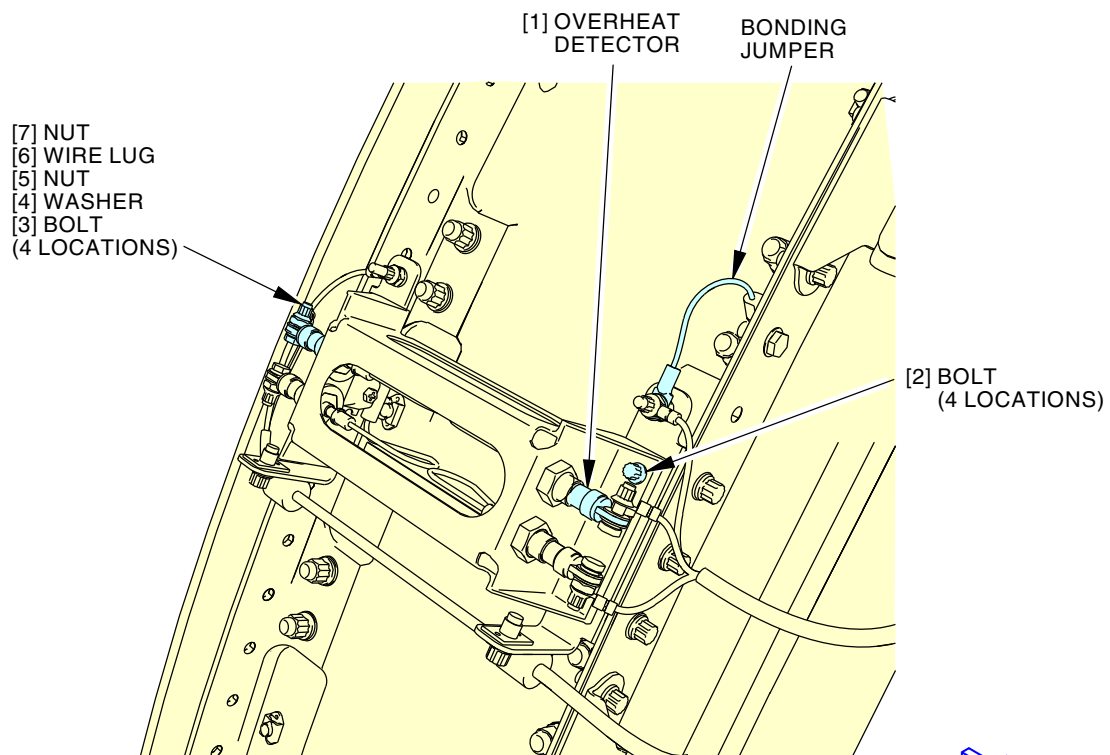
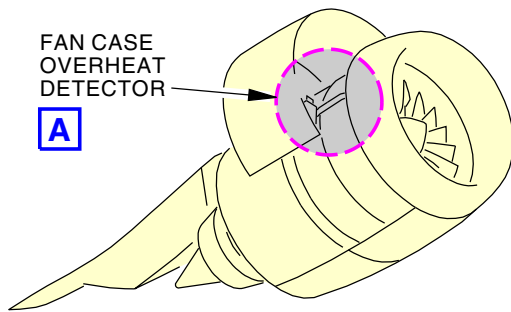
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**FAN CASE OVERHEAT DETECTOR
(GE90-115B)**

A

N67551 S0006412067_V2

**Fan Case Overheat Detector Installation
Figure 401/26-18-01-990-807**

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TASK 26-18-01-400-807-001

3. Fan Case Overheat Detectors Installation

(Figure 401)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
71-11-04-010-814-H00	Open the Fan Cowl Panel (Selection) (P/B 201)
71-11-04-410-814-H00	Close the Fan Cowl Panel (Selection) (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-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
B00083	Solvent - VM&P Naphthas	TT-N-95 Type II, ASTM D-3735 Type III

D. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
414	Right Fan Cowl - Left Engine
424	Right Fan Cowl - Right Engine

E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
414AR	Right Fan Cowl Panel, Left Engine
424AR	Right Fan Cowl Panel, Right Engine

F. Prepare for the Installation

SUBTASK 26-18-01-010-033-001

(1) Open the access door to get access to the System Cardfiles:

Number	Name/Location
117AL	Main Equipment Center Access Door

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SUBTASK 26-18-01-860-014-001

- (2) Make sure that the power switches for these DLODS Cards are in the OFF position:
 - (a) Right DLODS Control Card (A05) in the Right Systems Cardfile (P84)
 - (b) Center DLODS Control Card (A08) in the Right Systems Cardfile (P84)
 - (c) Left DLODS Control Card (A05) in the Left Systems Cardfile (P85)

SUBTASK 26-18-01-010-034-001

- (3) Do these tasks for the right fan cowl panels on the applicable engine:
Open the Fan Cowl Panel (Selection), TASK 71-11-04-010-814-H00

<u>Number</u>	<u>Name/Location</u>
414AR	Right Fan Cowl Panel, Left Engine
424AR	Right Fan Cowl Panel, Right Engine

G. Fan Case Overheat Detector Installation

SUBTASK 26-18-01-420-042-001

- (1) Put the overheat detector [1] in the correct position on the engine fan case mounting bracket.

SUBTASK 26-18-01-420-043-001

- (2) Hold the overheat detector [1] and install the bolt [2] at each location.
 - (a) Tighten the bolt [2] to 32.5 $\pm$ 2.5 in-lb (3.7 $\pm$ 0.3 N·m).

SUBTASK 26-18-01-420-044-001

- (3) Install the bolt [3], washer [4] and nut [5] to the overheat detector [1] at each location.
 - (a) Tighten the nut [5] to 32.5 $\pm$ 2.5 in-lb (3.7 $\pm$ 0.3 N·m).

SUBTASK 26-18-01-420-045-001

- (4) Install the wire lug [6] and nut [7] to the bolt [3] at each location.
 - (a) Tighten the nut [7] to 32.5 $\pm$ 2.5 in-lb (3.7 $\pm$ 0.3 N·m).

SUBTASK 26-18-01-280-007-001

- (5) Do a check of the resistance between the overheat detector [1] and the airplane structure. Use a intrinsically safe approved bonding meter, COM-1550 which can measure 0.001 ohm.

NOTE: Measure the resistance between the circular body of each overheat detector [1] and the adjacent airplane structure.

- (a) Make sure that the resistance is less than 0.010 ohm.
- (b) If the resistance is more than 0.010 ohm, clean the surfaces that bond with the solvent, B00083.
 - 1) Do the check again.

H. Fan Case Overheat Detector Installation Test

SUBTASK 26-18-01-840-013-001

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

SUBTASK 26-18-01-710-019-001

- (2) Move the power switches for these DLODS Control Cards to the ON position:
 - (a) Right DLODS Control Card (A05) in the Right Systems Cardfile (P84)
 - (b) Center DLODS Control Card (A08) in the Right Systems Cardfile (P84)
 - (c) Left DLODS Control Card (A05) in the Left Systems Cardfile (P85)

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SUBTASK 26-18-01-710-020-001

- (3) Make sure that these EICAS Status messages do not show:
- (a) EAI LOOPS FAN CASE L
 - (b) EAI LOOPS FAN CASE R

SUBTASK 26-18-01-710-021-001

- (4) Make sure that these EICAS Caution messages do not show:
- (a) ANTI-ICE LEAK ENG L
 - (b) ANTI-ICE LEAK ENG R

I. Put the Airplane Back to Its Usual Condition

SUBTASK 26-18-01-010-035-001

- (1) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-18-01-840-014-001

- (2) Do these tasks for the right fan cowl panels on the applicable engine:

Close the Fan Cowl Panel (Selection), TASK 71-11-04-410-814-H00

<u>Number</u>	<u>Name/Location</u>
414AR	Right Fan Cowl Panel, Left Engine
424AR	Right Fan Cowl Panel, Right Engine

————— END OF TASK —————

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STRUT OVERHEAT DETECTORS - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) A removal of the strut overheat detectors
 - (2) An installation of the strut overheat detectors.
- B. The left and right strut overheat detection system senses overheat conditions. Leaks or damage to ducts with bleed air downstream of the precooler in the strut area can cause overheat conditions. The overheat detection system has two dual loop detectors for each strut. One detector attaches directly to the airplane structure in the strut area. This detector is a compact module detector. The other detector attaches to the wing front spar in the strut gap cover area and is the long element type.

TASK 26-18-02-000-804-001

2. Strut Overheat Detectors Removal

(Figure 401)

A. Location Zones

<u>Zone</u>	<u>Area</u>
117	Main Equipment Center, Left
118	Main Equipment Center, Right
430	Subzone 430 - Left Nacelle Strut
440	Subzone 440 - Right Nacelle Strut
510	Subzone 510 - Wing Leading Edge - Forward of Front Spar
610	Subzone 610 - Wing Leading Edge - Forward of Front Spar

B. Access Panels

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door
433BR	Pressure Relief Door, Left Strut
433DR	Right Pressure Relief Door, Left Strut
443BR	Right Strut Pressure Relief Door
443DR	Right Pressure Relief Door, Right Strut

C. Prepare for the Removal

SUBTASK 26-18-02-010-019-001

- (1) Open this access door to get access to the System Cardfiles:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-18-02-860-010-001

- (2) Move the power switches for these DLODS Control Cards to the OFF position:
- (a) Right DLODS Control Card (A05) in the Right Systems Card File (P84)
 - (b) Center DLODS Control Card (A08) in the Right Systems Card File (P84)
 - (c) Left DLODS Control Card (A05) in the Left Systems Card File (P85)

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D. Strut Overheat Detector Removal - Compact Module

SUBTASK 26-18-02-010-020-001

- (1) Open these access doors to get access to the applicable strut overheat detectors:

<u>Number</u>	<u>Name/Location</u>
433BR	Pressure Relief Door, Left Strut
433DR	Right Pressure Relief Door, Left Strut
443BR	Right Strut Pressure Relief Door
443DR	Right Pressure Relief Door, Right Strut

SUBTASK 26-18-02-020-007-001

- (2) Do these steps to remove the applicable strut overheat detector [9]:
- (a) Disconnect the nut [13], washer [14] and wire lugs [15] from the bolts [16].
 - (b) Disconnect the screws [11] and washers [12] that hold the strut overheat detector [9] in its position.
 - (c) Remove the strut overheat detector [9].

E. Strut Overheat Detector Element Removal - Long Element Type

SUBTASK 26-18-02-010-021-001

- (1) Open the applicable access panels to get access to the strut overheat detector [9] in the wing.

SUBTASK 26-18-02-020-008-001

- (2) Do these steps to remove the applicable strut overheat detector element [1]:
- (a) Remove the lockwires [4] from the applicable connector [2].
 - (b) Put protective caps on the airplane electrical connectors.
 - (c) Loosen the applicable screws [8] on the mounting clips [6] that hold the element [1] in its position.
 - (d) Disconnect the applicable connector [2] at one end of the element [1].
 - (e) Disconnect the applicable connector [2], nut [3] and nut [5] at the other end of the element [1].
 - (f) Pull the element [1] from the mounting clips [6].
 - (g) Remove the grommet [7] from the element [1] to use on the new element [1].

————— END OF TASK —————

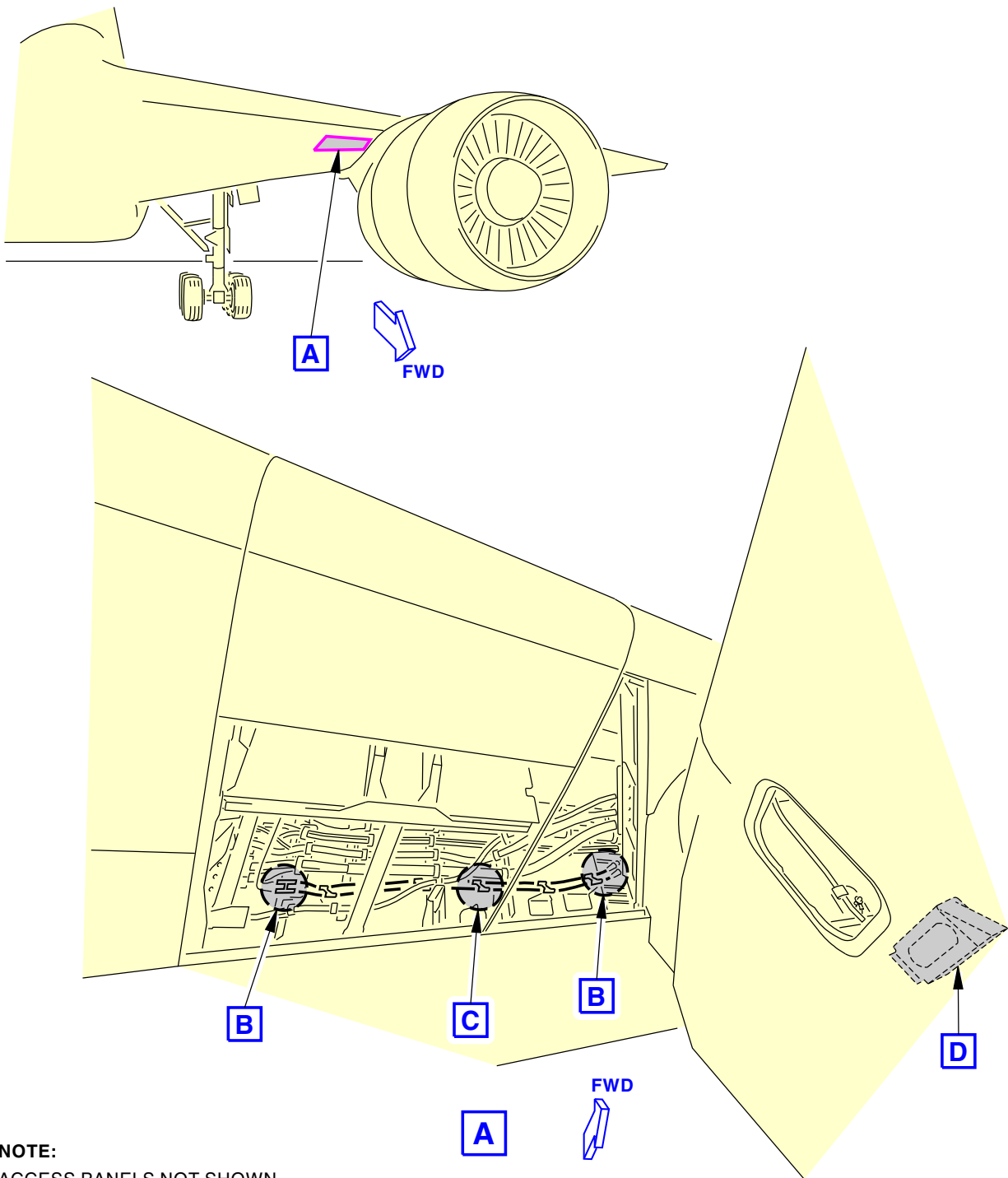
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NOTE:
ACCESS PANELS NOT SHOWN.

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Strut Overheat Detectors Installation
Figure 401/26-18-02-990-804-001 (Sheet 1 of 3)

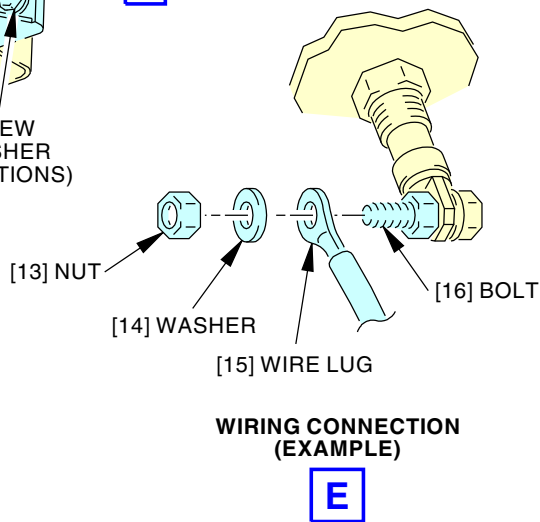
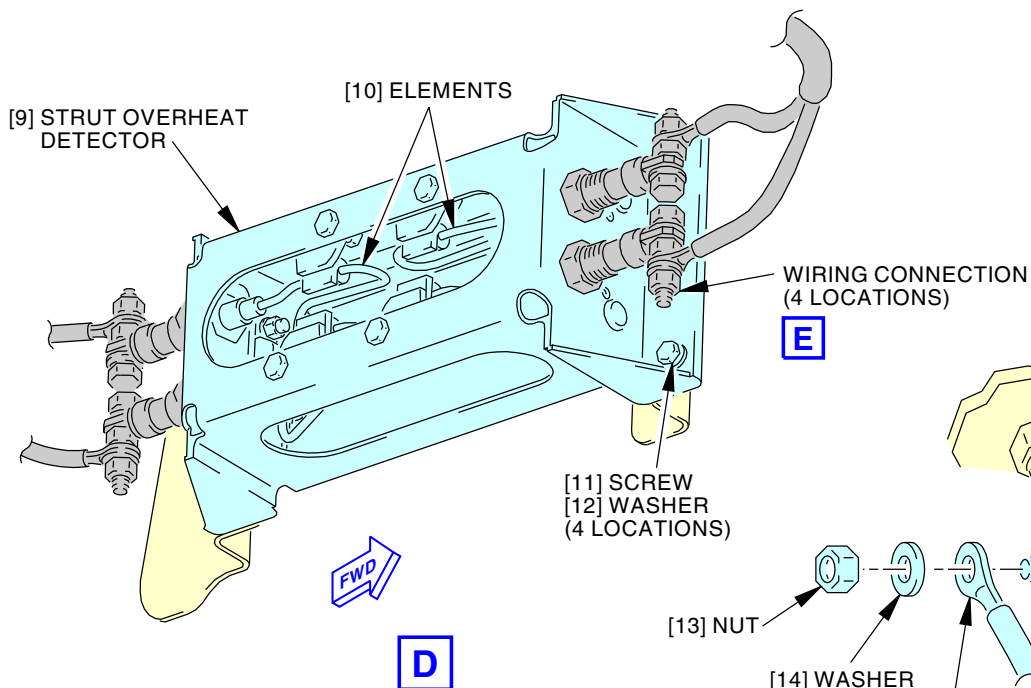
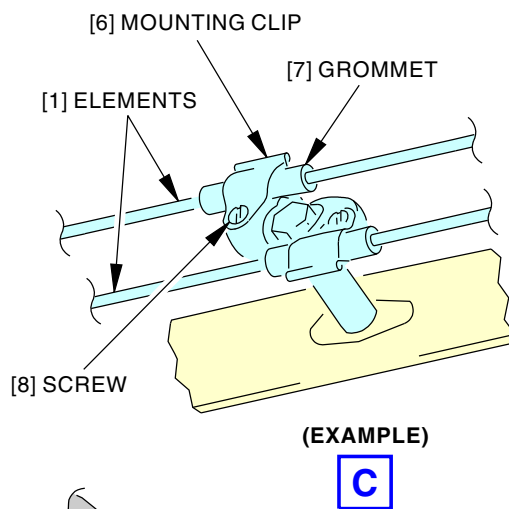
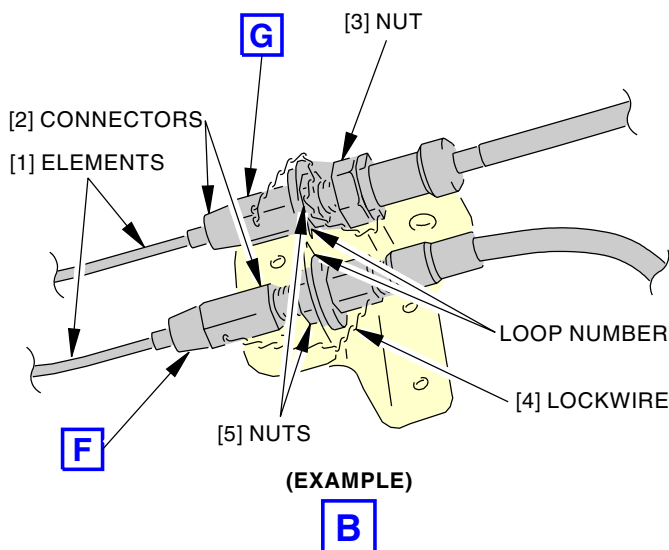
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K46464 S0006412095_V2

**Strut Overheat Detectors Installation
Figure 401/26-18-02-990-804-001 (Sheet 2 of 3)**

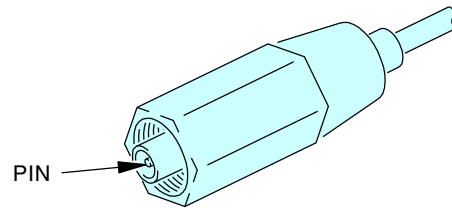
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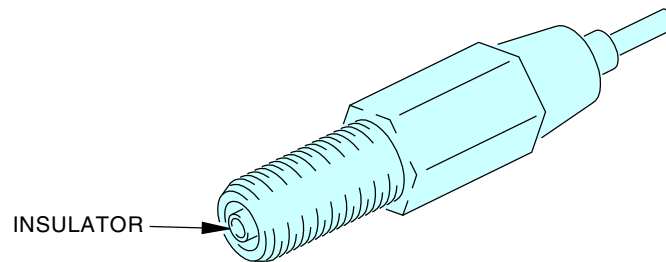
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**MALE CONNECTOR END
(EXAMPLE)**

F



**FEMALE CONNECTOR END
(EXAMPLE)**

G

K46470 S0006412096_V3

Strut Overheat Detectors Installation
Figure 401/26-18-02-990-804-001 (Sheet 3 of 3)

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TASK 26-18-02-400-804-001

3. Strut Overheat Detectors Installation

(Figure 401)

A. References

Reference	Title
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
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
B00083	Solvent - VM&P Naphthas	TT-N-95 Type II, ASTM D-3735 Type III

D. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
430	Subzone 430 - Left Nacelle Strut
440	Subzone 440 - Right Nacelle Strut
510	Subzone 510 - Wing Leading Edge - Forward of Front Spar
610	Subzone 610 - Wing Leading Edge - Forward of Front Spar

E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
433BR	Pressure Relief Door, Left Strut
433DR	Right Pressure Relief Door, Left Strut
443BR	Right Strut Pressure Relief Door
443DR	Right Pressure Relief Door, Right Strut

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F. Prepare for the Installation

SUBTASK 26-18-02-010-022-001

- (1) Make sure that this access panel is open:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-18-02-860-011-001

- (2) Make sure these DLODS Control Card Power switches are in the OFF position:
- (a) Right DLODS Control Card (A05) in the Right Systems Cardfile (P84)
 - (b) Center DLODS Control Card (A08) in the Right Systems Cardfile (P84)
 - (c) Left DLODS Control Card (A05) in the Left Systems Cardfile (P85)

G. Strut Overheat Detector Installation - Compact Module

SUBTASK 26-18-02-010-023-001

- (1) Make sure that these access panels are open:

<u>Number</u>	<u>Name/Location</u>
433DR	Right Pressure Relief Door, Left Strut
443DR	Right Pressure Relief Door, Right Strut

SUBTASK 26-18-02-420-007-001

- (2) Do these steps to install the applicable strut overheat detector [9]:
- (a) Put the strut overheat detector [9] in its position.
 - (b) Connect the screws [11] and washers [12] that hold the strut overheat detector [9] in its position.
 - (c) Tighten the screws [11].
 - (d) Connect the wire lugs [15], washers [14] and nuts [13] to the bolts [16].
 - (e) Tighten the nuts [13].

SUBTASK 26-18-02-760-007-001

- (3) Do a check of the resistance between the element [10] and the airplane structure.
- (a) Measure the resistance between the circular body of each element and the adjacent airplane structure.
 - 1) Use a intrinsically safe approved bonding meter, COM-1550 which can measure 0.001 ohm.
 - (b) Make sure the resistance is less than 0.010 ohm.
 - (c) If the resistance is more than 0.010 ohm, clean the bonding surfaces with the solvent, B00083 and do the check again.

H. Strut Overheat Detector Element Installation - Long Element Type

SUBTASK 26-18-02-010-024-001

- (1) Open the applicable access panels to get access to the area where the strut overheat detector [9] is installed.

SUBTASK 26-18-02-210-004-001

- (2) Examine the ends of the applicable connectors [2] and the connector mating areas to make sure there is no contamination.
- (a) At the applicable connectors [2], make sure the ceramic insulator is attached to the center conductor of the female connector end.

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SUBTASK 26-18-02-420-008-001



CAUTION

MAKE SURE THAT THE PART NUMBER OF THE DETECTOR ELEMENT IS CORRECT. IF THE DETECTOR ELEMENT IS NOT THE CORRECT PART NUMBER, THE SYSTEM WILL NOT OPERATE CORRECTLY.

- (3) Do these steps to install the applicable strut overhear detector element [1]:
- (a) Remove the protective caps on the airplane electrical connectors, if installed.
 - (b) Put one end of the element [1] in its position.
 - (c) If applicable, install the nut [5].
 - (d) Tighten the applicable connector [2] or nut [5].



CAUTION

WHEN YOU INSTALL THE ELEMENT, DO NOT BEND THE ELEMENT TO A RADIUS THAT IS LESS THAN ONE INCH. IF THE BEND RADIUS IS LESS THAN ONE INCH, DAMAGE TO THE ELEMENT CAN OCCUR.



CAUTION

BE CAREFUL WHEN YOU UNWIND THE ELEMENT. DO NOT MAKE KINKS IN THE ELEMENT. IF YOU MAKE KINKS IN THE ELEMENT, DAMAGE TO THE ELEMENT CAN OCCUR.

- (e) Unwind the element [1] along the mounting clips [6].
- (f) Put the grommet [7] on the element [1] at each mounting clip [6] location.
- (g) Tighten the applicable screws [8] on the mounting clips [6] that hold the element [1] in its position.
- (h) Put the other end of the element [1] in its position.
- (i) If applicable, install the nut [5].
- (j) Adjust the length of the element [1] between each pair of mounting clips [6] until the lengths are approximately equal.
- (k) Tighten the applicable connector [2], nut [3] and nut [5] at the end of the element [1].
- (l) Make sure that there is at least 0.25 in. (6.35 mm) between the element [1] and the airplane structure.
- (m) Make sure that there is at least 0.70 in. (17.78 mm) between the element [1] for loop 1 and loop 2.
- (n) Make sure that there is at least 3.0 in. (76.2 mm) between the element [1] and the duct.
- (o) Make sure that there is at least 0.50 in. (12.70 mm) between the element [1] and other airplane systems.
- (p) Tighten the applicable connector [2], nuts [3] and nut [5] to 60 ±10 in-lb (7 ±1 N·m).
- (q) Install lockwires [4] on the applicable connectors [2], nuts [3] and nut [5].

SUBTASK 26-18-02-760-008-001

- (4) Do a check of the resistance between the nut [5] and the airplane structure.
- (a) Use a intrinsically safe approved bonding meter, COM-1550 which can measure 0.001 ohm.
 - (b) Make sure the resistance is less than 0.020 ohm.

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- (c) If the resistance is more than 0.020 ohm, clean the bonding surfaces with the solvent, B00083 solvent and do the check again.

I. Strut Overheat Detectors Installation Test

SUBTASK 26-18-02-710-004-001

- (1) Move these DLODS Control Card Power switches to the ON position:
- (a) Right DLODS Control Card (A05) in the Right Systems Cardfile (P84)
 - (b) Center DLODS Control Card (A08) in the Right Systems Cardfile (P84)
 - (c) Left DLODS Control Card (A05) in the Left Systems Cardfile (P85)

SUBTASK 26-18-02-860-012-001

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

SUBTASK 26-18-02-750-007-001

- (3) After 60 seconds, make sure these EICAS status messages do not show on the EICAS display:
- (a) BLEED LOOP 1 STRUT L
 - (b) BLEED LOOP 1 STRUT R
 - (c) BLEED LOOP 2 STRUT L
 - (d) BLEED LOOP 2 STRUT R

SUBTASK 26-18-02-750-008-001

- (4) Make sure these EICAS caution messages do not show on the EICAS display:
- (a) BLEED LEAK STRUT L
 - (b) BLEED LEAK STRUT R

J. Put the Airplane Back to Its Usual Condition

SUBTASK 26-18-02-840-010-001

- (1) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-18-02-840-011-001

- (2) Close these relief doors:

<u>Number</u>	<u>Name/Location</u>
433BR	Pressure Relief Door, Left Strut
433DR	Right Pressure Relief Door, Left Strut
443BR	Right Strut Pressure Relief Door
443DR	Right Pressure Relief Door, Right Strut

SUBTASK 26-18-02-840-012-001

- (3) Close the applicable access panels to the area where the strut overheat detectors [9] are installed, if necessary.

————— END OF TASK —————

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WING DUCT LEAK DETECTORS - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) A removal of the wing duct leak overheat detectors
 - (2) An installation of the wing duct leak overheat detectors.
- B. The left and right wing duct leak detection system detects overheats caused by duct leaks or bursts in the ducts that supply bleed air from the pneumatic manifold to the Wing Anti-Ice (WAI) system and the Flow Control Valves of the Air Conditioning Packs. The duct leak detectors are dual loop elements and are installed in the wing fixed leading edge and the Environmental Control Systems (ECS) bay. Each loop starts in the wing, goes through a bulkhead into the ECS bay, and goes around the ECS bay.
- C. Each detector has two elements: loop 1 and loop 2. The removal and installation procedures are the same for each element.

TASK 26-18-03-000-801

2. Wing Duct Leak Detectors Removal

(Figure 401 or Figure 402)

A. References

Reference	Title
06-41-00-800-801	Finding an Access Door or Panel on the Fuselage (P/B 201)
27-81-00-040-801	Leading Edge Slat - Deactivation (P/B 201)

B. Consumable Materials

Reference	Description	Specification
G50470	Compound - Electrical Insulating (Dow Corning 4)	SAE AS8660 (Supersedes MIL-S-8660)

C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
135	Environmental Control Systems Bay, Left
136	Environmental Control Systems Bay, Right
510	Subzone 510 - Wing Leading Edge - Forward of Front Spar
610	Subzone 610 - Wing Leading Edge - Forward of Front Spar

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
195EL	Environmental Control Systems (ECS) Access Door
196ER	Environmental Control Systems (ECS) Access Door

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E. Prepare for the Removal

SUBTASK 26-18-03-010-001

- (1) Open this access door to get access to the System Cardfiles:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-18-03-860-001

- (2) Move the power switches for these DLODS Control Cards to the OFF position:
- (a) Right DLODS Control Card (A05) in the Right Systems Card File (P84)
 - (b) Center DLODS Control Card (A08) in the Right Systems Card File (P84)
 - (c) Left DLODS Control Card (A05) in the Left Systems Card File (P85)

SUBTASK 26-18-03-040-001



DO THE DEACTIVATION PROCEDURE FOR THE LEADING EDGE FLAPS. THE ACCIDENTAL MOVEMENT OF THE FLAPS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

- (3) Do this task: Leading Edge Slat - Deactivation, TASK 27-81-00-040-801.

SUBTASK 26-18-03-010-002

- (4) Open these access doors to get access to the pack bay:

<u>Number</u>	<u>Name/Location</u>
195EL	Environmental Control Systems (ECS) Access Door
196ER	Environmental Control Systems (ECS) Access Door

NOTE: To get access to the duct leak detectors in the pack bay, it can be necessary to remove duct insulation.

SUBTASK 26-18-03-010-003

- (5) Open the applicable access panels to get access to the duct leak detectors in the wing, if applicable.

SUBTASK 26-18-03-010-007

- (6) Open the applicable access panels to get access to the duct leak detectors in the wing-to-body fairing, if applicable.
- (a) Do this task: Finding an Access Door or Panel on the Fuselage, TASK 06-41-00-800-801.

F. Wing Duct Leak Detector Removal

SUBTASK 26-18-03-020-001

- (1) Do these steps to remove the applicable elements [2]:
- (a) Remove the lockwires [9] on the applicable connectors [1], wiring connector [7], bulkhead connector nuts [3] and nuts [8].
 - (b) Loosen the applicable screws [6] on the mounting clips [4] that hold the elements [2] in its position.
 - (c) Disconnect the connector [1] from one end of the elements [2].
 - 1) Remove the Compound, G50470 if you see it on the connector [1].
 - (d) Disconnect the connectors [1], wiring connector [7], bulkhead connector nut [3] and nuts [8] from the other end of the applicable elements [2].
 - 1) Remove the Compound, G50470 if you see it on the connector [1] and wiring connector [7].

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- (e) Pull the elements [2] from the mounting clips [4].
- (f) Remove the grommets [5] from the applicable elements [2] to use on the new elements [2].

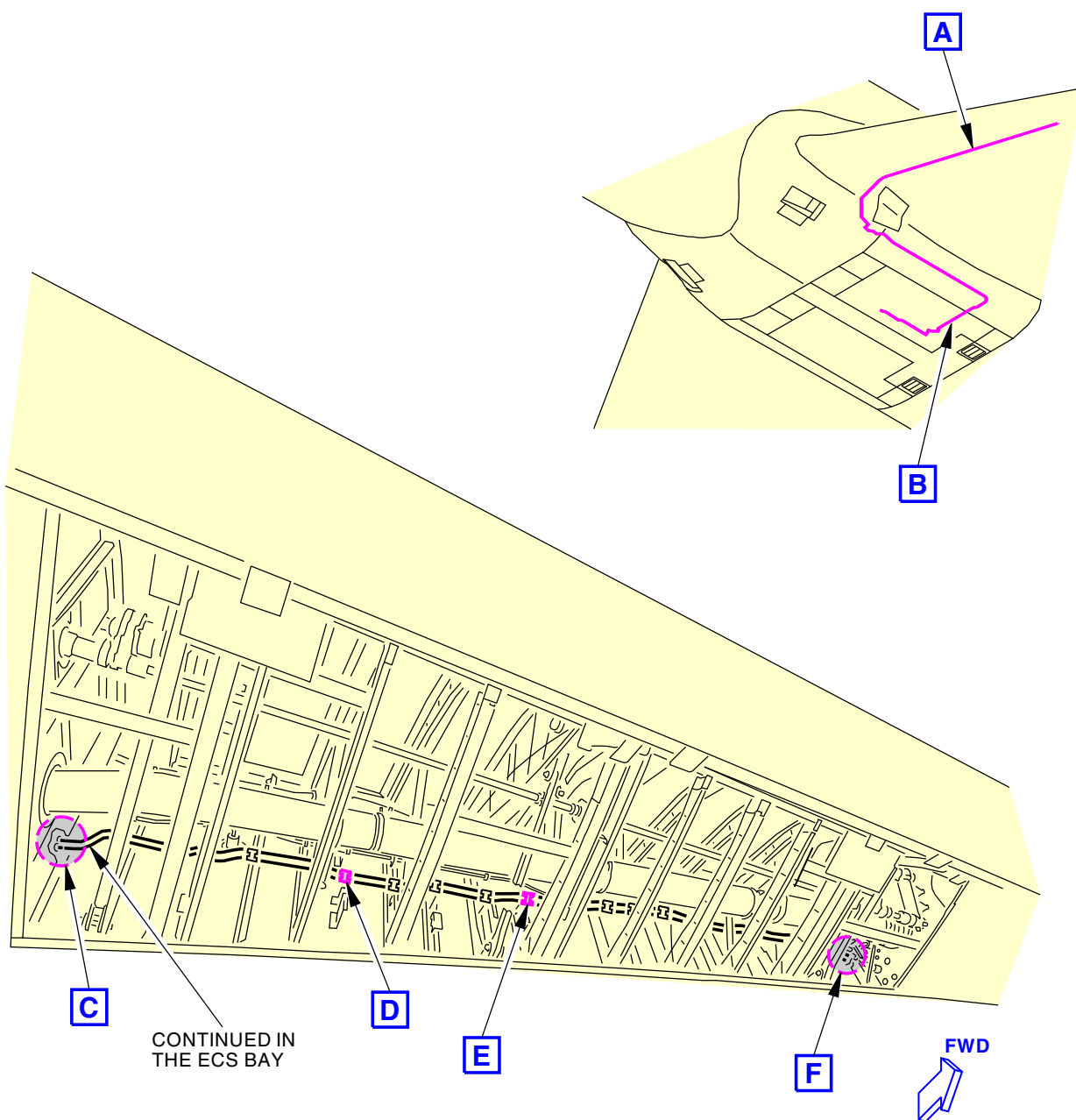
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**LEFT WING DUCT LEAK DETECTOR IS SHOWN,
RIGHT WING DUCT LEAK DETECTOR IS OPPOSITE
(VIEW IN THE UP AND AFT DIRECTION)**

NOTE:
ACCESS PANELS NOT SHOWN.

A

E02778 S0006412129_V2

**Wing Duct Leak Detectors Installation
Figure 401/26-18-03-990-801 (Sheet 1 of 4)**

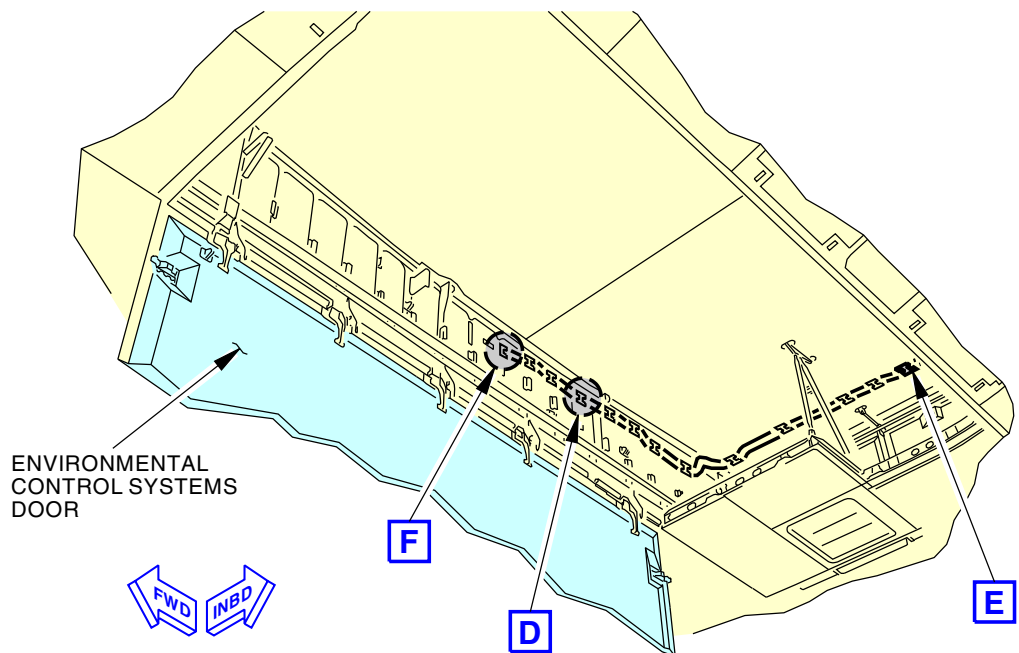
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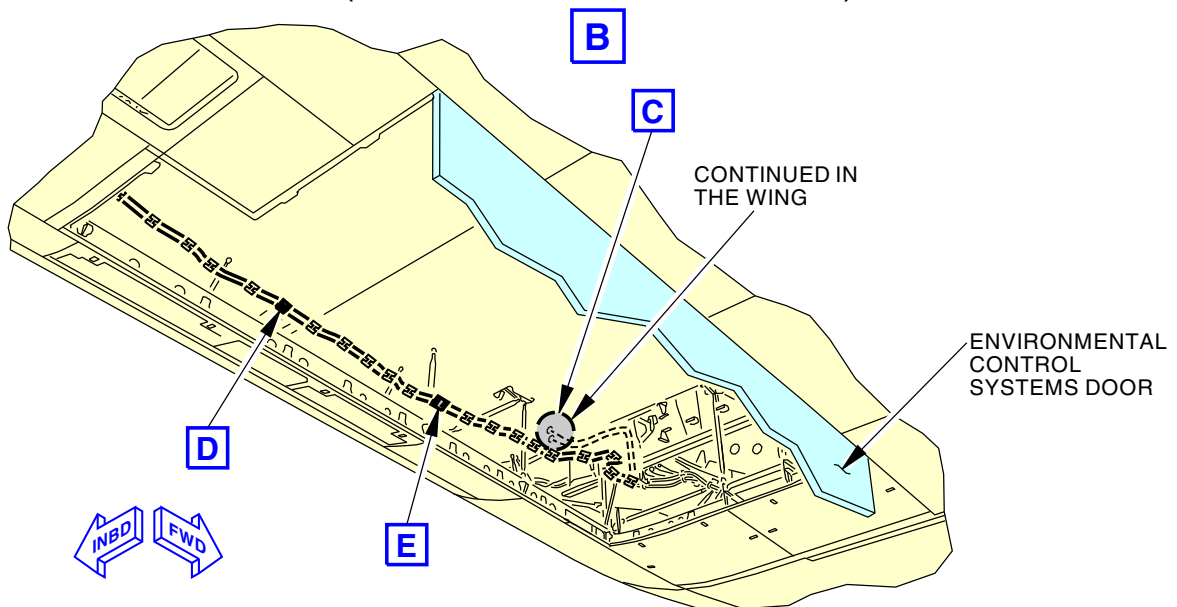
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LEFT ECS BAY IS SHOWN, RIGHT ECS BAY IS OPPOSITE
(VIEW IN THE AFT AND INBOARD DIRECTION)



LEFT ECS BAY IS SHOWN, RIGHT ECS BAY IS OPPOSITE
(VIEW IN THE FORWARD AND OUTBOARD DIRECTION)

B

E02817 S0006412130_V2

Wing Duct Leak Detectors Installation
Figure 401/26-18-03-990-801 (Sheet 2 of 4)

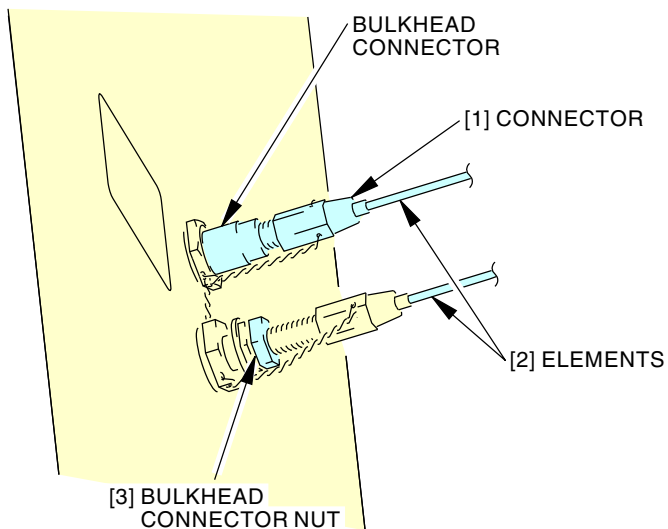
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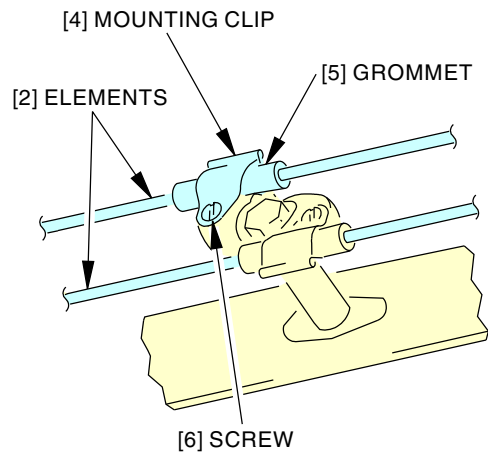
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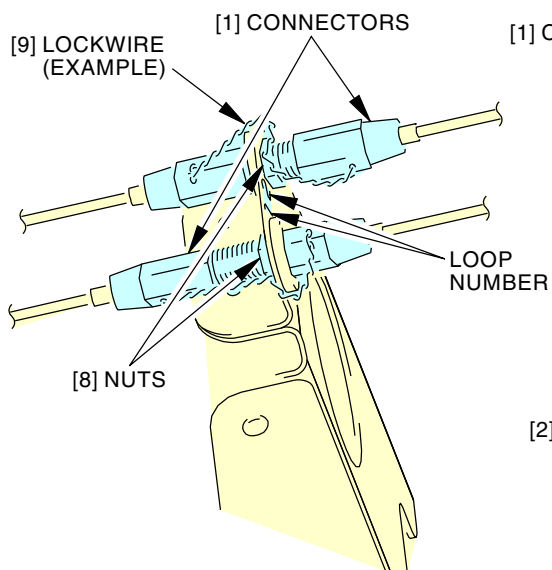
**ELEMENT-BULKHEAD CONNECTOR
(EXAMPLE)**

C



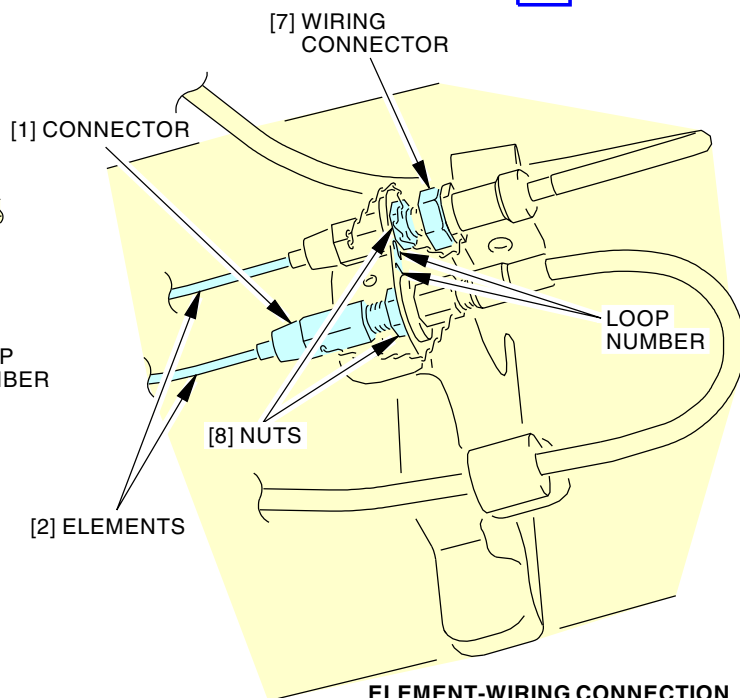
**MOUNTING CLIP
(EXAMPLE)**

D



**ELEMENT-ELEMENT CONNECTION
(EXAMPLE)**

E



**ELEMENT-WIRING CONNECTION
(EXAMPLE)**

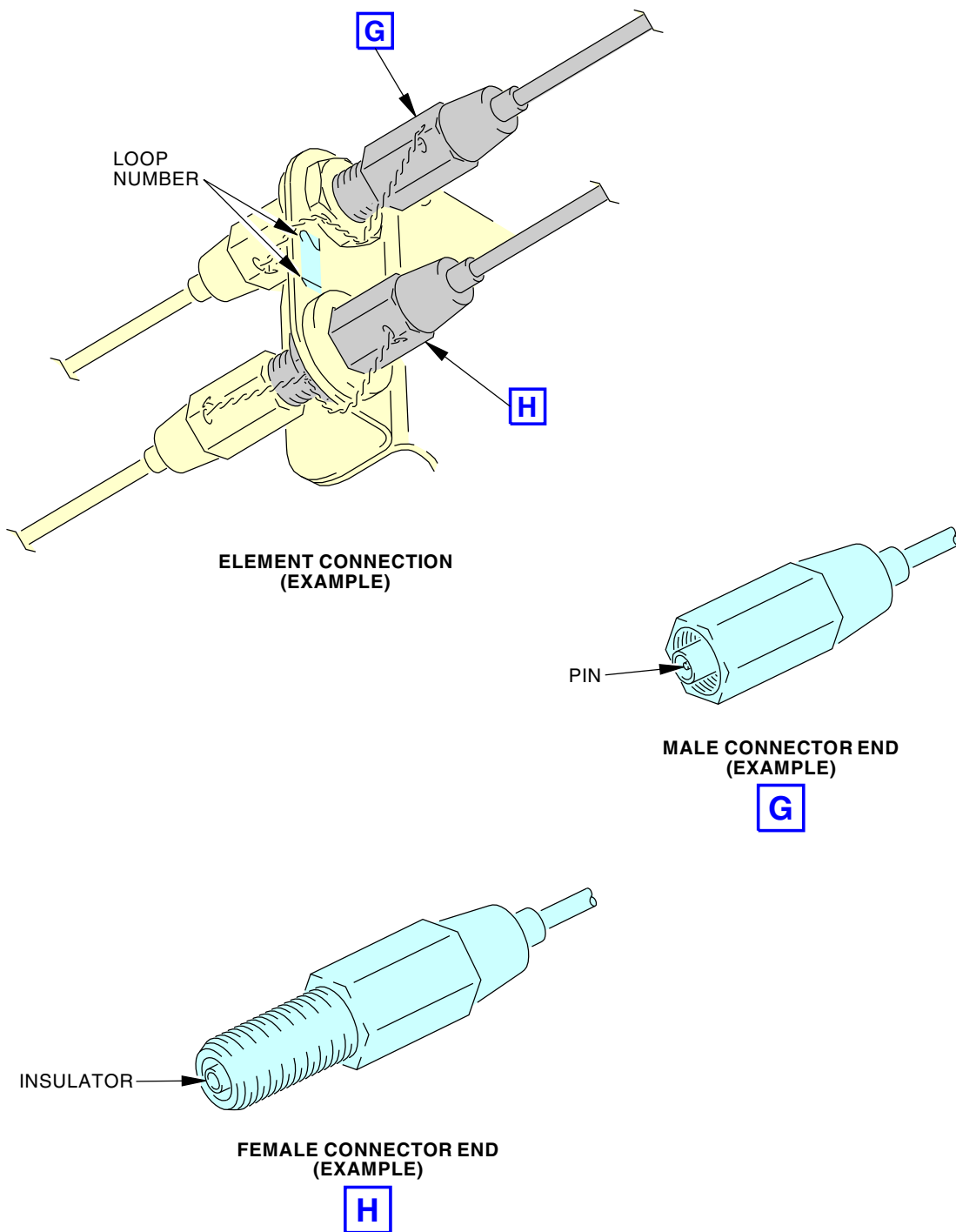
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**Wing Duct Leak Detectors Installation
Figure 401/26-18-03-990-801 (Sheet 3 of 4)**

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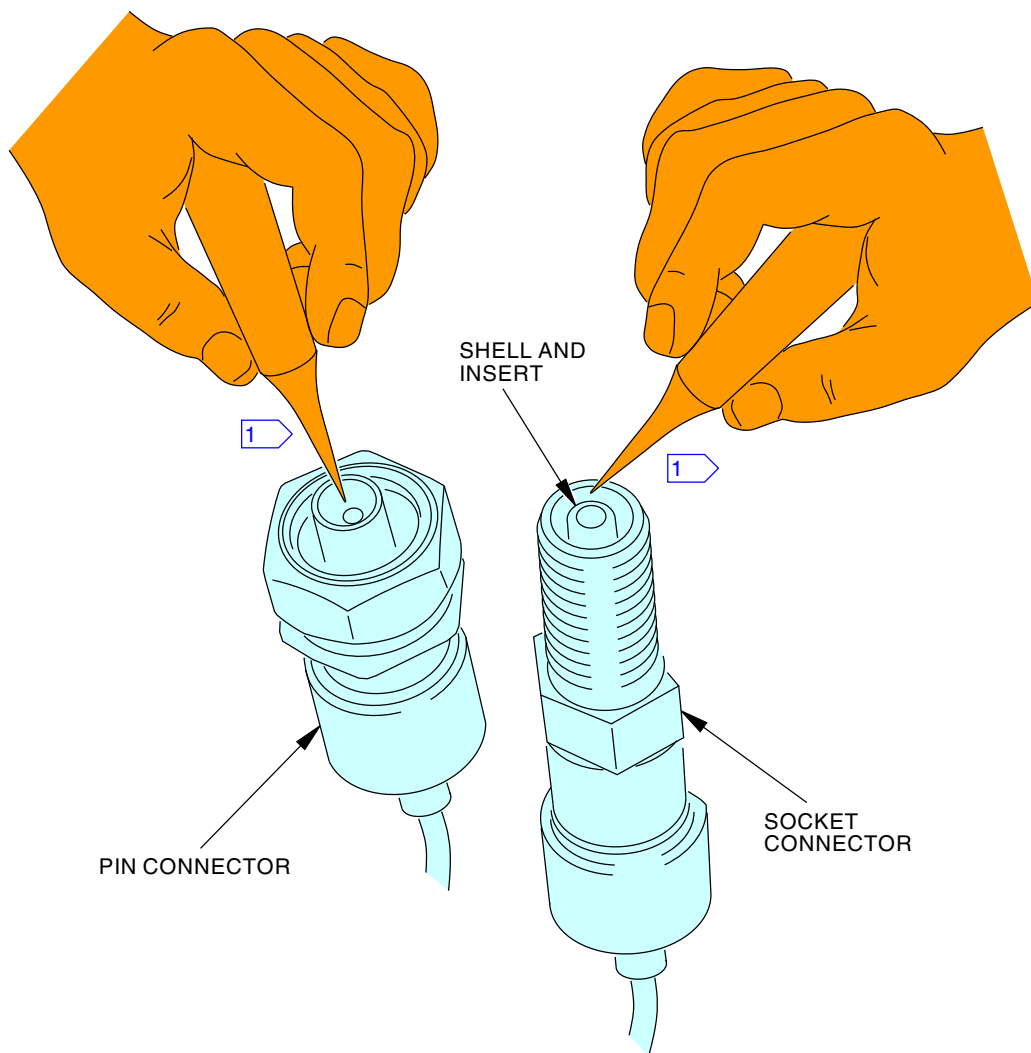
**Wing Duct Leak Detectors Installation
Figure 401/26-18-03-990-801 (Sheet 4 of 4)**

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1 ONLY APPLY DC-4 COMPOUND TO THE CONNECTORS IN THE UNPRESSURIZED AREA OF THE AIRPLANE (WHEEL WELL, WING/BODY FAIRING AND TAIL SECTION)

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Application of DC-4 Compound to Connectors
Figure 402/26-18-03-990-802

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TASK 26-18-03-400-801

3. Wing Duct Leak Detectors Installation

(Figure 401 or Figure 402)

A. References

Reference	Title
06-41-00-800-801	Finding an Access Door or Panel on the Fuselage (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
26-18-04-100-801	Clean the Body Duct Leak Detectors (P/B 701)
27-81-00-440-801	Leading Edge Slat Reactivation (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-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-13635	Syringe - Gage Size 20 Needle (commercial available)
STD-13636	Syringe - Gage Size 22 Needle (commercial available)

C. Consumable Materials

Reference	Description	Specification
B00083	Solvent - VM&P Naphthas	TT-N-95 Type II, ASTM D-3735 Type III
G50470	Compound - Electrical Insulating (Dow Corning 4)	SAE AS8660 (Supersedes MIL-S-8660)

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Element	26-18-03-01-035	ARO ALL
		26-18-03-01-045	ARO ALL
		26-18-03-05-030	ARO ALL
		26-18-03-05-035	ARO ALL

E. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
135	Environmental Control Systems Bay, Left
136	Environmental Control Systems Bay, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

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(Continued)

Zone	Area
510	Subzone 510 - Wing Leading Edge - Forward of Front Spar
610	Subzone 610 - Wing Leading Edge - Forward of Front Spar

F. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
195EL	Environmental Control Systems (ECS) Access Door
196ER	Environmental Control Systems (ECS) Access Door

G. Prepare for the Installation

SUBTASK 26-18-03-010-004

- (1) Open this access door to get access to the System Cardfiles:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-18-03-860-002

- (2) Make sure that the power switches for these DLODS Control Cards are in the OFF position:
- (a) Right DLODS Control Card (A05) in the Right Systems Card File (P84)
 - (b) Center DLODS Control Card (A08) in the Right Systems Card File (P84)
 - (c) Left DLODS Control Card (A05) in the Left Systems Card File (P85)

SUBTASK 26-18-03-010-005

- (3) Open these access doors to get access to the pack bay:

<u>Number</u>	<u>Name/Location</u>
195EL	Environmental Control Systems (ECS) Access Door
196ER	Environmental Control Systems (ECS) Access Door

SUBTASK 26-18-03-010-009

- (4) Open the applicable access panels to get access to the duct leak detectors in the wing, if applicable.

SUBTASK 26-18-03-010-008

- (5) Open the applicable access panels to get access to the duct leak detectors in the wing-to-body fairing, if applicable.
- (a) Do this task: Finding an Access Door or Panel on the Fuselage, TASK 06-41-00-800-801.

H. Wing Duct Leak Detectors Installation

SUBTASK 26-18-03-210-001

- (1) Examine the ends of the connectors [1] and the areas that connect to make sure that there is no contamination or damage.
- (a) At the applicable connectors, make sure that the ceramic insulator is attached to the center conductor of the other connector end.

SUBTASK 26-18-03-420-001



MAKE SURE THAT THE PART NUMBER OF THE DETECTOR ELEMENT IS CORRECT. IF THE DETECTOR ELEMENT IS NOT THE CORRECT PART NUMBER, THE SYSTEM WILL NOT OPERATE CORRECTLY.

- (2) Do these steps to install the applicable elements [2]:

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- (a) Put one end of the applicable elements [2] in its position.
- (b) Clean and dry the connectors (TASK 26-18-04-100-801).
- (c) Apply Compound, G50470 to the connectors in the unpressurized area of the airplane only.
 - 1) Fill a syringe, STD-13635 or syringe, STD-13636 with Compound, G50470.
 - 2) For the socket connector end, use the syringe, STD-13635 or syringe, STD-13636 with Compound, G50470 to inject the Compound, G50470 into the shell and insert (ceramic socket) and between the threaded barrel and the shell and insert (ceramic socket) of the element connector.
 - a) Inject the Compound, G50470 until it is flush with the connector sleeve.
 - 3) For the pin connector end, use the syringe, STD-13635 or syringe, STD-13636 with Compound, G50470 to inject the Compound, G50470 into the area surrounding the pin (between the pin and the pin shield) of the pin connector.
 - a) Inject the Compound, G50470 into this area until it is full.
 - 4) Carefully install the connectors and remove any excess Compound, G50470 from the outside of the connection.
- (d) If applicable, install the nuts [8].
- (e) Tighten the connector [1], wiring connector [7] or bulkhead connector nut [3] and nuts [8].



CAUTION

WHEN YOU INSTALL THE ELEMENT, DO NOT BEND THE ELEMENT TO A RADIUS THAT IS LESS THAN ONE INCH. IF THE BEND RADIUS IS LESS THAN ONE INCH, DAMAGE TO THE ELEMENT CAN OCCUR.



CAUTION

BE CAREFUL WHEN YOU UNWIND THE ELEMENT. DO NOT MAKE KINKS IN THE ELEMENT. IF YOU MAKE KINKS IN THE ELEMENT, DAMAGE TO THE ELEMENT CAN OCCUR.

- (f) Unwind the applicable elements [2] along the mounting clips [4].
- (g) Put a grommets [5] on the elements [2] at each mounting clip [4] location.
- (h) Tighten the screws [6] on the mounting clips [4] that hold the elements [2] in its position.
- (i) Put the other end of the elements [2] in its position.
- (j) If applicable, install the nuts [8].
- (k) Adjust the length of the elements [2] between each pair of mounting clips [4] until the lengths are approximately equal.
- (l) Tighten the connector [1], wiring connector [7] or bulkhead connector nut [3] and nuts [8] at the end of the elements [2].
- (m) Make sure that there is at least 0.25 inch between the element and the airplane structure.
- (n) Make sure that there is a minimum of 0.70 inch between the elements for loop 1 and loop 2.
- (o) Make sure that there is a minimum of 3.0 inches between the element and the duct.
- (p) Make sure that there is a minimum of 0.50 inch between the element and other airplane systems.
- (q) Make sure that there is a minimum of 0.50 inch between the elements.



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- (r) Tighten the applicable connector [1], wiring connector [7] and bulkhead connector nut [3] and nuts [8] to 60 ± 10 in-lb (7 ± 1 N·m).
- (s) Tighten the bulkhead connector nut [3] to 20 ± 5 in-lb (2.3 ± 0.6 N·m).
- (t) Install lockwires [9] on the applicable connector [1], wiring connector [7] and bulkhead connector nut [3] and nuts [8].

SUBTASK 26-18-03-280-001

- (3) Do a check of the resistance between the nuts [8] and the airplane structure. Use a intrinsically safe approved bonding meter, COM-1550 which can measure 0.001 ohm.
 - (a) Make sure that the resistance is less than 0.020 ohm.
 - (b) If the resistance is more than 0.020 ohm, clean the surfaces that bond with the solvent, B00083 and do the check again.

NOTE: A resistance check is only necessary in the areas where the connectors mate with the brackets.

SUBTASK 26-18-03-860-003

- (4) Move the power switches for these DLODS Control Cards to the ON position:
 - (a) Right DLODS Control Card (A05) in the Right Systems Card File (P84)
 - (b) Center DLODS Control Card (A08) in the Right Systems Card File (P84)
 - (c) Left DLODS Control Card (A05) in the Left Systems Card File (P85)

SUBTASK 26-18-03-860-004

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

SUBTASK 26-18-03-750-001

- (6) After 60 seconds, make sure that these EICAS status messages do not show on the EICAS display:
 - (a) BLEED LOOP 1 WING L
 - (b) BLEED LOOP 1 WING R
 - (c) BLEED LOOP 2 WING L
 - (d) BLEED LOOP 2 WING R

SUBTASK 26-18-03-750-002

- (7) Make sure that these EICAS caution messages do not show on the EICAS display:
 - (a) BLEED LEAK WING L
 - (b) BLEED LEAK WING R

I. Put the Airplane Back to Its Usual Condition

SUBTASK 26-18-03-840-001

- (1) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-18-03-840-002

- (2) Close these access doors:

<u>Number</u>	<u>Name/Location</u>
195EL	Environmental Control Systems (ECS) Access Door
196ER	Environmental Control Systems (ECS) Access Door

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SUBTASK 26-18-03-840-003

- (3) Close the applicable access panels to the duct leak detectors in the wing, if applicable.

SUBTASK 26-18-03-840-004

- (4) Close the applicable access panels to the duct leak detectors in the wing-to-body fairing, if applicable (TASK 06-41-00-800-801).

SUBTASK 26-18-03-440-001



MAKE SURE THAT PERSONNEL AND EQUIPMENT STAY AWAY FROM THE LEADING EDGE SLATS, TRAILING EDGE FLAPS, AND DRIVE MECHANISMS. THE FLAPS, SLATS, AND DRIVE MECHANISMS MOVE QUICKLY. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (5) Do this task: Leading Edge Slat Reactivation, TASK 27-81-00-440-801.

————— **END OF TASK** —————

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BODY DUCT LEAK DETECTORS - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) A removal of the body duct leak detectors
 - (2) An installation of the body duct leak detectors.
- B. The body duct leak detection system detects overheats caused by duct leaks or bursts in the High Pressure Metal Ducting system from the APU to the Pressure Bulkhead between Sections 48 & 45. The duct leak detectors are dual loop elements. The elements are installed from the main landing gear wheel wells, through the aft cargo compartment, and into the APU compartment. One detector is also installed near the duct for the Air Driven Pump (ADP).
- C. Each detector has two elements: loop 1 and loop 2. The removal and installation procedures are the same for each element.

TASK 26-18-04-000-801

2. Body Duct Leak Detectors Removal

(Figure 401 or Figure 402)

A. References

Reference	Title
06-41-00-800-801	Finding an Access Door or Panel on the Fuselage (P/B 201)
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-19-000-801	Bulk Cargo Compartment Aft End Wall Removal (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)
32-00-40-860-802	Landing Gear Ground Door Release System Operation (Open the Doors) (P/B 201)
38-11-01-000-803	Water Tank Removal (P/B 401)
WDM 26-18-17	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
SPL-1977	Platform - Service, Forward of APU Firewall Part #: J51002-7 Supplier: 81205

C. Consumable Materials

Reference	Description	Specification
G50470	Compound - Electrical Insulating (Dow Corning 4)	SAE AS8660 (Supersedes MIL-S-8660)

D. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
143	Main Landing Gear Wheel Well, Left

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(Continued)

Zone	Area
144	Main Landing Gear Wheel Well, Right
151	Aft Cargo Compartment, Left
197	Aft Wing-to-Body Fairings, Left
310	Subzone 310 - Section 48

E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
311BL	Service Access Door
313AL	Controls Bay Access Door
823	Aft Small Cargo Door

F. Prepare for the Removal

SUBTASK 26-18-04-010-001

- (1) Open this access door to get to the System Cardfiles:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-18-04-860-001

- (2) Move the power switches for these DLODS Control Cards to the OFF position:

- (a) Right DLODS Control Card, A5, in the Right Systems Card File, P84
- (b) Center DLODS Control Card, A8, in the Right Systems Card File, P84
- (c) Left DLODS Control Card, A5, in the Left Systems Card File, P85

SUBTASK 26-18-04-040-001

- (3) To get access to the body duct leak detectors in the wheel well, do the steps that follow:



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.

- (a) Make sure the downlock pins are installed on the nose and main landing gear.
 - 1) To install the downlock pins, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.



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 AND DAMAGE TO EQUIPMENT.

- (b) Open the doors for the landing gear (TASK 32-00-40-860-802).
- (c) To install the door safety pins in the door release/safety valve modules, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 26-18-04-010-002

- (4) To get access to the body duct leak detectors in the aft cargo compartment, do the steps that follow:

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- (a) Open this cargo door:

<u>Number</u>	<u>Name/Location</u>
823	Aft Small Cargo Door

- (b) To remove the sidewall lining to get access to the duct leak detectors in the aft cargo compartment, do this task: Sidewall Liner Removal, TASK 25-52-06-000-801.

- 1) If required, do this task: Bulk Cargo Compartment Aft End Wall Removal, TASK 25-52-19-000-801.
- 2) If required, do this task: Water Tank Removal, TASK 38-11-01-000-803.

SUBTASK 26-18-04-010-003

- (5) To get access to the body duct leak detectors near the APU duct, do the steps that follow:

- (a) Open these access doors:

<u>Number</u>	<u>Name/Location</u>
311BL	Service Access Door
313AL	Controls Bay Access Door



WARNING

STAY OFF THE SERVICE ACCESS DOOR, 313AL. YOUR WEIGHT CAN RELEASE THE SPRING-LOADED LATCHES. IF YOU FALL THROUGH THE DOOR, INJURIES WILL OCCUR.

- (b) Install the service platform, SPL-1977, above the access door.

This is the access door:

<u>Number</u>	<u>Name/Location</u>
313AL	Controls Bay Access Door

SUBTASK 26-18-04-010-004

- (6) To get access to the body duct leak detector near the ADP duct, remove the applicable left aft wing-to-body fairing panels (TASK 06-41-00-800-801).

G. Body Duct Leak Detector Removal

SUBTASK 26-18-04-020-002



CAUTION

DO NOT INCLUDE THE END CAPS OF WIRE ASSEMBLY CONNECTORS IN THE REMOVAL OR INSTALLATION OF THE ELEMENTS, RESISTORS, OR WIRE ASSEMBLIES. DAMAGE TO EQUIPMENT CAN OCCUR.

- (1) Do these steps to remove the applicable elements [3] (WDM 26-18-17):
 - (a) Remove the lockwires [5] on the applicable connectors [2], nuts [4] and nuts [6].
 - (b) Loosen the applicable screws [7] on the mounting clips [9] that hold the elements [3] in its position.
 - (c) Disconnect the connector [2] at one end of the elements [3].
 - 1) Remove the Compound, G50470, if you see it on the connector [2].
 - (d) Disconnect the connectors [2], nut [4] and nuts [6] at the other end of the elements [3].
 - 1) Remove the Compound, G50470, if you see it on the connector [2].
 - (e) Pull the elements [3] from the mounting clips [9].
 - (f) Remove the grommets [8] from the elements [3] to use on the new elements [3].

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SUBTASK 26-18-04-020-001

- (2) Do these steps if it is necessary to remove the applicable resistor assemblies [1]:
- (a) Disconnect the applicable connectors [2] and wiring at each end of the resistor assemblies [1].
 - (b) Remove the lockwires [5] on the applicable jam nuts [10].
 - (c) Remove the jam nuts [10], gaskets [12] and washers [11].
NOTE: The gasket is part of the resistor assembly.
 - (d) Remove the resistor assemblies [1].

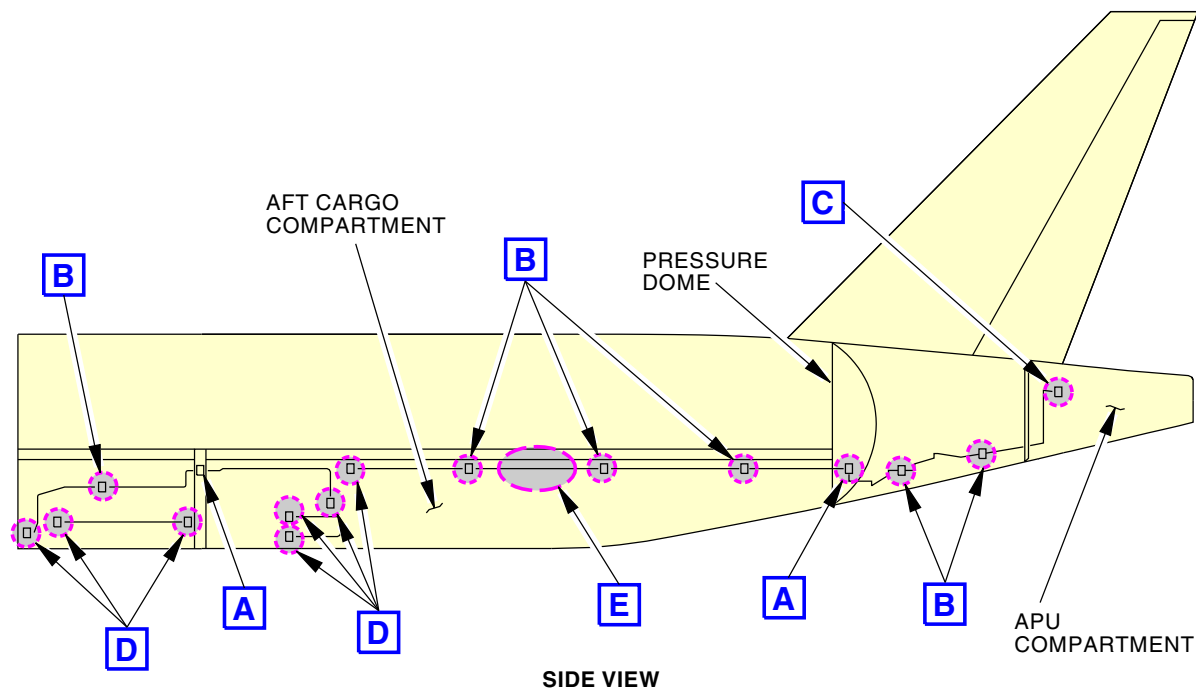
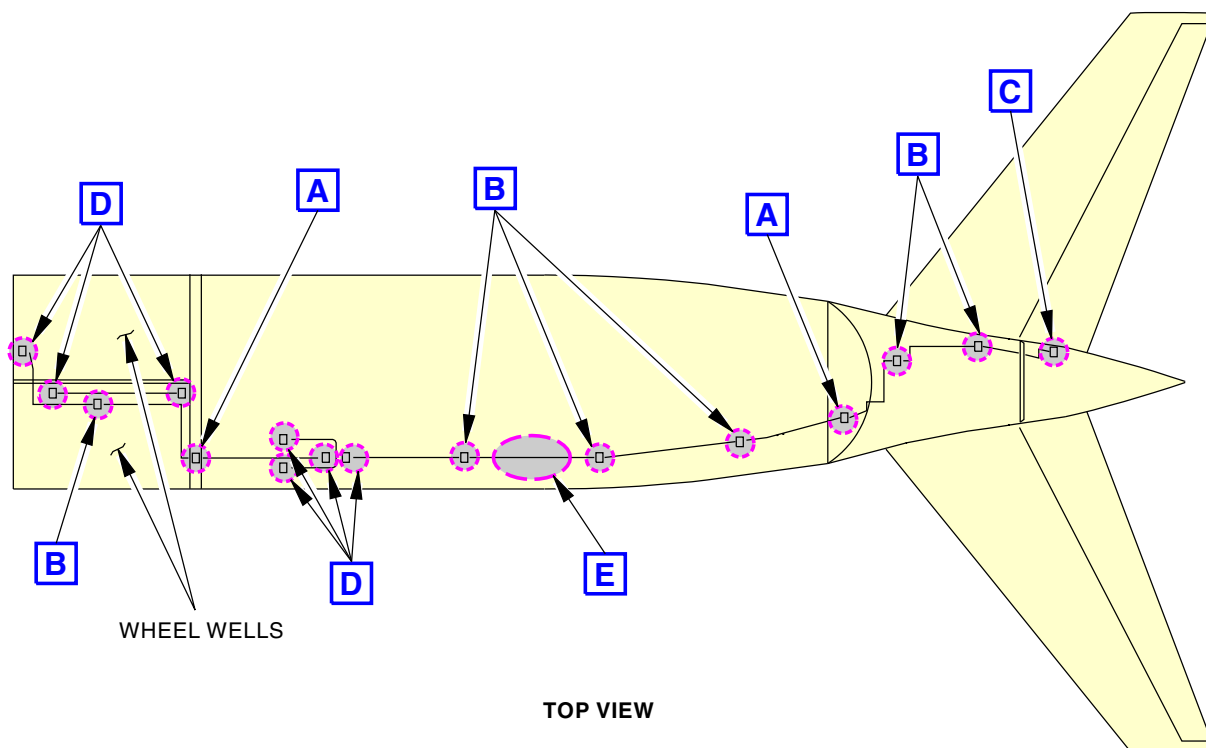
———— **END OF TASK** ————

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**Body Duct Leak Detectors Installation
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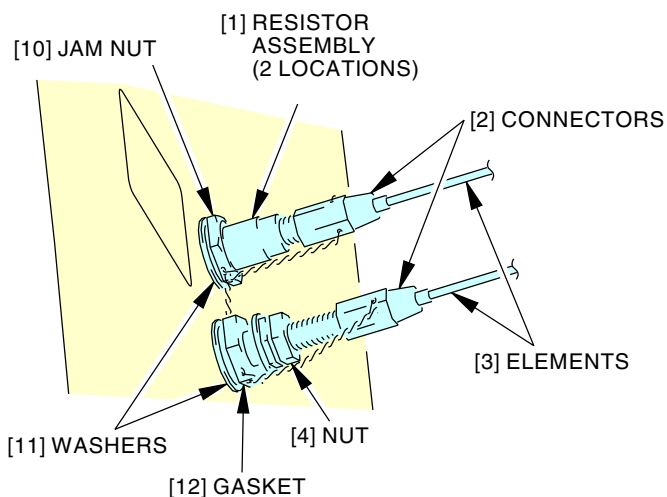
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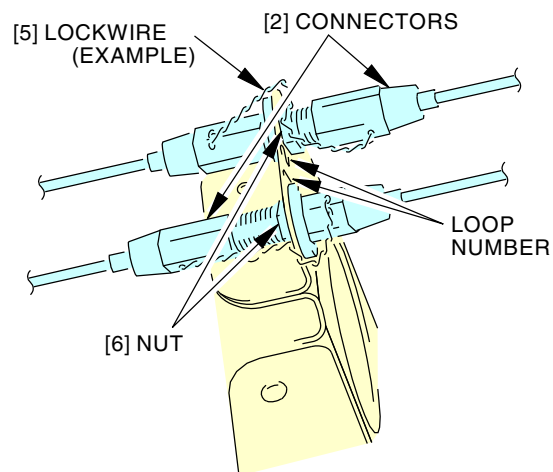
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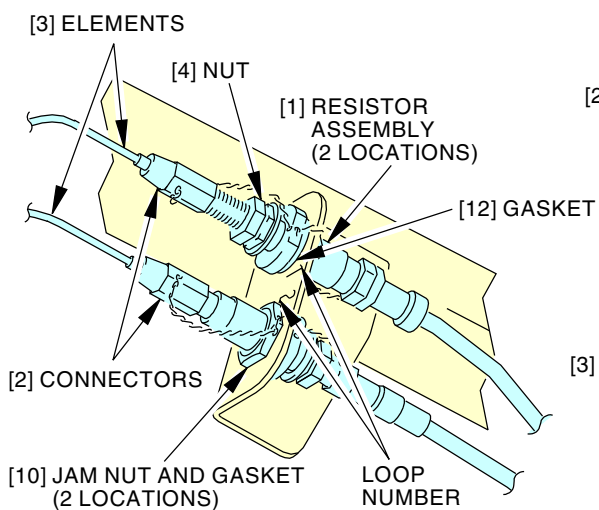
**ELEMENT-RESISTOR-ELEMENT CONNECTION
(EXAMPLE)**

A



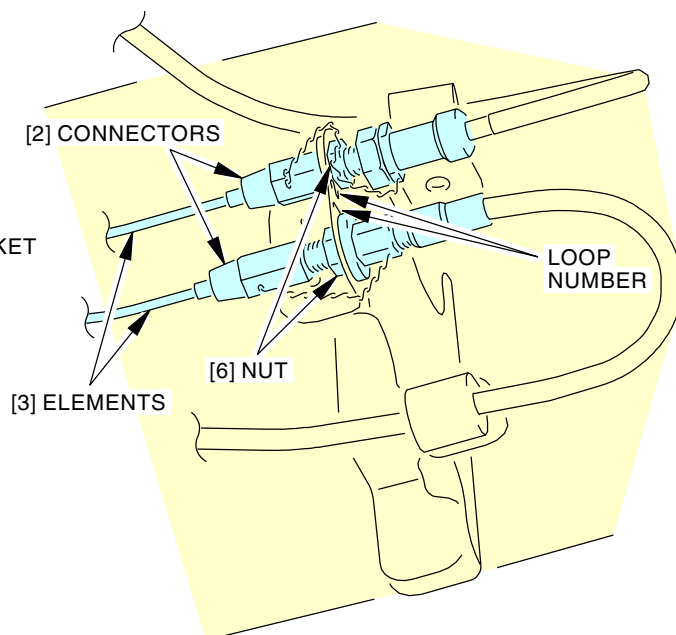
**ELEMENT-ELEMENT CONNECTION
(EXAMPLE)**

B



**ELEMENT-RESISTOR-WIRING CONNECTION
(EXAMPLE)**

C



**ELEMENT-WIRING CONNECTION
(EXAMPLE)**

D

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**Body Duct Leak Detectors Installation
Figure 401/26-18-04-990-801 (Sheet 2 of 4)**

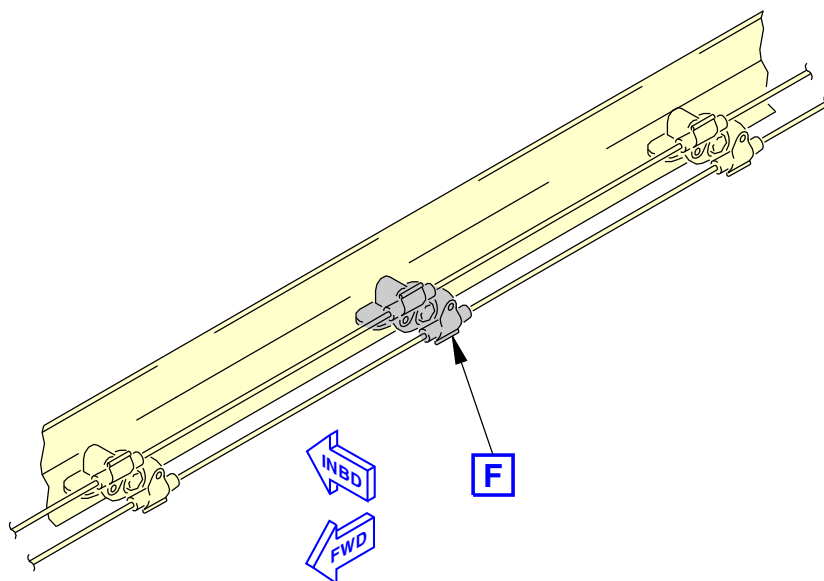
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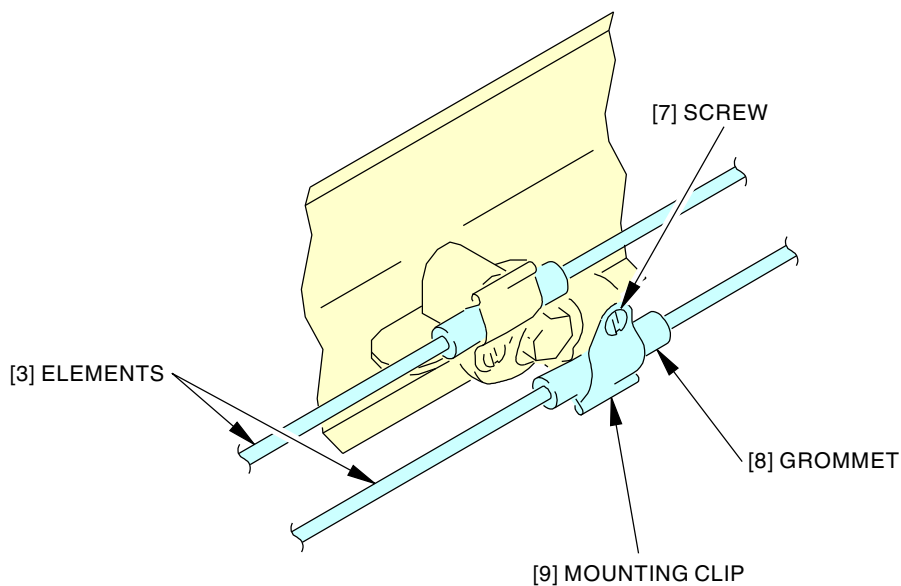
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**OVERHEAT DETECTION ELEMENTS
(EXAMPLE)**

F



(EXAMPLE)

F

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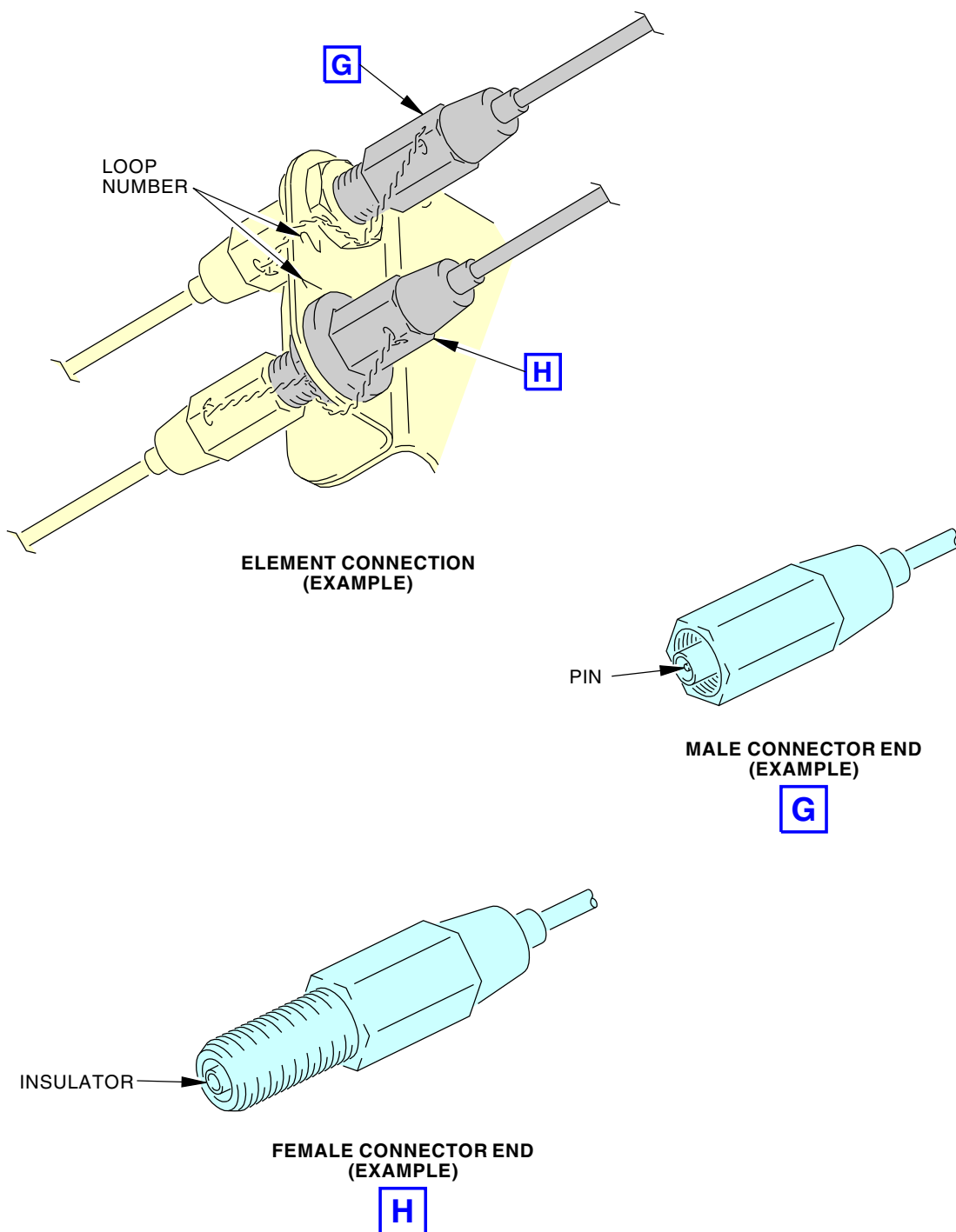
**Body Duct Leak Detectors Installation
Figure 401/26-18-04-990-801 (Sheet 3 of 4)**

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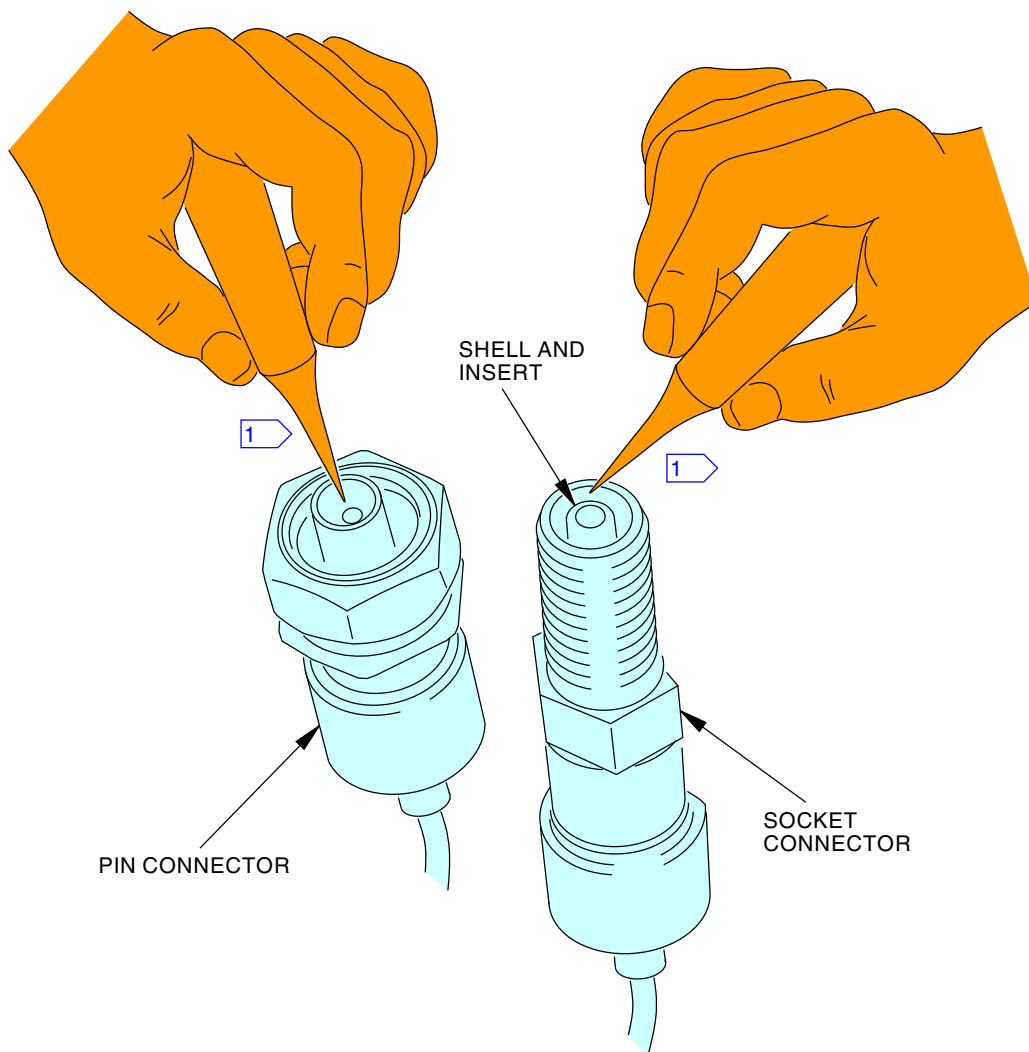
**Body Duct Leak Detectors Installation
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1 ONLY APPLY DC-4 COMPOUND TO THE CONNECTORS IN THE UNPRESSURIZED AREA OF THE AIRPLANE (WHEEL WELL, WING/BODY FAIRING AND TAIL SECTION)

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Application of DC-4 Compound to Connectors
Figure 402/26-18-04-990-805

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TASK 26-18-04-400-801

3. Body Duct Leak Detectors Installation

(Figure 401 or Figure 402)

A. References

Reference	Title
06-41-00-800-801	Finding an Access Door or Panel on the Fuselage (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
25-52-19-000-801	Bulk Cargo Compartment Aft End Wall Removal (P/B 401)
25-52-19-400-801	Bulk Cargo Compartment Aft End Wall Installation (P/B 401)
26-18-04-100-801	Clean the Body Duct Leak Detectors (P/B 701)
26-18-06 P/B 401	SHELL-AND-INSERT ASSEMBLY - REMOVAL/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)
32-00-30-080-801	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)
38-11-01-000-803	Water Tank Removal (P/B 401)
38-11-01-400-803	Water Tank 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-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-1977	Platform - Service, Forward of APU Firewall Part #: J51002-7 Supplier: 81205
STD-13635	Syringe - Gage Size 20 Needle (commercial available)
STD-13636	Syringe - Gage Size 22 Needle (commercial available)

C. Consumable Materials

Reference	Description	Specification
A02315	Sealant - Low Density, Synthetic Rubber. 2 Part	BMS5-142 Type II
B00083	Solvent - VM&P Naphthas	TT-N-95 Type II, ASTM D-3735 Type III

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Reference	Description	Specification
G50470	Compound - Electrical Insulating (Dow Corning 4)	SAE AS8660 (Supersedes MIL-S-8660)

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
1	Resistor assembly	26-18-04-01-040	ARO ALL
		26-18-04-03-057	ARO ALL
3	Element	26-18-04-01-045	ARO ALL
		26-18-04-01-050	ARO ALL
		26-18-04-01-055	ARO ALL
		26-18-04-03-035	ARO ALL

E. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
151	Aft Cargo Compartment, Left
197	Aft Wing-to-Body Fairings, Left
310	Subzone 310 - Section 48

F. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
311BL	Service Access Door
313AL	Controls Bay Access Door
823	Aft Small Cargo Door

G. Prepare for Installation

SUBTASK 26-18-04-010-005

- (1) Open this access door to get to the System Cardfiles:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-18-04-860-002

- (2) Make sure that the power switches for these DLODS Control Cards are in the OFF position:
- (a) Right DLODS Control Card, A5, in the Right Systems Card File, P84
 - (b) Center DLODS Control Card, A8, in the Right Systems Card File, P84
 - (c) Left DLODS Control Card, A5, in the Left Systems Card File, P85

SUBTASK 26-18-04-040-002

- (3) To get access to the body duct leak detectors in the wheel well, do the steps that follow:

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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.

- (a) Make sure that the downlock pins are installed on the nose and main landing gear.
 - 1) To install the downlock pins, do this task: Landing Gear Downlock Pins Installation, TASK 32-00-30-480-801.



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 AND DAMAGE TO EQUIPMENT.

- (b) Open the doors for the landing gear (TASK 32-00-40-860-802).
- (c) To install the door safety pins in the door release/safety valve modules, do this task: Landing Gear Door Safety Pins Installation, TASK 32-00-15-480-801.

SUBTASK 26-18-04-010-006

- (4) To get access to the body duct leak detectors in the aft cargo compartment, do these steps:
 - (a) Open this cargo door:

<u>Number</u>	<u>Name/Location</u>
823	Aft Small Cargo Door
 - (b) To remove the sidewall lining to get access to the duct leak detectors in the aft cargo compartment, do this task: Sidewall Liner Removal, TASK 25-52-06-000-801.
 - 1) If required, do this task: Bulk Cargo Compartment Aft End Wall Removal, TASK 25-52-19-000-801.
 - 2) If required, do this task: Water Tank Removal, TASK 38-11-01-000-803.

SUBTASK 26-18-04-010-007

- (5) To get access to the body duct leak detector adjacent to the ADP duct, remove the applicable left aft wing-to-body fairing panels (TASK 06-41-00-800-801).

SUBTASK 26-18-04-010-008

- (6) To get access to the body duct leak detectors near the APU duct, do the steps that follow:
 - (a) Open these access doors:

<u>Number</u>	<u>Name/Location</u>
311BL	Service Access Door
313AL	Controls Bay Access Door



WARNING

STAY OFF THE SERVICE ACCESS DOOR, 313AL. YOUR WEIGHT CAN RELEASE THE SPRING-LOADED LATCHES. IF YOU FALL THROUGH THE DOOR, INJURIES WILL OCCUR.

- (b) Install the service platform, SPL-1977 above the access door.
This is the access door:

<u>Number</u>	<u>Name/Location</u>
313AL	Controls Bay Access Door

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H. Body Duct Leak Detectors Installation

SUBTASK 26-18-04-210-001

- (1) Examine the ends of the connectors [2] and the connector junction areas to make sure that there is no contamination or damage.



CAUTION

DO NOT INCLUDE THE END CAPS OF WIRE ASSEMBLY CONNECTORS IN THE REMOVAL OR INSTALLATION OF THE ELEMENTS, RESISTORS, OR WIRE ASSEMBLIES. DAMAGE TO EQUIPMENT CAN OCCUR.

- (a) At the applicable connectors, make sure that the ceramic insulator is attached to the center conductor of the other connector end (SHELL-AND-INSERT ASSEMBLY - REMOVAL/INSTALLATION, PAGEBLOCK 26-18-06/401).

SUBTASK 26-18-04-420-002

- (2) Do these steps if it is necessary to install a resistor assembly [1]:
- (a) Apply sealant, A02315 to gasket [12].
 - (b) Put a gasket [12] and washers [11] on the applicable resistor assemblies [1].
 - (c) Put the resistor assemblies [1] in its position.
 - (d) Apply sealant, A02315 to gasket.
 - (e) Put the other gaskets [12], washers [11] and jam nuts [10] on the applicable resistor assemblies [1].
 - (f) Tighten the jam nuts [10] to 20 ±5 in-lb (2 ±1 N·m).
 - (g) Install lockwires [5] on the applicable resistor assemblies [1].

SUBTASK 26-18-04-420-001



CAUTION

MAKE SURE THAT THE PART NUMBER OF THE DETECTOR ELEMENT IS CORRECT. IF THE DETECTOR ELEMENT IS NOT THE CORRECT PART NUMBER, THE SYSTEM WILL NOT OPERATE CORRECTLY.

- (3) Do these steps to install an element [3]:



CAUTION

DO NOT INCLUDE THE END CAPS OF WIRE ASSEMBLY CONNECTORS IN THE REMOVAL OR INSTALLATION OF THE ELEMENTS, RESISTORS, OR WIRE ASSEMBLIES. DAMAGE TO EQUIPMENT CAN OCCUR.



CAUTION

WHEN YOU INSTALL THE ELEMENT, DO NOT BEND THE ELEMENT TO A RADIUS THAT IS LESS THAN ONE INCH. IF THE BEND RADIUS IS LESS THAN ONE INCH, DAMAGE TO THE ELEMENT CAN OCCUR.



CAUTION

BE CAREFUL WHEN YOU UNWIND THE ELEMENT. DO NOT MAKE KINKS IN THE ELEMENT. IF YOU MAKE KINKS IN THE ELEMENT, DAMAGE TO THE ELEMENT CAN OCCUR.

- (a) Put one end of the applicable elements [3] in its position.
- (b) Clean and dry the connectors (TASK 26-18-04-100-801).
- (c) Apply Compound, G50470 to the connectors in the unpressurized area of the airplane only.

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- 1) Fill a syringe, STD-13635 or syringe, STD-13636 with Compound, G50470.
 - 2) For the socket connector end, use the syringe, STD-13635 or syringe, STD-13636 with Compound, G50470 to inject the Compound, G50470 into the shell and insert (ceramic socket) and between the threaded barrel and the shell and insert (ceramic socket) of the element connector.
 - a) Inject the Compound, G50470 until it is flush with the connector sleeve.
 - 3) For the pin connector end, use the syringe, STD-13635 or syringe, STD-13636 with Compound, G50470 to inject the Compound, G50470 into the area surrounding the pin (between the pin and the pin shield) of the pin connector.
 - a) Inject the Compound, G50470 into this area until it is full.
 - 4) Carefully install the connectors and remove any excess Compound, G50470 from the outside of the connection.
- (d) Install the connectors [2], nuts [4], and nuts [6].
 - (e) Tighten the connectors [2], nuts [4] or nuts [6].
 - (f) Unwind the applicable elements [3] along the mounting clips [9].
 - (g) Put a grommets [8] on the elements [3] at each mounting clip [9] location.
 - (h) Tighten the screws [7] on the mounting clips [9] that hold the elements [3] in its position.
 - (i) Put the other end of the elements [3] in its position.
 - (j) If applicable, install the nuts [6].
 - (k) Adjust the length of the elements [3] between each pair of mounting clips [9] until the lengths are approximately equal.
 - (l) Tighten the connectors [2], nuts [4] or nuts [6] at the end of the elements [3].
 - (m) Make sure that there is a minimum of 0.25 inch between the element and the airplane structure.
 - (n) Make sure that there is a minimum of 0.70 inch between the elements for loop 1 and loop 2.
 - (o) Make sure that there is a minimum of 3.0 inches between the element and the duct.
 - (p) Make sure that there is a minimum of 0.50 inch between the element and other airplane systems.
 - (q) Tighten the applicable connectors [2], nuts [4] or nuts [6] to 60 ±10 in-lb (7 ±1 N·m).
 - (r) Install lockwires [5] on the applicable connectors [2], nuts [4], or nuts [6].

SUBTASK 26-18-04-280-001

- (4) Do a check of the resistance between the connectors [2], nuts [4], nuts [6] and the airplane structure.
 - (a) Use an intrinsically safe approved bonding meter, COM-1550 which can measure 0.001 ohm.
 - (b) Make sure that the resistance is less than 0.020 ohm.
 - (c) If the resistance is more than 0.020 ohm, clean the surfaces that bond with the solvent, B00083. Do the check again.

NOTE: A resistance check is only necessary in the areas where the connectors mate with the brackets.

SUBTASK 26-18-04-860-003

- (5) Move the power switches for these DLODS Control Cards to the ON position:

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- (a) Right DLODS Control Card, A5, in the Right Systems Card File, P84
- (b) Center DLODS Control Card, A8, in the Right Systems Card File P84
- (c) Left DLODS Control Card, A5, in the Left Systems Card File P85

SUBTASK 26-18-04-860-004

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

SUBTASK 26-18-04-750-001

- (7) After 60 seconds, make sure that these EICAS status messages do not show on the center lower display unit:
 - (a) BLEED LOOP 1 BODY
 - (b) BLEED LOOP 2 BODY

SUBTASK 26-18-04-750-002

- (8) Make sure that this EICAS caution message does not show on the center upper display unit:
 - (a) BLEED LEAK BODY

I. Put the Airplane Back to Its Usual Condition

SUBTASK 26-18-04-410-001

- (1) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-18-04-840-001

- (2) If you installed a body duct leak detector in the wheel well, do these 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) To remove the door safety pins, do this task: Landing Gear Door Safety Pins Removal, TASK 32-00-15-080-801.
- (b) To remove the downlock pins that are installed on the nose and main landing gear if they are not necessary, do this task: Landing Gear Downlock Pins Removal, TASK 32-00-30-080-801.
- (c) Close the LG doors (TASK 32-00-40-860-801).

SUBTASK 26-18-04-410-002

- (3) If you installed a body duct leak detector in the aft cargo compartment, do these steps:
 - (a) To install the sidewall lining, do this task: Sidewall Liner Installation, TASK 25-52-06-400-801.
 - (b) Close this cargo door:

<u>Number</u>	<u>Name/Location</u>
823	Aft Small Cargo Door

SUBTASK 26-18-04-410-003

- (4) If you installed a body duct leak detector adjacent to the ADP duct, install the left aft wing-to-body fairing panels (TASK 06-41-00-800-801).
 - (a) If was removed, install the bulk cargo compartment aft end wall (TASK 25-52-19-400-801).

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- (b) If was removed, install the water tank (TASK 38-11-01-400-803).

SUBTASK 26-18-04-080-001

- (5) If you installed a body duct leak detector adjacent to the APU duct, do the steps that follow:



WARNING

STAY OFF THE SERVICE ACCESS DOOR, 313AL. YOUR WEIGHT CAN RELEASE THE SPRING-LOADED LATCHES. IF YOU FALL THROUGH THE DOOR, INJURIES WILL OCCUR.

- (a) Remove the service platform, SPL-1977.
(b) Close these access doors:

<u>Number</u>	<u>Name/Location</u>
311BL	Service Access Door
313AL	Controls Bay Access Door

———— **END OF TASK** ————

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BODY DUCT LEAK DETECTORS - CLEANING/PAINTING

TASK 26-18-04-100-801

1. Clean the Body Duct Leak Detectors

A. General

(1) This task gives instructions to clean the body duct leak detectors.

B. References

Reference	Title
26-18-04-000-801	Body Duct Leak Detectors Removal (P/B 401)
26-18-04-400-801	Body Duct Leak Detectors Installation (P/B 401)

C. Tools/Equipment

Reference	Description
STD-11887	Air/Nitrogen Supply - Controlled Pressure, capable of 60 psig

D. Consumable Materials

Reference	Description	Specification
B50073	Alcohol - Isopropyl	ASTM D 770

E. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
143	Main Landing Gear Wheel Well, Left
144	Main Landing Gear Wheel Well, Right
151	Aft Cargo Compartment, Left
197	Aft Wing-to-Body Fairings, Left
310	Subzone 310 - Section 48

F. Procedure

SUBTASK 26-18-04-020-003

(1) Remove the fittings (Body Duct Leak Detectors Removal, TASK 26-18-04-000-801).

SUBTASK 26-18-04-170-001



ONLY USE CLEANING AGENTS WHEN THERE IS GOOD AIR FLOW THROUGH THE WORK AREA. THIS MATERIAL IS POISONOUS AND FLAMMABLE AND CAN CAUSE SKIN IRRITATION. OBEY THE MANUFACTURER'S INSTRUCTIONS. PUT ON PROTECTIVE CLOTHING. DO NOT GET THE CLEANING AGENTS IN YOUR MOUTH. DO NOT SMOKE. DO NOT BREATHE THE GAS. GET HELP IF YOUR SKIN OR EYES BECOME IRRITATED.



DO NOT USE PROBES, SWABS, OR OTHER INSTRUMENTS TO CLEAN THE FITTINGS. DAMAGE TO THE FITTINGS OR PINS CAN OCCUR.

(2) Spray alcohol, B50073 into each fitting to flush out the dirt, contamination, or other unwanted material.

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- (a) Hold the fitting in a position that lets the alcohol, B50073 and contamination drain from the fitting.

SUBTASK 26-18-04-680-001



COMPRESSED AIR OR GAS CAN BE DANGEROUS. APPLY DRY AIR OR NITROGEN CAREFULLY IN DIRECTION AWAY FROM EYES AND FACE AND OTHER PERSONNEL TO AVOID POSSIBLE INJURY.

- (3) Dry the fittings with air/nitrogen supply, STD-11887 at a maximum pressure of 30 psi (207 kPa).

SUBTASK 26-18-04-420-003

- (4) Re-install the fittings (Body Duct Leak Detectors Installation, TASK 26-18-04-400-801).

———— **END OF TASK** ————

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DUCT LEAK AND OVERHEAT DETECTION SYSTEM (DLODS) - MAINTENANCE PRACTICES

TASK 26-18-05-400-802

1. DLODS Control Cards Software Installation

A. General

- (1) This procedure tells you how to install software in the Duct Leak Overheat Detection System (DLODS) control cards.
 - (a) The name of the software part loaded into a DLODS follows:
DLODS Operational Program Software (OPS)
REF: AIPC 46-00-00-26B
Using the names, the specific software part number for an aircraft can be identified in the Illustrated Parts Catalog (IPC). All three DLODS control cards should be loaded with the same software part number.
- (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) If you do not know if the DLODS control cards 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: DLODS Control Card Installation, TASK 26-18-05-400-801.
- (4) You can use the Ground Support Equipment (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 Maintenance Access Terminal (MAT) hard drive or the PMAT hard drive (if available). It is recommended that you install software from the MAT or PMAT hard drive. To install new software on the MAT or PMAT hard drive, 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 DLODS control cards, the load process first erases the old software and then installs the new software. If you install software directly to the DLODS control cards 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 DLODS control cards.
 - (a) It is recommended that you remove old software part numbers from the MAT or PMAT hard drive 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.

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- (7) Make sure that the Auxiliary Power Unit (APU) selector on the P5 panel is OFF.
- (8) Make sure that the airplane is on the ground with the engines off.
- (9) 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)
26-18-05-400-801	DLODS Control Card Installation (P/B 401)
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)
AIPC 46-00-00-26B	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 26-18-05-860-005

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

SUBTASK 26-18-05-420-002

- (2) Use a MAT to install software in the DLODS control cards:

NOTE: Make sure that you know the correct software part number for the DLODS control cards.

- (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

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- (c) Make these selections for the component that will receive the software:
 - 1) SELECT DESTINATION
 - 2) 26 Duct Leak and Overheat Detection System
 - a) DLODS Control Card (left, center, or right)
 - 3) CONTINUE
- (d) Make these selections for the source of the software:
 - 1) SELECT SOURCE
 - 2) Set the source of the software.
NOTE: This step is not necessary if the Disk Drive is the only selection.
 - 3) Get the correct software part number from the display.
 - 4) CONTINUE
- (e) Set START to start the software installation.
- (f) When the software installation is completed, make sure that the correct software part number shows.
- (g) Set CONTINUE to remove the configuration display.

———— **END OF TASK** ————



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DUCT LEAK AND OVERHEAT DETECTION SYSTEM (DLODS) - REMOVAL/INSTALLATION

1. General

- A. This procedure has two tasks. The first task removes the DLODS Control Cards. The second task installs the DLODS Control Cards.
- B. There are three DLODS Control Cards. The Left DLODS Control Card is installed in the Left Systems Cardfile, P85. The Right and Center DLODS Control Cards are installed in the Right Systems Cardfile, P84. The Cardfiles are in the Main Equipment Center.

NOTE: The three DLODS Control Cards are interchangeable.

TASK 26-18-05-000-801

2. DLODS Control Card Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. **References**

Reference	Title
20-41-01-000-801	ESDS Handling for Printed Circuit Board Removal (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)

B. **Location Zones**

Zone	Area
117	Main Equipment Center, Left
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. **DLODS Control Card Removal**

SUBTASK 26-18-05-840-004

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

SUBTASK 26-18-05-010-005

- (2) Open this access door to get access to the System Cardfiles:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-18-05-860-004

- (3) Move the power switch for the applicable DLODS Control card [1] to the OFF position:
 - (a) Right DLODS Control Card (A05) in the Right Systems Card File (P84)
 - (b) Center DLODS Control Card (A08) in the Right Systems Card File (P84)
 - (c) Left DLODS Control Card (A05) in the Left Systems Card File (P85)

SUBTASK 26-18-05-010-006

- (4) Open the door for the applicable Systems Card File.

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SUBTASK 26-18-05-020-002



CAUTION

DO NOT TOUCH THE CIRCUIT CARDS BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE CIRCUIT CARDS.

- (5) Do the removal task in the Electrostatic Discharge Sensitive Devices to remove the applicable DLODS Control card [1]. To remove it, do this task: ESDS Handling for Printed Circuit Board Removal, TASK 20-41-01-000-801.

———— **END OF TASK** ————

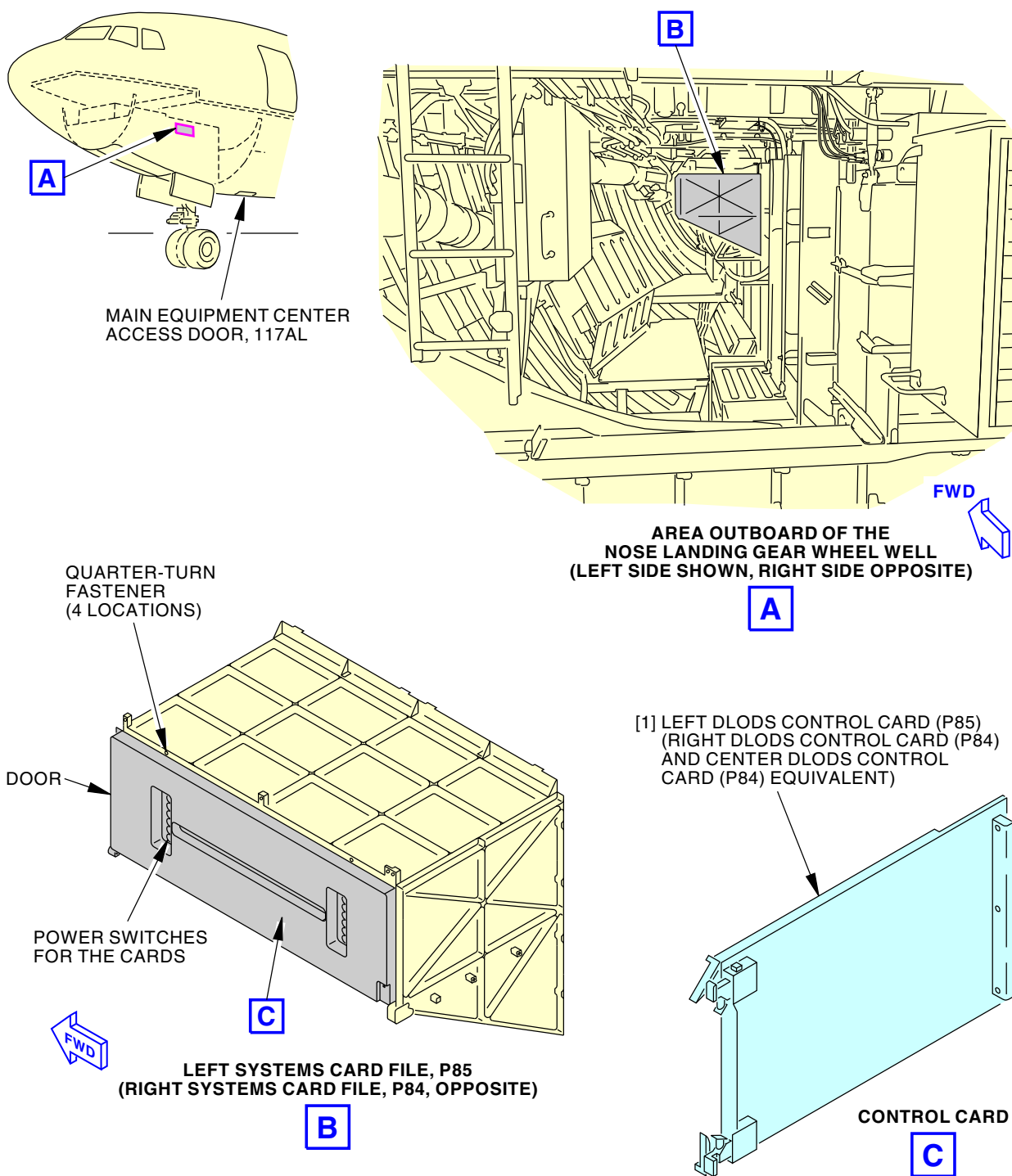
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**Duct Leak and Overheat Detection System (DLODS) Installation
Figure 401/26-18-05-990-801**

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TASK 26-18-05-400-801

3. DLODS Control Card Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. General

- (1) The logic card has a locking mechanism on the end opposite the electrical connectors to prevent an incorrect installation. The card file door has a marker that shows the correct card installation.
- (2) The installation test makes sure that the DLODS control cards have correct software.
- (3) You will not complete the configuration check if the operational program software (OPS) is not installed.
- (4) 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
20-41-01-400-801	ESDS Handling for Printed Circuit Board Installation (P/B 201)
24-22-00-860-805	Supply Electrical Power (P/B 201)
26-18-05-400-802	DLODS Control Cards Software 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
1	Card	26-18-05-01-005	ARO ALL
		26-18-05-02-005	ARO ALL

D. Location Zones

Zone	Area
117	Main Equipment Center, Left
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. DLODS Control Card Installation

SUBTASK 26-18-05-840-002

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

SUBTASK 26-18-05-010-003

- (2) Open this access door to get access to the Systems Cardfiles:

Number	Name/Location
117AL	Main Equipment Center Access Door

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SUBTASK 26-18-05-860-002

- (3) Make sure that the power switch for the applicable DLODS Control card [1] is in the OFF position:
 - (a) Right DLODS Control Card (A05) in the Right Systems Card File (P84)
 - (b) Center DLODS Control Card (A08) in the Right Systems Card File (P84)
 - (c) Left DLODS Control Card (A05) in the Left Systems Card File (P85)

SUBTASK 26-18-05-010-004

- (4) Open the door for the applicable Systems Card File.

SUBTASK 26-18-05-420-001



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.

- (5) Do the installation task in the Electrostatic Discharge Sensitive Devices to install the applicable DLODS Control card [1]. To install it, do this task: ESDS Handling for Printed Circuit Board Installation, TASK 20-41-01-400-801.

G. Installation Test

SUBTASK 26-18-05-860-003

- (1) Move the power switch for the applicable DLODS Control card [1] to the ON position:
 - (a) Right DLODS Control Card (A05) in the Right Systems Card File (P84)
 - (b) Center DLODS Control Card (A08) in the Right Systems Card File (P84)
 - (c) Left DLODS Control Card (A05) in the Left Systems Card File (P85)

SUBTASK 26-18-05-750-001

- (2) After 60 seconds, make sure that these EICAS status messages do not show on the EICAS display for the DLODS Control Card (Table 401):

Table 401/26-18-05-993-801 EICAS Status Messages

DLODS Control Card	EICAS Status Messages
Left Control Card	BLEED LOOP 1 BODY
	BLEED LOOP 2 STRUT L
	BLEED LOOP 2 WING L
Center Control Card	BLEED LOOP 1 STRUT L
	BLEED LOOP 2 STRUT R
	BLEED LOOP 1 WING L
	BLEED LOOP 2 WING R
Right Control Card	BLEED LOOP 1 STRUT R
	BLEED LOOP 1 WING R
	BLEED LOOP 2 BODY

SUBTASK 26-18-05-410-001

- (3) Close the door for the applicable Systems Card File.

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SUBTASK 26-18-05-750-002

- (4) Use a maintenance access terminal (MAT) to do a software configuration check of the DLODS:

NOTE: Make sure that you know the correct software part number for the DLODS control card. Do this before you look at the software part number on the display. For the DLODS control 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) 26 Duct Leak and Overheat Detection System
- 5) CONTINUE

- (b) Find these components on the display. Make sure that the software part numbers are correct:

NOTE: You will not complete the configuration check if the operational program software (OPS) is not installed.

- 1) DLODS Control Card (left, center or right)

- (c) Set GO BACK to remove the configuration display.

- (d) If the part number is incorrect, do this task: DLODS Control Cards Software Installation, TASK 26-18-05-400-802.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 26-18-05-840-003

- (1) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

————— END OF TASK —————

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SHELL-AND-INSERT ASSEMBLY - REMOVAL/INSTALLATION

1. General

A. This procedure gives instructions to remove and replace the shell-and-insert assembly.

TASK 26-18-06-000-801

2. Shell-and-Insert Assembly Removal

(Figure 401)

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
COM-13219	Tool - Insert Replacement Tool (p/n: TZ-2255 is included in Kit p/n: TZ-6368; The TZ-2255 is equivalent to ST2575C-1) Part #: TZ-6368 Supplier: 73168

B. **Procedure**

SUBTASK 26-18-06-980-001

(1) With the handle pointed to you, hold the body of the insert replacement tool, COM-13219.

SUBTASK 26-18-06-980-002

(2) Turn the head of the insert replacement tool, COM-13219 counterclockwise to loosen.

SUBTASK 26-18-06-980-003

(3) Push the insert replacement tool, COM-13219 into socket end fitting [1] and on the shell-and-insert assembly [2].

SUBTASK 26-18-06-980-004

(4) While you hold the body of the insert replacement tool, COM-13219, turn the head of the insert replacement tool, COM-13219 clockwise until it is tight.

SUBTASK 26-18-06-980-005

(5) Pull the insert replacement tool, COM-13219 away from the socket end fitting [1].

NOTE: The shell-and-insert assembly [2] must come out with the insert replacement tool, COM-13219. Do the steps again if it does not come out.

SUBTASK 26-18-06-980-006

(6) Turn the head of the insert replacement tool, COM-13219 counterclockwise to loosen.

SUBTASK 26-18-06-020-001

(7) Remove the shell-and-insert assembly [2] from the insert replacement tool, COM-13219.

SUBTASK 26-18-06-020-002

(8) Discard the shell-and-insert assembly [2].

————— **END OF TASK** —————

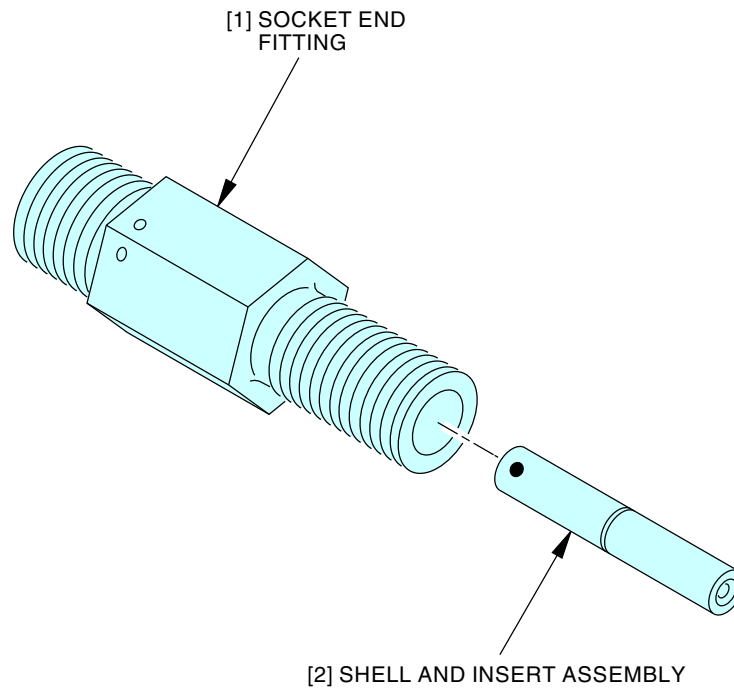
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Shell-and-Insert Assembly Installation
Figure 401/26-18-06-990-801 (Sheet 1 of 3)

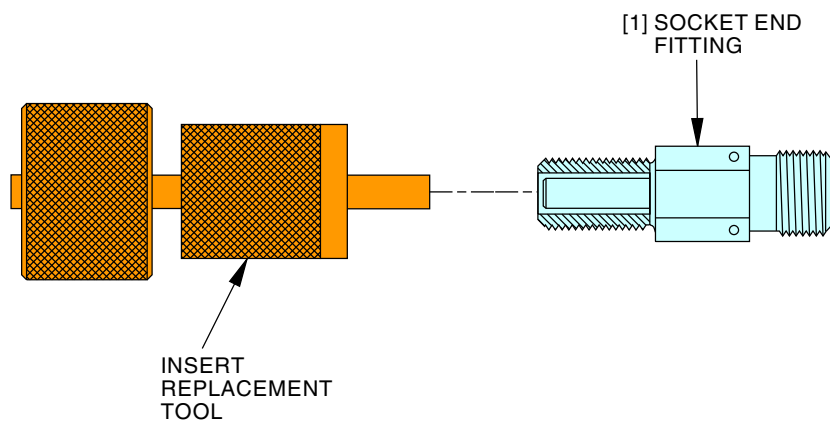
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Shell-and-Insert Assembly Installation
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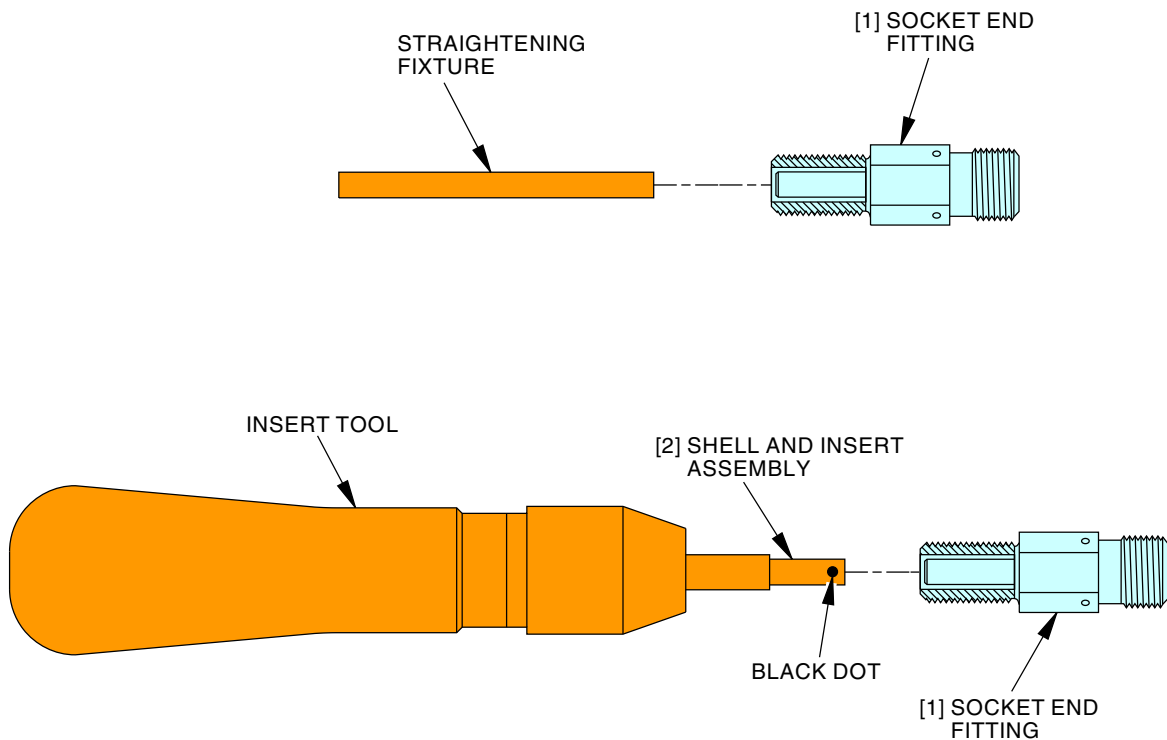
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2055094 S0000420013_V2

Shell-and-Insert Assembly Installation
Figure 401/26-18-06-990-801 (Sheet 3 of 3)

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TASK 26-18-06-400-801

3. Shell-and-Insert Assembly Installation

(Figure 401)

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
COM-13218	Tool - Insertion (TZ-3600 is included in Kit TZ-6368) Part #: TZ-6368 Supplier: 73168
COM-13220	Fixture - Straightening (p/n: TZ-3658 is included in Kit p/n: TZ-6368) Part #: TZ-6368 Supplier: 73168

B. Procedure

SUBTASK 26-18-06-980-007

- (1) Push the concave end of the straightening fixture, COM-13220 on the pin in the socket end fitting [1] to make the pin straight.

SUBTASK 26-18-06-080-001

- (2) Remove the straightening fixture, COM-13220.

SUBTASK 26-18-06-420-001

- (3) Put a new shell-and-insert assembly [2] into the insertion tool, COM-13218 with the black dot pointed away from the insertion tool, COM-13218.

SUBTASK 26-18-06-420-002

- (4) Push the shell-and-insert assembly [2] on the pin until it fully stays on the pin in the socket end fitting [1].

SUBTASK 26-18-06-080-002

- (5) Remove the insertion tool, COM-13218.

————— **END OF TASK** —————

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ELECTRICAL AND ELECTRONIC (E/E) COOLING SMOKE DETECTOR - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) A removal of the E/E cooling smoke detector (referred to as the smoke detector)
 - (2) An installation of the smoke detector.
- B. There is one smoke detector installed in the main equipment center. The smoke detector monitors the air in the cooling supply duct and the exhaust duct for smoke. Positive air pressure in the ducts pushes air through the detector. The smoke detector receives electrical power and control from the forward cargo smoke detector.

TASK 26-19-01-000-801

2. E/E Cooling Smoke Detector Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. **Location Zones**

<u>Zone</u>	<u>Area</u>

118	Main Equipment Center, Right

B. **Access Panels**

<u>Number</u>	<u>Name/Location</u>

117AL	Main Equipment Center Access Door

C. **Prepare for the Removal**

SUBTASK 26-19-01-840-001

- (1) Open this access panel to get access to the smoke detector [6] and the Power Management Panels:

<u>Number</u>	<u>Name/Location</u>

117AL	Main Equipment Center Access Door

SUBTASK 26-19-01-840-002

- (2) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>

C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>

E	2	C26415	FWD CGO SMOKE CTRL CHAN 2

D. **E/E Cooling Smoke Detector Removal**

SUBTASK 26-19-01-020-001

- (1) Disconnect the electrical connectors [1] from the smoke detector [6].

SUBTASK 26-19-01-020-002

- (2) Remove the plastic straps [2] that hold the smoke tubes [3] to the smoke detector [6].

SUBTASK 26-19-01-020-003

- (3) Disconnect the smoke tubes [3] from the smoke detector [6].

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SUBTASK 26-19-01-020-004

- (4) Remove the screws [4] and washers [5] to remove the smoke detector [6].

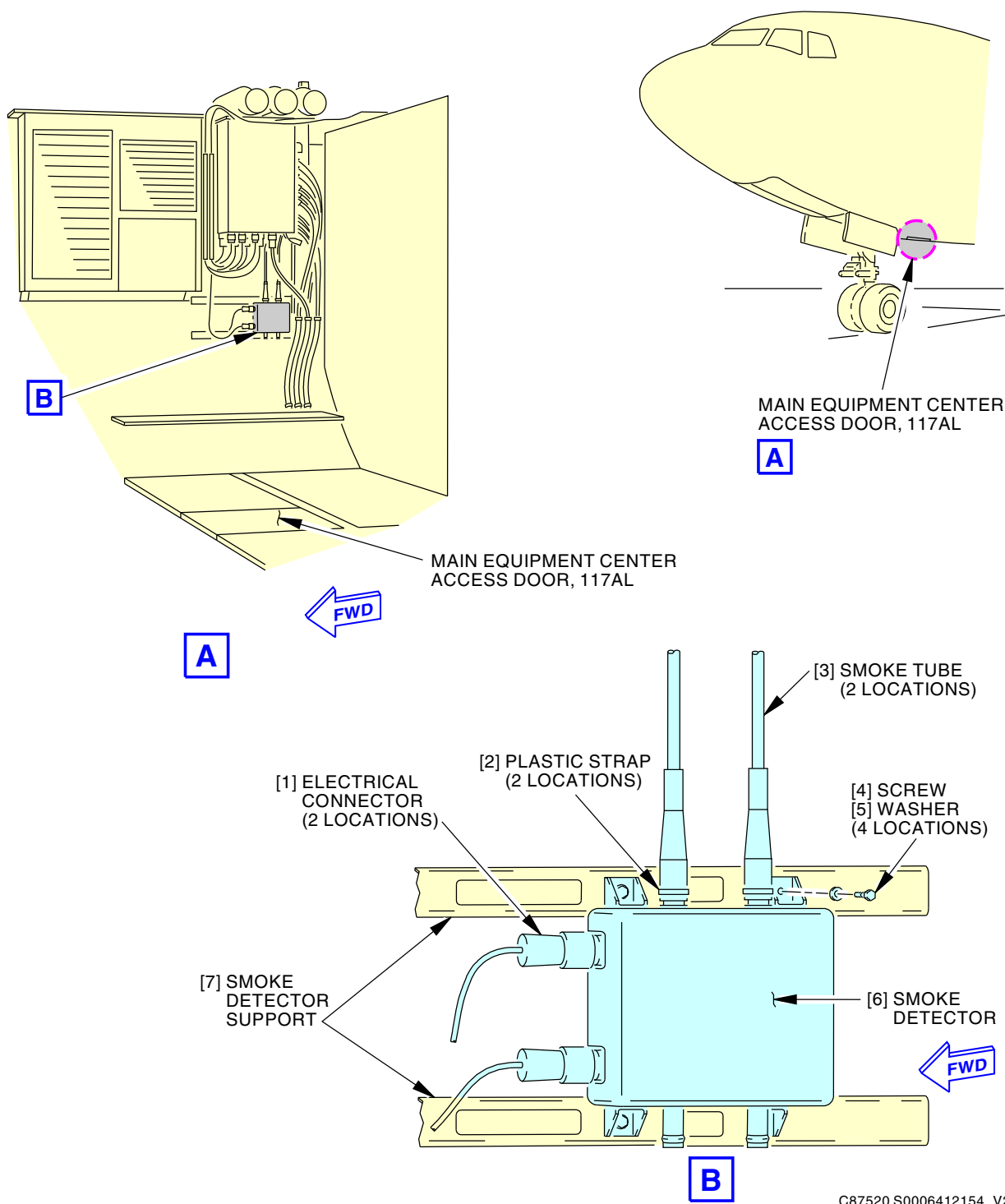
————— **END OF TASK** —————

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E/E Cooling Smoke Detector Installation
Figure 401/26-19-01-990-801

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TASK 26-19-01-400-801

3. E/E Cooling Smoke Detector Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
26-16-00-710-801	Lower Cargo Compartment Smoke Detection Operational 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
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-1082	Source - Air, Regulated, Dry Filtered, 0-50 PSIG

C. Consumable Materials

Reference	Description	Specification
A50419	Sealant - Pressure And Environmental-Chromate, Type I, Class B-2	BMS5-95 Type I Class B-2
B00083	Solvent - VM&P Naphthas	TT-N-95 Type II, ASTM D-3735 Type III

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
6	Detector	26-19-01-01-110	ARO ALL

E. Location Zones

Zone	Area
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

F. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

G. Prepare for the Installation

SUBTASK 26-19-01-840-003

(1) Make sure that this access panel is open:

Number	Name/Location
117AL	Main Equipment Center Access Door

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SUBTASK 26-19-01-840-004

- (2) Make sure that these circuit breakers are open and have safety tags:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2

H. E/E Cooling Smoke Detector Installation

SUBTASK 26-19-01-160-001

- (1) Use the 0-50 psig dry filtered regulated air source, STD-1082 to blow air into the smoke tubes [3] to clean them.

SUBTASK 26-19-01-160-002

- (2) Clean the bonding surfaces between the smoke detector [6] and the smoke detector supports [7] with the solvent, B00083.

SUBTASK 26-19-01-420-006

- (3) Apply a thin layer of sealant, A50419 to one of the mating surfaces. The sealant should be a minimum of 0.05 in. (1.27 mm) thick over the entire bonding surface.

SUBTASK 26-19-01-420-001



KEEP CAPS OR BAGS ON ALL OPEN TUBES ON THE SMOKE DETECTOR UNTIL YOU CONNECT THE SMOKE TUBES. THIS KEEPS CONTAMINATION OUT OF THE SMOKE DETECTOR. CONTAMINATION CAN CAUSE DAMAGE TO THE SMOKE DETECTOR.

- (4) Put the smoke detector [6] in its position on the smoke detector supports [7].
(a) Remove excess sealant squeezed out.

SUBTASK 26-19-01-420-002

- (5) Install the screws [4] and washers [5] to hold the smoke detector [6] in its position.
(a) Tighten the screws [4].

SUBTASK 26-19-01-760-001

- (6) Do a check of the resistance between the smoke detector [6] and the smoke detector supports [7].
- Use a intrinsically safe approved bonding meter, COM-1550 which can measure 0.001 ohm.
 - Make sure the resistance is not more than 0.008 ohm.
 - If the resistance is more than 0.008 ohm, do the steps that follow until the resistance is 0.008 ohm or less:
 - Remove the smoke detector [6].
 - Clean the bonding surfaces between the smoke detector [6] and the smoke detector supports [7] with the solvent, B00083.
 - Install the smoke detector [6] to the smoke detector supports [7].
 - Do a check of the resistance again.

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SUBTASK 26-19-01-420-003

- (7) Connect the smoke tubes [3] to the smoke detector [6].

SUBTASK 26-19-01-420-004

- (8) Install the plastic straps [2] that hold the smoke tubes [3] to the smoke detector [6].

SUBTASK 26-19-01-420-005

- (9) Connect the electrical connectors [1] to the smoke detector [6].

SUBTASK 26-19-01-860-001

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2

SUBTASK 26-19-01-710-001

- (11) Do this task: Lower Cargo Compartment Smoke Detection Operational Test, TASK 26-16-00-710-801.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 26-19-01-840-005

- (1) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

————— END OF TASK —————

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ENGINE FIRE EXTINGUISHING - ADJUSTMENT/TEST

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has these tasks:
 - (1) An Operational Test of the Squibs for the Engine Fire Extinguishing Bottles
 - (2) An Operational Test of the Pressure Switches for the Engine Fire Extinguishing Bottles
 - (3) A System Test of the Engine Fire Extinguishing System
 - (4) A Functional Test of the Engine Fire Extinguishing Tubing
 - (5) A Functional Test of the Engine Fire Switches.
- C. The operational test for the squibs does a test of the squibs and the connecting wires. It uses the Maintenance Access Terminal (MAT) to do the test.
- D. The operational test for the pressure switches does a manual test of the pressure switches on the fire extinguishing bottles. The test also uses the MAT to do input monitoring of the wire bundle between the fire extinguishing bottles and the AIMS cabinets.
- E. The system test makes sure that the system operates correctly. It uses equipment that is not installed on the airplane.
- F. The functional test of the tubing makes sure that the tubing is not blocked and there are no leaks.
- G. The functional test of the engine fire switches makes sure that they are connected correctly to other systems. The functional test does these checks:
 - (1) Fuel Spar Valve Check
 - (2) Engine-Driven Pump (EDP) Shutoff Valve Check
 - (3) EDP Depressurization Valve Check
 - (4) Bleed System and Fire Switch Interface Check
 - (5) Engine Fuel Shutoff Check
 - (6) Thrust Reverser Isolation Valve and OPAS Check
- H. The engine fire extinguishing system has two fire extinguishing bottles which can release extinguishing agent to one or the other engine. The pilot controls to which engines the bottle contents are released. An electrically operated mechanism (squib) releases the bottle contents. There are two squibs on each bottle: one squib for the left engine, and one squib for the right engine. A pressure switch installed on the bottle gives a signal to the flight deck after the squib releases the bottle.

TASK 26-21-00-710-801

2. Engine Fire Extinguishing Bottle Squibs MAT Test

A. General

- (1) This procedure does the 26 Fire Extinguishing System, Operational Test: Engine and APU Squibs.
- (2) Description:

This test makes sure that there are no open circuits in the squibs and their related wire bundle. This test will supply a small current to the squibs on the engine fire extinguishing bottles and the APU fire extinguishing bottle.

Approximate time to operate the test is less than one minute

Airplane Effects: - none

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TO RUN THE TEST:

1. Set CONTINUE below.



KEEP PERSONNEL AWAY FROM THE ENGINE AND APU DURING THIS TEST. IF A SQUIB RELEASES ACCIDENTALLY, THE FIRE BOTTLE WILL RELEASE ITS CONTENTS. INJURIES TO PERSONNEL CAN OCCUR.



KEEP PERSONS AWAY FROM THE CARGO COMPARTMENTS, ENGINES, APU AND LLAR/OFAR (IF APPLICABLE). EACH TEST SUPPLIES POWER TO ALL THE SQUIBS ON THE AIRPLANE. INJURIES TO PERSONS COULD OCCUR.

- (3) A maintenance access terminal is necessary for this procedure.

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
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. Bottle Squibs MAT Test

SUBTASK 26-21-00-860-001

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

SUBTASK 26-21-00-010-001

- (2) Open this access panel, to get access to the Power Management Panels:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-21-00-840-001

- (3) Make sure that these circuit breakers are closed:

Standby Power Management Panel, P310

Row	Col	Number	Name
L	1	C26632	FIRE EXT R ENG BTL 1
L	2	C26633	FIRE EXT L ENG BTL 1
L	3	C26634	FIRE EXT R ENG BTL 2
L	4	C26635	FIRE EXT L ENG BTL 2
L	5	C26636	FIRE EXT APU
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C

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(Continued)

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-21-00-740-001

- (4) Use a maintenance access terminal (MAT) to do the operational test of the engine and APU squibs. Do this task: How to Use the Central Maintenance Computing System, TASK 45-10-00-740-808
 - (a) Make these selections on the MAT:
 - 1) ONBOARD MAINTENANCE
 - 2) LINE MAINTENANCE
 - 3) GROUND TESTS
 - 4) 26 Fire Extinguishing System
 - 5) OPERATIONAL TEST
 - 6) Engine and APU Squibs
 - 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, set the maintenance message. Set MAINTENANCE MESSAGE DATA or refer to the applicable Maintenance Message Index in the FIM.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 26-21-00-840-002

- (1) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

————— END OF TASK —————

TASK 26-21-00-710-802

3. Bottle Pressure Switch Operational Test

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

<u>Reference</u>	<u>Title</u>
24-22-00-860-805	Supply Electrical Power (P/B 201)
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)

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Reference	Title
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
122	Forward Cargo Compartment, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door

E. Fire Extinguishing Bottle Pressure Switch Test

SUBTASK 26-21-00-860-006

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

SUBTASK 26-21-00-010-005

- (2) Open this access panel, to get access to the Power Management Panels:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-21-00-840-010

- (3) Make sure that these circuit breakers are closed:

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Row	Col	Number	Name
L	1	C26632	FIRE EXT R ENG BTL 1
L	2	C26633	FIRE EXT L ENG BTL 1
L	3	C26634	FIRE EXT R ENG BTL 2
L	4	C26635	FIRE EXT L ENG BTL 2

SUBTASK 26-21-00-010-006

- (4) Open this access panel:

Number	Name/Location
821	Forward Large Cargo Door

SUBTASK 26-21-00-010-007

- (5) For the sidewall lining adjacent to the fire extinguishing bottles, do this task: Sidewall Liner Removal, TASK 25-52-06-000-801.

SUBTASK 26-21-00-710-001

- (6) In the flight compartment, make sure that these EICAS Advisory messages do not show on the middle top display unit:
- (a) BOTTLE 1 DISCH ENG
 - (b) BOTTLE 2 DISCH ENG

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SUBTASK 26-21-00-710-002

- (7) In the flight compartment, make sure that these EICAS Status messages do not show on the center lower display unit:
- (a) BOTTLE 1 ENG
 - (b) BOTTLE 2 ENG

SUBTASK 26-21-00-710-003

- (8) Push and hold the test button on the side of the pressure switch on Bottle 1.
- (a) In the flight compartment, make sure that the EICAS Advisory message, BOTTLE 1 DISCH ENG, shows on the middle top display unit.
 - (b) In the flight compartment, make sure that the EICAS Status message, BOTTLE 1 ENG, shows on the middle lower display unit.
 - (c) In the flight compartment, make sure that ENG BTL 1 DISCH light on the P8 panel is on.

SUBTASK 26-21-00-710-004

- (9) Release the test button on the side of the pressure switch.

SUBTASK 26-21-00-710-005

- (10) Push and hold the test button on the side of the pressure switch on Bottle 2.
- (a) In the flight compartment, make sure that the EICAS Advisory message, BOTTLE 2 DISCH ENG, shows on the middle top display unit.
 - (b) In the flight compartment, make sure that the EICAS Status message, BOTTLE 2 ENG, shows on the middle lower display unit.
 - (c) In the flight compartment, make sure that ENG BTL 2 DISCH light on the P8 panel is on.

SUBTASK 26-21-00-710-006

- (11) Release the test button on the side of the pressure switch.

SUBTASK 26-21-00-710-007

- (12) In the flight compartment, make sure that these EICAS Advisory messages do not show on the middle top display unit:
- (a) BOTTLE 1 DISCH ENG
 - (b) BOTTLE 2 DISCH ENG

SUBTASK 26-21-00-710-008

- (13) In the flight compartment, make sure that these EICAS Status messages do not show on the middle lower display unit:
- (a) BOTTLE 1 ENG
 - (b) BOTTLE 2 ENG

F. Engine Bottle Discharge AIMS Input Monitoring Test

SUBTASK 26-21-00-710-009

- (1) Use a maintenance access terminal (MAT) to do input monitoring of the wires to the left and right AIMS cabinets.
- (a) Make these selections on the MAT:
 - 1) ONBOARD MAINTENANCE
 - 2) OTHER FUNCTIONS
 - 3) INPUT MONITORING
 - 4) GENERAL INPUT

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- (b) Put the cursor in the entry field.
- (c) Use the keyboard to record the signal specification into the entry field:
 - 1) For the wires for fire extinguishing bottle 1, record these signal specifications: R/DIS/D6711/42 and L/DIS/D6626/11.
 - 2) For the wires for fire extinguishing bottle 2, record these signal specifications: R/DIS/D6726/19 and L/DIS/D6611/42.
- (d) Set RUN to monitor the input.
 - 1) Make sure that the value for each of the signals shows OPEN.
- (e) Push and hold the test button on the side of the pressure switch on Bottle 1.
 - 1) Make sure that the values for the bottle 1 signals show GROUND.
- (f) Release the test button on the side of the pressure switch on Bottle 1.
- (g) Push and hold the test button on the side of the pressure switch on Bottle 2.
 - 1) Make sure that the values for the bottle 2 signals show GROUND.
- (h) Release the test button on the side of the pressure switch on Bottle 2.
- (i) 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 26-21-00-410-002

- (1) For the sidewall lining adjacent to the fire extinguishing bottles, do this task: Sidewall Liner Installation, TASK 25-52-06-400-801.

SUBTASK 26-21-00-840-011

- (2) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

SUBTASK 26-21-00-840-012

- (3) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

————— END OF TASK —————

TASK 26-21-00-730-801

4. Engine Fire Extinguishing Electrical System Test

(Figure 501)

NOTE: This procedure is a scheduled maintenance task.

A. References

<u>Reference</u>	<u>Title</u>
24-22-00-860-805	Supply Electrical Power (P/B 201)
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)

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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-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 260 Supplier: 55026 Opt Part #: 27 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536 Opt Part #: MODEL 27 Supplier: 89536
SPL-1649	Equipment - Test, Fire Extinguishing System Squib Part #: J26004-24 Supplier: 81205
SPL-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205
SPL-1653	Cable - Engine and APU Fire Extinguishing Squib Test Part #: J26004-26 Supplier: 81205
SPL-1654	Cable - Engine Fire Extinguishing Squib Test Part #: J26004-27 Supplier: 81205
STD-1079	Resistor - 10K Ohm or Greater

C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door

E. Prepare for the Test

SUBTASK 26-21-00-860-002

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

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SUBTASK 26-21-00-010-002

- (2) Open this access panel, to get access to the Power Management Panels:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-21-00-010-003

- (3) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

SUBTASK 26-21-00-010-004

- (4) For the sidewall lining adjacent to the fire extinguishing bottles, do this task: Sidewall Liner Removal, TASK 25-52-06-000-801.

SUBTASK 26-21-00-480-001

- (5) Install the pressure relief valve platform, SPL-1651, adjacent to the engine fire extinguishing bottles.

F. Engine Fire Switch Test

SUBTASK 26-21-00-860-105

- (1) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C74401	L ENG STBY IGN 1
A	2	C74407	L ENG STBY IGN 2
A	5	C28001	L ENGINE FUEL SPAR VALVE
A	14	C74400	R ENG STBY IGN 1
A	15	C74406	R ENG STBY IGN 2
A	19	C28002	R ENGINE FUEL SPAR VALVE
E	1	C74403	L ENG IGN 1
E	2	C74404	R ENG IGN 2
E	14	C74405	L ENG IGN 2
E	15	C74402	R ENG IGN 1

SUBTASK 26-21-00-710-010

- (2) On the P10 control stand in the flight compartment, make sure that the L FUEL CONTROL and R FUEL CONTROL switches are in the RUN positions.

SUBTASK 26-21-00-710-011

- (3) Push and hold the FIRE/OVHT test switch on the P5 panel.
- Make sure that the lights on the engine fire switches come on.
 - Pull the left engine fire switch.
 - Make sure that the engine fire switch releases from its usual position.
 - Push the left engine fire switch back to its usual position.
 - Pull the right engine fire switch.
 - Make sure that the engine fire switch releases from its usual position.
 - Push the right engine fire switch back to its usual position.

SUBTASK 26-21-00-710-012

- (4) Release the FIRE/OVHT test switch.

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SUBTASK 26-21-00-710-013

- (5) On the P10 control stand in the flight compartment, set the L FUEL CONTROL and R FUEL CONTROL switches to the CUTOFF positions.
- (a) Pull the left engine fire switch.
 - 1) Make sure that the engine fire switch releases from its usual position.
 - (b) Push the left engine fire switch back to its usual position.
 - (c) Pull the right engine fire switch.
 - 1) Make sure that the engine fire switch releases from its usual position.
 - (d) Push the right engine fire switch back to its usual position.

SUBTASK 26-21-00-850-002

- (6) Recycle L (R) GEN CTRL switches by pushing button to the OFF position then pushing button again to the ON position.

NOTE: Push the GEN CTRL switch to out (or OFF) and push the GEN CTRL switch to in (or ON) to reset the GEN CTRL relay.

SUBTASK 26-21-00-860-116

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

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C74401	L ENG STBY IGN 1
A	2	C74407	L ENG STBY IGN 2
A	5	C28001	L ENGINE FUEL SPAR VALVE
A	14	C74400	R ENG STBY IGN 1
A	15	C74406	R ENG STBY IGN 2
A	19	C28002	R ENGINE FUEL SPAR VALVE
E	1	C74403	L ENG IGN 1
E	2	C74404	R ENG IGN 2
E	14	C74405	L ENG IGN 2
E	15	C74402	R ENG IGN 1

G. Engine Bottle 1 Electrical Test

SUBTASK 26-21-00-840-004



KEEP THE CARGO DOORS OPEN DURING THE TEST. IF THE FIRE EXTINGUISHING BOTTLES ACCIDENTALLY RELEASE, KEEP ALL PERSONNEL OUT OF THE CARGO COMPARTMENT FOR A MINIMUM OF FIVE MINUTES. THE HALON IN THE FIRE EXTINGUISHING BOTTLES CAN CAUSE INJURIES TO PERSONNEL.

- (1) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	1	C26632	FIRE EXT R ENG BTL 1
L	2	C26633	FIRE EXT L ENG BTL 1
L	3	C26634	FIRE EXT R ENG BTL 2
L	4	C26635	FIRE EXT L ENG BTL 2

- (2) Disconnect all the electrical connectors in the Table 501.

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Table 501/26-21-00-993-802 Electrical Connectors

Bottle	Electrical Connector
Bottle 1, B26001	DB26001A
Bottle 1, B26001	DB26001B
Bottle 1, B26001	DB26001C
Bottle 2, B26002	DB26002A
Bottle 2, B26002	DB26002B
Bottle 2, B26002	DB26002C



PUT CAPS ON THE BOTTLE SQUIBS AND FLOW VALVE SQUIBS. IF YOU DO NOT PUT CAPS ON THE SQUIBS, THE SQUIBS CAN FIRE ACCIDENTALLY AND CAUSE INJURIES TO PERSONNEL.



DO NOT PUT A SHUNT PLUG ON THE SQUIB. THE SHUNT PLUG CAN CAUSE DAMAGE TO THE SQUIB PINS.

- (a) Put the protective caps, attached to the bottles, on the squibs.

NOTE: The protective caps are attached to the fire extinguishing bottles. These protective caps prevent the squib from the possible activation because of static electricity.

SUBTASK 26-21-00-480-002

- (3) On the squib test equipment, SPL-1649, make sure that the squib LOAD switches are in the OFF positions.

SUBTASK 26-21-00-480-003

- (4) Do these steps to connect these items to the bottle 1 electrical connectors:
- The squib test cable, SPL-1653
 - The squib test cable, SPL-1654
 - The squib test equipment, SPL-1649
- (a) Connect the electrical connector, DB26001A, for bottle 1 to the squib test cable, SPL-1653, assembly.
- (b) Connect the test cable assembly to the SQUIB #1 location on the squib test equipment, SPL-1649.
- (c) Connect the electrical connector, DB26001B, for bottle 1 to the squib test cable, SPL-1654, assembly.
- (d) Connect the test cable assembly to the SQUIB #2 location on the squib test equipment, SPL-1649.

SUBTASK 26-21-00-480-004

- (5) Connect a digital/analog multimeter, COM-1793, to the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649.

SUBTASK 26-21-00-480-005

- (6) Connect a digital/analog multimeter, COM-1793, to the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649.

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SUBTASK 26-21-00-860-003

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	1	C26632	FIRE EXT R ENG BTL 1
L	2	C26633	FIRE EXT L ENG BTL 1

SUBTASK 26-21-00-730-007

- (8) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

SUBTASK 26-21-00-730-008

- (9) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

SUBTASK 26-21-00-730-258

- (10) Set the L FUEL CONTROL and R FUEL CONTROL switches in the RUN position.

SUBTASK 26-21-00-730-001

- (11) Push the manual override button and pull the LEFT engine fire switch on the P8 panel.

SUBTASK 26-21-00-730-002

- (12) Push the manual override button and pull the RIGHT engine fire switch on the P8 panel.

SUBTASK 26-21-00-730-003

- (13) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

SUBTASK 26-21-00-730-004

- (14) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

SUBTASK 26-21-00-730-009

- (15) Set the LOAD #2 switch to the ON position.

SUBTASK 26-21-00-730-005

- (16) Turn and hold the LEFT engine fire switch on the P8 panel fully counterclockwise to the DISCH 1 position.

- (a) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

SUBTASK 26-21-00-730-006

- (17) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649.

- (a) Make a record of the voltage.

NOTE: This is the voltage with no load on the squib test equipment. Refer to this voltage as VNL.

SUBTASK 26-21-00-730-010

- (18) Set the LOAD #1 switch to the ON position.

SUBTASK 26-21-00-730-011

- (19) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649.

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- (a) Make a record of the voltage.

NOTE: This is the voltage with a load on the squib test equipment. Refer to this voltage as VL.

SUBTASK 26-21-00-730-012

- (20) Release the LEFT engine fire switch.

- (a) Make sure that the LEFT engine fire switch starts to move to the middle position.

NOTE: The fire switch will not fully move back to the middle position.

SUBTASK 26-21-00-730-013

- (21) In the Table 502, for the voltage VNL in the range shown, make sure that the voltage VL is more than or equal to the value shown.

Table 502/26-21-00-993-806 Voltage Table

VNL (No load) MIN	VNL (No load) MAX	VL (Load)
18.00	18.50	11.69
18.51	19.00	12.01
19.01	19.50	12.32
19.51	20.00	12.64
20.01	20.50	12.96
20.51	21.00	13.27
21.01	21.50	13.59
21.51	22.00	13.90
22.01	22.50	14.22
22.51	23.00	14.54
23.01	23.50	14.85
23.51	24.00	15.17
24.01	24.50	15.48
24.51	25.00	15.80
25.01	25.50	16.12
25.51	26.00	16.43
26.01	26.50	16.75
26.51	27.00	17.06
27.01	27.50	17.38
27.51	28.00	17.70
28.01	28.50	18.01
28.51	29.00	18.33
29.01	29.50	18.64
29.51	30.00	18.96
30.01	30.50	19.28

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Table 502/26-21-00-993-806 Voltage Table (Continued)

VNL (No load) MIN	VNL (No load) MAX	VL (Load)
30.51	31.00	19.59
31.01	31.50	19.91
31.51	32.00	20.22

SUBTASK 26-21-00-860-004

- (22) Open this circuit breaker:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	2	C26633	FIRE EXT L ENG BTL 1

SUBTASK 26-21-00-730-015

- (23) Turn and hold the LEFT engine fire switch on the P8 panel fully counterclockwise to the DISCH 1 position.
- (a) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

SUBTASK 26-21-00-730-016

- (24) Release the LEFT engine fire switch.
- (a) Make sure that the LEFT engine fire switch starts to move to the middle position.
- NOTE:** The fire switch will not fully move back to the middle position.

SUBTASK 26-21-00-860-007

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	2	C26633	FIRE EXT L ENG BTL 1

SUBTASK 26-21-00-730-018

- (26) Turn and hold the LEFT engine fire switch on the P8 panel fully clockwise to the DISCH 2 position.
- (a) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.
- (b) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

SUBTASK 26-21-00-730-019

- (27) Release the LEFT engine fire switch.

SUBTASK 26-21-00-730-020

- (28) Set the LOAD #2 switch to the OFF position.

SUBTASK 26-21-00-730-021

- (29) Turn and hold the RIGHT engine fire switch on the P8 panel fully counterclockwise to the DISCH 1 position.
- (a) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

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SUBTASK 26-21-00-730-022

- (30) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649.

(a) Make a record of the voltage.

NOTE: This is the voltage with no load on the squib test equipment. Refer to this voltage as VNL.

SUBTASK 26-21-00-730-023

- (31) Set the LOAD #2 switch to the ON position.

(a) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649.

(b) Make a record of the voltage.

NOTE: This is the voltage with a load on the squib test equipment. Refer to this voltage as VL.

SUBTASK 26-21-00-730-024

- (32) Release the RIGHT engine fire switch.

(a) Make sure that the RIGHT engine fire switch starts to move to the middle position.

NOTE: The fire switch will not fully move back to the middle position.

SUBTASK 26-21-00-730-025

- (33) In the Table 502, for the voltage VNL in the range shown, make sure that the voltage VL is more than or equal to the value shown.

SUBTASK 26-21-00-860-008

- (34) Open this circuit breaker:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	1	C26632	FIRE EXT R ENG BTL 1

SUBTASK 26-21-00-730-027

- (35) Turn and hold the RIGHT engine fire switch on the P8 panel fully counterclockwise to the DISCH 1 position.

(a) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

SUBTASK 26-21-00-730-028

- (36) Release the RIGHT engine fire switch.

(a) Make sure that the RIGHT engine fire switch starts to move to the middle position.

NOTE: The fire switch will not fully move back to the middle position.

SUBTASK 26-21-00-860-009

- (37) Close this circuit breaker:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	1	C26632	FIRE EXT R ENG BTL 1

SUBTASK 26-21-00-730-030

- (38) Turn and hold the RIGHT engine fire switch on the P8 panel fully clockwise to the DISCH 2 position.

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- (a) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.
- (b) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

SUBTASK 26-21-00-730-031

- (39) Release the RIGHT engine fire switch.
 - (a) Make sure that the RIGHT engine fire switch starts to move to the middle position.

NOTE: The fire switch will not fully move back to the middle position.

SUBTASK 26-21-00-730-032

- (40) Put the LEFT and RIGHT engine fire switches to their usual stowed position.

SUBTASK 26-21-00-850-001

- (41) Recycle L (R) GEN CTRL switches by pushing button to the OFF position then pushing button again to the ON position.

NOTE: Push the GEN CTRL switch to out (or OFF) and push the GEN CTRL switch to in (or ON) to reset the GEN CTRL relay.

SUBTASK 26-21-00-730-249

- (42) Set the L FUEL CONTROL and R FUEL CONTROL switches to the CUTOFF position.

SUBTASK 26-21-00-860-005

- (43) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	1	C26632	FIRE EXT R ENG BTL 1
L	2	C26633	FIRE EXT L ENG BTL 1

SUBTASK 26-21-00-080-001

- (44) Disconnect the electrical connector, DB26001A, for bottle 1 from the applicable test cable assembly.

SUBTASK 26-21-00-080-002

- (45) Disconnect the electrical connector, DB26001B, for bottle 1 from the applicable test cable assembly.

H. Engine Bottle 2 Electrical Test

SUBTASK 26-21-00-860-010

- (1) Make sure that these circuit breakers are open and have safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	1	C26632	FIRE EXT R ENG BTL 1
L	2	C26633	FIRE EXT L ENG BTL 1
L	3	C26634	FIRE EXT R ENG BTL 2
L	4	C26635	FIRE EXT L ENG BTL 2

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SUBTASK 26-21-00-840-013



KEEP THE CARGO DOORS OPEN DURING THE TEST. IF THE FIRE EXTINGUISHING BOTTLES ACCIDENTALLY RELEASE, KEEP ALL PERSONNEL OUT OF THE CARGO COMPARTMENT FOR A MINIMUM OF FIVE MINUTES. THE HALON IN THE FIRE EXTINGUISHING BOTTLES CAN CAUSE INJURIES TO PERSONNEL.

- (2) Disconnect all the electrical connectors in the Table 503

Table 503/26-21-00-993-807 Electrical Connectors

Bottle	Electrical Connector
Bottle 1, B26001	DB26001A
Bottle 1, B26001	DB26001B
Bottle 1, B26001	DB26001C
Bottle 2, B26002	DB26002A
Bottle 2, B26002	DB26002B
Bottle 2, B26002	DB26002C



PUT CAPS ON THE BOTTLE SQUIBS AND FLOW VALVE SQUIBS. IF YOU DO NOT PUT CAPS ON THE SQUIBS, THE SQUIBS CAN FIRE ACCIDENTALLY AND CAUSE INJURIES TO PERSONNEL.



DO NOT PUT A SHUNT PLUG ON THE SQUIB. THE SHUNT PLUG CAN CAUSE DAMAGE TO THE SQUIB PINS.

- (a) Put the protective caps, attached to the bottles, on the squibs.

NOTE: The protective caps are attached to the fire extinguishing bottles. These protective caps keep the squib from the possible activation because of static electricity.

SUBTASK 26-21-00-480-006

- (3) On the squib test equipment, SPL-1649, make sure that the squib LOAD switches are in the OFF positions.

SUBTASK 26-21-00-480-007

- (4) Do these steps to connect the squib test cable, SPL-1653, and the squib test equipment, SPL-1649, to the bottle 2 electrical connector:
 - (a) Connect the electrical connector, DB26002A, for bottle 2 to the squib test cable, SPL-1653, assembly.
 - (b) Connect the test cable assembly to the SQUIB #1 location on the squib test equipment, SPL-1649.
 - (c) Connect the electrical connector, DB26002B, for bottle 2 to the squib test cable, SPL-1654, assembly.
 - (d) Connect the test cable assembly to the SQUIB #2 location on the squib test equipment, SPL-1649.

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SUBTASK 26-21-00-480-008

- (5) Connect a digital/analog multimeter, COM-1793, to the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649.

SUBTASK 26-21-00-480-009

- (6) Connect a digital/analog multimeter, COM-1793, to the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649.

SUBTASK 26-21-00-860-011

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	3	C26634	FIRE EXT R ENG BTL 2
L	4	C26635	FIRE EXT L ENG BTL 2

SUBTASK 26-21-00-730-033

- (8) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

SUBTASK 26-21-00-730-034

- (9) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

SUBTASK 26-21-00-730-259

- (10) Set the L FUEL CONTROL and R FUEL CONTROL switches in the RUN position.

SUBTASK 26-21-00-730-035

- (11) Push the manual override button and pull the LEFT engine fire switch on the P8 panel.

SUBTASK 26-21-00-730-036

- (12) Push the manual override button and pull the RIGHT engine fire switch on the P8 panel.

SUBTASK 26-21-00-730-037

- (13) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

SUBTASK 26-21-00-730-038

- (14) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

SUBTASK 26-21-00-730-039

- (15) Set the LOAD #2 switch to the ON position.

SUBTASK 26-21-00-730-040

- (16) Turn and hold the LEFT engine fire switch on the P8 panel fully clockwise to the DISCH 2 position.
 - (a) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

SUBTASK 26-21-00-730-041

- (17) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649.
 - (a) Make a record of the voltage.

NOTE: This is the voltage with no load on the squib test equipment. Refer to this voltage as VNL.

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SUBTASK 26-21-00-730-042

- (18) Set the LOAD #1 switch to the ON position.
- (a) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649.
- (b) Make a record of the voltage.
- NOTE: This is the voltage with a load on the squib test equipment. Refer to this voltage as VL.

SUBTASK 26-21-00-730-043

- (19) Release the LEFT engine fire switch.
- (a) Make sure that the LEFT engine fire switch starts to move to the middle position.
- NOTE: The fire switch will not fully move back to the middle position.

SUBTASK 26-21-00-730-044

- (20) In the Table 502, for the voltage VNL in the range shown, make sure that the voltage VL is more than or equal to the value shown.

SUBTASK 26-21-00-860-012

- (21) Open this circuit breaker:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	4	C26635	FIRE EXT L ENG BTL 2

SUBTASK 26-21-00-730-046

- (22) Turn and hold the LEFT engine fire switch on the P8 panel fully clockwise to the DISCH 2 position.
- (a) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

SUBTASK 26-21-00-730-047

- (23) Release the LEFT engine fire switch.
- (a) Make sure that the LEFT engine fire switch starts to move to the middle position.
- NOTE: The fire switch will not fully move back to the middle position.

SUBTASK 26-21-00-860-013

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	4	C26635	FIRE EXT L ENG BTL 2

SUBTASK 26-21-00-730-049

- (25) Turn and hold the LEFT engine fire switch on the P8 panel fully counterclockwise to the DISCH 1 position.
- (a) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.
- (b) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

SUBTASK 26-21-00-730-050

- (26) Release the LEFT engine fire switch.

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SUBTASK 26-21-00-730-051

- (27) Set the LOAD #2 switch to the OFF position.

SUBTASK 26-21-00-730-052

- (28) Turn and hold the RIGHT engine fire switch on the P8 panel fully clockwise to the DISCH 2 position.
- (a) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

SUBTASK 26-21-00-730-053

- (29) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649.
- (a) Make a record of the voltage.
- NOTE: This is the voltage with no load on the squib test equipment. Refer to this voltage as VNL.

SUBTASK 26-21-00-730-054

- (30) Set the LOAD #2 switch to the ON position.
- (a) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649.
- (b) Make a record of the voltage.
- NOTE: This is the voltage with a load on the squib test equipment. Refer to this voltage as VL.

SUBTASK 26-21-00-730-055

- (31) Release the RIGHT engine fire switch.
- (a) Make sure that the RIGHT engine fire switch starts to move to the middle position.
- NOTE: The fire switch will not fully move back to the middle position.

SUBTASK 26-21-00-730-056

- (32) In the Table 502, for the voltage VNL in the range shown, make sure that the voltage VL is more than or equal to the value shown.

SUBTASK 26-21-00-860-014

- (33) Open this circuit breaker:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	3	C26634	FIRE EXT R ENG BTL 2

SUBTASK 26-21-00-730-058

- (34) Turn and hold the RIGHT engine fire switch on the P8 panel fully clockwise to the DISCH 2 position.
- (a) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

SUBTASK 26-21-00-730-059

- (35) Release the RIGHT engine fire switch.
- (a) Make sure that the RIGHT engine fire switch starts to move to the middle position.
- NOTE: The fire switch will not fully move back to the middle position.

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SUBTASK 26-21-00-860-015

- (36) Close this circuit breaker:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	3	C26634	FIRE EXT R ENG BTL 2

SUBTASK 26-21-00-730-061

- (37) Turn and hold the RIGHT engine fire switch on the P8 panel fully counterclockwise to the DISCH 1 position.
- (a) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.
- (b) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 2.0 VDC.

SUBTASK 26-21-00-730-062

- (38) Release the RIGHT engine fire switch.
- (a) Make sure that the RIGHT engine fire switch starts to move to the middle position.
- NOTE: The fire switch will not fully move back to the middle position.

SUBTASK 26-21-00-730-063

- (39) Put the LEFT and RIGHT engine fire switches to their usual stowed position.

SUBTASK 26-21-00-850-003

- (40) Recycle L (R) GEN CTRL switches by pushing button to the OFF position then pushing button again to the ON position.
- NOTE: Push the GEN CTRL switch to out (or OFF) and push the GEN CTRL switch to in (or ON) to reset the GEN CTRL relay.

SUBTASK 26-21-00-730-260

- (41) Set the L FUEL CONTROL and R FUEL CONTROL switches in the CUTOFF position.

SUBTASK 26-21-00-860-016

- (42) Open these circuit breakers:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	3	C26634	FIRE EXT R ENG BTL 2
L	4	C26635	FIRE EXT L ENG BTL 2

SUBTASK 26-21-00-080-004

- (43) Disconnect the electrical connector, DB26002A, for bottle 2 from the applicable test cable assembly.

SUBTASK 26-21-00-080-005

- (44) Disconnect the electrical connector, DB26002B, for bottle 2 from the applicable test cable assembly.

I. Put the Airplane Back to its Usual Condition

SUBTASK 26-21-00-840-006

- (1) Connect all the electrical connectors (Table 504).

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Table 504/26-21-00-993-808 Electrical Connectors

Bottle	Electrical Connector
Bottle 1, B26001	DB26001A
Bottle 1, B26001	DB26001B
Bottle 1, B26001	DB26001C
Bottle 2, B26002	DB26002A
Bottle 2, B26002	DB26002B
Bottle 2, B26002	DB26002C

- (a) Remove the protective caps from the squibs.

NOTE: The protective caps are attached to the fire extinguishing bottles.

- (b) Do these steps to connect the electrical connectors to the squibs:

 WARNING	MAKE SURE THAT THERE IS NO VOLTAGE AT THE ELECTRICAL CONNECTOR. IF THERE IS A VOLTAGE AT THE ELECTRICAL CONNECTOR, THE SQUIB CAN RELEASE THE CONTENTS OF THE BOTTLE SUDDENLY. THIS CAN CAUSE INJURIES TO PERSONNEL.

- 1) Make sure that there is no voltage between pins 1 and 2 of the electrical connector.

NOTE: If you connect a resistor, STD-1079, across the digital/analog multimeter, COM-1793, you will remove the small voltage from the electrical connector.

- 2) Make sure that the squib electrical pins are not bent or damaged.

- 3) Make sure that the electrical connector is not damaged.

NOTE: The squib pins can cause damage to the electrical connector if the pins do not correctly engage the electrical connector.

- 4) Connect the electrical connectors to the squibs.

- 5) Do the steps that follow to make sure that you did not bend or cause damage to the squib pins.

NOTE: You can cause damage to the pins when you first connect an electrical connector to the squib.

- a) Disconnect the electrical connector from the fire bottle squib.
- b) Make sure that the squib electrical pins are not bent or damaged.
- c) Make sure that the electrical connector is not damaged.

- (c) Connect the electrical connectors to the pressure switches on the fire extinguishing bottles.

SUBTASK 26-21-00-840-007

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

Standby Power Management Panel, P310

Row	Col	Number	Name
L	1	C26632	FIRE EXT R ENG BTL 1
L	2	C26633	FIRE EXT L ENG BTL 1
L	3	C26634	FIRE EXT R ENG BTL 2
L	4	C26635	FIRE EXT L ENG BTL 2

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SUBTASK 26-21-00-080-003

- (3) Remove the pressure relief valve platform, SPL-1651.

SUBTASK 26-21-00-710-078

- (4) Do this task: Bottle Pressure Switch Operational Test, TASK 26-21-00-710-802.

SUBTASK 26-21-00-710-079

- (5) Do this task: Engine Fire Extinguishing Bottle Squibs MAT Test, TASK 26-21-00-710-801.

SUBTASK 26-21-00-410-001



SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, THE FIRE EXTINGUISHING AGENT OR SMOKE CAN CAUSE INJURIES.

- (6) For the sidewall lining adjacent to the fire extinguishing bottles, do this task: Sidewall Liner Installation, TASK 25-52-06-400-801.

SUBTASK 26-21-00-840-008

- (7) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-21-00-840-009

- (8) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

————— END OF TASK —————

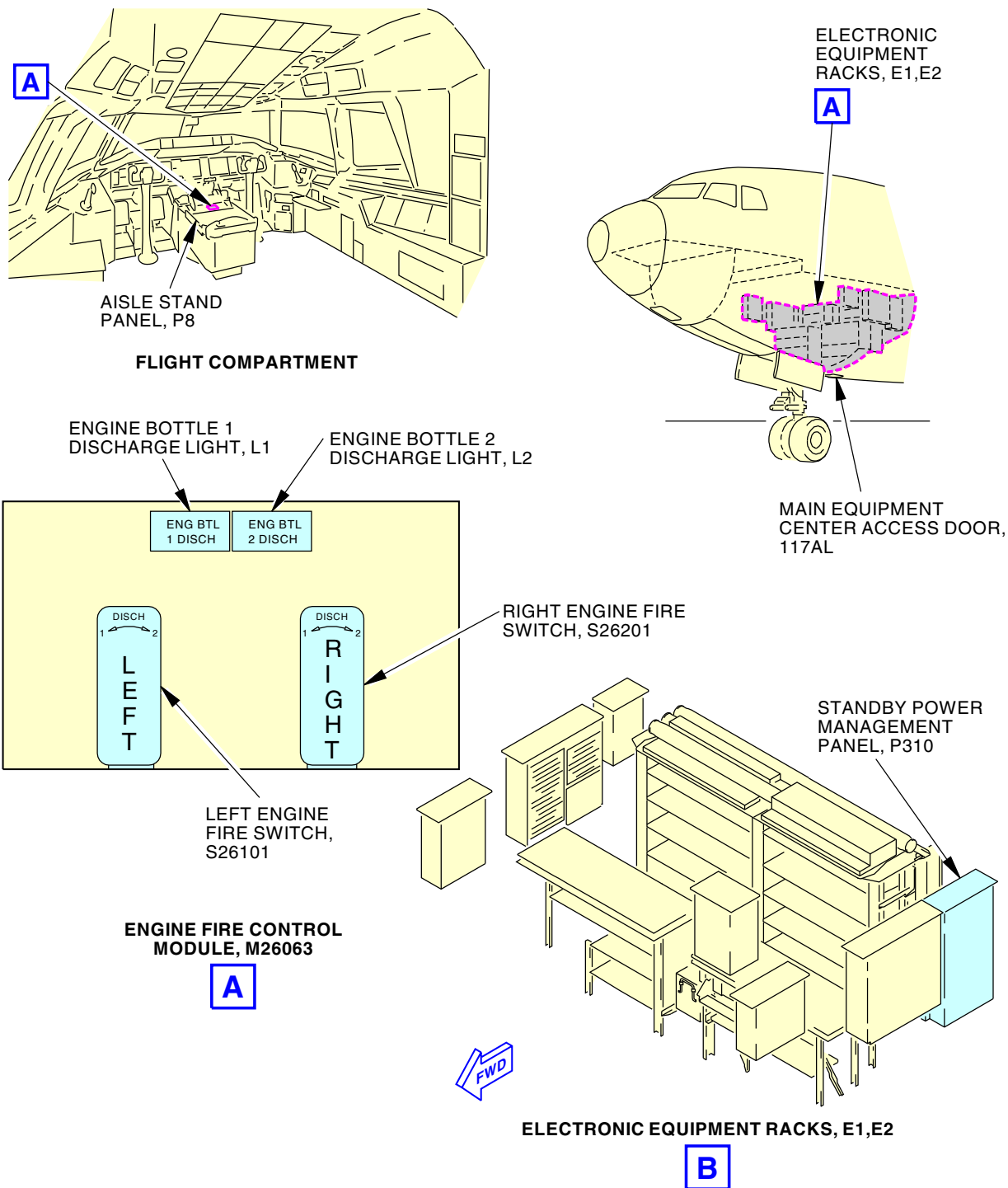
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Engine Fire Extinguishing Test
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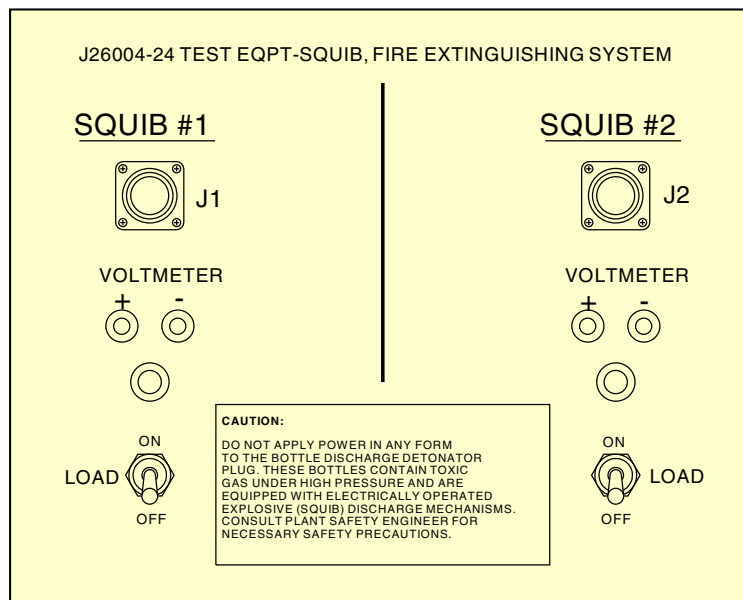
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**SQUIB TEST BOX
(EXAMPLE)**

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Engine Fire Extinguishing Test
Figure 501/26-21-00-990-801 (Sheet 2 of 2)

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TASK 26-21-00-730-802

5. Engine Fire Extinguishing Tubing - Functional Test

(Figure 502)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
26-21-01-000-801	Engine Fire Extinguishing Bottle Removal (P/B 401)
26-21-01-400-801	Engine Fire Extinguishing Bottle Installation (P/B 401)
27-81-00-040-801	Leading Edge Slat - Deactivation (P/B 201)
27-81-00-440-801	Leading Edge Slat Reactivation (P/B 201)
27-81-00-860-805	Retract the Leading Edge Slats (P/B 201)
71-11-04-010-814-H00	Open the Fan Cowl Panel (Selection) (P/B 201)
71-11-04-410-814-H00	Close the Fan Cowl Panel (Selection) (P/B 201)
78-31-00-010-816-H00	Open the Thrust Reverser (Selection) (P/B 201)
78-31-00-040-806-H00	Thrust Reverser Deactivation For Ground Maintenance (P/B 201)
78-31-00-410-816-H00	Close the Thrust Reverser (Selection) (P/B 201)
78-31-00-440-805-H00	Thrust Reverser Activation After Ground Maintenance (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-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205
SPL-1668	Test Eqpt - Engine Fire Extinguishing System (GE90, GENX-1B Without PIP2 / SB 71-11) Part #: J26008-35 Supplier: 81205
STD-1114	Air Source - Regulated, Dry, Filtered 0-150 PSIG with Pressure Gauge range 100 PSIG, 1 PSIG increment and +/-1 psi minimum accuracy

C. Location Zones

Zone	Area
122	Forward Cargo Compartment, Right
411	Engine, Left
421	Engine, Right

D. Access Panels

Number	Name/Location
413AL	Left Fan Cowl Panel, Left Engine
414AR	Right Fan Cowl Panel, Left Engine
415AL	Left Thrust Reverser, Left Engine

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(Continued)

Number	Name/Location

416AR	Right Thrust Reverser, Left Engine
423AL	Left Fan Cowl Panel, Right Engine
424AR	Right Fan Cowl Panel, Right Engine
425AL	Left Thrust Reverser, Right Engine
426AR	Right Thrust Reverser, Right Engine
821	Forward Large Cargo Door

E. Prepare for the Test

SUBTASK 26-21-00-010-008

- (1) Open this access panel:

Number	Name/Location
821	Forward Large Cargo Door

SUBTASK 26-21-00-010-009

- (2) For the sidewall lining adjacent to the fire extinguishing bottles, do this task: Sidewall Liner Removal, TASK 25-52-06-000-801.

SUBTASK 26-21-00-480-010

- (3) Install the pressure relief valve platform, SPL-1651 near the engine fire extinguishing bottles.

SUBTASK 26-21-00-010-056



DO ALL OF THE SPECIFIED TASKS IN THE CORRECT SEQUENCE TO OPEN THE THRUST REVERSER(S). IF YOU DO NOT OBEY THIS INSTRUCTION, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR

- (4) Do these tasks in the sequence safely to open the left and right thrust reversers on the engines:

- (a) Do this task: Retract the Leading Edge Slats, TASK 27-81-00-860-805.
- (b) Do this task: Leading Edge Slat - Deactivation, TASK 27-81-00-040-801.
- (c) Do this task: Thrust Reverser Deactivation For Ground Maintenance, TASK 78-31-00-040-806-H00.

- (d) For the left and right fan cowl panels, do this task:

Open the Fan Cowl Panel (Selection), TASK 71-11-04-010-814-H00

Number	Name/Location
413AL	Left Fan Cowl Panel, Left Engine
414AR	Right Fan Cowl Panel, Left Engine
423AL	Left Fan Cowl Panel, Right Engine
424AR	Right Fan Cowl Panel, Right Engine

- (e) For the left and right thrust reversers, do this task:

Open the Thrust Reverser (Selection), TASK 78-31-00-010-816-H00

Number	Name/Location
415AL	Left Thrust Reverser, Left Engine
416AR	Right Thrust Reverser, Left Engine
425AL	Left Thrust Reverser, Right Engine
426AR	Right Thrust Reverser, Right Engine

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SUBTASK 26-21-00-730-262

- (5) Do this task for each fire bottle: Engine Fire Extinguishing Bottle Removal, TASK 26-21-01-000-801.

F. Left Engine Fire Extinguishing Tubing Pressure Test

SUBTASK 26-21-00-730-183

- (1) Install a pressure cap from engine fire extinguishing system equipment, SPL-1668 on the check valve for the tubing connection of the Bottle 2 left engine.

SUBTASK 26-21-00-480-011

- (2) Connect the Regulated Dry Filtered Air Source, STD-1114 to the check valve for the tubing connection of the Bottle 1 left engine.

SUBTASK 26-21-00-780-001



APPLY PRESSURE ONLY TO THE TUBING. DO NOT PRESSURIZE THE FIRE EXTINGUISHING BOTTLES. IF YOU APPLY PRESSURE TO THE FIRE EXTINGUISHING BOTTLES, YOU CAN CAUSE DAMAGE TO THE EQUIPMENT.

- (3) Apply a pressure less than 45 psig to the tubing.
 - (a) For the left engine, make sure that the air moves freely from the three supply nozzles. Make sure that the air moves freely from the small hole in the aft side of the tube above the nozzles.

NOTE: There are three nozzles above the forward part of the engine below the strut. There is one hole in the aft side of the tube above the nozzles.

- (b) Make sure that there is no air that flows from the supply nozzles for the right engine.

SUBTASK 26-21-00-780-002

- (4) Decrease the pressure to zero psig.

SUBTASK 26-21-00-730-066

- (5) Remove the pressure cap from the check valve for the tubing connection of the Bottle 2 left engine.

SUBTASK 26-21-00-080-006

- (6) Disconnect the Regulated Dry Filtered Air Source, STD-1114 from the check valve for the tubing connection of the Bottle 1 left engine.

SUBTASK 26-21-00-480-089

- (7) Install a pressure cap from engine fire extinguishing system equipment, SPL-1668 on the check valve for the tubing connection of the Bottle 1 left engine.

SUBTASK 26-21-00-480-013

- (8) Connect the Regulated Dry Filtered Air Source, STD-1114 to the check valve for the tubing connection of the Bottle 2 left engine.

SUBTASK 26-21-00-780-003



APPLY PRESSURE ONLY TO THE TUBING. DO NOT PRESSURIZE THE FIRE EXTINGUISHING BOTTLES. IF YOU APPLY PRESSURE TO THE FIRE EXTINGUISHING BOTTLES, YOU CAN CAUSE DAMAGE TO THE EQUIPMENT.

- (9) Apply a pressure less than 45 psig to the tubing.
 - (a) Make sure that the air moves freely from each of the supply nozzles for the left engine.

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- (b) Make sure that there is no air that flows from the supply nozzles for the right engine.

SUBTASK 26-21-00-780-004

- (10) Decrease the pressure to zero psig.

SUBTASK 26-21-00-480-091

- (11) Install the pressure caps or clamps from engine fire extinguishing system equipment, SPL-1668 on the other supply nozzles for the left engine.

SUBTASK 26-21-00-480-024

- (12) Install pressure caps on the supply nozzles for the left engine.

SUBTASK 26-21-00-480-025

- (13) Install clamp(s) above the hole(s) in the aft side of the tube above the supply nozzles for the left engine.

SUBTASK 26-21-00-780-005



APPLY PRESSURE ONLY TO THE TUBING. DO NOT PRESSURIZE THE FIRE EXTINGUISHING BOTTLES. IF YOU APPLY PRESSURE TO THE FIRE EXTINGUISHING BOTTLES, YOU CAN CAUSE DAMAGE TO THE EQUIPMENT.

- (14) Apply a pressure of 45-55 psig to the tubing.
(a) Measure the pressure. Make a record of it.

SUBTASK 26-21-00-790-001

- (15) Close the shutoff valve.
(a) After one minute, measure the pressure again. Make a record of it.
(b) Make sure that the pressure did not decrease by more than 1.0 psig.

NOTE: Make sure that the pressure did not decrease more than five psig after five minutes. (Some pressure gages measure pressure in increments of five psig).

SUBTASK 26-21-00-780-006



SLOWLY DECREASE THE PRESSURE IN THE TUBING. IF YOU DO NOT DECREASE THE PRESSURE SLOWLY, YOU CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (16) Slowly decrease the pressure in the tubing to zero psig.

SUBTASK 26-21-00-080-007

- (17) Remove the pressure cap from the check valve for the tubing connection of the Bottle 1 left engine.

SUBTASK 26-21-00-080-008

- (18) Disconnect the Regulated Dry Filtered Air Source, STD-1114 from the check valve for the tubing connection of the Bottle 2 left engine.

SUBTASK 26-21-00-080-016

- (19) Remove the pressure caps on the supply nozzles for the left engine.

SUBTASK 26-21-00-080-017

- (20) Remove the clamp(s) above the hole(s) in the aft side of the tube above the nozzles.

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G. Right Engine Fire Extinguishing Tubing Pressure Test

SUBTASK 26-21-00-730-254

- (1) Install a pressure cap from engine fire extinguishing system equipment, SPL-1668 on the check valve for the tubing connection of the Bottle 2 right engine.

SUBTASK 26-21-00-480-016

- (2) Connect the Regulated Dry Filtered Air Source, STD-1114 to the check valve for the tubing connection of the Bottle 1 right engine.

SUBTASK 26-21-00-780-007



APPLY PRESSURE ONLY TO THE TUBING. DO NOT PRESSURIZE THE FIRE EXTINGUISHING BOTTLES. IF YOU APPLY PRESSURE TO THE FIRE EXTINGUISHING BOTTLES, YOU CAN CAUSE DAMAGE TO THE EQUIPMENT.

- (3) Apply a pressure less than 45 psig to the tubing.
 - (a) For the right engine, make sure that the air moves freely from the three supply nozzles. Make sure that the air moves freely from the small hole in the aft side of the tube above the nozzles.

NOTE: There are three nozzles above the forward part of the engine below the strut. There is one hole in the aft side of the tube above the nozzles.
 - (b) Make sure that there is no air that flows from the supply nozzles for the left engine.

SUBTASK 26-21-00-780-008

- (4) Decrease the pressure to zero psig.

SUBTASK 26-21-00-080-010

- (5) Remove the pressure cap from the check valve for the tubing connection of the Bottle 2 right engine.

SUBTASK 26-21-00-080-011

- (6) Disconnect the Regulated Dry Filtered Air Source, STD-1114 from the check valve for the tubing connection of the Bottle 1 right engine.

SUBTASK 26-21-00-730-256

- (7) Install a pressure cap from engine fire extinguishing system equipment, SPL-1668 on the check valve for the tubing connection of the Bottle 1 right engine.

SUBTASK 26-21-00-480-018

- (8) Connect the Regulated Dry Filtered Air Source, STD-1114 to the check valve for the tubing connection of the Bottle 2 right engine.

SUBTASK 26-21-00-780-009



APPLY PRESSURE ONLY TO THE TUBING. DO NOT PRESSURIZE THE FIRE EXTINGUISHING BOTTLES. IF YOU APPLY PRESSURE TO THE FIRE EXTINGUISHING BOTTLES, YOU CAN CAUSE DAMAGE TO THE EQUIPMENT.

- (9) Apply a pressure less than 45 psig to the tubing.
 - (a) Make sure that the air moves freely from each of the supply nozzles for the right engine.
 - (b) Make sure that there is no air that flows from the supply nozzles for the left engine.

SUBTASK 26-21-00-780-010

- (10) Decrease the pressure to zero psig.

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SUBTASK 26-21-00-730-257

- (11) Install the pressure caps or clamps from engine fire extinguishing system equipment, SPL-1668 on the supply nozzles for the right engine.

SUBTASK 26-21-00-730-266

- (12) Install pressure caps on the supply nozzles for the right engine.

SUBTASK 26-21-00-480-027

- (13) Install clamp(s) above the hole(s) in the aft side of the tube above the nozzles for the right engine.

SUBTASK 26-21-00-780-011



APPLY PRESSURE ONLY TO THE TUBING. DO NOT PRESSURIZE THE FIRE EXTINGUISHING BOTTLES. IF YOU APPLY PRESSURE TO THE FIRE EXTINGUISHING BOTTLES, YOU CAN CAUSE DAMAGE TO THE EQUIPMENT.

- (14) Apply a pressure of 45-55 psig to the tubing.
(a) Measure the pressure. Make a record of it.

SUBTASK 26-21-00-790-002

- (15) Close the shutoff valve.
(a) After one minute, measure the pressure again. Make a record of it.
(b) Make sure that the pressure did not decrease by more than 1.0 psig.

NOTE: Make sure that the pressure did not decrease more than five psig after five minutes. (Some of the pressure gages measure pressure in increments of five psig).

SUBTASK 26-21-00-780-012



SLOWLY DECREASE THE PRESSURE IN THE TUBING. IF YOU DO NOT DECREASE THE PRESSURE SLOWLY, YOU CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (16) Slowly decrease the pressure in the tubing to zero psig.

SUBTASK 26-21-00-080-012

- (17) Remove the pressure cap from the check valve for the tubing connection of the Bottle 1 right engine.

SUBTASK 26-21-00-080-013

- (18) Disconnect the Regulated Dry Filtered Air Source, STD-1114 from the check valve for the tubing connection of the Bottle 2 right engine.

SUBTASK 26-21-00-080-018

- (19) Remove the pressure caps on the supply nozzles for the right engine.

SUBTASK 26-21-00-080-019

- (20) Remove the clamp(s) above the hole(s) in the aft side of the tube above the nozzles.

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H. Put the Airplane Back to its Usual Condition

SUBTASK 26-21-00-410-003



WARNING

DO ALL OF THE SPECIFIED TASKS IN THE CORRECT SEQUENCE TO CLOSE THE THRUST REVERSERS. IF YOU DO NOT OBEY THIS INSTRUCTION, INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (1) Do these tasks in the sequence safely to close the left and right thrust reversers on the engines:

- (a) Do this task:

Close the Thrust Reverser (Selection), TASK 78-31-00-410-816-H00

<u>Number</u>	<u>Name/Location</u>
415AL	Left Thrust Reverser, Left Engine
416AR	Right Thrust Reverser, Left Engine
425AL	Left Thrust Reverser, Right Engine
426AR	Right Thrust Reverser, Right Engine

- (b) Do this task:

Close the Fan Cowl Panel (Selection), TASK 71-11-04-410-814-H00

<u>Number</u>	<u>Name/Location</u>
413AL	Left Fan Cowl Panel, Left Engine
414AR	Right Fan Cowl Panel, Left Engine
423AL	Left Fan Cowl Panel, Right Engine
424AR	Right Fan Cowl Panel, Right Engine

- (c) Do this task: Thrust Reverser Activation After Ground Maintenance, TASK 78-31-00-440-805-H00.
- (d) Do this task: Leading Edge Slat Reactivation, TASK 27-81-00-440-801.

SUBTASK 26-21-00-840-014

- (2) Do this task for each fire bottle: Engine Fire Extinguishing Bottle Installation, TASK 26-21-01-400-801.

SUBTASK 26-21-00-080-015

- (3) Remove the pressure relief valve platform, SPL-1651.

SUBTASK 26-21-00-410-004



WARNING

SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, THE FIRE EXTINGUISHING AGENT OR SMOKE CAN CAUSE INJURIES.

- (4) For the sidewall lining adjacent to the fire extinguishing bottles, do this task: Sidewall Liner Installation, TASK 25-52-06-400-801.

SUBTASK 26-21-00-840-015

- (5) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

————— END OF TASK —————

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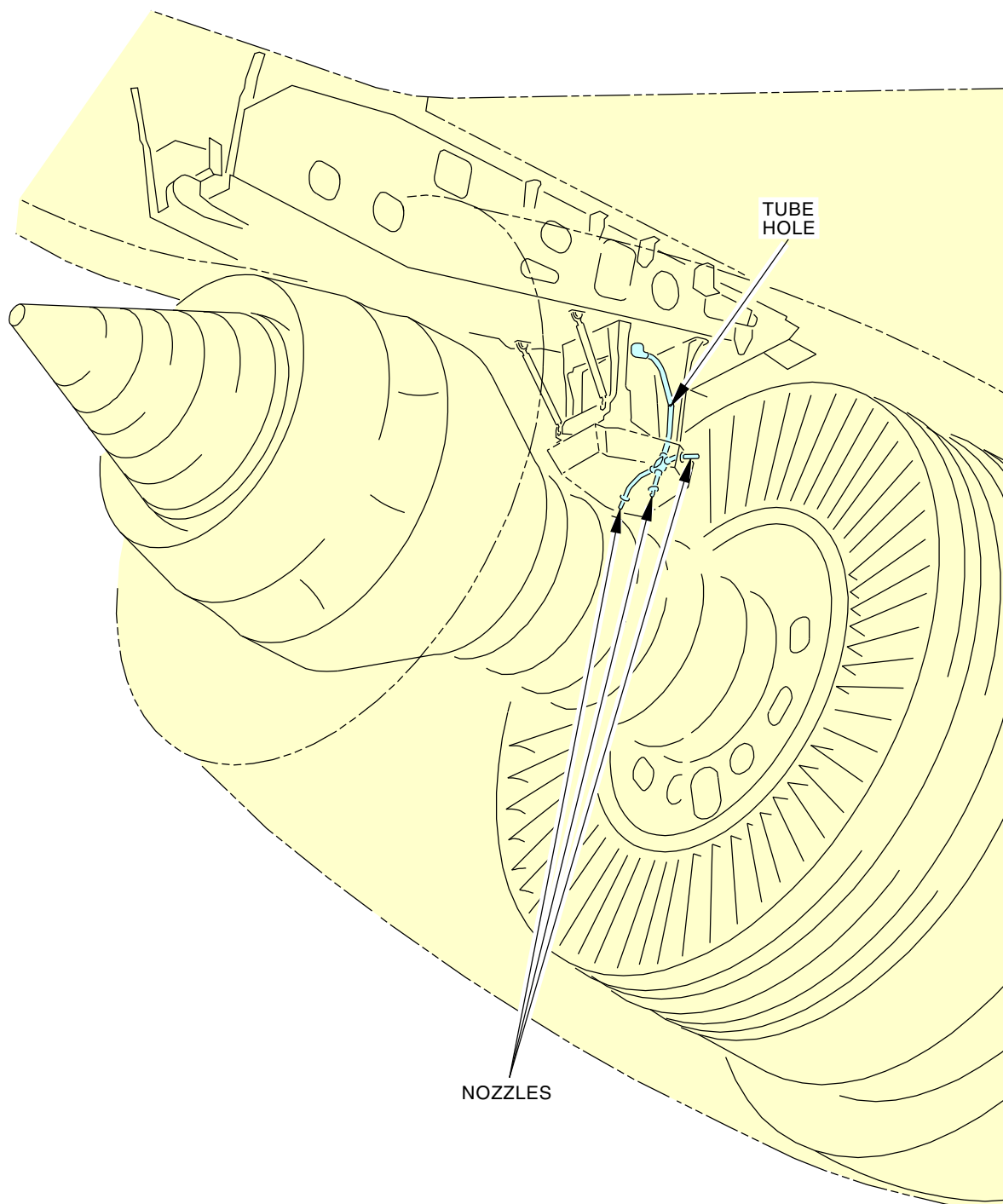
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Engine Fire Extinguishing Test
Figure 502/26-21-00-990-802

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TASK 26-21-00-200-801

6. Engine Fire Switch Circuit and Isolation - Functional Test

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
24-22-00-860-805	Supply Electrical Power (P/B 201)
29-11-00-860-804	Left or Right Hydraulic System Pressurization with an Engine-Driven Pump (EDP) (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)
45-10-00-740-808	How to Use the Central Maintenance Computing System (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-13988	Clamp-on - Current, AC/DC (used with Fluke multimeters or other manufacturer's meter) Part #: I30 Supplier: 89536
COM-14289	Clamp-On - Ammeter (Resolution 1 mA in 4 A, or 10 mA in 40 A range) Part #: LH41A Supplier: 89536

D. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, 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 26-21-00-860-017

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

SUBTASK 26-21-00-010-011

- (2) To get access to the Power Management Panels do this step:

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Open this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-21-00-840-016



WARNING

MAKE SURE YOU OPEN THE ENGINE FIRE EXTINGUISHING CIRCUIT BREAKERS. IF YOU DO NOT OPEN THE CIRCUIT BREAKERS, THE FIRE EXTINGUISHING BOTTLES CAN ACCIDENTALLY DISCHARGE AND CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

- (3) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	5	C29603	LEFT EDP SUPPLY SHUTOFF VALVE

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	1	C26632	FIRE EXT R ENG BTL 1
L	2	C26633	FIRE EXT L ENG BTL 1
L	3	C26634	FIRE EXT R ENG BTL 2
L	4	C26635	FIRE EXT L ENG BTL 2

SUBTASK 26-21-00-200-037

- (4) Close these circuit breakers:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	1	C36611	AIR SPLY L PRI
C	2	C36613	AIR SPLY L BACKUP
C	5	C26612	FIRE HANDLE UNLOCK
C	6	C31637	LSCF PS 2
G	1	C76609	L ENG EEC RST
G	2	C76608	R ENG EEC RST
G	3	C76603	L ENG EEC RST/FUEL SPAR
G	4	C76602	R ENG EEC RST/FUEL SPAR
G	5	C76605	L ENG IGN CTRL
G	6	C76604	R ENG IGN CTRL
G	7	C76607	L ENG FUEL/IGN CTRL
G	8	C76606	R ENG FUEL/IGN CTRL
J	1	C31634	LSCF PS 1
J	2	C31638	RSCF PS 1
K	5	C24633	P310 PSU A ALTN

SUBTASK 26-21-00-200-038

- (5) Close these circuit breakers:

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	5	C28001	L ENGINE FUEL SPAR VALVE
A	19	C28002	R ENGINE FUEL SPAR VALVE

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Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	20	C28649	FUEL SHUTOFF VALVE BUS
A	26	C32626	AIR/GROUND 3
B	4	C76601	L ENG FUEL VALVE
B	5	C29603	LEFT EDP SUPPLY SHUTOFF VALVE
B	7	C23605	OPAS 3
B	12	C31609	AIMS L-1
B	13	C31611	AIMS L-2
B	14	C31617	AIMS L-3
B	15	C31619	AIMS L-4
B	19	C76600	R ENG FUEL VALVE
B	20	C29602	RIGHT EDP SUPPLY SHUTOFF VALVE
D	3	C31613	C DSPL UPR
D	6	C23603	OPAS 1
F	3	C31614	C DSPL LWR
F	12	C31610	AIMS R-1
F	13	C31612	AIMS R-2
F	14	C31618	AIMS R-3
F	15	C31620	AIMS R-4
G	13	C32628	AIR/GROUND 1
G	20	C23602	OPAS 2
G	26	C32627	AIR/GROUND 2

SUBTASK 26-21-00-200-039

(6) Close these circuit breakers:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	20	C29601	L D-PRESS VLV SPLY
P	23	C78605	L ENG T/R CTRL

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	3	C29600	R D-PRESS VLV SPLY
L	14	C31641	RSCF PS 2
N	12	C78604	R ENG T/R CTRL
P	12	C36612	AIR SPLY R PRI
P	13	C36614	AIR SPLY R BACKUP

G. Engine Fire Switch Test

SUBTASK 26-21-00-860-101

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

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C74401	L ENG STBY IGN 1
A	2	C74407	L ENG STBY IGN 2
A	14	C74400	R ENG STBY IGN 1

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Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	15	C74406	R ENG STBY IGN 2
E	1	C74403	L ENG IGN 1
E	2	C74404	R ENG IGN 2
E	14	C74405	L ENG IGN 2
E	15	C74402	R ENG IGN 1

SUBTASK 26-21-00-710-015

- (2) On the P10 control stand in the flight compartment, set the L FUEL CONTROL and R FUEL CONTROL switches to the RUN position.

SUBTASK 26-21-00-710-016

- (3) Push and hold the FIRE/OVHT test switch on the P5 panel.
- (a) Make sure the lights on the engine fire switches come on.
 - (b) Pull the left engine fire switch.
 - 1) Make sure the engine fire switch releases from its usual position.
 - 2) After approximately 15 seconds, make sure this maintenance message shows in the EXISTING FAULTS on the MAT: 24-31531 Engine Fire Switch (L) is Pulled.
NOTE: The 24-31531 Engine Fire Switch L message will show if the Engine Fire Switch handle has been pulled before.
 - (c) Push the left engine fire switch back to its usual position.
 - (d) Pull the right engine fire switch.
 - 1) Make sure the engine fire switch releases from its usual position.
 - 2) After approximately 15 seconds, make sure this maintenance message shows in the EXISTING FAULTS on the MAT: 24-31532 Engine Fire Switch R is Pulled.
NOTE: The 24-31532 Engine Fire Switch R message will show if the Engine Fire Switch handle has been pulled before.
 - 3) If you want to clear the 24-31532 and 24-31531 Engine Fire Switch messages at this time, refer to the applicable Maintenance Message Index in the FIM or select the maintenance message and select MAINTENANCE MESSAGE DATA to remove the messages.
NOTE: Engines will need to be run at ground idle to unlatch these messages.
 - (e) Push the right engine fire switch back to its usual position.

SUBTASK 26-21-00-710-017

- (4) Release the FIRE/OVHT test switch.

SUBTASK 26-21-00-710-018

- (5) On the P10 control stand in the flight compartment, set the L FUEL CONTROL and R FUEL CONTROL switches to the CUTOFF positions.
- (a) Pull the left engine fire switch.
 - 1) Make sure the engine fire switch releases from its usual position.
 - (b) Push the left engine fire switch back to its usual position.
 - (c) Pull the right engine fire switch.
 - 1) Make sure the engine fire switch releases from its usual position.

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- (d) Push the right engine fire switch back to its usual position.

SUBTASK 26-21-00-860-112

- (6) Recycle L (R) GEN CTRL switches by pushing button to the OFF position then pushing button again to the ON position.

NOTE: Push the GEN CTRL switch to out (or OFF) and push the GEN CTRL switch to in (or ON) to reset the GEN CTRL relay.

H. Left and Right Generator Field Trip Check

SUBTASK 26-21-00-710-077

- (1) Set the L FUEL CONTROL and the R FUEL CONTROL switches to the RUN position.

SUBTASK 26-21-00-200-001

- (2) Make sure that the L GEN CTRL switch on the P5 panel is set to the ON position.

SUBTASK 26-21-00-200-002

- (3) Make sure that the R GEN CTRL switch on the P5 panel is set to the ON position.

SUBTASK 26-21-00-840-020



DO NOT TURN THE ENGINE FIRE SWITCH. IF YOU TURN THE ENGINE FIRE SWITCH, THE FIRE EXTINGUISHING BOTTLES WILL RELEASE THEIR CONTENTS. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

- (4) On the P8 panel, pull the LEFT engine fire switch.
(a) Make sure the LEFT engine fire switch does not release.

SUBTASK 26-21-00-200-003

- (5) Push the manual override button behind the fire switch to unlock the LEFT engine fire switch.

SUBTASK 26-21-00-200-040

- (6) Pull the LEFT engine fire switch.

SUBTASK 26-21-00-840-021



DO NOT TURN THE ENGINE FIRE SWITCH. IF YOU TURN THE ENGINE FIRE SWITCH, THE FIRE EXTINGUISHING BOTTLES WILL RELEASE THEIR CONTENTS. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

- (7) On the P8 panel, pull the RIGHT engine fire switch.
(a) Make sure the RIGHT engine fire switch does not release.

SUBTASK 26-21-00-200-004

- (8) Push the manual override button behind the fire switch to unlock the RIGHT engine fire switch.

SUBTASK 26-21-00-200-041

- (9) Pull the RIGHT engine fire switch.

SUBTASK 26-21-00-200-005

- (10) On the P8 panel, push the LEFT and RIGHT engine fire switches back to their usual positions.

SUBTASK 26-21-00-860-111

- (11) Recycle L (R) GEN CTRL switches by pushing button to the OFF position then pushing button again to the ON position.

NOTE: Push the GEN CTRL switch to out (or OFF) and push the GEN CTRL switch to in (or ON) to reset the GEN CTRL relay.

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I. Fuel Spar Valve Check

SUBTASK 26-21-00-200-133

- (1) On the P10 control stand in the flight compartment, make sure that the L FUEL CONTROL and R FUEL CONTROL switches are in the RUN position.

SUBTASK 26-21-00-860-019

- (2) Make sure the Fuel Management Maintenance Page displays the R Engine Fuel Spar Valve Command and status as "Open" and "Open".

SUBTASK 26-21-00-200-042

- (3) Make sure the Fuel Management Maintenance Page displays the L Engine Fuel Spar Valve Command and status as "Open" and "Open".

SUBTASK 26-21-00-200-015



DO NOT TURN THE ENGINE FIRE SWITCH. IF YOU TURN THE ENGINE FIRE SWITCH, THE FIRE EXTINGUISHING BOTTLES WILL RELEASE THEIR CONTENTS. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

- (4) On the P8 panel, pull the LEFT engine fire switch.

NOTE: Push the manual override button behind the fire switch to unlock the LEFT engine fire switch.

- (a) Make sure the Fuel Management Maintenance Page displays the L Engine Fuel Spar Valve Command and status as "Closed" and "Closed".

SUBTASK 26-21-00-200-016



DO NOT TURN THE ENGINE FIRE SWITCH. IF YOU TURN THE ENGINE FIRE SWITCH, THE FIRE EXTINGUISHING BOTTLES WILL RELEASE THEIR CONTENTS. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

- (5) On the P8 panel, pull the RIGHT engine fire switch.

NOTE: Push the manual override button behind the fire switch to unlock the RIGHT engine fire switch.

- (a) Make sure the Fuel Management Maintenance Page displays the R Engine Fuel Spar Valve Command and status as "Closed" and "Closed".

SUBTASK 26-21-00-200-017

- (6) On the P8 panel, push the LEFT and RIGHT engine fire switches back to their usual positions.

- (a) Make sure the Fuel Management Maintenance Page displays the R Engine Fuel Spar Valve Command and status as "Open" and "Open".
 - (b) Make sure the Fuel Management Maintenance Page displays the L Engine Fuel Spar Valve Command and status as "Open" and "Open".

SUBTASK 26-21-00-860-113

- (7) Recycle L (R) GEN CTRL switches by pushing button to the OFF position then pushing button again to the ON position.

NOTE: Push the GEN CTRL switch to out (or OFF) and push the GEN CTRL switch to in (or ON) to reset the GEN CTRL relay.

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J. Engine-Driven Pump (EDP) Shutoff Valve Check

SUBTASK 26-21-00-200-018

- (1) Do these steps to make sure the left EDP shutoff valve closes when the LEFT engine fire switch is pulled:
 - (a) Make sure that the PRIMARY hydraulic pump L ENG switch is set to the ON position.
 - 1) Make sure that the L PRIMARY PUMP S/O VLV OPEN shows on the hydraulic maintenance page.



WARNING

DO NOT TURN THE ENGINE FIRE SWITCH. IF YOU TURN THE ENGINE FIRE SWITCH, THE FIRE EXTINGUISHING BOTTLES WILL RELEASE THEIR CONTENTS. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

- (b) On the P8 panel, pull the LEFT engine fire switch.

NOTE: Push the manual override button behind the fire switch to unlock the LEFT engine fire switch.

- 1) Make sure the L PRIMARY PUMP S/O VLV CLOSED shows on the EICAS hydraulic maintenance page.

SUBTASK 26-21-00-200-019

- (2) Do these steps to make sure the right EDP shutoff valve closes when the RIGHT engine fire switch is pulled:
 - (a) Make sure that the PRIMARY hydraulic pump R ENG switch is set to the ON position.
 - 1) Make sure that the R PRIMARY PUMP S/O VALVE OPEN displays on the EICAS hydraulic maintenance page.



WARNING

DO NOT TURN THE ENGINE FIRE SWITCH. IF YOU TURN THE ENGINE FIRE SWITCH, THE FIRE EXTINGUISHING BOTTLES WILL RELEASE THEIR CONTENTS. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

- (b) On the P8 panel, pull the RIGHT engine fire switch.

NOTE: Push the manual override button behind the fire switch to unlock the RIGHT engine fire switch.

- 1) Make sure the valve position indicator moves to the CLOSED position.

SUBTASK 26-21-00-840-022

- (3) On the P8 panel, push the LEFT and RIGHT engine fire switches back to their usual positions.
 - (a) Make sure that the L PRIMARY PUMP S/O VLV OPEN shows on the hydraulic maintenance page.
 - (b) Make sure that the R PRIMARY PUMP S/O VLV OPEN shows on the hydraulic maintenance page.

SUBTASK 26-21-00-860-114

- (4) Recycle L (R) GEN CTRL switches by pushing button to the OFF position then pushing button again to the ON position.

NOTE: Push the GEN CTRL switch to out (or OFF) and push the GEN CTRL switch to in (or ON) to reset the GEN CTRL relay.

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K. EDP Depressurization Valve Check

SUBTASK 26-21-00-200-136

- (1) Do these steps to make sure the LEFT/RIGHT EDP depressurization valve closes when the LEFT/RIGHT engine fire switch is pulled:

- (a) For left engine open this circuit breaker:

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	5	C29603	LEFT EDP SUPPLY SHUTOFF VALVE

For right engine open this circuit breaker:

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	20	C29602	RIGHT EDP SUPPLY SHUTOFF VALVE

- (b) Apply hydraulic pressure to the airplane with the Engine Driven Pump using the dry-motor alternative: Left or Right Hydraulic System Pressurization with an Engine-Driven Pump (EDP), TASK 29-11-00-860-804.
- (c) Observe the maintenance page for Hydraulics ATA 29: Showing a Maintenance Page, TASK 31-61-00-800-804.
- (d) Push the HYDRAULIC PRIMARY L (R) ENG switch, on the hydraulic control panel, to the ON position.
- (e) Verify the HYDRAULIC PRIMARY PUMP PRESS L (R) indication is displayed on the EICAS maintenance page.
- 1) Make sure the HYDRAULIC PRIMARY PUMP PRESS L (R) indication on the EICAS maintenance page is 2900 to 3200 psi.



WARNING

DO NOT TURN THE ENGINE FIRE SWITCH. IF YOU TURN THE ENGINE FIRE SWITCH, THE FIRE EXTINGUISHING BOTTLES WILL RELEASE THEIR CONTENTS. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

- (f) On the P8 panel, pull the LEFT/RIGHT engine fire switch.

NOTE: Push the manual override button behind the fire switch to unlock the LEFT/RIGHT engine fire switch.

- 1) Make sure the HYDRAULIC PRIMARY PUMP PRESS L (R) indication on the EICAS maintenance page decreases to 0 to 200 psi.

SUBTASK 26-21-00-840-177

- (2) On the P8 panel, push the LEFT/RIGHT engine fire switch back to its usual position.

- (a) Make sure the HYDRAULIC PRIMARY PUMP PRESS L (R) indication on the EICAS maintenance page returns to 2900 to 3200 psi.
- (b) For left engine close this circuit breaker:

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	5	C29603	LEFT EDP SUPPLY SHUTOFF VALVE

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For right engine close this circuit breaker:

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	20	C29602	RIGHT EDP SUPPLY SHUTOFF VALVE

SUBTASK 26-21-00-860-115

- (3) Recycle L (R) GEN CTRL switches by pushing button to the OFF position then pushing button again to the ON position.

NOTE: Push the GEN CTRL switch to out (or OFF) and push the GEN CTRL switch to in (or ON) to reset the GEN CTRL relay.

L. Bleed System and Fire Switch Interface Check

SUBTASK 26-21-00-200-036

- (1) Make sure that the L ENG and R ENG switches on the BLEED AIR MODULE of the P5 panel are set to the ON position.

SUBTASK 26-21-00-840-025

- (2) Make sure that the L FUEL CONTROL and R FUEL CONTROL switches are set to the RUN position.

SUBTASK 26-21-00-840-026

- (3) Wait five minutes.
 - (a) Make sure that the AIR SUPPLY Maintenance Page shows the L PRESS REG S/O VLV as open.
 - (b) Make sure that the AIR SUPPLY Maintenance Page shows the R PRESS REG S/O VLV as open.

SUBTASK 26-21-00-200-024



DO NOT TURN THE ENGINE FIRE SWITCH. IF YOU TURN THE ENGINE FIRE SWITCH, THE FIRE EXTINGUISHING BOTTLES WILL RELEASE THEIR CONTENTS. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

- (4) On the P8 panel, pull the LEFT engine fire switch.

NOTE: Push the manual override button behind the fire switch to unlock the LEFT engine fire switch.

 - (a) Make sure that the AIR SUPPLY Maintenance Page shows the L PRESS REG S/O VLV as closed.

SUBTASK 26-21-00-840-027

- (5) PUSH the LEFT engine fire switch back to its usual position.
 - (a) Wait five minutes.
 - (b) Make sure that the AIR SUPPLY Maintenance Page shows the L PRESS REG S/O VLV as open.

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SUBTASK 26-21-00-840-028



DO NOT TURN THE ENGINE FIRE SWITCH. IF YOU TURN THE ENGINE FIRE SWITCH, THE FIRE EXTINGUISHING BOTTLES WILL RELEASE THEIR CONTENTS. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

- (6) On the P8 panel, pull the RIGHT engine fire switch.

NOTE: Push the manual override button behind the fire switch to unlock the RIGHT engine fire switch.

- (a) Make sure that the AIR SUPPLY Maintenance Page shows the R PRESS REG S/O VLV as closed.

SUBTASK 26-21-00-840-029

- (7) PUSH the RIGHT engine fire switch back to its usual position.

- (a) Wait five minutes.

- (b) Make sure that the AIR SUPPLY Maintenance Page shows the R PRESS REG S/O VLV as open.

SUBTASK 26-21-00-840-178

- (8) Recycle L (R) GEN CTRL switches by pushing button to the OFF position then pushing button again to the ON position.

NOTE: Push the GEN CTRL switch to out (or OFF) and push the GEN CTRL switch to in (or ON) to reset the GEN CTRL relay.

M. Engine Fuel Shutoff Check

SUBTASK 26-21-00-840-171

- (1) On the P10 control stand in the flight compartment, make sure that the L FUEL CONTROL and R FUEL CONTROL switches are in the RUN position.

SUBTASK 26-21-00-840-124

- (2) For the Left Engine Fire Switch, use a AC/DC current clamp, COM-13988, to make sure the current in the W5513-1005-18 wire path is less than or equal to 0.1 amps DC. W2155-0004-18 may be checked as an alternate if W5513-1005-18 is difficult to access.

NOTE: The clamp-on ammeter, COM-14289, is an optional tool. If another type of measurement device is used, and a connector is disconnected in order to perform a measurement at a specific pin or socket, then either the voltage source or the dc ground reference would be removed from the circuit, and no current would be measured.

SUBTASK 26-21-00-840-175

- (3) For the Right Engine Fire Switch, use a AC/DC current clamp, COM-13988 to make sure the current in the W5612-1002-18 wire path is less than or equal to 0.1 amps DC.

SUBTASK 26-21-00-840-031



DO NOT TURN THE ENGINE FIRE SWITCH. IF YOU TURN THE ENGINE FIRE SWITCH, THE FIRE EXTINGUISHING BOTTLES WILL RELEASE THEIR CONTENTS. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

- (4) On the P8 panel, pull the LEFT engine fire switch.

NOTE: Push the manual override button behind the fire switch to unlock the LEFT engine fire switch.

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- (a) For the Left Engine Fire Switch, use a AC/DC current clamp, COM-13988 to make sure the current in the W5513-1005-18 wire path is greater than or equal to 0.2 amps DC. W2155-0004-18 may be checked as an alternate if W5513-1005-18 is difficult to access.

SUBTASK 26-21-00-200-027

- (5) On the P8 panel, push the LEFT engine fire switch back to its usual position.
 - (a) For the Left Engine Fire Switch, use a AC/DC current clamp, COM-13988 to make sure the current in the W5513-1005-18 wire path is less than or equal to 0.1 amps DC. W2155-0004-18 may be checked as an alternate if W5513-1005-18 is difficult to access.

SUBTASK 26-21-00-840-035



DO NOT TURN THE ENGINE FIRE SWITCH. IF YOU TURN THE ENGINE FIRE SWITCH, THE FIRE EXTINGUISHING BOTTLES WILL RELEASE THEIR CONTENTS. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

- (6) On the P8 panel, pull the RIGHT engine fire switch.

NOTE: Push the manual override button behind the fire switch to unlock the RIGHT engine fire switch.

 - (a) For the Right Engine Fire Switch, use a AC/DC current clamp, COM-13988 to make sure the current in the W5612-1002-18 wire path is greater than or equal to 0.2 amps DC.

SUBTASK 26-21-00-840-036

- (7) On the P8 panel, push the RIGHT engine fire switch back to its usual position.
 - (a) For the Right Engine Fire Switch, use a AC/DC current clamp, COM-13988 to make sure the current in the W5612-1002-18 wire path is less than or equal to 0.1 amps DC.

SUBTASK 26-21-00-840-179

- (8) Recycle L (R) GEN CTRL switches by pushing button to the OFF position then pushing button again to the ON position.

NOTE: Push the GEN CTRL switch to out (or OFF) and push the GEN CTRL switch to in (or ON) to reset the GEN CTRL relay.

N. Thrust Reverser Isolation Valve and OPAS Check

SUBTASK 26-21-00-200-135



MAKE SURE ALL PERSONS AND EQUIPMENT ARE CLEAR OF THE FLIGHT CONTROLS SURFACES, THE THRUST REVERSERS, AND THE LANDING GEAR. THESE COMPONENTS CAN MOVE SUDDENLY WHEN YOU SUPPLY HYDRAULIC POWER. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

- (1) Do this task: Main Hydraulic System Power Removal, TASK 29-11-00-860-808.

SUBTASK 26-21-00-840-037

- (2) Put the left thrust reverser lever in the deploy position.

SUBTASK 26-21-00-200-030

- (3) Use a maintenance access terminal (MAT) to do input monitoring.
 - (a) Make these selections on the MAT:
 - 1) ONBOARD MAINTENANCE
 - 2) OTHER FUNCTIONS
 - 3) INPUT MONITORING

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- 4) GENERAL INPUTS
 - (b) Put the cursor in the direct entry field.
 - (c) Use the keyboard to type the signal specification into the direct entry field:
 - 1) X/629/SYS X/DFE/1/6-6

NOTE: The X in the above message may be either L or R. This message may appear as one of the following:

"L/629/SYS L/DFE/1/6-6"

or "L/629/SYS R/DFE/1/6-6"

or "R/629/SYS L/DFE/1/6-6"

or "R/629/SYS R/DFE/1/6-6".
 - (d) Select RUN to start the input monitoring.
 - 1) Make sure bit 0 is state 0.
 - (e) Put the cursor in the direct entry field.
 - (f) Use the keyboard to type the signal specification into the direct entry field:
 - 1) X/629/SYS X/DFE/2/6-6

NOTE: The X in the above message may be either L or R. This message may appear as one of the following:

"L/629/SYS L/DFE/2/6-6"

or "L/629/SYS R/DFE/2/6-6"

or "R/629/SYS L/DFE/2/6-6"

or "R/629/SYS R/DFE/2/6-6".
 - (g) Select RUN to start the input monitoring.
 - 1) Make sure bit 0 is state 0.
 - (h) Use the keyboard to record the signal specification into the direct entry field:
 - 1) L/629/SYS L/E74/1/3-3
 - (i) Set RUN to start the input monitoring.
 - 1) Make sure bit 12 is state 1.

SUBTASK 26-21-00-840-038



DO NOT TURN THE ENGINE FIRE SWITCH. IF YOU TURN THE ENGINE FIRE SWITCH, THE FIRE EXTINGUISHING BOTTLES WILL RELEASE THEIR CONTENTS. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

- (4) On the P8 panel, pull the LEFT engine fire switch.

NOTE: Push the manual override button behind the fire switch to unlock the LEFT engine fire switch.
- (a) Make sure that the bit states on the MAT are as shown in Table 505:

Table 505/26-21-00-993-814 Signal Specifications

Signal Specification	Bit	State
X/629/SYS X/DFE/1/6-6	0	1

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Table 505/26-21-00-993-814 Signal Specifications (Continued)

Signal Specification	Bit	State
X/629/SYS X/DFE/2/6-6	0	1
L/629/SYS L/E74/1/3-3	12	0

SUBTASK 26-21-00-840-039

- (5) On the P8 panel, push the LEFT engine fire switch back to its usual position.
- (a) Make sure that the bit states on the MAT are as shown in Table 505

Table 506/26-21-00-993-817 Signal Specifications

Signal Specification	Bit	State
X/629/SYS X/DFE/1/6-6	0	0
X/629/SYS X/DFE/2/6-6	0	0
L/629/SYS L/E74/1/3-3	12	1

- (6) Put the left thrust reverser lever in the stow position

SUBTASK 26-21-00-200-031

- (7) Put the right thrust reverser lever in the deploy position.
- (a) Make these selections on the MAT:
- 1) ONBOARD MAINTENANCE
 - 2) OTHER FUNCTIONS
 - 3) INPUT MONITORING
 - 4) GENERAL INPUTS
- (b) Put the cursor in the direct entry field.
- (c) Use the keyboard to type the signal specification into the direct entry field:
- 1) X/629/SYS X/DFE/1/6-6
- NOTE: The X in the above message may be either L or R. This message may appear as one of the following:
- "L/629/SYS L/DFE/1/6-6"
or "L/629/SYS R/DFE/1/6-6"
or "R/629/SYS L/DFE/1/6-6"
or "R/629/SYS R/DFE/1/6-6".
- (d) Select RUN to start the input monitoring.
- 1) Make sure bit 1 is state 0.
- (e) Put the cursor in the direct entry field.
- (f) Use the keyboard to record the signal specification into the direct entry field:
- 1) X/629/SYS X/DFE/2/6-6
- NOTE: The X in the above message may be either L or R. This message may appear as one of the following:
- "L/629/SYS L/DFE/2/6-6"
or "L/629/SYS R/DFE/2/6-6"
or "R/629/SYS L/DFE/2/6-6"
or "R/629/SYS R/DFE/2/6-6"

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or "R/629/SYS R/DFE/2/6-6".

- (g) Select RUN to start the input monitoring.
 - 1) Make sure bit 1 state is 0.
- (h) Use the keyboard to type the signal specification into the direct entry field:
 - 1) L/629/SYS L/E64/2/3-3
- (i) Select RUN to start the input monitoring.
 - 1) Make sure the bit 12 is state 1.

SUBTASK 26-21-00-840-040



WARNING

DO NOT TURN THE ENGINE FIRE SWITCH. IF YOU TURN THE ENGINE FIRE SWITCH, THE FIRE EXTINGUISHING BOTTLES WILL RELEASE THEIR CONTENTS. THIS CAN CAUSE INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.

- (8) On the P8 panel, pull the RIGHT engine fire switch.

NOTE: Push the manual override button behind the fire switch to unlock the RIGHT engine fire switch.

- (a) Make sure that the bit states on the MAT are as shown in Table 507:

Table 507/26-21-00-993-815 Signal Specifications

Signal Specification	Bit	State
X/629/SYS X/DFE/1/6-6	1	1
X/629/SYS X/DFE/2/6-6	1	1
L/629/SYS L/E64/2/3-3	12	0

SUBTASK 26-21-00-840-041

- (9) On the P8 panel, push the RIGHT engine fire switch back to its usual position.

- (a) Make sure that the bit states on the MAT are as shown in Table 508:

Table 508/26-21-00-993-818 Signal Specifications

Signal Specification	Bit	State
X/629/SYS X/DFE/1/6-6	1	0
X/629/SYS X/DFE/2/6-6	1	0
L/629/SYS L/E64/2/3-3	12	1

- (10) Put the right thrust reverser lever in the stow position.

SUBTASK 26-21-00-850-004

- (11) Recycle L (R) GEN CTRL switches by pushing button to the OFF position then pushing button again to the ON position.

NOTE: Push the GEN CTRL switch to out (or OFF) and push the GEN CTRL switch to in (or ON) to reset the GEN CTRL relay.

O. Put the Airplane Back to Its Usual Condition

SUBTASK 26-21-00-860-108

- (1) Set the L FUEL CONTROL and R FUEL CONTROL switches to the CUTOFF position.

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SUBTASK 26-21-00-860-100

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

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	1	C74401	L ENG STBY IGN 1
A	2	C74407	L ENG STBY IGN 2
A	14	C74400	R ENG STBY IGN 1
A	15	C74406	R ENG STBY IGN 2
B	5	C29603	LEFT EDP SUPPLY SHUTOFF VALVE

SUBTASK 26-21-00-860-109

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

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	1	C74403	L ENG IGN 1
E	2	C74404	R ENG IGN 2
E	14	C74405	L ENG IGN 2
E	15	C74402	R ENG IGN 1

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	1	C26632	FIRE EXT R ENG BTL 1
L	2	C26633	FIRE EXT L ENG BTL 1
L	3	C26634	FIRE EXT R ENG BTL 2
L	4	C26635	FIRE EXT L ENG BTL 2

SUBTASK 26-21-00-840-168

- (4) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

————— **END OF TASK** —————

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ENGINE FIRE EXTINGUISHING BOTTLES - REMOVAL/INSTALLATION

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has these tasks:
 - (1) Engine Fire Extinguishing Bottle Removal
 - (2) Engine Fire Extinguishing Bottle Installation.

TASK 26-21-01-000-801

2. Engine Fire Extinguishing Bottle Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. General

- (1) There are two fire extinguishing bottles (1, B26001 and 2, B26002). The bottles are near the aft end of the forward cargo compartment on the right side of the airplane.

B. References

Reference	Title
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-41-01-400-803	ESDS Handling for Metal Encased Unit 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-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205

D. Location Zones

Zone	Area
122	Forward Cargo Compartment, Right

E. Access Panels

Number	Name/Location
821	Forward Large Cargo Door

F. Prepare for the Removal

SUBTASK 26-21-01-860-001

- (1) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

Row	Col	Number	Name
L	1	C26632	FIRE EXT R ENG BTL 1
L	2	C26633	FIRE EXT L ENG BTL 1
L	3	C26634	FIRE EXT R ENG BTL 2
L	4	C26635	FIRE EXT L ENG BTL 2

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SUBTASK 26-21-01-010-001

- (2) Open this access panel, to get access to the forward cargo compartment:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

SUBTASK 26-21-01-010-002

- (3) Remove the vertical panel ENGINE FIRE EXTINGUISHER ACCESS PANEL near the aft end of the forward cargo compartment.

SUBTASK 26-21-01-480-001

- (4) Install the service pressure relief valve platform, SPL-1651 to get access to the bottles.

G. Engine Fire Extinguishing Bottle Removal

SUBTASK 26-21-01-020-001

- (1) Do these steps to remove the applicable fire extinguishing bottle [3]:



WARNING

DO NOT TOUCH THE SQUIB BEFORE YOU DO THE PROCEDURES FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE THE FIRE BOTTLE TO RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

- (a) Before you touch the squib, do the procedure for devices that are sensitive to electrostatic discharge.
- 1) Do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-41-01-000-803.
 - 2) Do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-41-01-400-803.
- (b) Disconnect the electrical connector [7] and electrical connector [10] from the squib [8] and squib [11].



WARNING

PUT A PROTECTIVE COVER ON THE SQUIB. IF YOU DO NOT PUT A PROTECTIVE COVER ON THE SQUIB, THE FIRE EXTINGUISHING BOTTLE CAN RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURIES TO PERSONS.



CAUTION

DO NOT PUT A SHUNT PLUG ON THE SQUIB. THE SHUNT PLUG CAN CAUSE DAMAGE TO THE SQUIB PINS.

- (c) Put the protective caps, attached to the bottles, on the squib [8] and squib [11].
- NOTE: The protective caps are attached to the fire extinguishing bottles. These protective caps prevent the squibs from possible activation due to static electricity.
- (d) Disconnect the electrical connector [5] from the pressure sensor [4].
- (e) Disconnect the tube assembly [6] and tube assembly [9].
- (f) Install the protective caps on each of the discharge ports.
- (g) Install the protective caps on each of the discharge tubes.
- (h) Remove the bolt [1] and the washer [2].

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MOVE THE FIRE EXTINGUISHING BOTTLE CAREFULLY. THE FIRE EXTINGUISHING BOTTLE IS PRESSURIZED, AND HAS A SQUIB CARTRIDGE AS A COMPONENT. IF THE FIRE BOTTLE RELEASES ITS CONTENTS, INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (i) Remove the fire extinguishing bottle [3].

———— **END OF TASK** ————

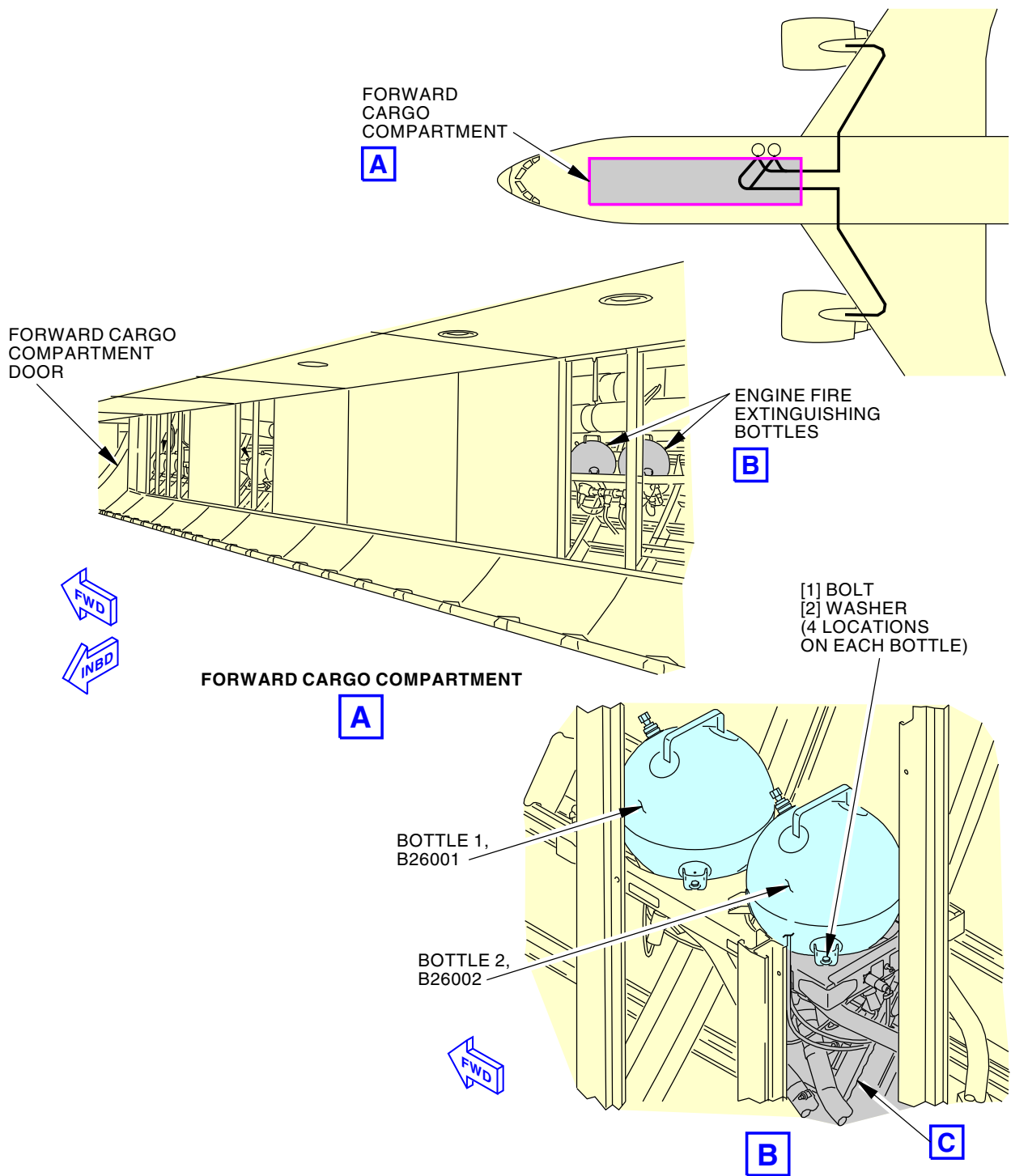
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Engine Fire Extinguishing Bottle Installation
Figure 401/26-21-01-990-801 (Sheet 1 of 2)

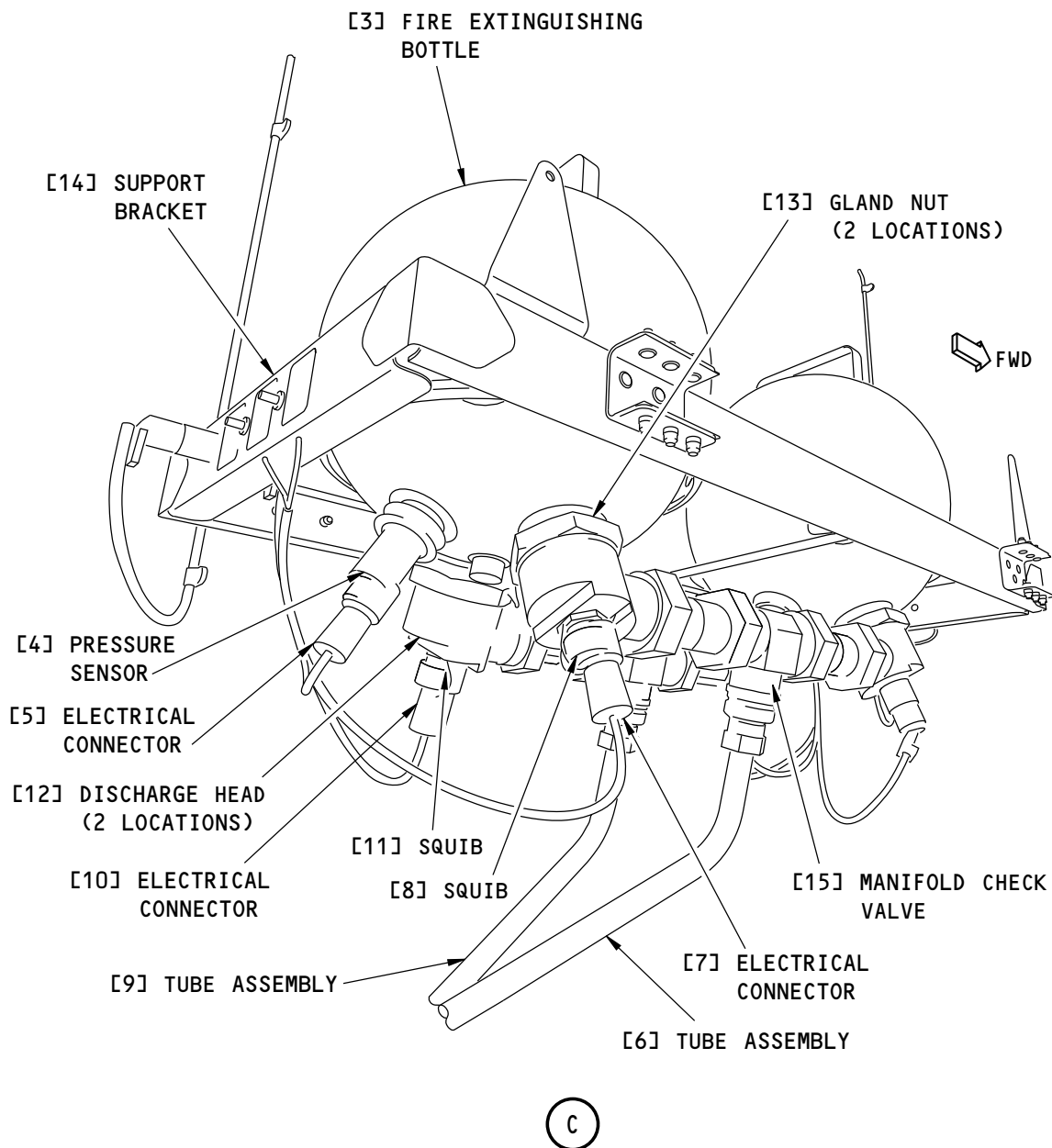
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**Engine Fire Extinguishing Bottle Installation
Figure 401/26-21-01-990-801 (Sheet 2 of 2)**

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TASK 26-21-01-400-801

3. Engine Fire Extinguishing Bottle Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)
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)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
26-21-00-710-801	Engine Fire Extinguishing Bottle Squibs MAT Test (P/B 501)
26-21-00-710-802	Bottle Pressure Switch Operational 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
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
COM-1557	Gauge - Force Part #: DG-200 Supplier: 92456 Part #: FDIX 100 Supplier: 0BFD9 Part #: FDIX 50 Supplier: 0BFD9 Part #: LG-010 Supplier: 92456 Part #: LG-050 Supplier: 92456 Part #: LG-100 Supplier: 92456 Opt Part #: DPP-500G Supplier: 92456 Opt Part #: DPPH-150 Supplier: 92456 Opt Part #: DPPH-200 Supplier: 92456 Opt Part #: DPPH-50 Supplier: 92456 Opt Part #: FDI 100 Supplier: 0BFD9 Opt Part #: FDI 50 Supplier: 0BFD9 Opt Part #: FDV 100 Supplier: 0BFD9 Opt Part #: FDV 50 Supplier: 0BFD9

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(Continued)

Reference	Description
COM-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 260 Supplier: 55026 Opt Part #: 27 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536 Opt Part #: MODEL 27 Supplier: 89536
SPL-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205
STD-1079	Resistor - 10K Ohm or Greater

C. Consumable Materials

Reference	Description	Specification
B00083	Solvent - VM&P Naphthas	TT-N-95 Type II, ASTM D-3735 Type III
D50004	Compound - Antiseize	BMS3-28
G02438	Wrap - Tie - TY24M (TY-RAP)	

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Bottle	26-21-01-03-045	ARO ALL

E. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
411	Engine, Left
421	Engine, Right

F. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door

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G. Prepare for the Installation

SUBTASK 26-21-01-280-001

- (1) This procedure is a scheduled maintenance task.
- (2) Before you install the fire extinguishing bottle, make sure its weight is +0/-0.1 pounds from the weight shown on the fire extinguishing bottle.

NOTE: The measured weight of the fire extinguishing bottle includes the fully charged fire extinguishing bottle, the inspection tag, the squib, and the squib protective cap(s). It does not include other caps.

- (a) Use the force gauge, COM-1557.

SUBTASK 26-21-01-010-003

- (3) Open this access panel, to get access to the Power Management Panels:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-21-01-840-001

- (4) Make sure that these circuit breakers are open and have safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	1	C26632	FIRE EXT R ENG BTL 1
L	2	C26633	FIRE EXT L ENG BTL 1
L	3	C26634	FIRE EXT R ENG BTL 2
L	4	C26635	FIRE EXT L ENG BTL 2

SUBTASK 26-21-01-010-004

- (5) Open this access panel, to get access to the forward cargo compartment:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

SUBTASK 26-21-01-010-005

- (6) Remove the vertical panel labeled ENGINE FIRE EXTINGUISHER ACCESS PANEL near the aft end of the forward cargo compartment.

H. Check of the Manifold Check Valve

SUBTASK 26-21-01-200-001

- (1) Do these steps to make sure that the manifold check valves [15] operate correctly:
 - (a) Loosen the nuts on the top and bottom of the manifold check valves [15].
 - (b) Disconnect the tube assembly [6] and tube assembly [9] from the manifold check valves [15].
 - (c) Put your finger into the bottom of the applicable manifold check valve [15].
 - (d) Make sure that the ball in the manifold check valve [15] moves freely between the top and bottom of the valve.
 - 1) If the ball does not move freely, replace the manifold check valve [15].
 - (e) Make sure that there is no unwanted material in the manifold check valve [15] and it is clean.

SUBTASK 26-21-01-420-002

- (2) Do these steps to connect the tube assembly [6] and tube assembly [9] to the manifold check valves [15]:

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- (a) Apply a layer of compound, D50004 to the outlet threads where the tube assembly [6] and tube assembly [9] attach to the manifold check valves [15].
- (b) Connect the tube assembly [6] and tube assembly [9] to the manifold check valves [15].
- (c) Remove any unwanted compound, D50004.
- (d) Tighten the nuts on the top and bottom of the manifold check valves [15] by hand.

I. Engine Fire Extinguishing Bottle Installation

SUBTASK 26-21-01-420-001

- (1) Do these steps to install the applicable fire extinguishing bottle [3]:



MOVE THE FIRE EXTINGUISHING BOTTLE CAREFULLY. THE FIRE EXTINGUISHING BOTTLE IS PRESSURIZED, AND HAS A SQUIB CARTRIDGE AS A COMPONENT. IF THE FIRE BOTTLE RELEASES ITS CONTENTS, INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (a) Put the fire extinguishing bottle [3] in its correct position on the support bracket [14].
- (b) Install the bolt [1] and the washer [2].
NOTE: Verify the correct part numbers of the replacement washers in the IPC.
- (c) Do a check of the resistance between the fire extinguishing bottle [3] and the support bracket [14].
- (d) Use a intrinsically safe approved bonding meter, COM-1550 which can measure 0.0001 ohm.
 - 1) Make sure that the resistance is not more than 0.0025 ohm.
 - 2) If the resistance is more than 0.0025 ohm, clean the surfaces that bond between the fire extinguishing bottle [3] and the support bracket [14] with the solvent, B00083.
 - 3) Do a check of the resistance again.
- (e) Connect the electrical connector [5] to the pressure sensor [4].



DEPENDING ON THE SUPPLIER, THE DIRECTION OF ROTATION MAY BE EITHER CLOCKWISE OR COUNTERCLOCKWISE. TAKE CARE WHEN LOOSENING GLAND NUT; OTHERWISE, DAMAGE TO DISCHARGE HEAD MAY OCCUR.

- (f) Loosen the gland nuts [13].
- (g) Move the discharge heads [12] to connect the tube assembly [6] and tube assembly [9].
- (h) Remove the protective caps from each of the discharge ports.
- (i) Remove the protective caps from each of the discharge tubes.
- (j) Connect the tube assembly [6] and tube assembly [9] to the discharge heads [12] by hand.
 - 1) After confirming that the tube alignment is correct, tighten the gland nuts [13] to 540 ±60 in-lb (61 ±7 N·m).
- (k) Attach a lockwire from the gland nuts [13] to the discharge heads [12] or between each gland nut [13], depending on the configuration.
- (l) Connect the tube assembly [6] and tube assembly [9] to the discharge heads [12] and tighten the nuts on the top and bottom of the manifold check valves [15] to 900 ±45 in-lb (102 ±5 N·m).

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- (m) Tighten the nut on the tube assembly [6] to the discharge head [12] to 900 ±45 in-lb (102 ±5 N·m).
- (n) Tighten the nut on the tube assembly [9] to the discharge head [12] to 900 ±45 in-lb (102 ±5 N·m).



WARNING

DO NOT TOUCH THE SQUIB BEFORE YOU DO THE PROCEDURES FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE THE FIRE BOTTLE TO RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURY TO PERSON AND DAMAGE EQUIPMENT.

- (o) Before you touch the squib, do the procedure for devices that are sensitive to electrostatic discharge.
 - 1) Do this task: ESDS Handling for Metal Encased Unit Removal, TASK 20-41-01-000-803.
 - 2) Do this task: ESDS Handling for Metal Encased Unit Installation, TASK 20-41-01-400-803.
- (p) Remove the protective caps from the squib [8] and squib [11].
- (q) Safety the protective cap by the applicable procedure below:
 - 1) Put the protective cap on the stowage receptacle on the fire extinguisher bottle [3].
 - 2) If no stowage, safety the protective cap to the fire extinguisher bottle [3] fittings using TY24M (TY-RAP) tie wrap, G02438.
- (r) Do these steps to connect the electrical connector [7] and electrical connector [10] to the squib [8] and squib [11] on the fire extinguishing bottle [3]:



WARNING

MAKE SURE THAT THERE IS NO VOLTAGE AT THE ELECTRICAL CONNECTOR. IF THERE IS A VOLTAGE AT THE ELECTRICAL CONNECTOR, THE SQUIB CAN RELEASE THE CONTENTS OF THE BOTTLE SUDDENLY. THIS CAN CAUSE INJURIES TO PERSONNEL.

- 1) Make sure there is no voltage between pins 1 and 2 of the electrical connector [7] and electrical connector [10].
 - 2) Use the digital/analog multimeter, COM-1793.
 - 3) If there is voltage between pins 1 and 2, do these steps:
 - a) Connect the digital/analog multimeter, COM-1793 across pins 1 and 2.
 - b) Connect a resistor, STD-1079 across the digital/analog multimeter, COM-1793 to remove any stray voltage from the electrical connector [7] and electrical connector [10].
 - c) Disconnect the digital/analog multimeter, COM-1793
 - 4) Make sure the electrical pins on the squib [8] and squib [11] are not bent or damaged.
 - 5) Make sure the electrical connector [7] and electrical connector [10] are not damaged.
- NOTE: The squib pins can cause damage to the electrical connector if the pins do not correctly engage the electrical connector.
- 6) Connect the electrical connector [7] and electrical connector [10] to the squib [8] and squib [11].



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- 7) Do the steps that follow to make sure you did not bend or damage the squib pins.

NOTE: This step is necessary because the pins are most likely to be damaged the first time an electrical connector is connected to the squib.

- Disconnect the electrical connector [7] and electrical connector [10] from the squib [8] and squib [11].
- Make sure the electrical pins on the squib [8] and squib [11] are not bent or damaged.
- Make sure the electrical connector [7] and electrical connector [10] are not damaged.
- Connect the electrical connector [7] and electrical connector [10] to the squib [8] and squib [11].

J. Engine Fire Extinguishing Bottle Installation Test

SUBTASK 26-21-01-860-004

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	1	C26632	FIRE EXT R ENG BTL 1
L	2	C26633	FIRE EXT L ENG BTL 1
L	3	C26634	FIRE EXT R ENG BTL 2
L	4	C26635	FIRE EXT L ENG BTL 2

SUBTASK 26-21-01-860-002

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

SUBTASK 26-21-01-710-001

- (3) Do this task: Bottle Pressure Switch Operational Test, TASK 26-21-00-710-802.

SUBTASK 26-21-01-710-002

- (4) Do this task: Engine Fire Extinguishing Bottle Squibs MAT Test, TASK 26-21-00-710-801.

K. Put the Airplane Back to Its Usual Condition

SUBTASK 26-21-01-080-001

- (1) Remove the pressure relief valve platform, SPL-1651.

SUBTASK 26-21-01-410-001



SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, THE FIRE EXTINGUISHING AGENT OR SMOKE CAN CAUSE INJURIES.

- (2) For the sidewall lining adjacent to the fire extinguishing bottles, do this task: Sidewall Liner Installation, TASK 25-52-06-400-801.

SUBTASK 26-21-01-840-003

- (3) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

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SUBTASK 26-21-01-840-004

(4) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

————— **END OF TASK** —————

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ENGINE FIRE BOTTLE SQUIB - REMOVAL/INSTALLATION

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has these tasks:
 - (1) Engine Fire Extinguishing Bottle Squib Removal
 - (2) Engine Fire Extinguishing Bottle Squib Installation.
- C. You must replace the squib if the service life is greater than the 10 year limit.

TASK 26-21-02-000-801

2. Engine Fire Extinguishing Bottle Squib Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. **References**

Reference	Title
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-41-01-400-803	ESDS Handling for Metal Encased Unit Installation (P/B 201)
25-52-06-000-801	Sidewall Liner 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-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205

C. **Location Zones**

Zone	Area
122	Forward Cargo Compartment, Right

D. **Access Panels**

Number	Name/Location
821	Forward Large Cargo Door

E. **Prepare for the Removal**

SUBTASK 26-21-02-860-001

- (1) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

Row	Col	Number	Name
L	1	C26632	FIRE EXT R ENG BTL 1
L	2	C26633	FIRE EXT L ENG BTL 1
L	3	C26634	FIRE EXT R ENG BTL 2
L	4	C26635	FIRE EXT L ENG BTL 2

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SUBTASK 26-21-02-010-001

- (2) Open this access panel, to get access to the forward cargo compartment:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

SUBTASK 26-21-02-010-002

- (3) Remove the vertical panel labeled ENGINE FIRE EXTINGUISHER ACCESS PANEL near the aft end of the forward cargo compartment. To remove it, do this task: Sidewall Liner Removal, TASK 25-52-06-000-801.

SUBTASK 26-21-02-480-001

- (4) Install the pressure relief valve platform, SPL-1651 to get access to the bottles.

F. Removal

SUBTASK 26-21-02-020-001

- (1) Do these steps to remove the squib [3]:



DO NOT TOUCH THE SQUIB BEFORE YOU DO THE PROCEDURES FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE THE FIRE BOTTLE TO RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

- (a) Before you touch the squib, do the procedure for devices that are sensitive to electrostatic discharge

These are the tasks:

ESDS Handling for Metal Encased Unit Removal, TASK 20-41-01-000-803,
ESDS Handling for Metal Encased Unit Installation, TASK 20-41-01-400-803.

- (b) Disconnect the electrical connector [2] from the applicable squib [3].



PUT THE PROTECTIVE CAP ON THE SQUIB. IF YOU DO NOT PUT THE PROTECTIVE CAP ON THE SQUIBS, THE FIRE BOTTLES WILL DISCHARGE ACCIDENTALLY AND CAUSE INJURY TO PERSONS.



DO NOT PUT A SHUNT PLUG ON THE SQUIB. THE SHUNT PLUG WILL CAUSE DAMAGE TO THE SQUIB PINS.

- (c) Put the protective cap, attached to the bottle, on the squib [3].

NOTE: The protective caps are attached to the fire extinguishing bottles. These protective caps, sometimes called faraday caps, have electrically conductive surfaces to shield the squib from possible activation due to static discharge.

- (d) Remove the lockwire [4] from the squib [3].
(e) Remove the squib [3] from the discharge head [5].
(f) Remove and discard the packing [7].
(g) Put the squib [3] in an electrostatic bag.

————— END OF TASK —————

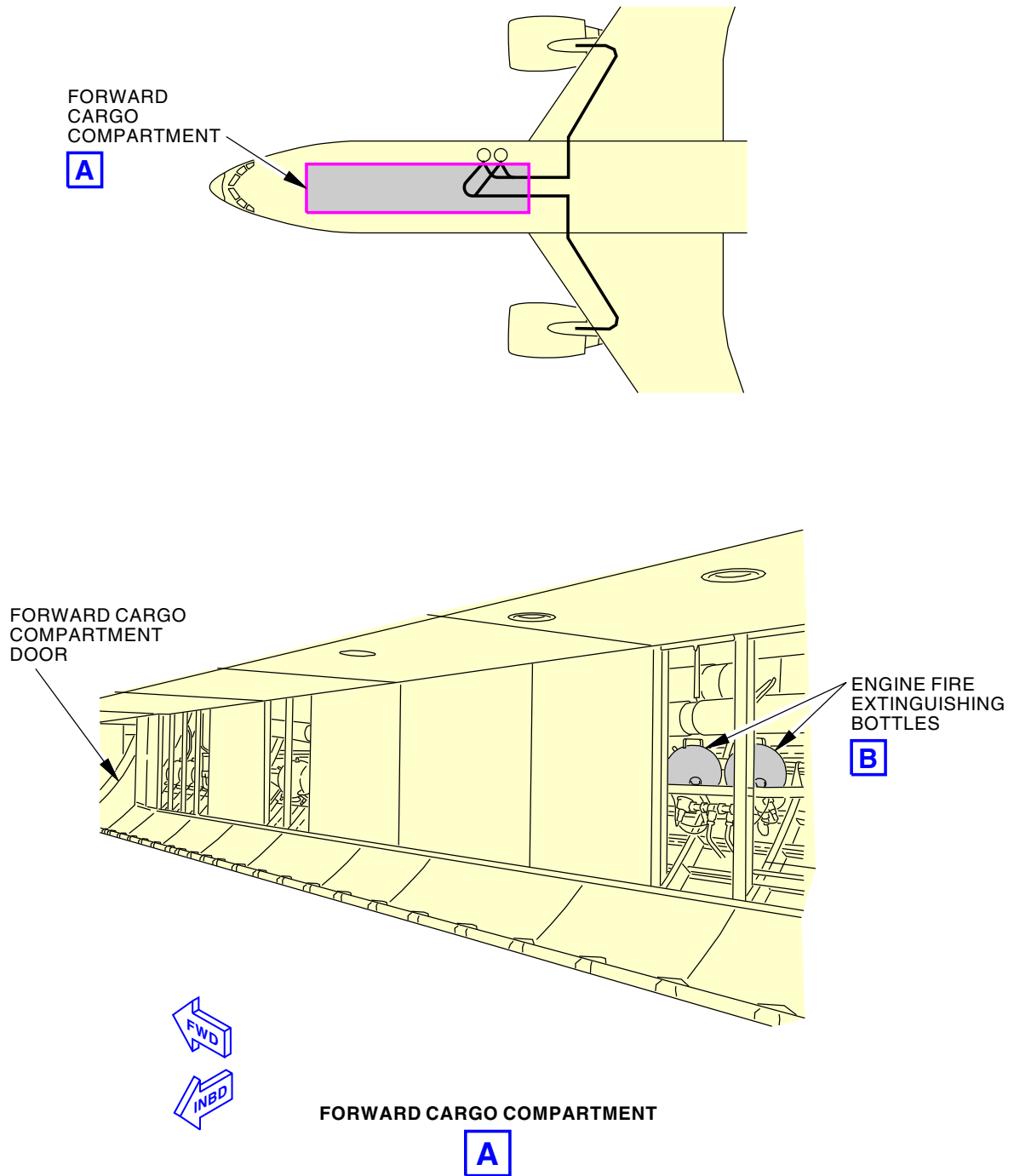
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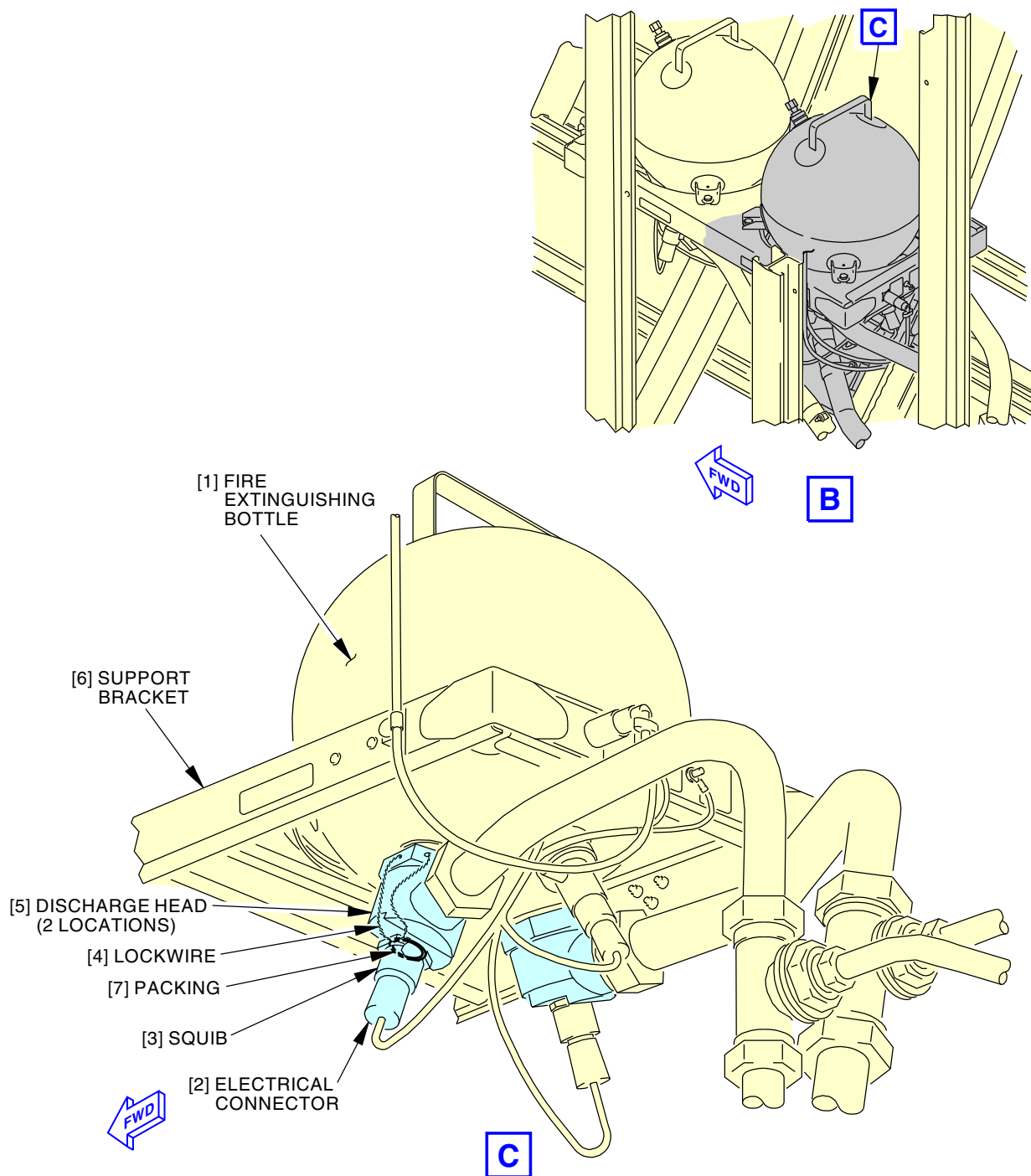
Engine Fire Extinguishing Bottle Squib Installation
Figure 401/26-21-02-990-801 (Sheet 1 of 2)

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**Engine Fire Extinguishing Bottle Squib Installation
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TASK 26-21-02-400-801

3. Engine Fire Extinguishing Bottle Squib Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)
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)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
26-21-00-710-801	Engine Fire Extinguishing Bottle Squibs MAT 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
COM-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 260 Supplier: 55026 Opt Part #: 27 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536 Opt Part #: MODEL 27 Supplier: 89536
SPL-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205
STD-1079	Resistor - 10K Ohm or Greater

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Squib	26-21-01-03-060	ARO ALL
		26-21-01-03-065	ARO ALL
7	Packing	26-21-01-03-070	ARO ALL

D. Location Zones

Zone	Area
122	Forward Cargo Compartment, Right

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E. Access Panels

Number	Name/Location
821	Forward Large Cargo Door

F. Installation

SUBTASK 26-21-02-420-001

- (1) Do these steps to install the squib [3]:



WARNING

DO NOT TOUCH THE SQUIB BEFORE YOU DO THE PROCEDURES FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE THE FIRE BOTTLE TO RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

- (a) Before you touch the squib, do the procedure for devices that are sensitive to electrostatic discharge

These are the tasks: ESDS Handling for Metal Encased Unit Removal, TASK 20-41-01-000-803, ESDS Handling for Metal Encased Unit Installation, TASK 20-41-01-400-803.

- (b) Make sure the service life on the squib [3] is sufficient to continue until the next "C" check.

NOTE: The squib has a service life of 10 years and a combined shelf and service life of 15 years from the service date. The service date is electro-etched on one of the hex flats.

- (c) Install a new packing [7] between the squib [3] and the discharge head [5].
 (d) Install the squib [3] in the discharge head [5].
 (e) Tighten the squib [3] 95 ±5 in-lb (11 ±1 N·m).
 (f) Install the lockwire [4] between the squib [3] and the discharge head [5].
 (g) Remove the protective cap from the squib [3].



WARNING

MAKE SURE THERE IS NO VOLTAGE AT THE ELECTRICAL CONNECTOR. IF THERE IS A VOLTAGE AT THE ELECTRICAL CONNECTOR, THE SQUIB CAN ACCIDENTALLY FIRE AND CAUSE THE FIRE EXTINGUISHING BOTTLE TO RELEASE ITS CONTENTS. ACCIDENTAL DISCHARGE OF THE FIRE EXTINGUISHING BOTTLE CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

- (h) Make sure there is no voltage between pins 1 and 2 of the electrical connector. Use the digital/analog multimeter, COM-1793.
 (i) If there is voltage between pins 1 and 2, do these steps:
 1) Connect a digital/analog multimeter, COM-1793 across pins 1 and 2.
 2) Connect a resistor, STD-1079 across the digital/analog multimeter, COM-1793 pins to remove any stray voltage from the electrical connector.
 3) Disconnect the digital/analog multimeter, COM-1793.
 (j) Make sure the pins in the electrical connector [2] are not bent or damaged.
 (k) Make sure the electrical connector [2] is not damaged.

NOTE: If the squib electrical pins do not enter the receptacles in the electrical connector, the pins can cause damage to the electrical connector.

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- (l) Connect the electrical connector [2] to the squib [3].
- (m) Do the steps that follow to make sure you did not bend or damage the squib pins.
NOTE: This step is necessary because the pins are most likely to be damaged the first time an electrical connector is connected to the squib.
 - 1) Disconnect the electrical connector [2] from the squib [3].
 - 2) Make sure the squib electrical pins are not bent or damaged.
 - 3) Make sure the electrical connector [2] is not damaged.
 - 4) Connect the electrical connector [2] to the squib [3].

SUBTASK 26-21-02-860-002

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	1	C26632	FIRE EXT R ENG BTL 1
L	2	C26633	FIRE EXT L ENG BTL 1
L	3	C26634	FIRE EXT R ENG BTL 2
L	4	C26635	FIRE EXT L ENG BTL 2

G. Installation Test

SUBTASK 26-21-02-860-003

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

SUBTASK 26-21-02-720-001

- (2) Do this task: Engine Fire Extinguishing Bottle Squibs MAT Test, TASK 26-21-00-710-801.

H. Return the Airplane to Its Usual Condition

SUBTASK 26-21-02-080-001

- (1) Remove the pressure relief valve platform, SPL-1651.

SUBTASK 26-21-02-410-001

- (2) Install the vertical panel labeled ENGINE FIRE EXTINGUISHER ACCESS PANEL near the aft end of the forward cargo compartment. To install it, do this task: Sidewall Liner Installation, TASK 25-52-06-400-801.

SUBTASK 26-21-02-410-002

- (3) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

————— END OF TASK —————

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ENGINE FIRE SWITCH - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) A removal of the engine fire switches
 - (2) An installation of the engine fire switches
- B. The engine fire switches are installed on the engine fire control module in the center of the Aisle Stand panel, P8, in the flight compartment. To remove the engine fire switches you must first remove the control module.

TASK 26-21-03-000-801

2. Engine Fire Switch Removal

(Figure 401)

A. Location Zones

<u>Zone</u>	<u>Area</u>
117	Main Equipment Center, Left
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

B. Access Panels

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

C. Engine Fire Switch Removal

SUBTASK 26-21-03-010-001

- (1) Open this access panel, to get access to the Power Management Panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-21-03-860-001

- (2) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	1	C26632	FIRE EXT R ENG BTL 1
L	2	C26633	FIRE EXT L ENG BTL 1
L	3	C26634	FIRE EXT R ENG BTL 2
L	4	C26635	FIRE EXT L ENG BTL 2

SUBTASK 26-21-03-020-001

- (3) Do these steps to remove the engine fire control module [5]:
- (a) Disengage the quarter-turn fasteners [3] on the engine fire control module [5].



CAUTION

CAREFULLY REMOVE THE CARGO FIRE/ENGINE CONTROL MODULE. THIS WILL PREVENT DAMAGE TO THE ELECTRICAL CABLES AT THE REAR OF THE CONTROL MODULE.

- (b) Pull the engine fire control module [5] carefully out from the aisle stand to get access to the electrical connectors [1].

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- (c) Disconnect the applicable electrical connectors [1] from the engine fire switch [4].
- (d) Put protective covers on the electrical connectors [1].

SUBTASK 26-21-03-020-002

- (4) Do these steps to remove the applicable engine fire switch [4] from the engine fire control module [5]:
 - (a) Remove the screws [2] that hold the engine fire switch [4] to the engine fire control module [5].
 - (b) Remove the engine fire switch [4].

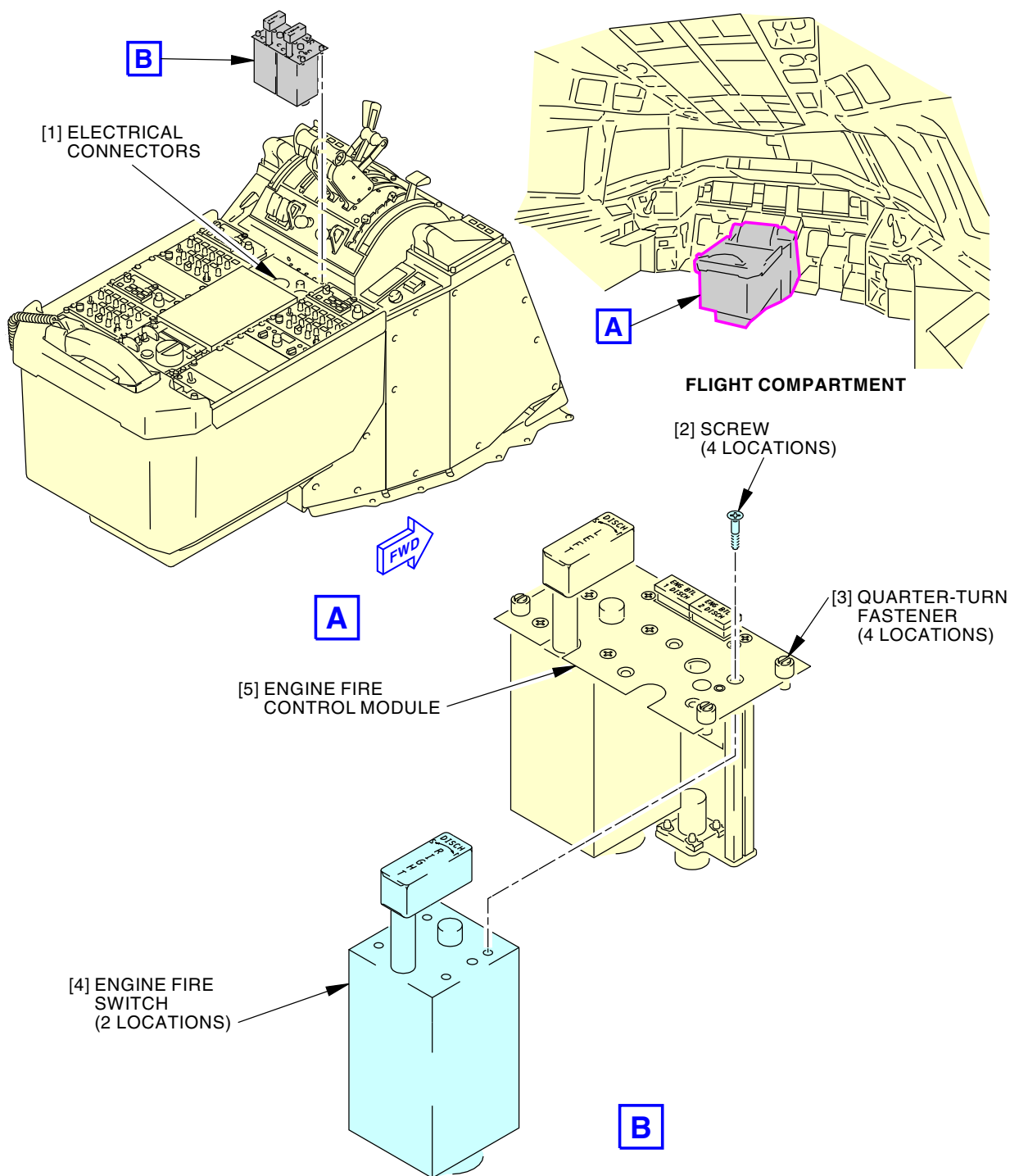
———— **END OF TASK** ————

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Engine Fire Switches Installation
Figure 401/26-21-03-990-801

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TASK 26-21-03-400-801

3. Engine Fire Switch Installation

(Figure 401)

A. References

Reference	Title
26-21-00-200-801	Engine Fire Switch Circuit and Isolation - Functional Test (P/B 501)
26-21-00-730-801	Engine Fire Extinguishing Electrical System Test (P/B 501)

B. Location Zones

Zone	Area
117	Main Equipment Center, Left
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. Engine Fire Switch Installation

SUBTASK 26-21-03-010-002

- (1) Open this access panel, to get access to the Power Management Panels:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-21-03-860-002

- (2) Make sure that these circuit breakers are open and have safety tags:

Standby Power Management Panel, P310

Row	Col	Number	Name
L	1	C26632	FIRE EXT R ENG BTL 1
L	2	C26633	FIRE EXT L ENG BTL 1
L	3	C26634	FIRE EXT R ENG BTL 2
L	4	C26635	FIRE EXT L ENG BTL 2

SUBTASK 26-21-03-420-001

- (3) Do these steps to install the applicable engine fire switch [4] to the engine fire control module [5]:
- (a) Put the engine fire switch [4] in its position in the engine fire control module [5].
 - (b) Install the screws [2] that hold the engine fire switch [4] to the engine fire control module [5].

SUBTASK 26-21-03-020-003

- (4) Do these steps to install the engine fire control module [5]:
- (a) Remove the protective covers from the electrical connectors [1].
 - (b) Examine the electrical connectors [1] for bent or broken pins, dirt and damage.
 - 1) Clean or repair the electrical connectors [1] if it is necessary.
 - (c) Connect the electrical connectors [1] to the engine fire switch [4].

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CAUTION

CAREFULLY INSTALL THE CARGO FIRE/ENGINE CONTROL MODULE. THIS WILL PREVENT DAMAGE TO THE ELECTRICAL CABLES AT THE REAR OF THE CONTROL MODULE.

- (d) Put the engine fire control module [5] carefully in its position in the aisle stand.
- (e) Engage the quarter-turn fasteners [3] on the engine fire control module [5].

SUBTASK 26-21-03-860-003

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	1	C26632	FIRE EXT R ENG BTL 1
L	2	C26633	FIRE EXT L ENG BTL 1
L	3	C26634	FIRE EXT R ENG BTL 2
L	4	C26635	FIRE EXT L ENG BTL 2

E. Electrical System Installation Test

SUBTASK 26-21-03-710-007

- (1) Do this task: Engine Fire Switch Circuit and Isolation - Functional Test, TASK 26-21-00-200-801.

SUBTASK 26-21-03-710-002

- (2) Do this task: Engine Fire Extinguishing Electrical System Test, TASK 26-21-00-730-801.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 26-21-03-410-001

- (1) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

————— END OF TASK —————

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AUXILIARY POWER UNIT (APU) FIRE EXTINGUISHING - ADJUSTMENT/TEST

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has these tasks:
 - (1) An operational test of the squib for the APU fire extinguishing system
 - (2) An operational test of the pressure switch for the APU fire extinguishing bottle
 - (3) A system test of the APU fire extinguishing system.
 - (4) A test to make sure that the APU fire extinguishing system circuit is correctly isolated and operates correctly.
- C. 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.
- D. The operational test does a test of the squib and its circuits. It uses the Maintenance Access Terminal (MAT) to do the test. The operational test also does a test of the pressure switch on the fire extinguishing bottle.
- E. The system test uses equipment that is not installed on the airplane.
- F. The APU fire extinguishing system has a fire extinguishing bottle which applies extinguishing agent to the APU compartment. The APU fire extinguishing bottle is forward of the APU firewall. You can get access to the fire extinguishing bottle through the Controls Bay Access Door, 313AL. Switches on the P5 panel and P40 (nose landing gear) panel operate the APU fire extinguishing bottle.

TASK 26-22-00-000-802

2. APU Fire Extinguishing Bottle Squib MAT Test

A. General

- (1) This procedure does the 26 Fire Extinguishing System, Operational Test: of the Engine and APU Squibs.
- (2) Description:

This test makes sure that there are no open circuits in the squibs and their wire bundle. This test supplies a small current to the squibs on the engine fire extinguishing bottles and the APU fire extinguishing bottle.

Airplane Effects: - none

Approximate time to run the test: is less than one minute

Limitations/Special Requirements:

TO RUN THE TEST:

- 1. Select CONTINUE below.

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

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(Continued)

Zone	Area

211	Flight Compartment, Left
212	Flight Compartment, Right

D. Access Panels

Number	Name/Location

117AL	Main Equipment Center Access Door

E. APU Squib MAT Test

SUBTASK 26-22-00-010-007



KEEP PERSONNEL AWAY FROM THE ENGINE AND APU DURING THIS TEST. IF A SQUIB RELEASES ACCIDENTALLY, THE FIRE BOTTLE WILL RELEASE ITS CONTENTS. INJURIES TO PERSONNEL CAN OCCUR.



KEEP PERSONS AWAY FROM THE CARGO COMPARTMENTS, ENGINES, APU AND LLAR/O FAR (IF APPLICABLE). EACH TEST SUPPLIES POWER TO ALL THE SQUIBS ON THE AIRPLANE. INJURIES TO PERSONS COULD OCCUR.

(1) To get access to the Power Management Panels, do this step:

(a) Open this access panel:

<u>Number</u>	<u>Name/Location</u>

117AL	Main Equipment Center Access Door

SUBTASK 26-22-00-840-020

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	1	C26632	FIRE EXT R ENG BTL 1
L	2	C26633	FIRE EXT L ENG BTL 1
L	3	C26634	FIRE EXT R ENG BTL 2
L	4	C26635	FIRE EXT L ENG BTL 2
L	5	C26636	FIRE EXT APU
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-22-00-840-021

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

SUBTASK 26-22-00-740-002

(4) Use a maintenance access terminal (MAT) to do the operational test of the engine and APU squibs:

(a) Make these selections on the MAT:

- 1) ONBOARD MAINTENANCE
- 2) LINE MAINTENANCE
- 3) GROUND TESTS
- 4) 26 Fire Extinguishing System

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- 5) OPERATIONAL TEST
 - 6) Engine and APU Squibs
 - 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, set the maintenance message and MAINTENANCE MESSAGE DATA. Refer to the applicable Maintenance Message Index in the FIM.

F. Put the Airplane Back to Its Usual Condition

SUBTASK 26-22-00-840-022

- (1) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

————— END OF TASK —————

TASK 26-22-00-000-801

3. Bottle Pressure Switch Operational Test

(Figure 501)

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

<u>Reference</u>	<u>Title</u>
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

<u>Zone</u>	<u>Area</u>
117	Main Equipment Center, Left
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
313	Stabilizer Torsion Box Compartment, Left

D. Access Panels

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door
313AL	Controls Bay Access Door

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E. Prepare for the Test

SUBTASK 26-22-00-010-001

(1) To get access to the Power Management Panels, do this step:

(a) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-22-00-840-001

(2) Make sure that this circuit breaker is closed:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

SUBTASK 26-22-00-840-002

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

SUBTASK 26-22-00-010-002

(4) To get access to the APU fire extinguishing bottle, do this step:

(a) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
313AL	Controls Bay Access Door

SUBTASK 26-22-00-010-003



STAY OFF THE SERVICE ACCESS DOOR, 313AL. YOUR WEIGHT CAN RELEASE THE SPRING-LOADED LATCHES. IF YOU FALL THROUGH THE DOOR, INJURIES WILL OCCUR.

(5) Install the service platform above this access panel:

<u>Number</u>	<u>Name/Location</u>
313AL	Controls Bay Access Door

F. APU Fire Extinguishing Bottle Pressure Switch Test

SUBTASK 26-22-00-710-001

(1) On the APU fire extinguishing bottle, push and hold the test button on the bottle pressure switch.

- (a) On the P5 panel, make sure that the APU BTL DISCH light comes on.
- (b) Make sure that the EICAS advisory message, BOTTLE DISCHARGE APU, shows on the top EICAS display.
- (c) On the P40 panel on the nose landing gear, make sure that the BOTTLE DISCHARGED light comes on.
- (d) Make sure that the BOTTLE APU message shows on the EICAS status display.

SUBTASK 26-22-00-710-002

(2) Release the test button on the bottle pressure switch.

- (a) On the P5 panel, make sure that the APU BTL DISCH light goes off.
- (b) Make sure that the EICAS advisory message, BOTTLE DISCHARGE APU, does not show on the EICAS display.

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- (c) On the P40 panel on the nose landing gear, make sure that the BOTTLE DISCHARGED light goes off.
- (d) Make sure that the status message, BOTTLE APU, does not show on the EICAS display.

G. APU Bottle Discharge AIMS Input Monitoring Test

SUBTASK 26-22-00-710-004

- (1) Use a maintenance access terminal (MAT) to do input monitoring of the wire bundle to the left and right AIMS cabinets.
 - (a) Make these selections on the MAT:
 - 1) ONBOARD MAINTENANCE
 - 2) OTHER FUNCTIONS
 - 3) INPUT MONITORING
 - 4) GENERAL INPUT
 - (b) Put the cursor in the entry field.
 - (c) Record the signal specification into the entry field:
 - 1) For the wire bundle of the APU fire extinguishing bottle, record these signal specifications:
R/DIS/D6714/28
L/DIS/D6623/46
 - (d) Input R/DIS/D6714/28 and select Module 1
 - (e) Input L/DIS/D6623/46 and select Module 3
 - (f) Set RUN to monitor the input.
 - 1) Make sure that the value for each of the signals shows OPEN.
 - (g) Input R/DIS/D6714/28 and select Module 2
 - (h) Input L/DIS/D6623/46 and select Module 4
 - (i) Set RUN to monitor the input.
 - 1) Make sure that the value for each of the signals shows OPEN.
 - (j) On the APU fire extinguishing bottle, push and hold the test button on the bottle pressure switch.
 - 1) Make sure that the value for each of the signals shows GROUND.
 - (k) Release the test button on the bottle pressure switch.
 - (l) 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 26-22-00-840-003

- (1) Remove the service platform from above the Controls Bay Access Door, 313AL.

SUBTASK 26-22-00-840-004

- (2) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
313AL	Controls Bay Access Door

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SUBTASK 26-22-00-840-005

(3) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

———— **END OF TASK** ————

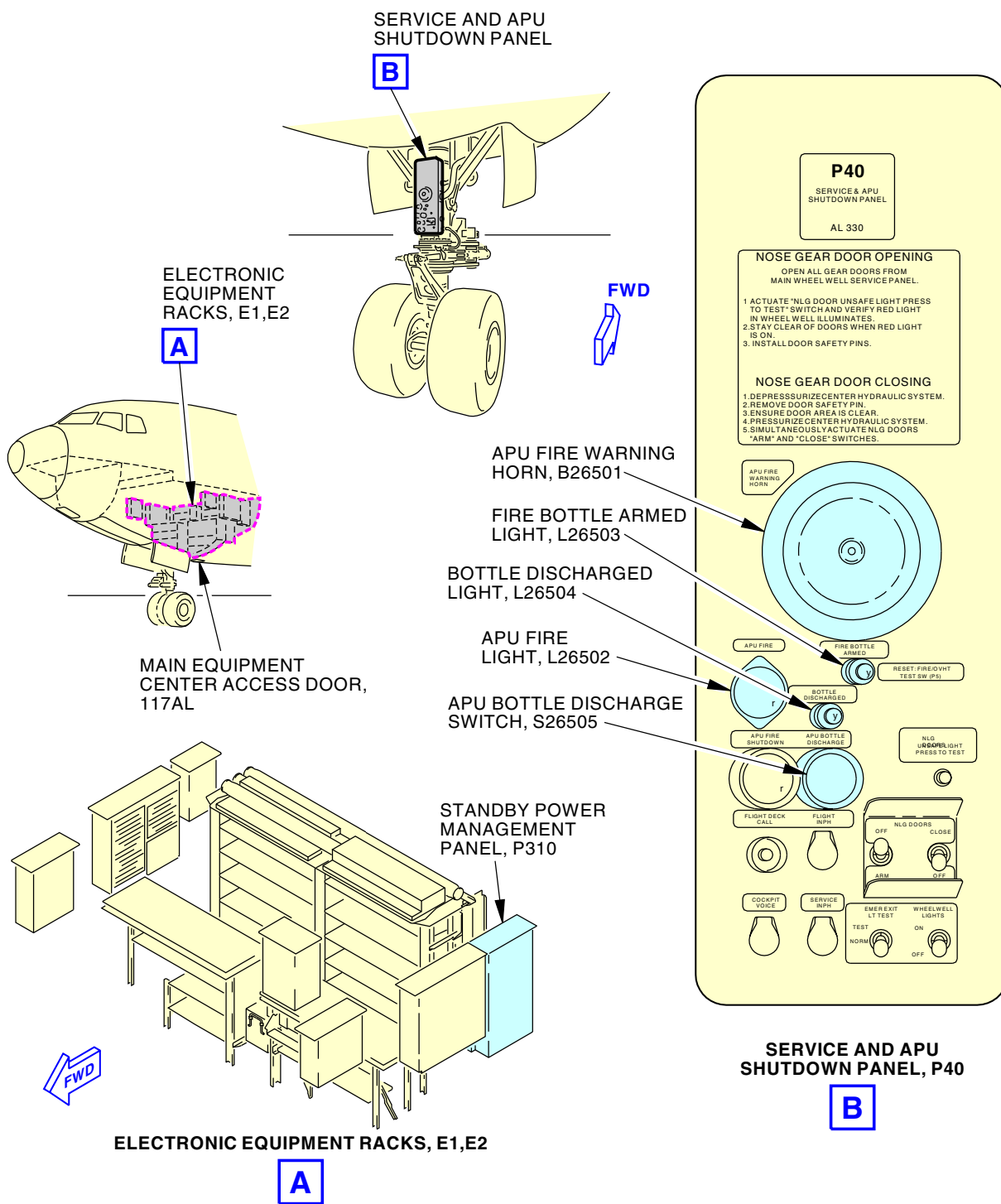
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APU Fire Extinguishing Test
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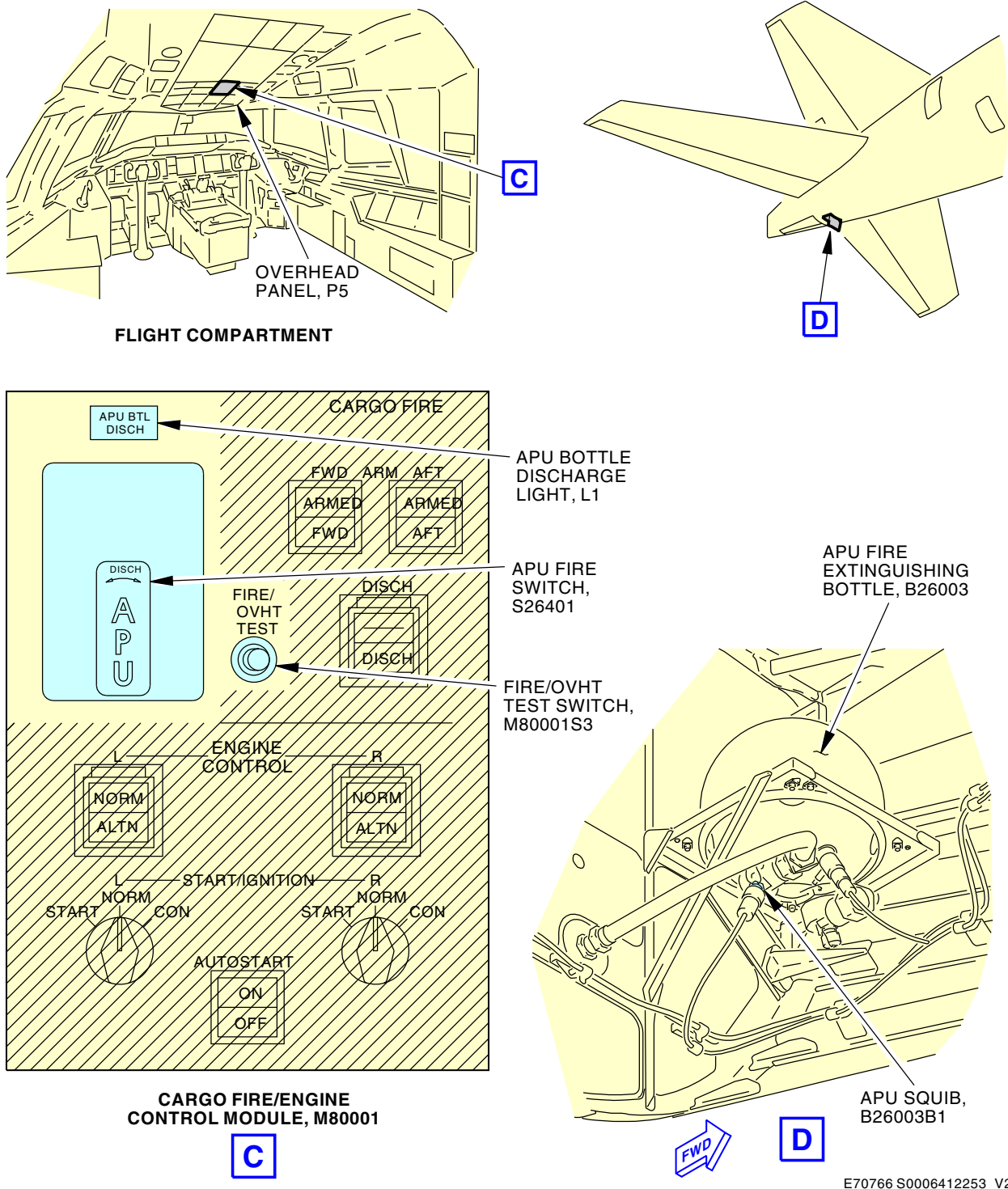
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APU Fire Extinguishing Test
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TASK 26-22-00-730-801

4. APU Fire Extinguishing System Test

(Figure 502)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
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
COM-1560	Box - Decade, Resistance (0 to 10K Ohms) Part #: DA63-3X Supplier: 05591
COM-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 260 Supplier: 55026 Opt Part #: 27 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536 Opt Part #: MODEL 27 Supplier: 89536
SPL-1649	Equipment - Test, Fire Extinguishing System Squib Part #: J26004-24 Supplier: 81205
SPL-1653	Cable - Engine and APU Fire Extinguishing Squib Test Part #: J26004-26 Supplier: 81205
SPL-1977	Platform - Service, Forward of APU Firewall Part #: J51002-7 Supplier: 81205
STD-1079	Resistor - 10K Ohm or Greater
STD-1186	Resistor - Variable, 0-1500 Ohm, 1 Watt

C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
313	Stabilizer Torsion Box Compartment, Left

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D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
313AL	Controls Bay Access Door

E. Prepare for the Test

SUBTASK 26-22-00-010-004

- (1) To get access to the Power Management Panels, do this step:

- (a) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-22-00-840-006

- (2) Make sure that these circuit breakers are closed:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
A	26	C32626	AIR/GROUND 3

Standby Power Management Panel, P310

Row	Col	Number	Name
B	3	C33610	MD & T CHANNEL 3
C	4	C26623	APU RMT FIRE IND/AUTO DISCH ARM
C	5	C26612	FIRE HANDLE UNLOCK
F	4	C33611	MD & T CHANNEL 4
J	1	C31634	LSCF PS 1
K	5	C24633	P310 PSU A ALTN

SUBTASK 26-22-00-840-012

- (3) Open these circuit breakers and install safety tags:

APU Auxiliary Panel, P49

Row	Col	Number	Name
A	3	C49602	APUC 2

Standby Power Management Panel, P310

Row	Col	Number	Name
B	6	C49601	APUC 1
B	7	C49600	APU INLET DR ACTR
L	5	C26636	FIRE EXT APU
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

SUBTASK 26-22-00-840-008

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

SUBTASK 26-22-00-010-005

- (5) To get access to the APU fire extinguishing bottle, do this step:

Open this access panel:

Number	Name/Location
313AL	Controls Bay Access Door

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SUBTASK 26-22-00-010-006



WARNING

STAY OFF THE SERVICE ACCESS DOOR, 313AL. YOUR WEIGHT CAN RELEASE THE SPRING-LOADED LATCHES. IF YOU FALL THROUGH THE DOOR, INJURIES WILL OCCUR.

- (6) Install the service platform, SPL-1977 above the Controls Bay Access Door, 313AL.

F. APU Fire Switch Test

SUBTASK 26-22-00-710-005

- (1) Push and hold the FIRE/OVHT test switch on the P5 panel.
 - (a) Make sure that the light on the APU fire switch comes on.
 - (b) Pull the APU fire switch.
 - 1) Make sure that the APU fire switch releases from its usual position.
 - (c) Push the APU fire switch back to its usual position.

SUBTASK 26-22-00-710-006

- (2) Release the FIRE/OVHT test switch.

SUBTASK 26-22-00-020-001

- (3) Disconnect the electrical connector from the squib on the APU fire extinguishing bottle.



WARNING

PUT A PROTECTIVE COVER ON THE SQUIB. IF YOU DO NOT PUT A PROTECTIVE COVER ON THE SQUIB, THE FIRE EXTINGUISHING BOTTLE CAN RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURIES TO PERSONS.



CAUTION

DO NOT PUT A SHUNT PLUG ON THE SQUIB. THE SHUNT PLUG CAN CAUSE DAMAGE TO THE SQUIB PINS.

- (a) Put the protective cap, attached to the bottle, on the squib.

NOTE: The protective caps are attached to the fire extinguishing bottles. These protective caps prevent the squib from operation because of static electricity.

SUBTASK 26-22-00-730-001

- (4) Connect the applicable squib test cable, SPL-1653 between the airplane electrical connector, DB26003A, and the squib test equipment, SPL-1649.

SUBTASK 26-22-00-730-002

- (5) Set the LOAD #1 switch on the squib test equipment, SPL-1649 to the OFF position.

NOTE: This test is for the voltage when you turn the APU fire switch fully counterclockwise.

SUBTASK 26-22-00-730-044

- (6) Connect the digital/analog multimeter, COM-1793 to the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649.

SUBTASK 26-22-00-730-003

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

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- (a) Make sure that the digital/analog multimeter, COM-1793 SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649 shows less than 2.0 VDC.

SUBTASK 26-22-00-730-004

- (8) On the P5 panel, pull the APU Fire Switch.

NOTE: Push the manual switch behind the APU fire switch to unlock the handle.

- (a) Make sure that the APU Fire Switch is in the ARMED position.
(b) Make sure that the digital/analog multimeter, COM-1793 SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649 shows less than 2.0 VDC.

SUBTASK 26-22-00-730-005

- (9) Turn and hold the APU Fire Switch fully counterclockwise.

SUBTASK 26-22-00-730-006

- (10) Make a record of the voltage that shows on the squib test equipment, SPL-1649.

NOTE: This is the voltage with no load on the squib test equipment. Refer to this voltage as VNL.

SUBTASK 26-22-00-730-007

- (11) Set the LOAD #1 switch on the squib test equipment, SPL-1649 to the ON position.

SUBTASK 26-22-00-730-008

- (12) Make a record of the voltage that shows on the squib test equipment, SPL-1649.

NOTE: This is the voltage with a load on the squib test equipment. Refer to this voltage as VL.

SUBTASK 26-22-00-730-009

- (13) Release the APU Fire Switch.

- (a) Make sure that the APU Fire Switch starts to move to the position in the center.

NOTE: The APU fire switch will not fully move back to the position in the center.

SUBTASK 26-22-00-730-010

- (14) For voltage VNL in the range shown, make sure that voltage VL is more than or the same as the value shown in the Table 501.

Table 501/26-22-00-993-803 Voltage Table

VNL (No load)		VL (Load)
MIN	MAX	
18.00	18.50	11.10
18.51	19.00	11.40
19.01	19.50	11.70
19.51	20.00	12.00
20.01	20.50	12.30
20.51	21.00	12.60
21.01	21.50	12.90
21.51	22.00	13.20
22.01	22.50	13.50
22.51	23.00	13.80

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Table 501/26-22-00-993-803 Voltage Table (Continued)

VNL (No load)		VL (Load)
MIN	MAX	
23.01	23.50	14.10
23.51	24.00	14.40
24.01	24.50	14.70
24.51	25.00	15.00
25.01	25.50	15.30
25.51	26.00	15.60
26.01	26.50	15.90
26.51	27.00	16.20
27.01	27.25	16.35
27.26	27.50	16.50
27.51	27.75	16.65
27.76	28.00	16.80
28.01	28.25	16.95
28.26	28.50	16.10
28.51	28.75	17.25
28.76	29.00	17.40
29.01	29.50	17.70
29.51	30.00	18.00
30.01	30.50	18.30
30.51	31.00	18.60
31.01	31.50	18.90
31.51	32.00	19.20

SUBTASK 26-22-00-730-011

- (15) Set the LOAD #1 switch on the squib test equipment, SPL-1649 to the OFF position.

SUBTASK 26-22-00-730-012

- (16) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

NOTE: This section monitors the voltage when you turn the APU fire switch fully counterclockwise and the circuit breaker is open.

SUBTASK 26-22-00-730-013

- (17) Turn and hold the APU Fire Switch fully counterclockwise.
- (a) Make sure that the digital/analog multimeter, COM-1793 for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649 shows less than 2.0 VDC.

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SUBTASK 26-22-00-730-014

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

NOTE: This section monitors the voltage when you turn the APU fire switch fully clockwise.

SUBTASK 26-22-00-730-015

- (19) Turn and hold the APU Fire Switch fully clockwise.

SUBTASK 26-22-00-730-016

- (20) Make a record of the voltage that shows on the squib test equipment, SPL-1649.

NOTE: This is the voltage with no load on the squib test equipment. Refer to this voltage as VNL.

SUBTASK 26-22-00-730-017

- (21) Set the LOAD #1 switch on the squib test equipment, SPL-1649 to the ON position.

SUBTASK 26-22-00-730-018

- (22) Make a record of the voltage that shows on the squib test equipment, SPL-1649.

NOTE: This is the voltage with a load on the squib test equipment. Refer to this voltage as VL.

SUBTASK 26-22-00-730-019

- (23) Release the APU Fire Switch.

(a) Make sure that the APU Fire Switch moves to the position in the center.

SUBTASK 26-22-00-730-020

- (24) For voltage VNL in the range shown, make sure that voltage VL is more than or the same as the value shown in the Table 501.

SUBTASK 26-22-00-730-021

- (25) Set the LOAD #1 switch on the squib test equipment, SPL-1649 to the OFF position.

SUBTASK 26-22-00-730-022

- (26) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

SUBTASK 26-22-00-730-023

- (27) Turn and hold the APU Fire Switch fully clockwise.

(a) Make sure that the digital/analog multimeter, COM-1793 for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649 shows less than 2.0 VDC.

SUBTASK 26-22-00-730-045

- (28) Release the APU Fire Switch.

(a) Make sure that the APU Fire Switch starts to move to the position in the center.

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SUBTASK 26-22-00-730-024

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

NOTE: This section monitors the voltage when you push the APU BOTTLE DISCHARGE switch on the P40 panel.

SUBTASK 26-22-00-730-025

- (30) On the P40 panel on the nose landing gear, push the APU Fire Shutdown button.
- (a) Make sure that the FIRE BOTTLE ARMED light on the P40 panel comes on.
 - (b) Make sure that the digital/analog multimeter, COM-1793 for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649 shows less than 2.0 VDC.

SUBTASK 26-22-00-730-026

- (31) On the P40 panel, push and hold the APU BOTTLE DISCHARGE button.

SUBTASK 26-22-00-730-027

- (32) Make a record of the voltage that shows on the squib test equipment, SPL-1649.
- NOTE: This is the voltage with no load on the squib test equipment. Refer to this voltage as VNL.

SUBTASK 26-22-00-730-028

- (33) Set the LOAD #1 switch on the squib test equipment, SPL-1649 to the ON position.

SUBTASK 26-22-00-730-029

- (34) Make a record of the voltage that shows on the squib test equipment, SPL-1649.
- NOTE: This is the voltage with a load on the squib test equipment. Refer to this voltage as VL.

SUBTASK 26-22-00-730-030

- (35) Release the APU BOTTLE DISCHARGE button.

SUBTASK 26-22-00-730-031

- (36) For the voltage VNL in the range shown, make sure that voltage VL is more than or the same as the value shown in the Table 501.

SUBTASK 26-22-00-730-032

- (37) Set the LOAD #1 switch on the squib test equipment, SPL-1649 to the OFF position.

SUBTASK 26-22-00-730-033

- (38) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

SUBTASK 26-22-00-730-034

- (39) On the P40 panel, push and hold the APU BOTTLE DISCHARGE button.
- (a) Make sure that the digital/analog multimeter, COM-1793 for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649 shows less than 2.0 VDC.

SUBTASK 26-22-00-730-035

- (40) Release the APU BOTTLE DISCHARGE button.

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SUBTASK 26-22-00-730-036

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

SUBTASK 26-22-00-730-037

- (42) On the P5 panel, push the FIRE/OVHT TEST switch.

NOTE: You must push the FIRE/OVHT TEST switch to open the APU External Shutdown relay.

SUBTASK 26-22-00-730-046

- (43) Push the APU Fire Switch back to its usual position.

G. APU Auto-Discharge System Test

SUBTASK 26-22-00-480-003

- (1) Do these steps to put the airplane in the "attended" mode:

NOTE: When the airplane is in the "attended" mode, the APU fire bottle will not automatically release if there is an APU fire indication.

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

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C80601	L ENG START VALVE

- (b) Make sure that this circuit breaker is closed:

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	3	C80605	L ENG START SW

- (c) Make sure that the L FUEL CONTROL switch on the P10 panel is in the CUTOFF position.

- (d) Make sure that the AUTOSTART switch on the P5 panel is in the OFF position.

- (e) Set and hold the L START/IGNITION switch on the P5 panel to the START position.

NOTE: When you set the L START/IGNITION switch to the START position, it puts the airplane in the "attended" mode. The switch needs to be held at that START position otherwise it will automatically switch back to NORM position by itself.

SUBTASK 26-22-00-480-001

- (2) Do these steps to connect each 0 to 10k ohms resistance decade box, COM-1560 or variable resistor, STD-1186 to the APU fire detector:

- (a) Make sure the resistance on each 0 to 10k ohms resistance decade box, COM-1560 or variable resistor, STD-1186 is set to at least 1500 ohms.

- (b) Connect one end of a 0 to 10k ohms resistance decade box, COM-1560 or variable resistor, STD-1186 to the Loop 1 terminal lug on the lower APU fire detector, M26009.

- (c) Connect one end of the other 0 to 10k ohms resistance decade box, COM-1560 or variable resistor, STD-1186 to the Loop 2 terminal lug on the lower APU fire detector, M26009.

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- (d) Connect the ground end of each 0 to 10k ohms resistance decade box, COM-1560 or variable resistor, STD-1186 to the element support bracket on the lower APU fire detector, M26009.

SUBTASK 26-22-00-480-002

- (3) Set the resistance on the 0 to 10k ohms resistance decade box, COM-1560 or the variable resistor, STD-1186 to 1450 - 1550 ohms.
 - (a) Make sure that the digital/analog multimeter, COM-1793 for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649 shows less than 2.0 VDC.

SUBTASK 26-22-00-480-004

- (4) Continuously decrease the resistance for the 0 to 10k ohms resistance decade box, COM-1560 or the variable resistor, STD-1186 at the same time to 475 - 525 ohms.
 - NOTE: If you do not decrease the resistance at the same time, then a fault condition will occur. A fire condition then will not occur.
 - NOTE: The APU fire warning indications can occur in the flight compartment and at the P40 panel on the nose landing gear. In the flight compartment, these indications include EICAS messages, warning lights, and the warning horn.
 - (a) At the P40 panel on the nose landing gear, make sure that these indications occur:
 - 1) The APU Fire Light L26502 comes on
 - 2) The APU Fire Warning Horn B26501 comes on.
 - (b) In the flight compartment, make sure that the light on the APU Fire Switch S26401 comes on.
 - (c) Make sure that the digital/analog multimeter, COM-1793 for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649 shows less than 2.0 VDC.
 - (d) After 10 seconds, make sure that the digital/analog multimeter, COM-1793 for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649 shows less than 2.0 VDC.

SUBTASK 26-22-00-480-005

- (5) Do these steps to make sure that the APU bottle will automatically release if the airplane is in the "unattended" mode:
 - NOTE: When the airplane is in the "unattended" mode, the APU fire bottle will automatically release if there is an APU fire indication.
 - NOTE: You must do the subsequent four steps in a short period of time.
 - (a) Make sure that the R START/IGNITION switch on the P5 panel is in the NORM position.
 - (b) Set the L START/IGNITION switch on the P5 panel to the NORM position.
 - NOTE: This puts the airplane in the "unattended" mode.
 - (c) Make sure that the digital/analog multimeter, COM-1793 for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649 shows less than 2.0 VDC.
 - (d) Ten seconds after you set the L START/IGNITION switch to NORM, make a record of the voltage that shows on the squib test equipment, SPL-1649.
 - NOTE: This is the voltage with no load on the squib test equipment. Refer to this voltage as VNL.

SUBTASK 26-22-00-730-038

- (6) Set the LOAD #1 switch on the squib test equipment, SPL-1649 to the ON position.

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SUBTASK 26-22-00-730-039

- (7) Make a record of the voltage that shows on the squib test equipment, SPL-1649.

NOTE: This is the voltage with a load on the squib test equipment. Refer to this voltage as VL.

SUBTASK 26-22-00-730-040

- (8) For voltage VNL in the range shown, make sure that voltage VL is more than or the same as the value shown in the Table 501.

SUBTASK 26-22-00-860-001

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

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C80601	L ENG START VALVE

SUBTASK 26-22-00-730-041

- (10) Disconnect the 0 to 10k ohms resistance decade box, COM-1560 from the APU fire detector.

SUBTASK 26-22-00-860-002

- (11) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

SUBTASK 26-22-00-730-042

- (12) Disconnect the squib test cable, SPL-1653 and the squib test equipment, SPL-1649 from the airplane electrical connector.

SUBTASK 26-22-00-860-003

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

APU Auxiliary Panel, P49

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	3	C49602	APUC 2

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	6	C49601	APUC 1
B	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

SUBTASK 26-22-00-730-043

- (14) Remove the protective cap on the squib on the APU fire extinguishing bottle.

(a) Attach the protective cap to the APU fire extinguishing bottle.

SUBTASK 26-22-00-710-003

- (15) Do these steps to connect the electrical connector to the squib on the APU fire extinguishing bottle:

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WARNING

MAKE SURE THAT THERE IS NO VOLTAGE AT THE ELECTRICAL CONNECTOR. IF THERE IS A VOLTAGE AT THE ELECTRICAL CONNECTOR, THE SQUIB CAN RELEASE THE CONTENTS OF THE BOTTLE SUDDENLY. THIS CAN CAUSE INJURIES TO PERSONNEL.

- (a) Make sure that there is no voltage between pins 1 and 2 of the electrical connector.

NOTE: If you connect a resistor, STD-1079 across the digital/analog multimeter, COM-1793, you will remove the small voltage from the electrical connector.

- (b) Make sure that the squib electrical pins are not bent or damaged.

- (c) Make sure that the electrical connector is not dirty or damaged.

NOTE: The squib pins can cause damage to the electrical connector if the pins do not correctly engage the electrical connector.

- (d) Connect the electrical connector to the squib.

SUBTASK 26-22-00-860-023

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

H. Put the Airplane Back to Its Usual Condition

SUBTASK 26-22-00-840-009

- (1) Remove the service platform, SPL-1977 from above the Controls Bay Access Door, 313AL.

SUBTASK 26-22-00-840-010

- (2) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
313AL	Controls Bay Access Door

SUBTASK 26-22-00-840-011

- (3) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

————— END OF TASK —————

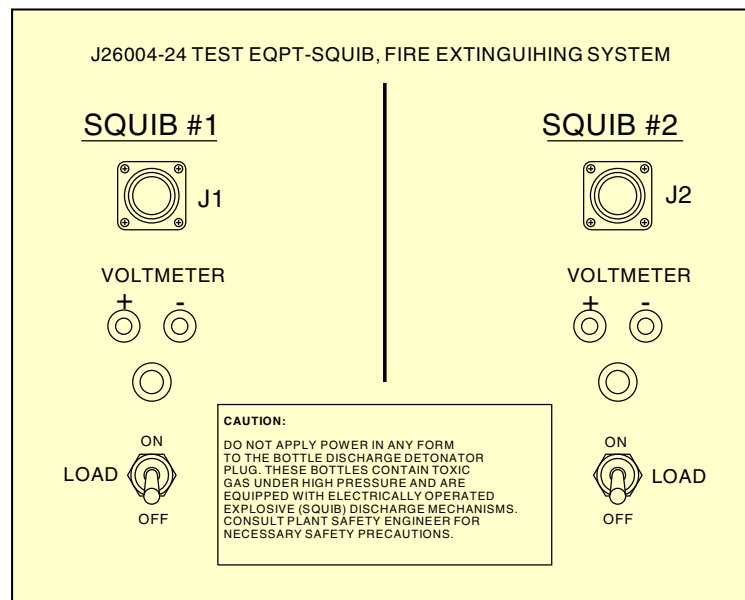
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**SQUIB TEST BOX
(EXAMPLE)**

E59836 S0006412259_V2

APU Squib Test
Figure 502/26-22-00-990-802

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TASK 26-22-00-200-801

5. APU Fire Switch Circuit and Isolation - Functional Test

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
24-22-00-860-805	Supply Electrical Power (P/B 201)
28-25-01-000-801	APU Fuel Shutoff Valve - Removal (P/B 401)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)
32-09-00-860-801	Air/Ground Mode Simulation (P/B 201)
36-00-00-860-801	Depressurize the Pneumatic System (P/B 201)
36-00-00-860-802	Pressurize the Pneumatic System (P/B 201)
45-10-00-740-808	How to Use the Central Maintenance Computing System (P/B 201)
49-11-02-010-801	APU Access Doors (Open) (P/B 201)
49-11-02-410-801	APU Access Doors (Close) (P/B 201)
49-15-05-200-801	Air Inlet Door Inspection (P/B 601)

C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right
313	Stabilizer Torsion Box Compartment, Left
315	APU Compartment, Left
316	APU Compartment, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. Prepare for Test

SUBTASK 26-22-00-840-013

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

SUBTASK 26-22-00-840-014

- (2) Do this task: APU Access Doors (Open), TASK 49-11-02-010-801 to get access to the APU compartment.

SUBTASK 26-22-00-840-015

- (3) To get access to the Power Management Panel, do this step:
 - (a) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

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SUBTASK 26-22-00-840-016



MAKE SURE THAT YOU OPEN THE CIRCUIT BREAKER FOR APU FIRE EXTINGUISHING. IF YOU DO NOT OPEN THE CIRCUIT BREAKER, THE FIRE EXTINGUISHING BOTTLE CAN ACCIDENTALLY RELEASE. THIS CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (4) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

F. APU Generator Field Trip Check

SUBTASK 26-22-00-740-001

- (1) Use a maintenance access terminal (MAT) to make sure that this maintenance message does not show in the EXISTING FAULTS:
- The message is 24-31533 APU Fire Switch is Pulled"
- (a) Make these selections on the MAT:
- 1) ONBOARD MAINTENANCE
 - 2) EXTENDED MAINTENANCE
 - 3) EXISTING FAULTS
- (b) Look for 24 Main AC Electrical Power Generation System.
- NOTE: If 24 Main AC Electrical Power Generation System does not show, then there are no maintenance messages in EXISTING FAULTS for the APU System.
- (c) If 24 Main AC Electrical Power Generation System shows, do this:
- 1) Set 24 Main AC Electrical Power Generation System.
 - 2) Set CONTINUE.
 - 3) Look at the maintenance messages that show. Make sure that this maintenance message does not show:
 - 24-31533 APU Fire Switch is Pulled.
 - 4) If the maintenance message shows, refer to the applicable Maintenance Message Index in the FIM. Set the maintenance message and MAINTENANCE MESSAGE DATA.

SUBTASK 26-22-00-200-001

- (2) Set the APU GEN switch on the P5 panel to the ON position.
- (a) On the APU GEN switch, make sure that the ON light comes on.

SUBTASK 26-22-00-200-002

- (3) On the P5 panel, pull the APU Fire Switch.
- (a) On the MAT, make sure that this maintenance message shows in the EXISTING FAULTS:
- 24-31533 APU Fire Switch is Pulled
- (b) Refer to the applicable Maintenance Message Index in the FIM. Set the maintenance message and MAINTENANCE MESSAGE DATA to remove the message.

SUBTASK 26-22-00-200-003

- (4) On the P5 panel, push the APU Fire Switch back to its usual position.

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G. APU Shutdown Check

SUBTASK 26-22-00-860-020

- (1) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C28614	DC FUEL PUMP
B	2	C28604	L FWD FUEL BOOST PUMP CTRL

SUBTASK 26-22-00-200-004

- (2) Set the APU switch on the P5 panel to the ON position.
 - (a) Make sure that the APU inlet door opens (TASK 49-15-05-200-801).

SUBTASK 26-22-00-200-005

- (3) On the P5 panel, pull the APU Fire Switch.
 - (a) Make sure that the APU inlet door closes.

SUBTASK 26-22-00-860-004

- (4) On the MAT, make sure that this maintenance message shows in the EXISTING FAULTS:
 - 24-31533 APU Fire Switch is Pulled
 - (a) Refer to the applicable Maintenance Message Index in the FIM. Set the maintenance message and MAINTENANCE MESSAGE DATA to remove the message.

SUBTASK 26-22-00-200-006

- (5) On the P5 panel, push the APU Fire Switch back to its usual position.

SUBTASK 26-22-00-200-007

- (6) Set the APU switch on the P5 panel to the OFF position.

H. APU Fuel Shutoff Valve Check

SUBTASK 26-22-00-860-019

- (1) Make sure that these circuit breakers are open and have safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C28614	DC FUEL PUMP
B	2	C28604	L FWD FUEL BOOST PUMP CTRL

SUBTASK 26-22-00-860-005

- (2) Open these circuit breakers and install safety tags:

APU Auxiliary Panel, P49

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	3	C49602	APUC 2

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	6	C49601	APUC 1
B	7	C49600	APU INLET DR ACTR

SUBTASK 26-22-00-860-006

- (3) Set the APU start switch on the P5 panel to the OFF position.

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SUBTASK 26-22-00-860-007

- (4) Set the APU start switch on the P5 panel to the ON position.
- (a) Make sure that the manual override handle on the APU shutoff valve moves to the OPEN position (TASK 28-25-01-000-801).

NOTE: The APU fuel shutoff valve, V28023, is installed on the left inboard rear spar near STA 325.

SUBTASK 26-22-00-200-008

- (5) On the P5 panel, pull the APU Fire Switch.
- (a) Make sure that the manual override handle on the APU shutoff valve moves to the CLOSED position.

SUBTASK 26-22-00-860-008

- (6) Set the APU start switch to the OFF position.

SUBTASK 26-22-00-200-009

- (7) On the P5 panel, push the APU Fire Switch back to its usual position.

SUBTASK 26-22-00-860-009

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

APU Auxiliary Panel, P49

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	3	C49602	APUC 2

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	6	C49601	APUC 1
B	7	C49600	APU INLET DR ACTR
L	5	C26636	FIRE EXT APU

SUBTASK 26-22-00-860-010

- (9) On the MAT, make sure that this maintenance message shows in the EXISTING FAULTS:
- 24-31533 APU Fire Switch is Pulled
- (a) Refer to the applicable Maintenance Message Index in the FIM. Set the maintenance message and MAINTENANCE MESSAGE DATA to remove the message.

I. APU Isolation Valve Check

SUBTASK 26-22-00-860-011

- (1) The following tests the operation of the APU isolation valve:
- (a) Do the following : (Pressurize the Pneumatic System, TASK 36-00-00-860-802).
- NOTE:** Only pressurize the pneumatic system with ground air source.
- (b) Get access to the Air Supply Maintenance Page (Showing a Maintenance Page, TASK 31-61-00-800-804).
- (c) Put the airplane in the air mode (Air/Ground Mode Simulation, TASK 32-09-00-860-801).
- NOTE:** Placing the airplane in the air mode causes the pneumatic system to disregard the ground air source.
- (d) Set APU BLEED switch on the P5 panel to AUTO.
- (e) Make sure that APU ISO VLV OPEN shows on the Air Supply Maintenance Page.
- (f) Make sure that the white light on the top half of the APU Bleed switch is on.

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- (g) On the P5 panel, pull the APU fire switch.
- (h) Make sure that APU ISO VLV CLOSED shows on the Air Supply Maintenance Page.
- (i) On the P5 panel, push the APU fire switch back to its usual position.
- (j) Make sure that APU ISO VLV OPEN shows on the Air Supply Maintenance Page.
- (k) Put the airplane back to ground mode (Air/Ground Mode Simulation, TASK 32-09-00-860-801).
- (l) Do this task: Depressurize the Pneumatic System, TASK 36-00-00-860-801
- (m) Set the APU BLEED switch on the P5 panel to OFF.
- (n) On the MAT, make sure that this maintenance message shows in the EXISTING FAULTS:
 - 24-31533 APU Fire Switch is Pulled
 - 1) Refer to the applicable Maintenance Message Index in the FIM. Set the maintenance message and MAINTENANCE MESSAGE DATA to remove the message.

J. Put the Airplane Back to Its Usual Condition

SUBTASK 26-22-00-860-021

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C28614	DC FUEL PUMP
B	2	C28604	L FWD FUEL BOOST PUMP CTRL

SUBTASK 26-22-00-840-018

- (2) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-22-00-840-019

- (3) Do this task: APU Access Doors (Close), TASK 49-11-02-410-801.

————— **END OF TASK** —————

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APU FIRE EXTINGUISHING BOTTLE - REMOVAL/INSTALLATION

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has these tasks:
 - (1) A removal of the APU Fire Extinguishing Bottle
 - (2) An installation of the APU Fire Extinguishing Bottle.
- C. There is one APU Fire Extinguishing Bottle installed on the lower left, forward side of the APU firewall. You can get access to the fire extinguishing bottle through the Controls Bay Access Door, 313AL.

TASK 26-22-01-000-801

2. APU Fire Extinguishing Bottle Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

<u>Reference</u>	<u>Title</u>
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-41-01-400-803	ESDS Handling for Metal Encased Unit 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.

<u>Reference</u>	<u>Description</u>
SPL-1977	Platform - Service, Forward of APU Firewall Part #: J51002-7 Supplier: 81205

C. Location Zones

<u>Zone</u>	<u>Area</u>
313	Stabilizer Torsion Box Compartment, Left

D. Access Panels

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door
313AL	Controls Bay Access Door

E. Prepare for the Removal

SUBTASK 26-22-01-010-001

- (1) To get access to the Power Management Panels, open this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-22-01-840-001

- (2) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

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SUBTASK 26-22-01-010-002

- (3) To get access to the fire extinguishing bottle, open this access panel:

<u>Number</u>	<u>Name/Location</u>
313AL	Controls Bay Access Door

SUBTASK 26-22-01-010-003



STAY OFF THE SERVICE ACCESS DOOR, 313AL. YOUR WEIGHT CAN RELEASE THE SPRING-LOADED LATCHES. IF YOU FALL THROUGH THE DOOR, INJURIES WILL OCCUR.

- (4) Install the service platform, SPL-1977 above the Controls Bay Access Door, 313AL.

F. APU Fire Extinguishing Bottle Removal

SUBTASK 26-22-01-000-001

- (1) Do these steps to remove the bottle:



DO NOT TOUCH THE SQUIB BEFORE YOU DO THE PROCEDURES FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE THE FIRE BOTTLE TO RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURY TO PERSON AND DAMAGE EQUIPMENT.

- (a) Before you touch the squib, do the procedure for devices that are sensitive to electrostatic discharge

These are the tasks: ESDS Handling for Metal Encased Unit Removal, TASK 20-41-01-000-803, ESDS Handling for Metal Encased Unit Installation, TASK 20-41-01-400-803.

- (b) Disconnect the electrical connector [1] from the squib [10].



PUT A PROTECTIVE COVER ON THE SQUIB. IF YOU DO NOT PUT A PROTECTIVE COVER ON THE SQUIB, THE FIRE EXTINGUISHING BOTTLE CAN RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURIES TO PERSONS.



DO NOT PUT A SHUNT PLUG ON THE SQUIB. THE SHUNT PLUG CAN CAUSE DAMAGE TO THE SQUIB PINS.

- (c) Put the protective cover [11], attached to the bottle, on the squib [10].

NOTE: The protective covers are attached to the fire extinguishing bottles. These protective covers, sometimes called faraday covers, have electrically conductive surfaces to shield the squib from possible activation due to static discharge.

- (d) Disconnect the electrical connector [2] from the pressure switch [7].

- (e) Loosen the nut [9] on the tube assembly [8].

- (f) Disconnect the elbow [17] from the discharge head [13].

NOTE: Keep the elbow on the tube assembly [8] to use it for the new fire extinguishing bottle.

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- (g) Disconnect the cap [16] from the unused discharge head [13].
NOTE: Keep the cap to use on the new fire extinguishing bottle.
- (h) Install the protective caps on each of the discharge ports.
- (i) Install the protective caps on each of the discharge tubes.
- (j) Remove the bolt [4] and washer [5] from the mounting lugs [3].



WARNING

MOVE THE FIRE EXTINGUISHING BOTTLE CAREFULLY. THE FIRE EXTINGUISHING BOTTLE IS PRESSURIZED, AND HAS A SQUIB CARTRIDGE AS A COMPONENT. IF THE FIRE BOTTLE RELEASES ITS CONTENTS, INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (k) Remove the fire extinguishing bottle [15].

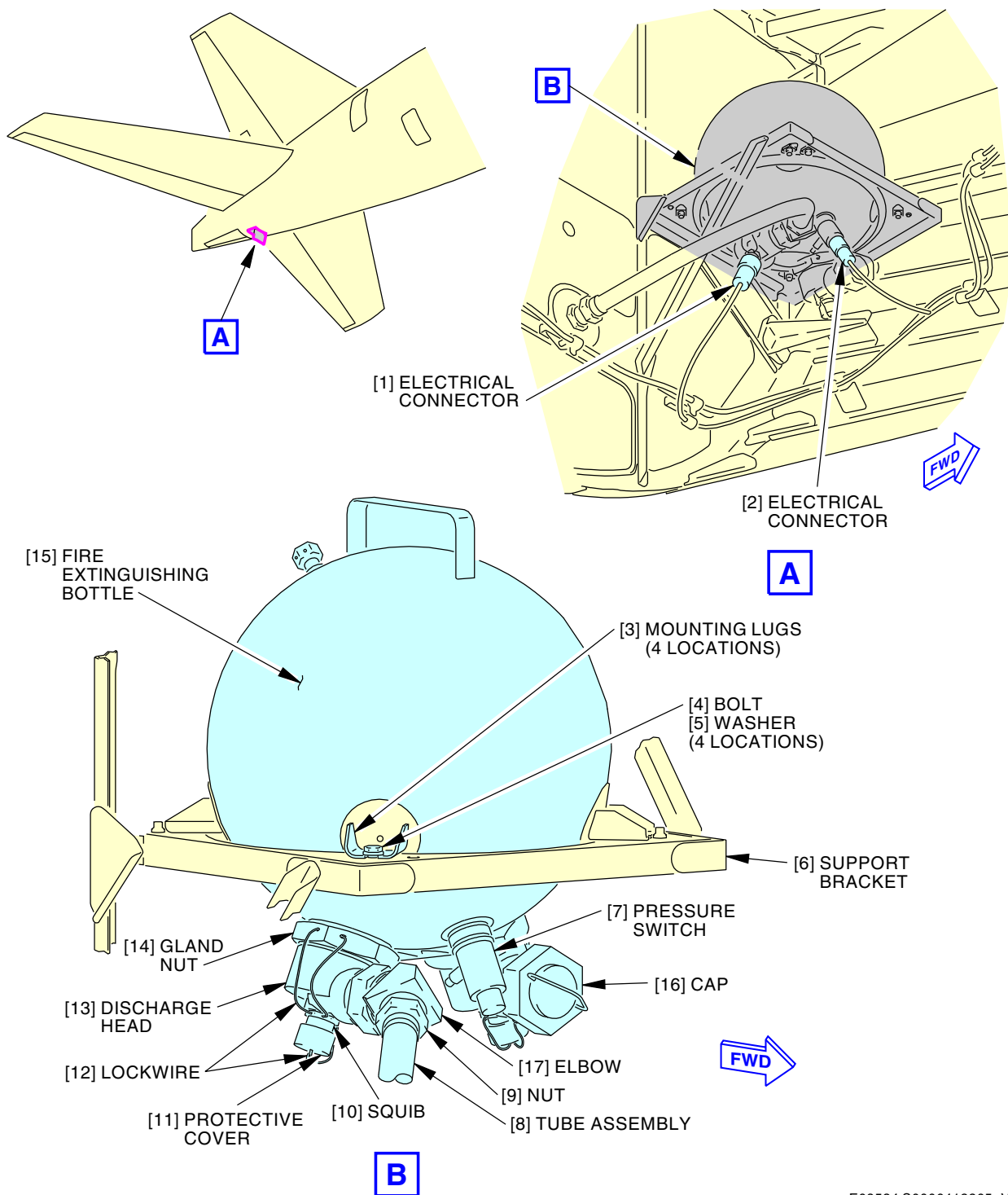
———— **END OF TASK** ————

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**Auxiliary Power Unit (APU) Fire Extinguishing Bottle Installation
Figure 401/26-22-01-990-801**

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TASK 26-22-01-400-801

3. APU Fire Extinguishing Bottle 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)
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-41-01-400-803	ESDS Handling for Metal Encased Unit Installation (P/B 201)
26-22-00-000-801	Bottle Pressure Switch Operational Test (P/B 501)
26-22-00-000-802	APU Fire Extinguishing Bottle Squib MAT 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
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
COM-1557	Gauge - Force Part #: DG-200 Supplier: 92456 Part #: FDIX 100 Supplier: 0BFD9 Part #: FDIX 50 Supplier: 0BFD9 Part #: LG-010 Supplier: 92456 Part #: LG-050 Supplier: 92456 Part #: LG-100 Supplier: 92456 Opt Part #: DPP-500G Supplier: 92456 Opt Part #: DPPH-150 Supplier: 92456 Opt Part #: DPPH-200 Supplier: 92456 Opt Part #: DPPH-50 Supplier: 92456 Opt Part #: FDI 100 Supplier: 0BFD9 Opt Part #: FDI 50 Supplier: 0BFD9 Opt Part #: FDV 100 Supplier: 0BFD9 Opt Part #: FDV 50 Supplier: 0BFD9

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Reference	Description
COM-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 260 Supplier: 55026 Opt Part #: 27 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536 Opt Part #: MODEL 27 Supplier: 89536
SPL-1977	Platform - Service, Forward of APU Firewall Part #: J51002-7 Supplier: 81205
STD-1079	Resistor - 10K Ohm or Greater

C. Consumable Materials

Reference	Description	Specification
B00083	Solvent - VM&P Naphthas	TT-N-95 Type II, ASTM D-3735 Type III
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
15	Fire extinguishing bottle	26-22-01-01-245	ARO ALL

E. Location Zones

Zone	Area
313	Stabilizer Torsion Box Compartment, Left

F. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
313AL	Controls Bay Access Door

G. Prepare for the Installation

SUBTASK 26-22-01-280-001

- (1) This procedure is a scheduled maintenance task.

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- (2) Before you install the fire extinguishing bottle, make sure that its weight is +0/-0.1 pounds from the weight shown on the fire extinguishing bottle. Use the force gauge, COM-1557.

NOTE: The measured weight of the fire extinguishing bottle includes the fully charged fire extinguishing bottle, the inspection tag, the squib, and the squib protective cap(s). It does not include other caps.

SUBTASK 26-22-01-010-005

- (3) On the P5 panel, make sure that the APU fire handle is in its usual (stowed) position.

SUBTASK 26-22-01-010-004

- (4) To get access to the Power Management Panels, do this step:

- (a) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-22-01-840-002

- (5) Make sure that this circuit breaker is open and has safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

SUBTASK 26-22-01-410-001

- (6) To get access to the fire extinguishing bottle [15], do this step:

- (a) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
313AL	Controls Bay Access Door

SUBTASK 26-22-01-410-002



WARNING

STAY OFF THE SERVICE ACCESS DOOR, 313AL. YOUR WEIGHT CAN RELEASE THE SPRING-LOADED LATCHES. IF YOU FALL THROUGH THE DOOR, INJURIES WILL OCCUR.

- (7) Make sure that the service platform, SPL-1977 above the Controls Bay Access Door, 313AL.

H. APU Fire Extinguishing Bottle Installation

SUBTASK 26-22-01-420-001

- (1) Do these steps to install the fire extinguishing bottle [15]:



WARNING

MOVE THE FIRE EXTINGUISHING BOTTLE CAREFULLY. THE FIRE EXTINGUISHING BOTTLE IS PRESSURIZED, AND HAS A SQUIB CARTRIDGE AS A COMPONENT. IF THE FIRE BOTTLE RELEASES ITS CONTENTS, INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT CAN OCCUR.

- (a) Put the fire extinguishing bottle [15] in its correct position on the support bracket [6].
(b) Install the bolts [4] and washers [5].

NOTE: The part number of the replacement washers is BACW10P94CC (0.81-inch OD).

- (c) Do a check of the resistance between the fire extinguishing bottle [15] and the support bracket [6]. Use a intrinsically safe approved bonding meter, COM-1550 which can measure 0.0001 ohm.

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- 1) Make sure that the resistance is not more than 0.0025 ohm.
 - 2) If the resistance is more than 0.0025 ohm, clean the surfaces that bond between the fire extinguishing bottle [15] and the support bracket [6] with the solvent, B00083.
 - 3) Do a check of the resistance again.
- (d) Connect the electrical connector [2] to the pressure switch [7].



CAUTION

DEPENDING ON THE BOTTLE MANUFACTURER, THE DIRECTION OF ROTATION MAY BE EITHER CLOCKWISE OR COUNTERCLOCKWISE. TAKE CARE WHEN LOOSENING GLAND NUT; OTHERWISE, DAMAGE TO DISCHARGE HEAD MAY OCCUR.

- (e) Loosen the gland nut [14] on the discharge head [13] in order to connect to the tube assembly [8] and the elbow [17].
- (f) Align the discharge head [13] to the tube assembly [8].
- (g) Tighten the gland nut [14] to 600 ±60 in-lb (68 ±7 N·m).
- (h) Remove the protective caps from each of the discharge ports.
- (i) Remove the protective caps from each of the discharge tubes.
- (j) Attach a lockwire from the gland nut [14] to the discharge head [13].



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.

- (k) Apply a layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the threads, end, and inner diameter of elbow [17] where the tube assembly [8] attaches to the elbow [17].
- (l) Connect the tube assembly [8], nut [9], and the elbow [17] to the discharge head [13].
- 1) Tighten the elbow [17] to the discharge head [13]. Refer to Standard Torque Values, TASK 20-11-00-910-801.
- (m) Remove the unwanted Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913.
- (n) Tighten the nut [9]. Refer to Standard Torque Values, TASK 20-11-00-910-801.
- (o) Install the cap [16] on the discharge head [13] that is not connected.

SUBTASK 26-22-01-710-001

- (2) Do these steps to connect the electrical connector [1] to the squib [10] on the fire extinguishing bottle [15]:

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WARNING

DO NOT TOUCH THE SQUIB BEFORE YOU DO THE PROCEDURES FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE THE FIRE BOTTLE TO RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURY TO PERSON AND DAMAGE EQUIPMENT.

- (a) Before you touch the squib, do the procedure for devices that are sensitive to electrostatic discharge

These are the tasks:

ESDS Handling for Metal Encased Unit Removal, TASK 20-41-01-000-803,

ESDS Handling for Metal Encased Unit Installation, TASK 20-41-01-400-803.

- (b) Remove the protective cover [11] from the squib [10].



WARNING

MAKE SURE THAT THERE IS NO VOLTAGE AT THE ELECTRICAL CONNECTOR. IF THERE IS A VOLTAGE AT THE ELECTRICAL CONNECTOR, THE SQUIB CAN RELEASE THE CONTENTS OF THE BOTTLE SUDDENLY. THIS CAN CAUSE INJURIES TO PERSONNEL.

- (c) Use the digital/analog multimeter, COM-1793 and make sure there is no voltage between pins 1 and 2 of the electrical connector [1].

- (d) If there is voltage between pins 1 and 2, do these steps:

- 1) Connect the digital/analog multimeter, COM-1793 across pins 1 and 2.
- 2) Connect a resistor, STD-1079 across the digital/analog multimeter, COM-1793 to remove any stray voltage from the electrical connector [1].
- 3) Disconnect the digital/analog multimeter, COM-1793

- (e) Make sure that the squib electrical pins are not bent or damaged.

- (f) Make sure that the electrical connector [1] is not damaged.

NOTE: The squib pins can cause damage to the electrical connector if the pins do not correctly engage the electrical connector.

- (g) Connect the electrical connector [1] to the squib [10].

- (h) Do the steps that follow to make sure that you did not bend or cause damage to the squib pins.

NOTE: This step is necessary because the pins can be damaged the first time that an electrical connector is connected to the squib.

- 1) Disconnect the electrical connector from the squib.
- 2) Make sure that the squib electrical pins are not bent or damaged.
- 3) Make sure that the electrical connector is not damaged.
- 4) Connect the electrical connector to the fire bottle squib.

SUBTASK 26-22-01-840-003

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

Standby Power Management Panel, P310

Row	Col	Number	Name
L	5	C26636	FIRE EXT APU

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I. APU Fire Extinguishing Bottle Installation Test

SUBTASK 26-22-01-710-002

(1) Do this task: Bottle Pressure Switch Operational Test, TASK 26-22-00-000-801.

SUBTASK 26-22-01-710-003

(2) Do this task: APU Fire Extinguishing Bottle Squib MAT Test, TASK 26-22-00-000-802.

J. Put the Airplane Back to Its Usual Condition

SUBTASK 26-22-01-080-001

(1) Remove the service platform, SPL-1977 from above the Controls Bay Access Door, 313AL.

SUBTASK 26-22-01-840-004

(2) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
313AL	Controls Bay Access Door

SUBTASK 26-22-01-840-005

(3) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

————— **END OF TASK** —————

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APU FIRE EXTINGUISHING BOTTLE SQUIB - REMOVAL/INSTALLATION

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has the instructions to complete these tasks:
 - (1) APU Fire Extinguishing Bottle Squib Removal
 - (2) APU Fire Extinguishing Bottle Squib Installation.

TASK 26-22-02-000-801

2. APU Fire Extinguishing Bottle Squib Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. **References**

Reference	Title
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-41-01-400-803	ESDS Handling for Metal Encased Unit 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-1977	Platform - Service, Forward of APU Firewall Part #: J51002-7 Supplier: 81205

C. **Location Zones**

Zone	Area
313	Stabilizer Torsion Box Compartment, Left

D. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door
313AL	Controls Bay Access Door

E. **Prepare for the Removal**

SUBTASK 26-22-02-010-001

- (1) To get access to the Power Management Panels, do this step:
 - (a) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-22-02-840-001

- (2) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

SUBTASK 26-22-02-010-002

- (3) To get access to the fire extinguishing bottle [6], do this step:

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Open this access panel:

<u>Number</u>	<u>Name/Location</u>
313AL	Controls Bay Access Door

SUBTASK 26-22-02-010-003



STAY OFF THE CONTROLS-BAY ACCESS DOOR, 313AL. YOUR WEIGHT CAN RELEASE THE SPRING-LOADED LATCHES. IF YOU FALL THROUGH THE DOOR, INJURIES WILL OCCUR.

- (4) Install the service platform, SPL-1977 above the Controls Bay Access Door, 313AL.

F. APU Fire Extinguishing Bottle Squib Removal

SUBTASK 26-22-02-000-001

- (1) Do these steps to remove the squib [2]:



DO NOT TOUCH THE SQUIB BEFORE YOU DO THE PROCEDURES FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE THE FIRE BOTTLE TO RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

- (a) Before you touch the squib, do the procedure for devices that are sensitive to electrostatic discharge. These are the tasks: ESDS Handling for Metal Encased Unit Removal, TASK 20-41-01-000-803, ESDS Handling for Metal Encased Unit Installation, TASK 20-41-01-400-803.
- (b) Disconnect the electrical connector [1] from the squib [2].



PUT A PROTECTIVE CAP ON THE SQUIB. IF YOU DO NOT PUT A PROTECTIVE CAP ON THE SQUIB, THE FIRE EXTINGUISHING BOTTLE CAN RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURY TO PERSONS.



DO NOT PUT A SHUNT PLUG ON THE SQUIB. THE SHUNT PLUG CAN CAUSE DAMAGE TO THE SQUIB PINS.

- (c) Put the protective cover [3], attached to the bottle, on the squib [2].
- NOTE: The protective caps are attached to the fire extinguishing bottles. These protective caps, sometimes called Faraday caps, have electrically conductive surfaces to shield the squib from possible activation due to static discharge.
- (d) Put a cover on the electrical connector [1].
- (e) Remove the lockwire [4] on the squib [2].
- (f) Remove the squib [2] from the discharge head [5].
- 1) Remove and discard the O-ring [8].

SUBTASK 26-22-02-000-002

- (2) If necessary, do these steps to remove the squib [7]:

NOTE: For APU fire extinguishing, only one squib has an electrical connector. The squib [7] does not have an electrical connector.

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DO NOT TOUCH THE SQUIB BEFORE YOU DO THE PROCEDURES FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE THE FIRE BOTTLE TO RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

- (a) Before you touch the squib, do the procedure for devices that are sensitive to electrostatic discharge. These are the tasks: ESDS Handling for Metal Encased Unit Removal, TASK 20-41-01-000-803, ESDS Handling for Metal Encased Unit Installation, TASK 20-41-01-400-803.
- (b) Remove the lockwire [4] on the squib [7].
- (c) Remove the squib [7] from the discharge head [5].
 - 1) Remove and discard the O-ring [8].

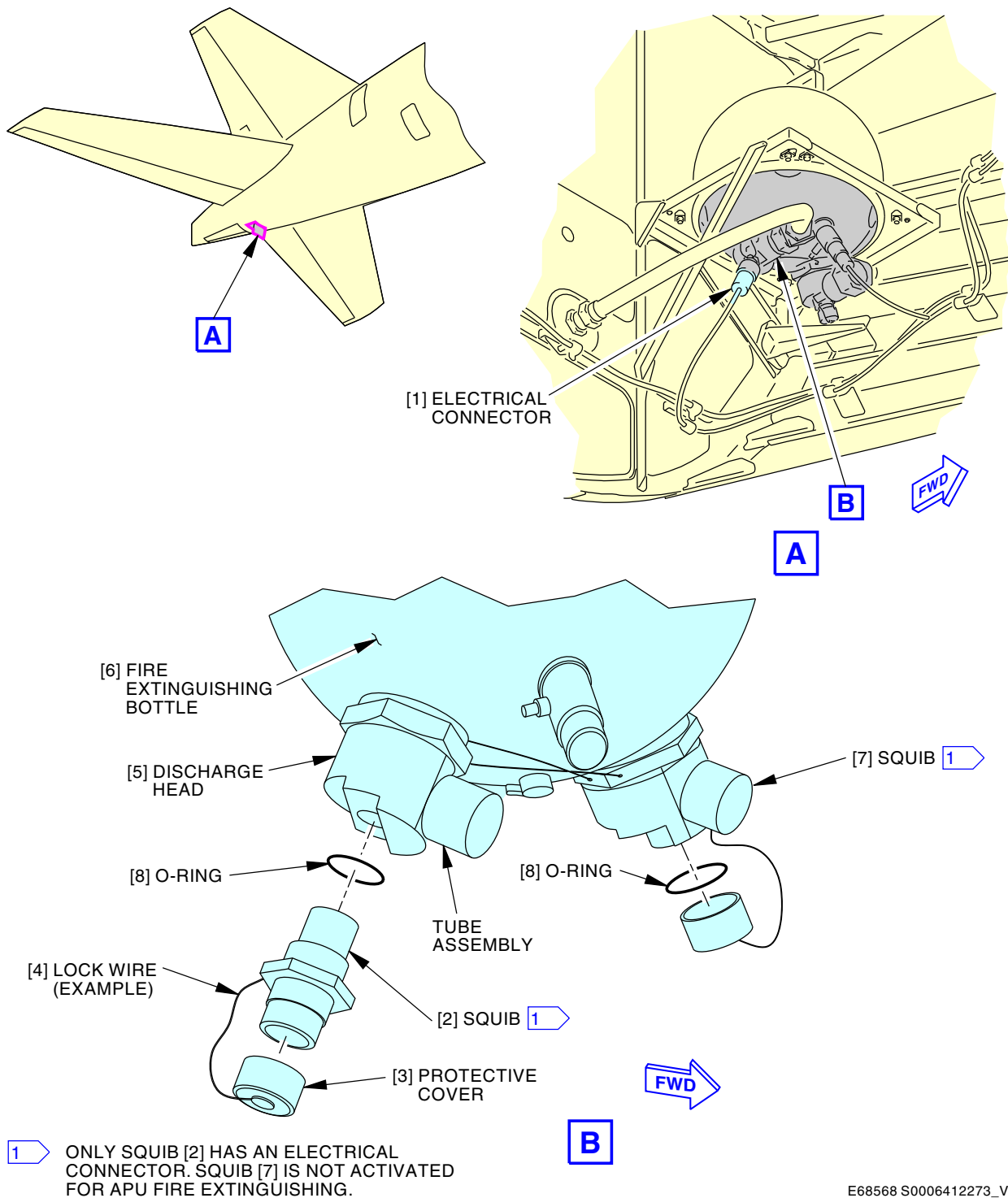
————— **END OF TASK** —————

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**Auxiliary Power Unit (APU) Fire Extinguishing Bottle Squib Installation
Figure 401/26-22-02-990-801**

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TASK 26-22-02-400-801

3. APU Fire Extinguishing Bottle Squib Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-41-01-400-803	ESDS Handling for Metal Encased Unit Installation (P/B 201)
26-22-00-000-801	Bottle Pressure Switch Operational Test (P/B 501)
26-22-00-000-802	APU Fire Extinguishing Bottle Squib MAT 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
COM-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 260 Supplier: 55026 Opt Part #: 27 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536 Opt Part #: MODEL 27 Supplier: 89536
SPL-1977	Platform - Service, Forward of APU Firewall Part #: J51002-7 Supplier: 81205
STD-1079	Resistor - 10K Ohm or Greater

C. Consumable Materials

Reference	Description	Specification
D50287	Lubricant - O-Ring, Drilube 822	MMS-N306A

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
2	Squib	26-22-01-01-290	ARO ALL
7	Squib	26-22-01-01-265	ARO ALL
8	O-ring	26-22-01-01-280	ARO ALL

E. Location Zones

Zone	Area
313	Stabilizer Torsion Box Compartment, Left

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F. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
313AL	Controls Bay Access Door

G. Prepare for the Installation

SUBTASK 26-22-02-010-004

- (1) To get access to the Power Management Panels, do this step:
 - (a) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-22-02-840-002

- (2) Make sure that this circuit breaker is open and has safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

SUBTASK 26-22-02-410-001

- (3) To get access to the fire extinguishing bottle [6], do this step:
 - (a) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
313AL	Controls Bay Access Door

SUBTASK 26-22-02-410-002

 WARNING	STAY OFF THE SERVICE ACCESS DOOR, 313AL. YOUR WEIGHT CAN RELEASE THE SPRING-LOADED LATCHES. IF YOU FALL THROUGH THE DOOR, INJURIES WILL OCCUR.

- (4) Make sure that the service platform, SPL-1977 is installed above the Controls Bay Access Door, 313AL.

H. APU Fire Extinguishing Bottle Squib Installation

SUBTASK 26-22-02-420-001

- (1) Do these steps to install the squib [2]:
 - (a) Make sure the service life on the squib [2] is sufficient to continue until the next "C" check.
NOTE: The squib has a service life of 10 years and a combined shelf and service life of 15 years from the service date. The service date is electro-etched on one of the hex flats.
 - (b) Lubricate a new O-ring [8] with O-ring lubricant, D50287 and install the O-ring [8] on the squib [2].
 - (c) Install the squib [2] to the discharge head [5].
 - 1) Tighten the squib [2] to 95 ±5 in-lb (11 ±1 N·m).
 - (d) Install a lockwire [4] between the squib [2] and the discharge head [5].

SUBTASK 26-22-02-420-002

- (2) If necessary, do these steps to install the squib [7]:

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- (a) Make sure the service life on the squib [7] is sufficient to continue until the next "C" check.

NOTE: The squib has a service life of 10 years and a combined shelf and service life of 15 years from the service date. The service date is electro-etched on one of the hex flats.

- (b) Lubricate a new O-ring [8] with O-ring lubricant, D50287 and install the O-ring [8] on the squib [2].
- (c) Install the squib [7] to the discharge head [5].
- 1) Tighten the squib [7] to 95 ±5 in-lb (11 ±1 N·m).
- (d) Install a lockwire [4] between the squib [7] and the discharge head [5].

SUBTASK 26-22-02-710-002

- (3) Do these steps to connect the electrical connector [1] to the squib [2] on the fire extinguishing bottle [6]:

NOTE: For APU fire extinguishing, only squib [2] has an electrical connector. The squib [7] does not have an electrical connector. For the installation of squib [7] this step is not applicable.

- (a) Remove the cap from the electrical connector [1].



DO NOT TOUCH THE SQUIB BEFORE YOU DO THE PROCEDURES FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE THE FIRE BOTTLE TO RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURY TO PERSON AND DAMAGE EQUIPMENT.

- (b) Before you touch the squib, do the procedure for devices that are sensitive to electrostatic discharge

These are the tasks: ESDS Handling for Metal Encased Unit Removal, TASK 20-41-01-000-803, ESDS Handling for Metal Encased Unit Installation, TASK 20-41-01-400-803.

- (c) Remove the protective cover [3] from the squib [2].



MAKE SURE THAT THERE IS NO VOLTAGE AT THE ELECTRICAL CONNECTOR. IF THERE IS A VOLTAGE AT THE ELECTRICAL CONNECTOR, THE SQUIB CAN RELEASE THE CONTENTS OF THE BOTTLE SUDDENLY. THIS CAN CAUSE INJURIES TO PERSONNEL.

- (d) Use a digital/analog multimeter, COM-1793 and make sure there is no voltage between pins 1 and 2 of the electrical connector [1].
- (e) If there is voltage between pins 1 and 2, do these steps:
- 1) Connect the digital/analog multimeter, COM-1793 across pins 1 and 2.
- 2) Connect a resistor, STD-1079 across the digital/analog multimeter, COM-1793 to remove any stray voltage from the electrical connector [1].
- 3) Disconnect the digital/analog multimeter, COM-1793
- (f) Make sure that the squib electrical pins are not bent or damaged.
- (g) Make sure that the electrical connector [1] is not damaged.
- NOTE: The squib pins can cause damage to the electrical connector if the pins do not correctly engage the electrical connector.
- (h) Connect the electrical connector [1] to the squib [2].



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- (i) Do the steps that follow to make sure that you did not bend or cause damage to the squib pins.

NOTE: The pins can be damaged the first time that an electrical connector is connected to the squib.

- 1) Disconnect the electrical connector from the fire bottle squib.
- 2) Make sure that the squib electrical pins are not bent or damaged.
- 3) Make sure that the electrical connector is not damaged.
- 4) Connect the electrical connector to the fire bottle squib.

SUBTASK 26-22-02-840-003

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

I. APU Fire Extinguishing Bottle Squib Installation Test

SUBTASK 26-22-02-710-001

- (1) Do this task: Bottle Pressure Switch Operational Test, TASK 26-22-00-000-801.

SUBTASK 26-22-02-710-003

- (2) Do this task: APU Fire Extinguishing Bottle Squib MAT Test, TASK 26-22-00-000-802.

J. Put the Airplane Back to Its Usual Condition

SUBTASK 26-22-02-840-004

- (1) Remove the service platform, SPL-1977 from the Controls Bay Access Door, 313AL.

SUBTASK 26-22-02-840-005

- (2) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
313AL	Controls Bay Access Door

SUBTASK 26-22-02-840-006

- (3) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

———— **END OF TASK** ————

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APU FIRE SWITCH - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) A removal of the APU fire switch
 - (2) An installation of the APU fire switch.
- B. The APU fire switch is installed on the cargo fire/engine control module in the center of the overhead panel, P5 in the flight compartment. To remove the APU fire switch you must first remove the control module.

TASK 26-22-03-000-801

2. APU Fire Switch Removal

(Figure 401)

A. Location Zones

<u>Zone</u>	<u>Area</u>
117	Main Equipment Center, Left
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

B. Access Panels

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

C. APU Fire Switch Removal

SUBTASK 26-22-03-010-001

- (1) To get access to the Power Management Panels, do this step:
- (a) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-22-03-860-001

- (2) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

SUBTASK 26-22-03-020-001

- (3) Do these steps to remove the cargo fire/engine control module [9]:
- (a) Disengage the quarter-turn fastener [7] on the cargo fire/engine control module [9].



CAUTION

CAREFULLY REMOVE THE CARGO FIRE/ENGINE CONTROL MODULE. THIS WILL PREVENT DAMAGE TO THE ELECTRICAL CABLES AT THE REAR OF THE CONTROL MODULE.

- (b) Pull the cargo fire/engine control module [9] carefully from the overhead panel to get access to the electrical connector [1].
- (c) Disconnect the applicable electrical connector [1] from the APU fire switch [3].

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- (d) Put a protective cover on the electrical connector [1].

SUBTASK 26-22-03-020-002

- (4) Do these steps to remove the APU fire switch [3] from the cargo fire/engine control module [9]:
- (a) Remove the screws [8], spacer [6] and nuts [2] that hold the APU fire switch [3] to the cargo fire/engine control module [9].
 - (b) Remove the screws [5] and baseplate [4] from the APU fire switch [3].
 - (c) Remove the APU fire switch [3].

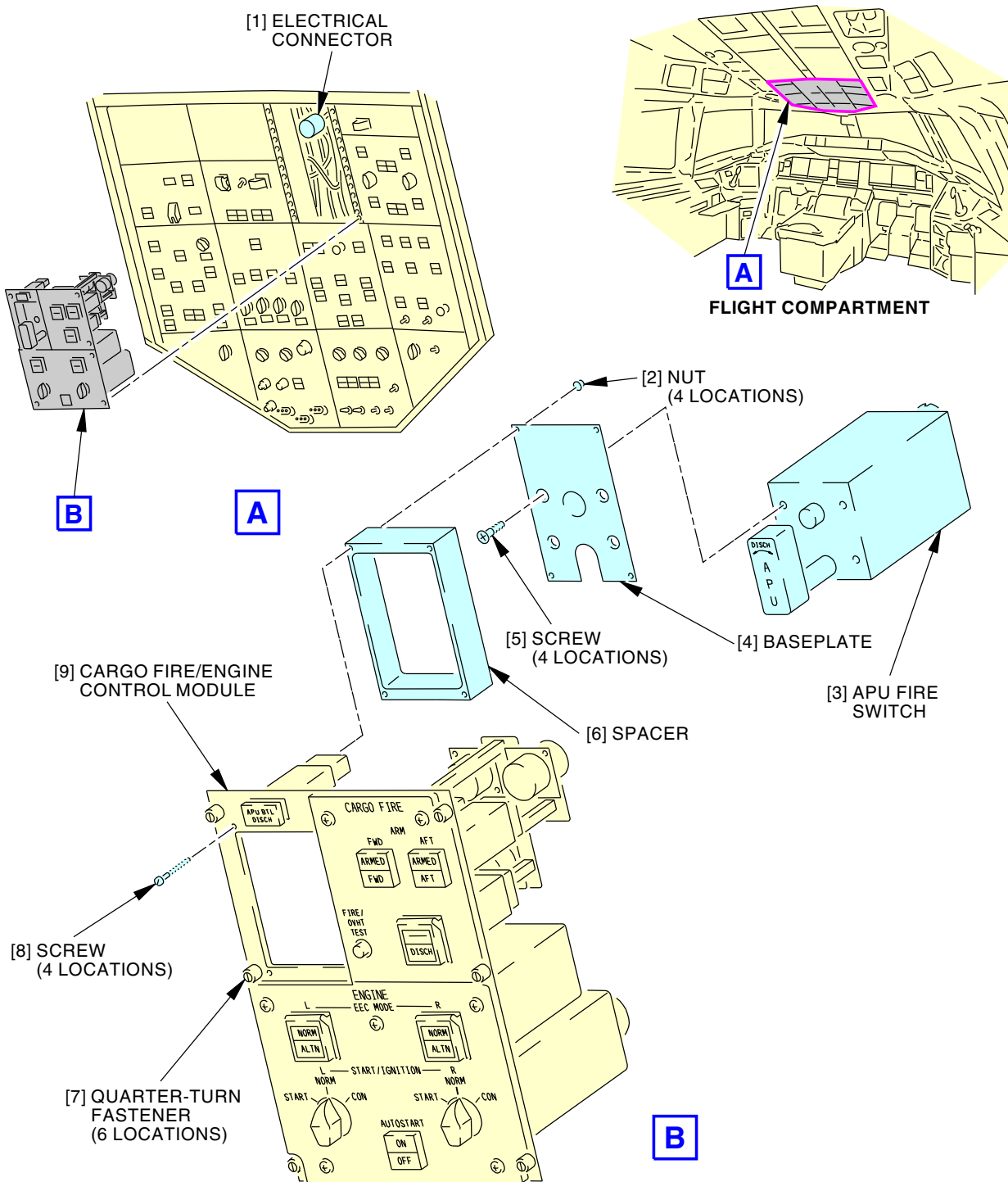
———— **END OF TASK** ————

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APU Fire Switch Installation
Figure 401/26-22-03-990-801

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TASK 26-22-03-400-801

3. APU Fire Switch Installation

(Figure 401)

A. References

Reference	Title
26-15-00-710-801	APU Fire Detection Operational Test (P/B 501)
26-22-00-000-801	Bottle Pressure Switch Operational Test (P/B 501)

B. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Switch	26-22-03-01A-035	ARO ALL

C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. APU Fire Switch Installation

SUBTASK 26-22-03-010-002

(1) To get access to the Power Management Panels, do this step:

(a) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-22-03-860-002

(2) Make sure that this circuit breaker is open and has safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

SUBTASK 26-22-03-420-001

(3) Do these steps to install the APU fire switch [3] to the cargo fire/engine control module [9]:

- Install the baseplate [4] and screws [5] to the APU fire switch [3].
- Put the spacer [6] and APU fire switch [3] in their position in the cargo fire/engine control module [9].
- Install the screws [8], nuts [2] and APU fire switch [3] to the cargo fire/engine control module [9].

SUBTASK 26-22-03-020-003

(4) Do these steps to install the cargo fire/engine control module [9]:

- Remove the protective cover from the electrical connector [1].
- Examine the electrical connector [1] for bent or broken pins, dirt and damage.
 - Clean or repair the electrical connectors if it is necessary.

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- (c) Connect the electrical connector [1] to the APU fire switch [3].



CAUTION

CAREFULLY INSTALL THE CARGO FIRE/ENGINE CONTROL MODULE. THIS WILL PREVENT DAMAGE TO THE ELECTRICAL CABLES AT THE REAR OF THE CONTROL MODULE.

- (d) Put the cargo fire/engine control module [9] carefully in its position in the overhead panel.
(e) Engage the quarter-turn fasteners [7] on the cargo fire/engine control module [9].

SUBTASK 26-22-03-860-003

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU

F. Installation Test

SUBTASK 26-22-03-710-001

- (1) Do this task: APU Fire Detection Operational Test, TASK 26-15-00-710-801.

SUBTASK 26-22-03-710-002

- (2) Do this task: Bottle Pressure Switch Operational Test, TASK 26-22-00-000-801.

G. Put the Airplane Back to Its Usual Condition

SUBTASK 26-22-03-410-001

- (1) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

———— **END OF TASK** ————

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CARGO FIRE/ENGINE CONTROL MODULE - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) A removal of the cargo fire/engine control module
 - (2) An installation of the cargo fire/engine control module.
- B. The cargo fire/engine control module is located in the center of the overhead panel, P5, in the flight compartment.

TASK 26-22-04-000-801

2. Cargo Fire/Engine Control Module Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. Location Zones

<u>Zone</u>	<u>Area</u>
117	Main Equipment Center, Left
118	Main Equipment Center, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

B. Access Panels

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

C. Cargo Fire/Engine Control Module Removal

SUBTASK 26-22-04-010-001

- (1) To get access to the Power Management Panels, do this step:
- (a) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-22-04-860-001

- (2) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-22-04-860-002

- (3) For the applicable engine, open these circuit breakers and install safety tags:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	24	C73401	L ENG EEC ALTN PWR CHAN A
E	19	C73403	L ENG EEC ALTN PWR CHAN B

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Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	1	C73400	R ENG EEC ALTN PWR CHAN A
E	11	C73402	R ENG EEC ALTN PWR CHAN B

SUBTASK 26-22-04-020-001

- (4) Do these steps to remove the Cargo Fire/Engine Control Module [1]:
- (a) Disengage the quarter-turn fasteners on the Cargo Fire/Engine Control Module [1].



CAUTION

CAREFULLY REMOVE THE CARGO FIRE/ENGINE CONTROL MODULE. THIS WILL PREVENT DAMAGE TO THE ELECTRICAL CABLES AT THE REAR OF THE CONTROL MODULE.

- (b) Pull the Cargo Fire/Engine Control Module [1] carefully from the overhead panel to get access to the electrical connectors.
- (c) Disconnect the electrical connectors from these switches:
- APU fire switch
 - APU BTL DISCH switch
 - CARGO FIRE ARMED switches
 - CARGO DISCH switch
 - L(R) ENGINE CONTROL switches
 - ENGINE AUTOSTART switch
- (d) Put a protective cover on the electrical connectors.

———— **END OF TASK** ————

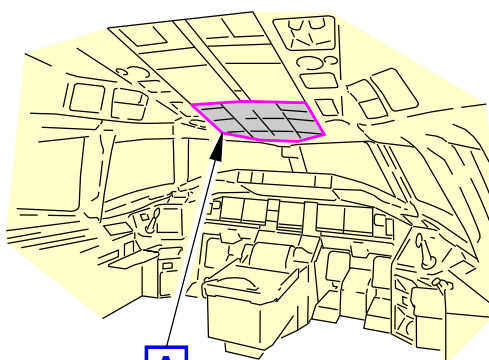
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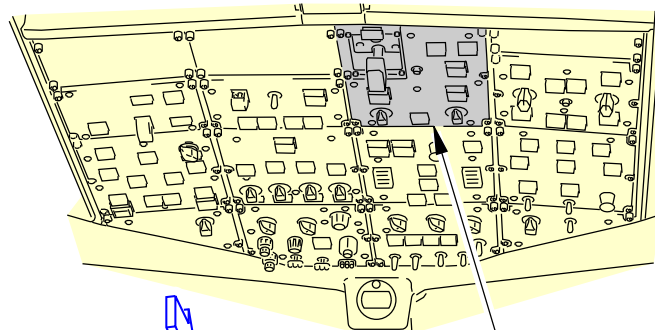
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A

FLIGHT COMPARTMENT

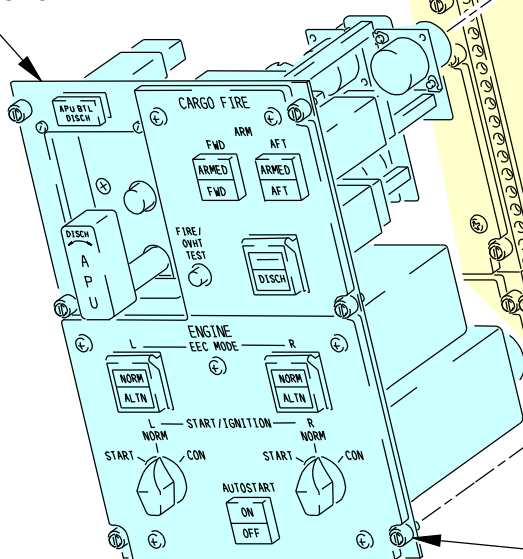


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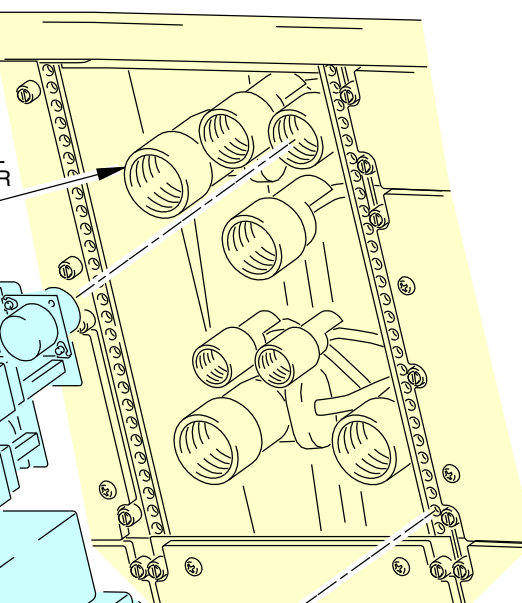
B

A

[1] CARGO FIRE/ENGINE
CONTROL MODULE



ELECTRICAL
CONNECTOR
(EXAMPLE)



FWD

B

QUARTER-TURN
FASTENER
(6 LOCATIONS)

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Cargo Fire/Engine Control Module Installation
Figure 401/26-22-04-990-801

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TASK 26-22-04-400-801

3. Cargo Fire/Engine Control Module Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
26-15-00-710-801	APU Fire Detection Operational Test (P/B 501)
26-22-00-000-801	Bottle Pressure Switch Operational Test (P/B 501)
26-23-00-710-801	Cargo Fire Extinguishing Bottle Pressure Switch - Operational Test (P/B 501)
26-23-00-710-802	Cargo Fire Extinguishing Squibs - Operational Test (P/B 501)
45-10-00-760-801	How to Use Input Monitoring (P/B 201)

B. Location Zones

Zone	Area
117	Main Equipment Center, Left
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. Cargo Fire/Engine Control Module Installation

SUBTASK 26-22-04-010-002

- (1) To get access to the Power Management Panels, do this step:
 - (a) Open this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-22-04-860-003

- (2) Make sure that these circuit breakers are open and have safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-22-04-860-004

- (3) For the applicable engine, open these circuit breakers and install safety tags:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	24	C73401	L ENG EEC ALTN PWR CHAN A
E	19	C73403	L ENG EEC ALTN PWR CHAN B

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Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	1	C73400	R ENG EEC ALTN PWR CHAN A
E	11	C73402	R ENG EEC ALTN PWR CHAN B

SUBTASK 26-22-04-020-002

- (4) Do these steps to install the Cargo Fire/Engine Control Module [1]:
- (a) Remove the protective covers from the electrical connectors.
 - (b) Examine the electrical connectors for bent or broken pins, dirt and damage.
 - 1) Clean or repair the electrical connectors if it is necessary.
 - (c) Connect the electrical connectors to these switches:
 - APU fire switch
 - APU BTL DISCH switch
 - CARGO FIRE ARMED switches
 - CARGO DISCH switch
 - L(R) ENGINE CONTROL switches
 - ENGINE AUTOSTART switch



CAUTION

CAREFULLY INSTALL THE CARGO FIRE/ENGINE CONTROL MODULE. THIS WILL PREVENT DAMAGE TO THE ELECTRICAL CABLES AT THE REAR OF THE CONTROL MODULE.

- (d) Put the Cargo Fire/Engine Control Module [1] carefully in its position in the overhead panel.
- (e) Engage the quarter-turn fasteners on the Cargo Fire/Engine Control Module [1].

SUBTASK 26-22-04-860-005

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	5	C26636	FIRE EXT APU
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-22-04-860-006

- (6) For the applicable engine, remove the safety tags and close these circuit breakers:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	24	C73401	L ENG EEC ALTN PWR CHAN A
E	19	C73403	L ENG EEC ALTN PWR CHAN B

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	1	C73400	R ENG EEC ALTN PWR CHAN A
E	11	C73402	R ENG EEC ALTN PWR CHAN B

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E. Installation Test

SUBTASK 26-22-04-710-001

- (1) Do this task: APU Fire Detection Operational Test, TASK 26-15-00-710-801.

SUBTASK 26-22-04-710-002

- (2) Do this task: Bottle Pressure Switch Operational Test, TASK 26-22-00-000-801.

SUBTASK 26-22-04-710-003

- (3) Do this task: Cargo Fire Extinguishing Squibs - Operational Test, TASK 26-23-00-710-802.

SUBTASK 26-22-04-710-004

- (4) Do this task: Cargo Fire Extinguishing Bottle Pressure Switch - Operational Test, TASK 26-23-00-710-801.

SUBTASK 26-22-04-860-017

- (5) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C80601	L ENG START VALVE
B	16	C80600	R ENG START VALVE

NOTE: The engines can not start when you put the START/IGNITION switches in the START position.

SUBTASK 26-22-04-860-007

- (6) Set the L (R) EEC MAINT POWER switch on the overhead maintenance panel, P61, to the TEST position.

SUBTASK 26-22-04-700-001

- (7) Do a test of the Engine Start Panel:

- (a) Make sure the ADIRU operates.

NOTE: Alignment is not necessary.

- (b) Make sure that the AUTOSTART switch is in the ON position.

- (c) Make sure that the L (R) START/IGNITION switches are in the NORM position.

- (d) Make sure that the L (R) EEC MODE switch is in the NORM position.

- (e) Make sure that NORM shows on the L EEC MODE switch.

NOTE: The switch has a shutter and does not come on.

- (f) Make sure that NORM shows on the R EEC MODE switch.

NOTE: The switch has a shutter and does not come on.

- (g) Make sure that these EICAS advisory messages do not shown on the display:

- 1) ENG AUTOSTART OFF
- 2) ENG EEC MODE L
- 3) ENG EEC MODE R

- (h) Make sure that these EICAS memo messages do not shown on the display:

- 1) CON IGNITION ON L
- 2) CON IGNITION ON R

SUBTASK 26-22-04-860-010

- (8) Set the AUTOSTART switch to the OFF position.

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SUBTASK 26-22-04-860-012

- (9) Set the L and R EEC MODE switches to the ALTN position.
 - (a) Make sure that the ALTN light on the L EEC MODE switch comes on.
 - (b) Make sure that the NORM light on the L EEC MODE switch does not come on.
 - (c) Make sure that the NORM light on the R EEC MODE switch does not come on.
 - (d) Make sure that the ALTN light on the R EEC MODE switch comes on.

SUBTASK 26-22-04-750-001

- (10) Make sure that these EICAS advisory messages shown on the display:
 - (a) ENG AUTOSTART OFF
 - (b) ENG EEC MODE L
 - (c) ENG EEC MODE R

SUBTASK 26-22-04-860-013

- (11) Set the AUTOSTART switch to the ON position.

SUBTASK 26-22-04-860-021

- (12) Set the L and R START/IGNITION switches to the CON position.
- (13) Use a maintenance access terminal (MAT) to do input monitoring(How to Use Input Monitoring, TASK 45-10-00-760-801).
 - (a) Make these selections on the MAT:
 - 1) ONBOARD MAINTENANCE
 - 2) OTHER FUNCTIONS
 - 3) INPUT MONITORING
 - (b) Set GENERAL INPUT.
 - (c) Set CONTINUE.
 - (d) Put the cursor in the entry field.
 - (e) Use the keyboard to record the signal specification into the entry field:
 - 1) Record this signal specification: "R/629/SYS L/E78/1/3-3/2-4".
 - a) Make sure the bits 2-0 signal is 0,1,1.
 - (f) Use the keyboard to record the signal specification into the entry field:
 - 1) Record this signal specification: "R/629/SYS R/E78/2/4-4/2-4".
 - a) Make sure the bits 2-0 signal is 0,1,1.
- (14) Set the L and R START/IGNITION switches to NORM.

SUBTASK 26-22-04-860-014

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

Overhead Circuit Breaker Panel, P11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C80601	L ENG START VALVE
B	16	C80600	R ENG START VALVE

SUBTASK 26-22-04-860-015

- (16) Set the L and R EEC MODE switches to the NORM position.

SUBTASK 26-22-04-860-009

- (17) Set the L and R EEC MAINT POWER switch to the NORM position.

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F. Put the Airplane Back to Its Usual Condition.

SUBTASK 26-22-04-410-001

(1) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

———— **END OF TASK** ————

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LOWER CARGO COMPARTMENT FIRE EXTINGUISHING - MAINTENANCE PRACTICES

1. General

A. This procedure has these tasks:

- (1) Lower cargo compartment fire extinguishing system - deactivation.
- (2) Lower cargo compartment fire extinguishing system - activation.

TASK 26-23-00-040-801

2. Lower Cargo Compartment Fire Extinguishing System - Deactivation

A. **General**

- (1) This task will deactivate the lower cargo compartment fire extinguishing system.

B. **Tools/Equipment**

Reference	Description
STD-858	Tag - DO NOT OPERATE

C. **Location Zones**

Zone	Area
122	Forward Cargo Compartment, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

D. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door

E. **Procedure**

SUBTASK 26-23-00-020-007

- (1) Open this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-23-00-020-002

- (2) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

Row	Col	Number	Name
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

F. **Lower Cargo Compartment Fire Extinguishing System - Tryout**

NOTE: This tryout is to make sure that the lower cargo compartment fire extinguishing system is in a zero energy state.

SUBTASK 26-23-00-210-003

- (1) Make sure that the FWD ARMED, AFT ARMED, and DISCH lights on the Cargo Fire Panel (P5) are off.
 - (a) Install DO NOT OPERATE tags, STD-858 on the FWD ARMED, AFT ARMED, and DISCH switches.

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SUBTASK 26-23-00-020-003

- (2) Use the maintenance access terminal (MAT) to do the operational test of the cargo squibs:
- (a) Make these selections on the MAT:
 - 1) ONBOARD MAINTENANCE
 - 2) LINE MAINTENANCE
 - 3) GROUND TESTS
 - 4) 26 Fire Extinguishing System
 - 5) OPERATIONAL TEST
 - 6) Cargo Squibs
 - 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 FAILED shows adjacent to TEST CONDITION on the MAT.

SUBTASK 26-23-00-210-002

- (3) Make sure that these maintenance messages are active:

MAINTENANCE MESSAGE	MESSAGE TEST
26-40080	Cargo Fire Ext Bottle 1A Squib Circuit is open.
26-40090	Cargo Fire Ext Bottle 1B Squib Circuit is open.
26-40100	Cargo Fire Ext Bottle 2A Squib Circuit is open.
26-40110	Cargo Fire Ext Bottle 2B Squib Circuit is open.
26-40120	Cargo Fire Ext Bottle 2C Squib Circuit is open.
26-40121	Cargo Fire Ext Bottle 2D Squib Circuit is open.
26-40130	Cargo Fire Ext Flw Vlv (LWR FWD) Squib 1 circuit is open.
26-40140	Cargo Fire Ext Flw Vlv (LWR FWD) Squib 2 circuit is open.
26-40150	Cargo Fire Ext Flw Vlv (LWR AFT) Squib 1 circuit is open.
26-40160	Cargo Fire Ext Flw Vlv (LWR AFT) Squib 2 circuit is open.

————— END OF TASK —————

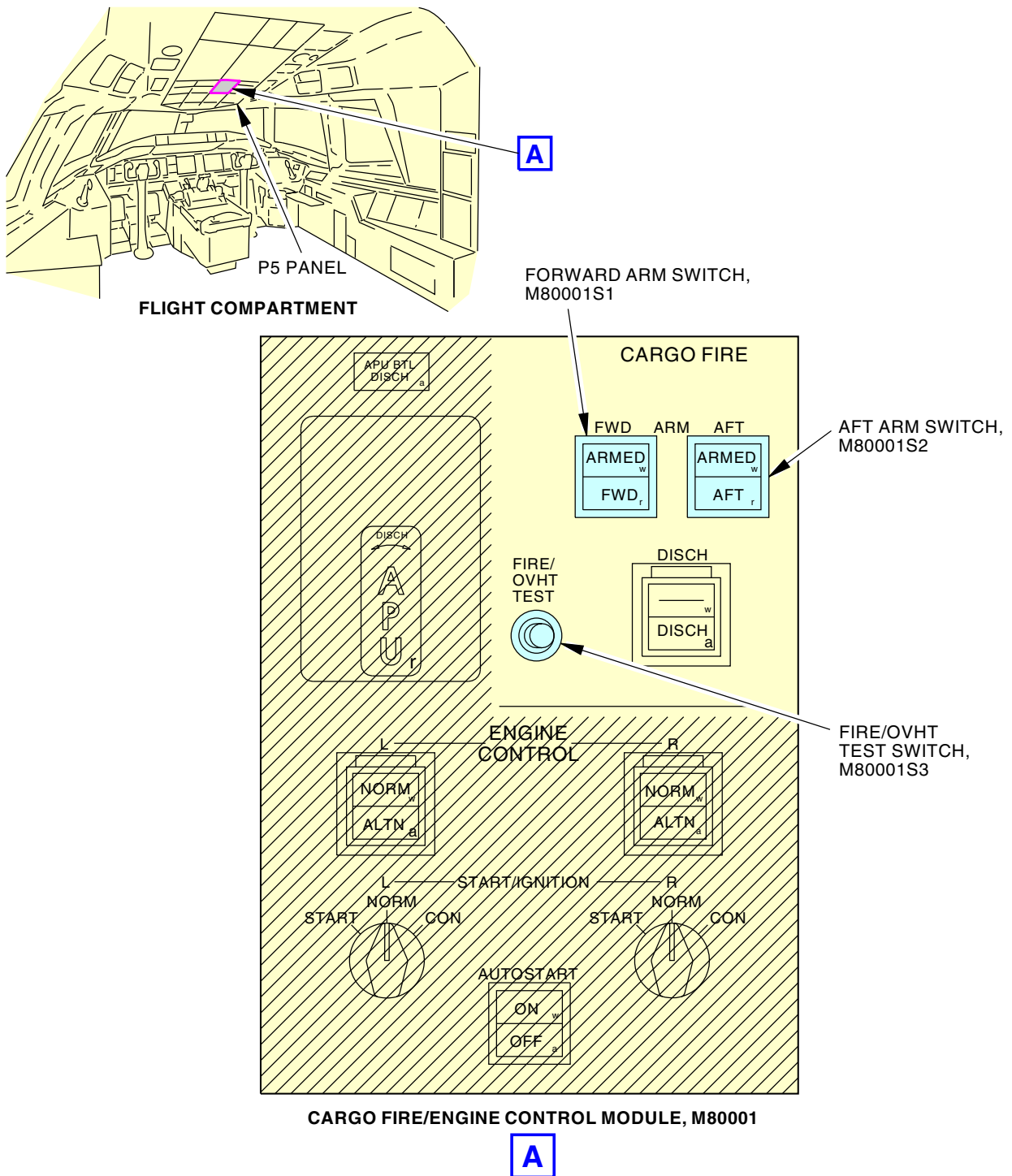
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Lower Cargo Compartment Fire Extinguishing System
Figure 201/26-23-00-990-805

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TASK 26-23-00-440-801

3. Lower Cargo Compartment Fire Extinguishing System - Activation

(Figure 201)

A. General

- (1) This task will activate the lower cargo compartment fire extinguishing system.

B. Tools/Equipment

Reference	Description
STD-858	Tag - DO NOT OPERATE

C. Location Zones

Zone	Area
122	Forward Cargo Compartment, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. Procedure

SUBTASK 26-23-00-420-018

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

Standby Power Management Panel, P310

Row	Col	Number	Name
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-420-019

- (2) Close this access panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-23-00-020-008

- (3) Remove the DO NOT OPERATE tags, STD-858 from the FWD ARMED, AFT ARMED, and DISCH switches on the Cargo Fire Panel (P5).

——— **END OF TASK** ———

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LOWER CARGO COMPARTMENT FIRE EXTINGUISHING - ADJUSTMENT/TEST

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has these tasks:
 - (1) An operational test of the squibs for the cargo fire extinguishing bottles and flow valves.
 - (2) An operational test of the pressure switches for the cargo fire extinguishing bottles.
 - (3) A system test of the cargo fire extinguishing system.
 - (4) A functional test of the cargo fire extinguishing system.
 - (5) A functional test of the cargo compartment isolation.
 - (6) A functional test of the cargo fire arm and discharge switches.
- C. The operational test of the squibs does a test of the squibs and its circuits. It uses the Maintenance Access Terminal (MAT) to do the test.
- D. The system test uses equipment that is not installed on the airplane.
- E. The functional test of the tubing makes sure that the tubing is not blocked and does not leak. It uses equipment that is not installed on the airplane.
- F. The functional isolation test of the cargo fire arm switches makes sure that the ARINC 629 buses operate correctly. The test makes sure that the buses send the correct signals from the switches and the circuits correctly receive the signals. The test makes sure that the circuits isolate the applicable systems from the cargo compartment if there is a cargo fire. The test of the systems which receive the signals is not connected to a different test. The discharge switch check makes sure that the circuits send the correct signal to the squibs on the fire extinguishing bottles.
- G. The test of the cargo fire arm switches and discharge switch makes sure that the switches operate correctly. Do this test after you replace one of the arm switches or the discharge switch.

TASK 26-23-00-710-802

2. Cargo Fire Extinguishing Squibs - Operational Test

A. General

- (1) This procedure does the 26 Fire Extinguishing System, Operational Test: Cargo Squibs.
- (2) Description:
 - This test makes sure that there are no open circuits in the squibs and their related wire bundle. This test supplies a small current to the squibs on the fire extinguishing bottles and the flow valves.
 - The approximate time to do the test is less than one minute
 - Limitations/Special Requirements: None
 - TO DO THE TEST: Set CONTINUE.



KEEP PERSONNEL AWAY FROM THE ENGINE AND APU DURING THIS TEST. IF A SQUIB RELEASES ACCIDENTALLY, THE FIRE BOTTLE WILL RELEASE ITS CONTENTS. INJURIES TO PERSONNEL CAN OCCUR.

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(WARNING PRECEDES)

 WARNING	KEEP PERSONS AWAY FROM THE CARGO COMPARTMENTS, ENGINES, APU AND LLAR/OFAR (IF APPLICABLE). EACH TEST SUPPLIES POWER TO ALL THE SQUIBS ON THE AIRPLANE. INJURIES TO PERSONS COULD OCCUR.

- (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.

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
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

E. Cargo Fire Extinguishing Squibs Operational Test

SUBTASK 26-23-00-860-003

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

SUBTASK 26-23-00-010-006

- (2) Open this access door to get access to the Standby Power Management Panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-23-00-840-013

- (3) Make sure that this circuit breaker is closed:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB

Make sure that this circuit breaker is closed:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C

Make sure that this circuit breaker is closed:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

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SUBTASK 26-23-00-740-001

- (4) Use a maintenance access terminal (MAT) to do the operational test of the cargo squibs:
 - (a) Make these selections on the MAT:
 - 1) ONBOARD MAINTENANCE
 - 2) LINE MAINTENANCE
 - 3) GROUND TESTS
 - 4) 26 Fire Extinguishing System
 - 5) OPERATIONAL TEST
 - 6) Cargo Squibs
 - 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, set the maintenance message and MAINTENANCE MESSAGE DATA. Refer to the applicable Maintenance Message Index in the F IM.

————— END OF TASK —————

TASK 26-23-00-710-801

3. Cargo Fire Extinguishing Bottle Pressure Switch - Operational Test

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
31-61-00-800-804	Showing a Maintenance Page (P/B 201)

B. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

C. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door

D. Fire Extinguishing Bottle Pressure Switch Test

SUBTASK 26-23-00-860-001

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

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SUBTASK 26-23-00-010-001

- (2) Open this access door to get access to the Power Management Panels:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-23-00-840-001

- (3) Make sure that this circuit breaker is closed:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB

Make sure that this circuit breaker is closed:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C

Make sure that this circuit breaker is closed:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

E. Fire Extinguishing Bottle Pressure Switch Test

SUBTASK 26-23-00-840-002

- (1) Open this cargo door:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

SUBTASK 26-23-00-010-002

- (2) Remove the sidewall lining to get access to the fire extinguishing bottles. To remove the sidewall lining, do this task: Sidewall Liner Removal, TASK 25-52-06-000-801.

SUBTASK 26-23-00-710-001

- (3) In the flight compartment, make sure that the EICAS maintenance page shows NORM for these messages (TASK 31-61-00-800-804):
- (a) Bottle 1A Pressure Switch
 - (b) Bottle 1B Pressure Switch
 - (c) Bottle 2A Pressure Switch
 - (d) Bottle 2B Pressure Switch
 - (e) Bottle 2C Pressure Switch

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SUBTASK 26-23-00-710-002



DO NOT APPLY MORE THAN THE MAXIMUM SPECIFIED TORQUE WHEN YOU TIGHTEN THE PARTS. DAMAGE TO THE PARTS CAN OCCUR IF YOU APPLY TOO MUCH TORQUE.

- (4) Turn and hold the hexagonal key clockwise on the pressure switch on bottle 1A.

NOTE: Use a 3/32 inch hexagonal wrench.

NOTE: For Dump Bottle P/N 473474-X and 473854-X, do not use more than 69 inch ounce (0.49 N*m) of torque when you turn the test point.

NOTE: For Metered Bottle p/n 473475-X and 473876-X, do not use more than 57 inch ounce (0.40 N*m) of torque when you turn the test point.

- (a) In the flight compartment, make sure that the message for the Bottle 1A Pressure Switch on the EICAS maintenance page shows LOW.

SUBTASK 26-23-00-710-003

- (5) Release the hexagonal key on the pressure switch on bottle 1A.

SUBTASK 26-23-00-710-004

- (6) Turn and hold the hexagonal key clockwise on the pressure switch on bottle 1B.

- (a) In the flight compartment, make sure that the message for the Bottle 1B Pressure Switch on the EICAS maintenance page shows LOW.

SUBTASK 26-23-00-710-005

- (7) Release the hexagonal key on the pressure switch on bottle 1B.

SUBTASK 26-23-00-710-006

- (8) Turn and hold the hexagonal key clockwise on the pressure switch on bottle 2A.

- (a) In the flight compartment, make sure that the message for the Bottle 2A Pressure Switch on the EICAS maintenance page shows LOW.

SUBTASK 26-23-00-710-007

- (9) Release the hexagonal key on the pressure switch on bottle 2A.

SUBTASK 26-23-00-710-008

- (10) Turn and hold the hexagonal key clockwise on the pressure switch on bottle 2B.

- (a) In the flight compartment, make sure that the message for the Bottle 2B Pressure Switch on the EICAS maintenance page shows LOW.

SUBTASK 26-23-00-710-009

- (11) Release the hexagonal key on the pressure switch on bottle 2B.

SUBTASK 26-23-00-710-010

- (12) Turn and hold the hexagonal key clockwise on the pressure switch on bottle 2C.

- (a) In the flight compartment, make sure that the message on the EICAS maintenance page for the Bottle 2C Pressure Switch shows LOW.

SUBTASK 26-23-00-710-011

- (13) Release the hexagonal key on the pressure switch on bottle 2C.

SUBTASK 26-23-00-410-001

- (14) Do this task: Sidewall Liner Installation, TASK 25-52-06-400-801.

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SUBTASK 26-23-00-840-003

- (15) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-23-00-840-014

- (16) Close this cargo door:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

————— END OF TASK —————

TASK 26-23-00-730-801

4. Lower Cargo Fire Extinguishing Electrical System Test

(Figure 501)

A. General

- (1) The System Test includes these tests:
- (a) Dump Bottle Electrical Connector Test
 - (b) Flow Valves Electrical Connector Test
 - (c) Metered Bottle Electrical Connector Test

B. References

<u>Reference</u>	<u>Title</u>
21-27-00-700-801	Equipment Cooling System - System Test (P/B 501)
24-22-00-860-805	Supply Electrical Power (P/B 201)
24-22-00-860-806	Remove Electrical Power (P/B 201)
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
32-09-00-860-801	Air/Ground Mode Simulation (P/B 201)
45-10-00-760-801	How to Use Input Monitoring (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.

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Reference	Description
COM-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 260 Supplier: 55026 Opt Part #: 27 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536 Opt Part #: MODEL 27 Supplier: 89536
SPL-1649	Equipment - Test, Fire Extinguishing System Squib Part #: J26004-24 Supplier: 81205
SPL-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205
SPL-1652	Cable - Assembly, Cargo Fire Extinguishing System Squib Test Part #: J26004-25 Supplier: 81205
SPL-4103	Test Box - Time Delay, Cargo Fire Extinguishing Bottle Part #: J26003-23 Supplier: 81205 Opt Part #: J26003-12 Supplier: 81205
SPL-14051	Controller - Power Supply, E/E Cooling Fans (Airplanes with ELMS-2) Part #: J26006-32 Supplier: 81205
STD-1079	Resistor - 10K Ohm or Greater
STD-12568	Plug - Single Banana

D. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, Right
152	Aft Cargo Compartment, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door
823	Aft Small Cargo Door

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F. Prepare for the Test

SUBTASK 26-23-00-860-002

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

SUBTASK 26-23-00-840-004

- (2) Open this access door to get access to the Power Management Panels:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-23-00-840-005

- (3) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB

Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C

Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-840-006

- (4) Open these cargo doors:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door
823	Aft Small Cargo Door

SUBTASK 26-23-00-010-003

- (5) Remove the sidewall lining to get access to the fire extinguishing bottles and the flow valves. To remove the sidewall lining, do this task: Sidewall Liner Removal, TASK 25-52-06-000-801.

SUBTASK 26-23-00-010-004

- (6) Install the access pressure relief valve platform, SPL-1651, near the applicable fire extinguishing bottle.

SUBTASK 26-23-00-840-007



KEEP THE CARGO DOORS OPEN DURING THE TEST. IF THE FIRE EXTINGUISHING BOTTLES ACCIDENTALLY RELEASE, KEEP ALL PERSONNEL OUT OF THE CARGO COMPARTMENT FOR A MINIMUM OF FIVE MINUTES. THE HALON IN THE FIRE EXTINGUISHING BOTTLES CAN CAUSE INJURIES TO PERSONNEL.

- (7) Disconnect the electrical connectors in the Table 501.

Table 501/26-23-00-993-823 Electrical Connector

Bottle/Flow Valve	Electrical Connector
Bottle 1A, B26013	DB26013A (Squib)

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Table 501/26-23-00-993-823 Electrical Connector (Continued)

Bottle/Flow Valve	Electrical Connector
Bottle 1A, B26013	DB26013B (Press Sw)
Bottle 1B, B26014	DB26014A (Squib)
Bottle 1B, B26014	DB26014B (Press Sw)
Bottle 2A, B26015	DB26015A (Squib)
Bottle 2A, B26015	DB26015B (Press Sw)
Bottle 2B, B26016	DB26016A (Squib)
Bottle 2B, B26016	DB26016B (Press Sw)
Bottle 2C, B26017	DB26017A (Squib)
Bottle 2C, B26017	DB26017B (Press Sw)
Fwd Flow Valve, V26201	DV26201A (Squib 1)
Fwd Flow Valve, V26201	DV26201B (Squib 2)
Aft Flow Valve, V26202	DV26202A (Squib 1)
Aft Flow Valve, V26202	DV26202B (Squib 2)



WARNING

PUT CAPS ON THE BOTTLE SQUIBS AND FLOW VALVE SQUIBS. IF YOU DO NOT PUT CAPS ON THE SQUIBS, THE SQUIBS CAN FIRE ACCIDENTALLY AND CAUSE INJURIES TO PERSONNEL.



CAUTION

DO NOT PUT A SHUNT PLUG ON THE SQUIB. THE SHUNT PLUG CAN CAUSE DAMAGE TO THE SQUIB PINS.

- (a) Put protective covers, attached to the bottles and flow valves, on the squibs.

NOTE: The protective covers are attached to the fire extinguishing bottles and the flow valves. These protective covers prevent the squib from the possible activation because of static electricity.

G. Dump Bottle Electrical Connector Test

SUBTASK 26-23-00-480-001

- (1) On the squib test equipment, SPL-1649, make sure that the squib LOAD switches are in the OFF positions.

SUBTASK 26-23-00-480-002

- (2) Do these steps:
- (a) Connect the electrical connector, DB26013A, for bottle 1A to the squib test cable, SPL-1652.
 - (b) Connect the test cable assembly to the SQUIB #1 location on the squib test equipment, SPL-1649.
 - (c) Connect the electrical connector, DB26014A, for bottle 1B to the squib test cable, SPL-1652.
 - (d) Connect the test cable assembly to the SQUIB #2 location on the squib test equipment, SPL-1649.

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SUBTASK 26-23-00-480-003

- (3) Connect a digital/analog multimeter, COM-1793, to the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649.

SUBTASK 26-23-00-480-004

- (4) Connect a digital/analog multimeter, COM-1793, to the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649.

SUBTASK 26-23-00-480-005

- (5) On the squib test equipment, SPL-1649, set the SQUIB #1 LOAD switch to the ON position.

SUBTASK 26-23-00-480-006

- (6) Set the SQUIB #2 LOAD switch to the ON position.

SUBTASK 26-23-00-730-001

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C

SUBTASK 26-23-00-730-002

- (8) Push the FWD ARM switch on the Cargo Fire/Engine Control Module, M80001, on the P5 panel.
 - (a) Make sure that the ARMED indicator on the FWD ARM switch is in view.

SUBTASK 26-23-00-730-003

- (9) Push and hold the DISCH switch on the Cargo Fire/Engine Control Module.
 - (a) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 0.5 VDC.
 - (b) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on squib test equipment, SPL-1649, shows less than 0.5 VDC.

SUBTASK 26-23-00-730-004

- (10) Release the DISCH switch on the Cargo Fire/Engine Control Module.

SUBTASK 26-23-00-730-005

- (11) Push the FWD ARM switch on the Cargo Fire/Engine Control Module.
 - (a) Make sure that the ARMED indicator on the FWD ARM switch is not in view.

SUBTASK 26-23-00-730-006

- (12) Push the AFT ARM switch on the Cargo Fire/Engine Control Module.
 - (a) Make sure that the ARMED indicator on the AFT ARM switch is in view.

SUBTASK 26-23-00-730-007

- (13) Push and hold the DISCH switch on the Cargo Fire/Engine Control Module.
 - (a) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 0.5 VDC.
 - (b) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 0.5 VDC.

SUBTASK 26-23-00-730-008

- (14) Release the DISCH switch on the Cargo Fire/Engine Control Module.

SUBTASK 26-23-00-730-009

- (15) Push the AFT ARM switch on the Cargo Fire/Engine Control Module.

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- (a) Make sure that the ARMED indicator on the AFT ARM switch is not in view.

SUBTASK 26-23-00-730-010

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB

SUBTASK 26-23-00-750-001

- (17) Make sure that these conditions occur on the Cargo Fire/Engine Control Module:

- (a) The ARMED indicator on the FWD ARM switch is not in view.
- (b) The ARMED indicator on the AFT ARM switch is not in view.
- (c) The FWD indicator on the FWD ARM switch is not in view.
- (d) The AFT indicator on the AFT ARM switch is not in view.

SUBTASK 26-23-00-760-001

- (18) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 0.1 VDC.

SUBTASK 26-23-00-760-007

- (19) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 0.1 VDC.

SUBTASK 26-23-00-480-007

- (20) Set the SQUIB #1 LOAD switch to the OFF position.

SUBTASK 26-23-00-730-011

- (21) Push the FWD ARM switch on the Cargo Fire/Engine Control Module, M80001, on the P5 panel.
- (a) Make sure that the ARMED indicator on the FWD ARM switch is in view.

SUBTASK 26-23-00-730-012

- (22) Push and hold the DISCH switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 0.5 VDC.

SUBTASK 26-23-00-730-013

- (23) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location.

NOTE: This is the voltage with no load on the squib test equipment. Refer to this as the OFF voltage.

- (a) Make sure that the voltage is a minimum of 18 VDC.
- (b) Make a record of the voltage.

SUBTASK 26-23-00-730-014

- (24) Set the SQUIB #1 LOAD switch to the ON position.

SUBTASK 26-23-00-730-059

- (25) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location.

NOTE: This is the voltage with a load on the squib test equipment. Refer to this as the ON voltage.

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- (a) Make a record of the voltage.

SUBTASK 26-23-00-730-249

- (26) Set the SQUIB #1 LOAD switch to the OFF position.

SUBTASK 26-23-00-760-002

- (27) Based on the measured ON voltage, make sure that the measured OFF voltage is not more than the maximum OFF voltage shown in the Table 502.

Table 502/26-23-00-993-811 Measured Voltage

Measured ON Voltage	Maximum OFF Voltage
19.0 - 30.0	32
18.0 - 18.99	30
17.0 - 17.99	28
16.0 - 16.99	27

SUBTASK 26-23-00-730-015

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

Standby Power Management Panel, P310

Row	Col	Number	Name
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-730-061

- (29) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location.

NOTE: This is the voltage with no load on the squib test equipment. Refer to this as the OFF voltage.

- (a) Make sure that the voltage is a minimum of 18 VDC.
(b) Make a record of the voltage.

SUBTASK 26-23-00-730-062

- (30) Set the SQUIB #2 LOAD switch to the ON position.

SUBTASK 26-23-00-730-063

- (31) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location.

NOTE: This is the voltage with a load on the squib test equipment. Refer to this as the ON voltage.

- (a) Make a record of the voltage.

SUBTASK 26-23-00-730-064

- (32) Set the SQUIB #2 LOAD switch to the OFF position.

SUBTASK 26-23-00-760-008

- (33) Based on the measured ON voltage, make sure that the measured OFF voltage is not more than the maximum OFF voltage shown in the Table 503.

Table 503/26-23-00-993-812 Measured Voltage

Measured ON Voltage	Maximum OFF Voltage
19.0 - 30.0	32

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Table 503/26-23-00-993-812 Measured Voltage (Continued)

Measured ON Voltage	Maximum OFF Voltage
18.0 - 18.99	30
17.0 - 17.99	28
16.0 - 16.99	27

SUBTASK 26-23-00-730-016

- (34) Release the DISCH switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 0.1 VDC.
- (b) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649, shows less than 0.1 VDC.

SUBTASK 26-23-00-730-017

- (35) Push the FWD ARM switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the ARMED indicator on the FWD ARM switch is not in view.

SUBTASK 26-23-00-730-018

- (36) Push the AFT ARM switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the ARMED indicator on the AFT ARM switch is in view.

SUBTASK 26-23-00-730-019

- (37) Push and hold the DISCH switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649, shows a minimum of 18 VDC.
- (b) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the squib test equipment, SPL-1649, shows a minimum of 18 VDC.

SUBTASK 26-23-00-730-020

- (38) Release the DISCH switch on the Cargo Fire/Engine Control Module.

SUBTASK 26-23-00-730-021

- (39) Push the AFT ARM switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the ARMED indicator on the AFT ARM switch is not in view.

SUBTASK 26-23-00-730-022

- (40) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB

Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C

Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

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SUBTASK 26-23-00-730-023

- (41) Disconnect the electrical connector, DB26013A, for bottle 1A from the squib test cable, SPL-1652.

SUBTASK 26-23-00-730-024

- (42) Disconnect the electrical connector, DB26014A, for bottle 1B from the squib test cable, SPL-1652.

H. Flow Valves Electrical Connector Test

SUBTASK 26-23-00-480-008

- (1) Do these steps:

NOTE: This test will need two squib test equipment units, SPL-1649, to accommodate both FWD and AFT flow valves.

- (a) Connect the forward flow valve electrical connector, DV26201A, to the squib test cable, SPL-1652.
- (b) Connect the test cable assembly to the SQUIB #1 location on one of the squib test equipment units, SPL-1649.

NOTE: Refer to this squib test equipment as the "forward squib test equipment" for the duration of the Flow Valve Electrical Connector Test.

- (c) Connect the forward flow valve electrical connector, DV26201B, to the squib test cable, SPL-1652.
- (d) Connect the test cable assembly to the SQUIB #2 location on the forward squib test equipment, SPL-1649.
- (e) Connect the aft flow valve electrical connector, DV26202A, to the applicable test cable assembly.
- (f) Connect the test cable assembly to the SQUIB #1 location on the other squib test equipment, SPL-1649.

NOTE: Refer to this squib test equipment as the "aft squib test equipment" for the duration of the Flow Valve Electrical Connector Test.

- (g) Connect the aft flow valve electrical connector, DV26202B, to the applicable test cable assembly.
- (h) Connect the test cable assembly to the SQUIB #2 location on the aft squib test equipment, SPL-1649.

SUBTASK 26-23-00-480-009

- (2) Connect a digital/analog multimeter, COM-1793, to each SQUIB VOLTMETER location on both the forward and aft squib test equipment units, SPL-1649.

SUBTASK 26-23-00-730-025

- (3) Set the LOAD switches on both the forward and aft squib test equipment units, SPL-1649, to the ON positions.

SUBTASK 26-23-00-730-026

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C

SUBTASK 26-23-00-730-027

- (5) Push the FWD ARM switch on the Cargo Fire/Engine Control Module.

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- (a) Make sure that the ARMED indicator on the FWD ARM switch is in view.

SUBTASK 26-23-00-730-028

- (6) Push and hold the DISCH switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the digital/analog multimeter, COM-1793, for the forward flow valve shows less than 0.5 VDC.
- (b) Make sure that the digital/analog multimeter, COM-1793, for the aft flow valve shows less than 0.5 VDC.

SUBTASK 26-23-00-730-029

- (7) Release the DISCH switch on the Cargo Fire/Engine Control Module.

SUBTASK 26-23-00-730-030

- (8) Push the FWD ARM switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the ARMED indicator on the FWD ARM switch is not in view.

SUBTASK 26-23-00-730-031

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB

SUBTASK 26-23-00-730-065

- (10) Set the SQUIB #2 LOAD switch (for DV26201B) on the forward squib test equipment, SPL-1649, to the OFF position.

SUBTASK 26-23-00-730-032

- (11) Push the FWD ARM switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the ARMED indicator on the FWD ARM switch is in view.

SUBTASK 26-23-00-730-033

- (12) Push and hold the DISCH switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the digital/analog multimeter, COM-1793, shows less than 0.5 VDC for the SQUIB #1 VOLTMETER location on the forward squib test equipment, SPL-1649.
- (b) Make sure that the digital/analog multimeter, COM-1793, shows less than 0.5 VDC for the SQUIB #1 and #2 VOLTMETER locations on the aft squib test equipment, SPL-1649.

SUBTASK 26-23-00-730-066

- (13) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the forward squib test equipment, SPL-1649.
- NOTE:** This is the voltage with no load on the squib test equipment. Refer to this as the OFF voltage.
- (a) Make sure that the voltage is a minimum of 18 VDC.
- (b) Make a record of the voltage.

SUBTASK 26-23-00-730-067

- (14) Set the SQUIB #2 LOAD switch on the forward squib test equipment, SPL-1649, to the ON position.

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SUBTASK 26-23-00-730-068

- (15) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the forward squib test equipment, SPL-1649.

NOTE: This is the voltage with a load on the squib test equipment. Refer to this as the ON voltage.

- (a) Make a record of the voltage.

SUBTASK 26-23-00-730-069

- (16) Set the SQUIB #2 LOAD switch on the forward squib test equipment, SPL-1649, to the OFF position.

SUBTASK 26-23-00-760-009

- (17) Based on the measured ON voltage, make sure that the measured OFF voltage is not more than the maximum OFF voltage shown in the Table 504.

Table 504/26-23-00-993-813 Measured Voltage

Measured ON Voltage	Maximum OFF Voltage
19.0 - 30.0	32
18.0 - 18.99	30
17.0 - 17.99	28
16.0 - 16.99	27

SUBTASK 26-23-00-730-034

- (18) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB

SUBTASK 26-23-00-730-070

- (19) Set the SQUIB #2 LOAD switch on the forward squib test equipment, SPL-1649, to the ON position.

SUBTASK 26-23-00-730-071

- (20) Set the SQUIB #1 LOAD switch (for DV26201A) on the forward squib test equipment, SPL-1649, to the OFF position.

SUBTASK 26-23-00-730-072

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

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<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-730-073

- (22) Make sure that the digital/analog multimeter, COM-1793, shows less than 0.5 VDC for the SQUIB #2 VOLTMETER location on the forward squib test equipment, SPL-1649.

SUBTASK 26-23-00-730-074

- (23) Make sure that the digital/analog multimeter, COM-1793, shows less than 0.5 VDC for the SQUIB #1 and #2 VOLTMETER location on the aft squib test equipment, SPL-1649.

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SUBTASK 26-23-00-730-075

- (24) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the forward squib test equipment, SPL-1649.

NOTE: This is the voltage with no load on the squib test equipment. Refer to this as the OFF voltage.

- (a) Make sure that the voltage is a minimum of 18 VDC.
- (b) Make a record of the voltage.

SUBTASK 26-23-00-730-076

- (25) Set the SQUIB #1 LOAD switch on the forward squib test equipment, SPL-1649, to the ON position.

SUBTASK 26-23-00-730-077

- (26) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the forward squib test equipment, SPL-1649.

NOTE: This is the voltage with a load on the squib test equipment. Refer to this as the ON voltage.

- (a) Make a record of the voltage.

SUBTASK 26-23-00-730-078

- (27) Set the SQUIB #1 LOAD switch on the forward squib test equipment, SPL-1649, to the OFF position.

SUBTASK 26-23-00-760-010

- (28) Based on the measured ON voltage, make sure that the measured OFF voltage is not more than the maximum OFF voltage shown in the Table 505.

Table 505/26-23-00-993-814 Measured Voltage

Measured ON Voltage	Maximum OFF Voltage
19.0 - 30.0	32
18.0 - 18.99	30
17.0 - 17.99	28
16.0 - 16.99	27

SUBTASK 26-23-00-730-079

- (29) Release the DISCH switch on the Cargo Fire/Engine Control Module.

SUBTASK 26-23-00-730-080

- (30) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the first squib test equipment, SPL-1649, shows less than 0.1 VDC.

SUBTASK 26-23-00-730-081

- (31) Push the FWD ARM switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the ARMED indicator on the FWD ARM switch is not in view.

SUBTASK 26-23-00-730-035

- (32) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

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SUBTASK 26-23-00-730-082

- (33) Set the SQUIB #1 LOAD switch on the forward squib test equipment, SPL-1649, to the ON position.

SUBTASK 26-23-00-730-083

- (34) Push the AFT ARM switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the ARMED indicator on the AFT ARM switch is in view.

SUBTASK 26-23-00-730-084

- (35) Push and hold the DISCH switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the digital/analog multimeter, COM-1793, for the forward flow valve shows less than 0.1 VDC.
- (b) Make sure that the digital/analog multimeter, COM-1793, for the aft flow valve shows less than 0.1 VDC.

SUBTASK 26-23-00-730-085

- (36) Release the DISCH switch on the Cargo Fire/Engine Control Module.

SUBTASK 26-23-00-730-086

- (37) Push the AFT ARM switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the ARMED indicator on the AFT ARM switch is not in view.

SUBTASK 26-23-00-730-087

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB

SUBTASK 26-23-00-730-088

- (39) Set the SQUIB #2 LOAD switch (for DV26202B) on the aft squib test equipment, SPL-1649, to the OFF position.

SUBTASK 26-23-00-730-089

- (40) Push the AFT ARM switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the ARMED indicator on the AFT ARM switch is in view.

SUBTASK 26-23-00-730-090

- (41) Push and hold the DISCH switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the digital/analog multimeter, COM-1793, shows less than 0.5 VDC for the SQUIB #1 VOLTMETER location on the aft squib test equipment, SPL-1649.
- (b) Make sure that the digital/analog multimeter, COM-1793, shows less than 0.5 VDC for the SQUIB #1 and #2 VOLTMETER location on the forward squib test equipment, SPL-1649.

SUBTASK 26-23-00-730-091

- (42) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the aft squib test equipment, SPL-1649.

NOTE: This is the voltage with no load on the squib test equipment. Refer to this as the OFF voltage.

- (a) Make sure that the voltage is a minimum of 18 VDC.
- (b) Make a record of the voltage.

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SUBTASK 26-23-00-730-092

- (43) Set the SQUIB #2 LOAD switch on the aft squib test equipment, SPL-1649, to the ON position.

SUBTASK 26-23-00-730-093

- (44) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the aft squib test equipment, SPL-1649.

NOTE: This is the voltage with a load on the squib test equipment. Refer to this as the ON voltage.

- (a) Make a record of the voltage.

SUBTASK 26-23-00-730-094

- (45) Set the SQUIB #2 LOAD switch on the aft squib test equipment, SPL-1649, to the OFF position.

SUBTASK 26-23-00-760-011

- (46) Based on the measured ON voltage, make sure that the measured OFF voltage is not more than the maximum OFF voltage shown in the Table 506.

Table 506/26-23-00-993-815 Measured Voltage

Measured ON Voltage	Maximum OFF Voltage
19.0 - 30.0	32
18.0 - 18.99	30
17.0 - 17.99	28
16.0 - 16.99	27

SUBTASK 26-23-00-730-095

- (47) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB

SUBTASK 26-23-00-730-096

- (48) Set the SQUIB #2 LOAD switch (for DV26202B) on the aft squib test equipment, SPL-1649, to the ON position.

SUBTASK 26-23-00-730-097

- (49) Set the SQUIB #1 LOAD switch (for DV26202A) on the aft squib test equipment, SPL-1649, to the OFF position.

SUBTASK 26-23-00-730-098

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-730-099

- (51) Make sure that the digital/analog multimeter, COM-1793, shows less than 0.5 VDC for the SQUIB #2 VOLTMETER location on the aft squib test equipment, SPL-1649.

SUBTASK 26-23-00-730-100

- (52) Make sure that the digital/analog multimeter, COM-1793, shows less than 0.5 VDC for the SQUIB #1 and #2 VOLTMETER location on the forward squib test equipment, SPL-1649.

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SUBTASK 26-23-00-730-101

- (53) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the aft squib test equipment, SPL-1649.

NOTE: This is the voltage with no load on the squib test equipment. Refer to this as the OFF voltage.

- (a) Make sure that the voltage is a minimum of 18 VDC.
- (b) Make a record of the voltage.

SUBTASK 26-23-00-730-102

- (54) Set the SQUIB #1 LOAD switch on the aft squib test equipment, SPL-1649, to the ON position.

SUBTASK 26-23-00-730-103

- (55) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the aft squib test equipment, SPL-1649.

NOTE: This is the voltage with a load on the squib test equipment. Refer to this as the ON voltage.

- (a) Make a record of the voltage.

SUBTASK 26-23-00-730-104

- (56) Set the SQUIB #1 LOAD switch on the aft squib test equipment, SPL-1649, to the OFF position.

SUBTASK 26-23-00-760-012

- (57) Based on the measured ON voltage, make sure that the measured OFF voltage is not more than the maximum OFF voltage shown in the Table 507.

Table 507/26-23-00-993-816 Measured Voltage

Measured ON Voltage	Maximum OFF Voltage
19.0 - 30.0	32
18.0 - 18.99	30
17.0 - 17.99	28
16.0 - 16.99	27

SUBTASK 26-23-00-730-105

- (58) Release the DISCH switch on the Cargo Fire/Engine Control Module.

SUBTASK 26-23-00-730-106

- (59) Make sure that the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the aft squib test equipment, SPL-1649, shows less than 0.1 VDC.

SUBTASK 26-23-00-730-107

- (60) Push the AFT ARM switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the ARMED indicator on the AFT ARM switch is not in view.

SUBTASK 26-23-00-730-036

- (61) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

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SUBTASK 26-23-00-730-037

- (62) Disconnect the forward flow valve electrical connectors, DV26201A and DV26201B, from the forward squib test cable, SPL-1652.

SUBTASK 26-23-00-730-038

- (63) Disconnect the aft flow valve electrical connectors, DV26202A and DV26202B, from the aft squib test cable, SPL-1652.

I. Metered Bottle Electrical Connector Test

SUBTASK 26-23-00-860-009

- (1) Use a maintenance access terminal (MAT) to monitor the fans for a too hot condition (TASK 45-10-00-760-801).
 - (a) Make these selections on the MAT:
 - 1) ONBOARD MAINTENANCE
 - 2) OTHER FUNCTIONS
 - 3) INPUT MONITORING
 - (b) Set GENERAL INPUT.
 - (c) Set CONTINUE.
 - (d) Put the cursor in the entry field.
 - (e) Use the keyboard to record the signal specification into the entry field:
 - 1) Record the signal specification, X/629/SYS L/F85/1/20-20/10-10.

NOTE: In the position of X in the signal specification, use L if the CMC that is on is the left CMC. Use R if the CMC that is on is the right CMC.

- (f) Set RUN to monitor the fans.
 - 1) For bit 10, make sure that the value is 01.

SUBTASK 26-23-00-730-428



MAKE SURE THAT YOU COMPLETE THE STEPS TO SUPPLY POWER TO THE EQUIPMENT COOLING FAN IN FIVE MINUTES OR LESS. IF YOU DO NOT COMPLETE THE STEPS IN FIVE MINUTES, DAMAGE TO THE E/E BAY EQUIPMENT CAN OCCUR.

ARO ALL; AIRPLANES WITH ELMS-2

- (2) Do these steps to connect the E/E cooling fans power supply controller, SPL-14051, to the equipment cooling fans:

ARO ALL

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
H	17	C21613	EQPT CLG CGO HT VLV CTRL

NOTE: This makes sure that the cargo heat valve is closed.

- (b) Make sure that the vent valve is opened.
- (c) After a minimum of 40 seconds, do the subsequent step.

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- (d) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	28	C21415	EQPT CLG VENT VLV
G	27	C21605	EQPT CLG SPLY FAN 1 CTRL
G	28	C21601	EQPT CLG VENT FAN CTRL
J	24	C24617	P110 PSU A PRI
P	15	C24655	P110 PSU B PRI
P	28	C24629	DC BUS TIE L

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	14	C21456	EQPT CLG DIVERT VLV
G	1	C21600	EQPT CLG SPLY FAN 2 CTRL
J	3	C24624	P110 PSU B ALTN
J	6	C24658	P110 PSU A ALTN
P	1	C24666	DC BUS TIE R

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
H	9	C21632	EQPT CLG SMOKE OVRD VLV MOT 1
H	10	C21634	EQPT CLG SMOKE OVRD VLV MOT 2

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- (e) Put the L BUS TIE switch on the overhead panel, P5, to the ISLN position.
(f) Put the R BUS TIE switch on the overhead panel, P5, to the ISLN position.



CAUTION

MAKE SURE THAT YOU COMPLETE THE STEPS TO SUPPLY POWER TO THE EQUIPMENT COOLING FAN IN FIVE MINUTES OR LESS. IF YOU DO NOT COMPLETE THE STEPS IN FIVE MINUTES, DAMAGE TO THE E/E BAY EQUIPMENT CAN OCCUR.

- (g) Disconnect the D10025 from the J25 receptacle and the D10003 from the J3 receptacle on the P100 Left Power Panel.
- (h) Disconnect the D20025 cable from the J25 receptacle on the P200 Right Power Panel.
- (i) Make sure that the vent fan control switch on the E/E cooling fans power supply controller, SPL-14051, is in the OFF position and the supply fan 2 control switch is in AUTO.
- (j) Do this to install the E/E cooling fans power supply controller, SPL-14051:
- 1) Connect the vent fan control switch cable (P1) of the E/E cooling fans power supply controller, SPL-14051, to the J25 receptacle of the P100 Left Power Panel.
 - 2) Connect the power crossover cable (P3) of the E/E cooling fans power supply controller, SPL-14051, to the J3 receptacle of the P100 Left Power Panel
 - 3) Connect the other end of the crossover cable to the D10003 airplane connector plug.
 - 4) Connect the D10025 airplane connector plug to the vent fan control switch receptacle (J1).

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- 5) Connect the P4 jumper, from the crossover cable, into the J4 receptacle.

NOTE: The P4 jumper was added to avoid both supply fans operating at the same time.

- 6) Connect the supply fan 2 control switch cable (P2) into the J25 receptacle of the P200 Right Power Panel.
- 7) Connect the D20025 airplane connector plug into the J2 receptacle of the supply fan 2 control switch.
- (k) Put the L BUS TIE switch on the overhead panel, P5, to the AUTO position.
- (l) Put the R BUS TIE switch on the overhead panel, P5, to the AUTO position.

ARO ALL

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
G	27	C21605	EQPT CLG SPLY FAN 1 CTRL
G	28	C21601	EQPT CLG VENT FAN CTRL
J	24	C24617	P110 PSU A PRI
P	15	C24655	P110 PSU B PRI
P	28	C24629	DC BUS TIE L

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
J	3	C24624	P110 PSU B ALTN
J	6	C24658	P110 PSU A ALTN
P	1	C24666	DC BUS TIE R

Remove the safety tag and close this circuit breaker:

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Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
G	1	C21600	EQPT CLG SPLY FAN 2 CTRL

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- (n) Make sure that the override valve is CLOSED for the portion that vents air in reverse mode and OPEN for the portion that directly controls the air flow from the supply fans.
- (o) Set the supply fan control switch to the ON position. After five seconds, do the subsequent step.
- (p) Make sure that air flows to the E/E bay from the supply fan.
- (q) Set the vent fan control switch to the ON position.
- (r) Make sure that air flows freely overboard from the vent fan.

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STOP THE TEST IF THE FAN BECOMES TOO HOT. HEAT CAN CAUSE DAMAGE TO THE FAN.

- (s) Monitor the MAT for a too hot fan condition.

NOTE: A MAT bit change will show if the fan is too hot. Ignore the EICAS fan error message.

SUBTASK 26-23-00-730-039

- (3) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

Do these steps to connect the squib test equipment, SPL-1649, cargo fire extinguishing bottle time delay test box, SPL-4103, and squib test cable, SPL-1652, to the metered bottle connectors:

NOTE: This test will need more than one squib test equipment units, SPL-1649, to accommodate all metered fire bottles.

- (a) Connect the electrical connector, DB26015A, for bottle 2A to the applicable test cable assembly.
- (b) Connect the test cable assembly to the SQUIB #1 location on one of the squib test equipment units, SPL-1649.

NOTE: Refer to this squib test equipment as the "first squib test equipment" for the duration of the Metered Bottle Electrical Connector Test.

- (c) Connect the electrical connector, DB26016A, for bottle 2B to the applicable test cable assembly.
- (d) Connect the test cable assembly to the SQUIB #2 location on the first squib test equipment, SPL-1649.
- (e) Connect the electrical connector, DB26017A, for bottle 2C to the applicable test cable assembly.
- (f) Connect the test cable assembly to the SQUIB #1 location to a different squib test equipment, SPL-1649

NOTE: Refer to this squib test equipment as the "second squib test equipment" for the duration of the Metered Bottle Electrical Connector Test.

SUBTASK 26-23-00-730-040

- (4) Use the stackable single banana plugs, STD-12568, to connect all applicable +/- ports of the squib test equipment, SPL-1649, to the cargo fire extinguishing bottle time delay test box, SPL-4103.
- (5) Connect a digital/analog multimeter, COM-1793, to each SQUIB VOLTMETER location on all squib test equipment units, SPL-1649.

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SUBTASK 26-23-00-730-041

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-730-042

- (7) Set the Maintenance Access Terminal (MAT) to the air mode. To set the MAT to the air mode, do this task: Air/Ground Mode Simulation, TASK 32-09-00-860-801.

SUBTASK 26-23-00-730-109

- (8) Set the LOAD switches on each squib test equipment, SPL-1649, to the ON positions.

SUBTASK 26-23-00-730-043

- (9) Push the AFT ARM switch on the Cargo Fire/Engine Control Module, M80001, on the P5 panel.

- (a) Make sure that the ARMED indicator on the AFT ARM switch is in view.

SUBTASK 26-23-00-730-260

- (10) Make sure that the displays are reset to zero on the cargo fire extinguishing bottle time delay test box, SPL-4103

SUBTASK 26-23-00-730-110

- (11) Set the timing switch to RUN at the same time the DISCH switch is pushed and held on the Cargo Fire/Engine Control Module.

NOTE: When you push the DISCH switch, the 20-minute time delay starts. The RUN switch is located on the cargo fire extinguishing bottle time delay test box, SPL-4103.

- (a) Make sure that the digital/analog multimeter, COM-1793, shows less than 0.5 VDC until after 19.5-20.5 minutes.
- (b) Make sure that the timers stop on the cargo fire extinguishing bottle time delay test box, SPL-4103, in less than 19.5-20.5 minutes.

SUBTASK 26-23-00-730-044

- (12) Release the DISCH switch on the Cargo Fire/Engine Control Module.

SUBTASK 26-23-00-730-111

- (13) Set all LOAD switches on each squib test equipment, SPL-1649, to the OFF positions.
- (a) Make sure that the digital/analog multimeter, COM-1793, shows a minimum of 18 VDC in 19.5-20.5 minutes.
- (b) Make sure that the time on the cargo fire extinguishing bottle time delay test box, SPL-4103, is in 19.5-20.5 minutes.

SUBTASK 26-23-00-730-045

- (14) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

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SUBTASK 26-23-00-730-112

- (15) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the first squib test equipment, SPL-1649.

NOTE: This is the voltage with no load on the squib test equipment. Refer to this as the OFF voltage.

- (a) Make sure that the voltage is a minimum of 18 VDC.
- (b) Make a record of the voltage.

SUBTASK 26-23-00-730-113

- (16) Set the SQUIB #1 LOAD switch on the first squib test equipment, SPL-1649, to the ON position.

SUBTASK 26-23-00-730-114

- (17) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the first squib test equipment, SPL-1649.

NOTE: This is the voltage with a load on the squib test equipment. Refer to this as the ON voltage.

- (a) Make a record of the voltage.

SUBTASK 26-23-00-730-115

- (18) Set the squib #1 LOAD switch on the first squib test equipment, SPL-1649, to the OFF position.

SUBTASK 26-23-00-760-013

- (19) Based on the measured ON voltage, make sure that the measured OFF voltage is not more than the maximum OFF voltage shown in the Table 508.

Table 508/26-23-00-993-817 Measured Voltage

Measured ON Voltage	Maximum OFF Voltage
19.0 - 30.0	32
18.0 - 18.99	30
17.0 - 17.99	28
16.0 - 16.99	27

SUBTASK 26-23-00-730-116

- (20) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the first squib test equipment, SPL-1649.

NOTE: This is the voltage with no load on the squib test equipment. Refer to this as the OFF voltage.

- (a) Make sure that the voltage is a minimum of 18 VDC.
- (b) Make a record of the voltage.

SUBTASK 26-23-00-730-117

- (21) Set the LOAD switch for DB26016A to the ON position.

SUBTASK 26-23-00-730-118

- (22) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #2 VOLTMETER location on the first squib test equipment, SPL-1649.

NOTE: This is the voltage with a load on the squib test equipment. Refer to this as the ON voltage.

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- (a) Make a record of the voltage.

SUBTASK 26-23-00-730-119

- (23) Set the SQUIB #2 LOAD switch on the first squib test equipment, SPL-1649, to the OFF position.

SUBTASK 26-23-00-760-014

- (24) Based on the measured ON voltage, make sure that the measured OFF voltage is not more than the maximum OFF voltage shown in the Table 509.

Table 509/26-23-00-993-818 Measured Voltage

Measured ON Voltage	Maximum OFF Voltage
19.0 - 30.0	32
18.0 - 18.99	30
17.0 - 17.99	28
16.0 - 16.99	27

SUBTASK 26-23-00-730-120

- (25) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the second squib test equipment, SPL-1649.

NOTE: This is the voltage with no load on the squib test equipment. Refer to this as the OFF voltage.

- (a) Make sure that the voltage is a minimum of 18 VDC.
(b) Make a record of the voltage.

SUBTASK 26-23-00-730-121

- (26) Set the SQUIB #1 LOAD switch on the second squib test equipment, SPL-1649, to the ON position.

SUBTASK 26-23-00-730-122

- (27) Measure the voltage on the digital/analog multimeter, COM-1793, for the SQUIB #1 VOLTMETER location on the second squib test equipment, SPL-1649.

NOTE: This is the voltage with a load on the squib test equipment. Refer to this as the ON voltage.

- (a) Make a record of the voltage.

SUBTASK 26-23-00-730-123

- (28) Set the SQUIB #1 LOAD switch on the second squib test equipment, SPL-1649, to the OFF position.

SUBTASK 26-23-00-760-015

- (29) Based on the measured ON voltage, make sure that the measured OFF voltage is not more than the maximum OFF voltage shown in the Table 510.

Table 510/26-23-00-993-819 Measured Voltage

Measured ON Voltage	Maximum OFF Voltage
19.0 - 30.0	32
18.0 - 18.99	30
17.0 - 17.99	28

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Table 510/26-23-00-993-819 Measured Voltage (Continued)

Measured ON Voltage	Maximum OFF Voltage
16.0 - 16.99	27

SUBTASK 26-23-00-730-046

- (30) Open this circuit breaker:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C

SUBTASK 26-23-00-760-003

- (31) Make sure that each of the multimeters shows less than 0.1 VDC.

SUBTASK 26-23-00-730-047

- (32) Close this circuit breaker:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C

SUBTASK 26-23-00-730-048

- (33) Push the AFT ARM switch on the Cargo Fire/Engine Control Module.
(a) Make sure that the ARMED indicator on the AFT ARM switch is not in view.

SUBTASK 26-23-00-760-004

- (34) Make sure that each of the multimeters shows less than 0.1 VDC.

SUBTASK 26-23-00-730-049

- (35) Push the FWD ARM switch on the Cargo Fire/Engine Control Module.
(a) Make sure that the ARMED indicator on the FWD ARM switch is in view.
(b) Make sure that air flows to the electrical and electronic equipment racks.
(c) Make sure that air flows freely from the vent fan.



CAUTION

STOP THE TEST IF THE FAN BECOMES TOO HOT. HEAT CAN CAUSE DAMAGE TO THE FAN.

- (d) Monitor the MAT for a too hot fan condition.

NOTE: A MAT bit change will show if the fan is too hot. Ignore the EICAS fan error message.

SUBTASK 26-23-00-730-051

- (36) Open this circuit breaker:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C

SUBTASK 26-23-00-760-005

- (37) Make sure that each of the multimeters shows less than 0.1 VDC.

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SUBTASK 26-23-00-730-052

- (38) Close this circuit breaker:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C

SUBTASK 26-23-00-730-053

- (39) Push the FWD ARM switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the ARMED indicator on the FWD ARM switch is not in view.

SUBTASK 26-23-00-760-006

- (40) Make sure that each of the multimeters shows less than 0.1 VDC.

SUBTASK 26-23-00-730-054

- (41) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C

SUBTASK 26-23-00-730-055

- (42) Disconnect the electrical connector for DB26015A for bottle 2A from the squib test cable, SPL-1652.

SUBTASK 26-23-00-730-056

- (43) Disconnect the electrical connector for DB26016A for bottle 2B from the squib test cable, SPL-1652.

SUBTASK 26-23-00-730-057

- (44) Disconnect the electrical connector for DB26017A for bottle 2C from the squib test cable, SPL-1652.

SUBTASK 26-23-00-730-058

- (45) Set the Maintenance Access Terminal (MAT) to the ground mode. To set the MAT to the ground mode, do this task: Air/Ground Mode Simulation, TASK 32-09-00-860-801.

SUBTASK 26-23-00-860-083



MAKE SURE THAT YOU COMPLETE THE STEPS TO SUPPLY POWER TO THE EQUIPMENT COOLING FAN IN FIVE MINUTES OR LESS. IF YOU DO NOT COMPLETE THE STEPS IN FIVE MINUTES, DAMAGE TO THE E/E BAY EQUIPMENT CAN OCCUR.

- (46) Do these steps to put the equipment cooling fans back to their usual condition:
- (a) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
G	27	C21605	EQPT CLG SPLY FAN 1 CTRL
G	28	C21601	EQPT CLG VENT FAN CTRL
J	24	C24617	P110 PSU A PRI
P	15	C24655	P110 PSU B PRI
P	28	C24629	DC BUS TIE L

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Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
J	3	C24624	P110 PSU B ALTN
J	6	C24658	P110 PSU A ALTN
P	1	C24666	DC BUS TIE R

Open this circuit breaker and install safety tag:

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
G	1	C21600	EQPT CLG SPLY FAN 2 CTRL

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- (b) Put the L BUS TIE switch on the overhead panel, P5, to the ISLN position.
- (c) Put the R BUS TIE switch on the overhead panel, P5, to the ISLN position.

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CAUTION

MAKE SURE THAT YOU COMPLETE THE STEPS TO SUPPLY POWER TO THE EQUIPMENT COOLING FAN IN FIVE MINUTES OR LESS. IF YOU DO NOT COMPLETE THE STEPS IN FIVE MINUTES, DAMAGE TO THE E/E BAY EQUIPMENT CAN OCCUR.

- (d) Disconnect the E/E cooling fans power supply controller, SPL-14051, from the D10025, D20025, and D10003 airplane connector plug and the P100 and P200 Power Panels.
- (e) Connect the D10025 and D10003 control cables to the P100 Left Power Panel and the D20025 to the P200 Right Power Panel.

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- (f) Put the L BUS TIE switch on the overhead panel, P5, to the AUTO position.
- (g) Put the R BUS TIE switch on the overhead panel, P5, to the AUTO position.

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	28	C21415	EQPT CLG VENT VLV
G	27	C21605	EQPT CLG SPLY FAN 1 CTRL
G	28	C21601	EQPT CLG VENT FAN CTRL
H	17	C21613	EQPT CLG CGO HT VLV CTRL
J	24	C24617	P110 PSU A PRI
P	15	C24655	P110 PSU B PRI
P	28	C24629	DC BUS TIE L

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	14	C21456	EQPT CLG DIVERT VLV
G	1	C21600	EQPT CLG SPLY FAN 2 CTRL
J	3	C24624	P110 PSU B ALTN
J	6	C24658	P110 PSU A ALTN

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Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
P	1	C24666	DC BUS TIE R

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
H	9	C21632	EQPT CLG SMOKE OVRD VLV MOT 1
H	10	C21634	EQPT CLG SMOKE OVRD VLV MOT 2

- (i) Do this task: Equipment Cooling System - System Test, TASK 21-27-00-700-801.

J. Put the Airplane Back to Its Usual Condition

SUBTASK 26-23-00-840-008

- (1) Make sure that these circuit breakers are open and have safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-840-009

- (2) Do these steps to connect the electrical connectors in the Table 511.

Table 511/26-23-00-993-822 Electrical Connectors

Bottle/Flow Valve	Electrical Connector
Bottle 1A, B26013	DB26013A (Squib)
Bottle 1A, B26013	DB26013B (Press Sw)
Bottle 1B, B26014	DB26014A (Squib)
Bottle 1B, B26014	DB26014B (Press Sw)
Bottle 2A, B26015	DB26015A (Squib)
Bottle 2A, B26015	DB26015B (Press Sw)
Bottle 2B, B26016	DB26016A (Squib)
Bottle 2B, B26016	DB26016B (Press Sw)
Bottle 2C, B26017	DB26017A (Squib)
Bottle 2C, B26017	DB26017B (Press Sw)
Fwd Flow Valve, V26201	DV26201A (Squib 1)
Fwd Flow Valve, V26201	DV26201B (Squib 2)
Aft Flow Valve, V26202	DV26202A (Squib 1)
Aft Flow Valve, V26202	DV26202B (Squib 2)

- (a) Remove the protective covers from the squibs.

NOTE: The protective covers are attached to the fire extinguishing bottles and the flow valves.

- (b) Do these steps to connect the electrical connectors to the squibs:

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MAKE SURE THAT THERE IS NO VOLTAGE AT THE ELECTRICAL CONNECTOR. IF THERE IS A VOLTAGE AT THE ELECTRICAL CONNECTOR, THE SQUIB CAN RELEASE THE CONTENTS OF THE BOTTLE SUDDENLY. THIS CAN CAUSE INJURIES TO PERSONNEL.

- 1) With a digital/analog multimeter, COM-1793, make sure that there is no voltage between pins 1 and 2 of the electrical connector.
NOTE: If you connect a resistor, STD-1079, across the digital/analog multimeter, COM-1793, you will remove the small voltage from the electrical connector.
- 2) Make sure that the squib electrical pins are not bent or damaged.
- 3) Make sure that the electrical connector is not dirty or damaged.
NOTE: The squib pins can cause damage to the electrical connector if the pins do not correctly engage the electrical connector.
- 4) Connect the electrical connectors to the squibs.
- 5) Do these steps to make sure that you did not bend or cause damage the squib pins.
NOTE: You can cause damage to the pins when you first connect an electrical connector to the squib.
 - a) Disconnect the electrical connectors from the squibs.
 - b) Make sure that the squib electrical pins are not bent or damaged.
 - c) Make sure that the electrical connectors are not damaged.
 - d) Connect the electrical connectors to the fire bottle squibs.
 - e) Connect the electrical connectors to the pressure switches on the fire extinguishing bottles.

SUBTASK 26-23-00-010-005

- (3) Remove the access pressure relief valve platform, SPL-1651, near the applicable fire extinguishing bottle.

SUBTASK 26-23-00-840-010

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-710-012

- (5) Do this task: Cargo Fire Extinguishing Squibs - Operational Test, TASK 26-23-00-710-802.

SUBTASK 26-23-00-410-002



SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, THE FIRE EXTINGUISHING AGENT OR SMOKE CAN CAUSE INJURIES.

- (6) Do this task: Sidewall Liner Installation, TASK 25-52-06-400-801.

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SUBTASK 26-23-00-840-011

(7) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-23-00-840-012

(8) Close these cargo doors:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door
823	Aft Small Cargo Door

SUBTASK 26-23-00-760-046

(9) Do this task: Remove Electrical Power, TASK 24-22-00-860-806.

———— **END OF TASK** ————

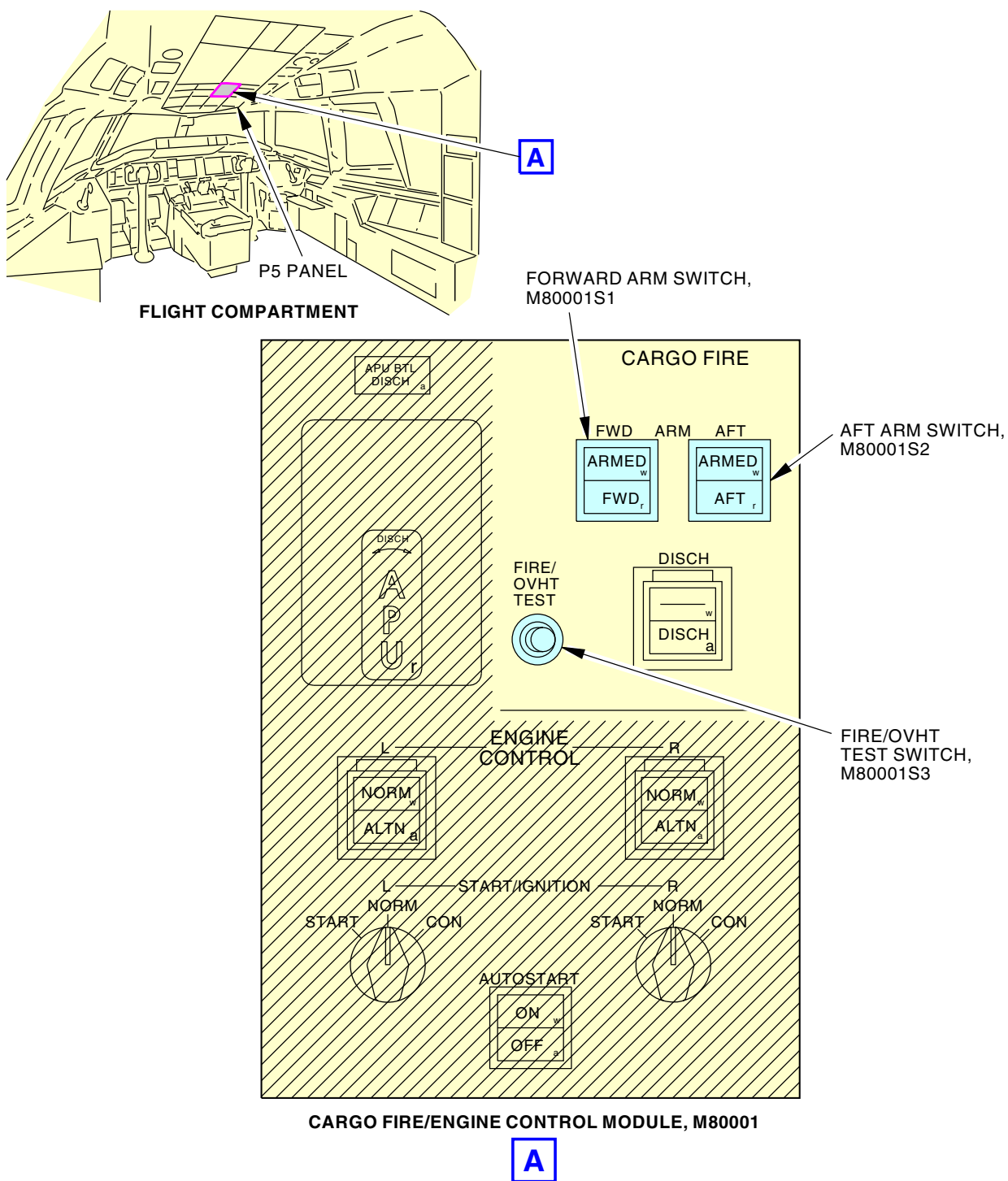
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C99467 S0006412304_V2

Lower Cargo Fire Extinguishing Test
Figure 501/26-23-00-990-802 (Sheet 1 of 2)

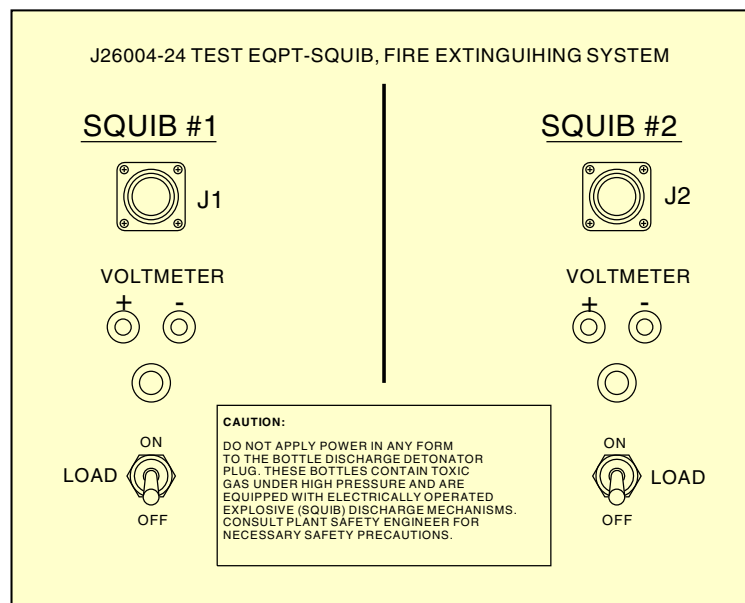
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**SQUIB TEST BOX
(EXAMPLE)**

E59834 S0006412305_V2

Lower Cargo Fire Extinguishing Test
Figure 501/26-23-00-990-802 (Sheet 2 of 2)

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TASK 26-23-00-730-802

5. Fire Extinguishing Tubing Leakage and Blockage - Functional Test

(Figure 501)

NOTE: This procedure is a scheduled maintenance task.

A. General

- (1) This Functional Test includes these tests:
- Forward Cargo Compartment Tubing Pressure Test
 - Aft Cargo Compartment Tubing Pressure Test
 - Manifold Tubing Pressure Test

B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
26-23-04-000-801	Lower Cargo Fire Extinguishing Filter/Regulator Removal (P/B 401)
26-23-04-400-801	Lower Cargo Fire Extinguishing Filter/Regulator 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-10946	Adapter - Pressure (5/8-inch flareless fitting at one end and 5/8-inch 37-degree flared fitting at the other end) Part #: 10 XHBU-SS Supplier: 30780
COM-14304	Adapter - Pressure (1/2-inch flareless fitting at one end and 1/2-inch 37-degree flared fitting at the other end) Part #: 8XHBU-SS Supplier: 99321
COM-14305	Adapter - Pressure (3/4-inch flareless fitting at one end and 3/4-inch 37-degree flared fitting at the other end) Part #: 12XHBU-SS Supplier: 99321
SPL-1650	Test Equipment - Fire Exit Tubing, Cargo Compartment Part #: J26009-16 Supplier: 81205 Opt Part #: J26005-24 Supplier: 81205 Opt Part #: J26005-32 Supplier: 81205 Opt Part #: J26009-1 Supplier: 81205
SPL-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205
STD-1114	Air Source - Regulated, Dry, Filtered 0-150 PSIG with Pressure Gauge range 100 PSIG, 1 PSIG increment and +/-1 psi minimum accuracy

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D. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, Right
152	Aft Cargo Compartment, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door
823	Aft Small Cargo Door

F. Prepare for the Test

SUBTASK 26-23-00-860-013

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

SUBTASK 26-23-00-010-018

- (2) Open this access door to get access to the Standby Power Management Panels:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-23-00-860-014

- (3) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-010-019

- (4) Open these access panels:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door
823	Aft Small Cargo Door

SUBTASK 26-23-00-010-020

- (5) Remove the sidewall lining to get access to the fire extinguishing bottles and the flow valves (TASK 25-52-06-000-801).

SUBTASK 26-23-00-490-001

- (6) Install the access pressure relief valve platform, SPL-1651, near the applicable fire extinguishing bottle.

SUBTASK 26-23-00-420-007

- (7) Make sure there is no loose or disconnected tubing from the bottle outlet to the nozzles in each compartment.

G. Nozzle Distribution Tubing Pressure Test

NOTE: The tubing to be tested is between the nozzles and the flow valve in each compartment.

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SUBTASK 26-23-00-420-008

- (1) Install the cargo firex tubing test equipment, SPL-1650, to one of the nozzles in the forward cargo compartment.

SUBTASK 26-23-00-480-032

- (2) Connect the Regulated Dry Filtered Air Source, STD-1114, to the cargo firex tubing test equipment, SPL-1650.

SUBTASK 26-23-00-420-009

- (3) Disconnect the tube from the outlet fitting on the forward flow valve.

NOTE: When testing the nozzles in the aft cargo compartment, disconnect the tube from the outlet fitting on the aft flow valve.

SUBTASK 26-23-00-780-015

- (4) Apply a pressure of 42.5 ± 7.5 psig (293.0 ± 51.7 kPa) to the tubing.
 - (a) Make sure that the air moves freely from each of the nozzles in the applicable cargo compartment.
 - (b) Make sure that the air moves freely from the outlet tube end that was disconnected from the flow valve.

SUBTASK 26-23-00-780-016



SLOWLY DECREASE THE PRESSURE IN THE TUBING. IF YOU DO NOT DECREASE THE PRESSURE SLOWLY, YOU CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (5) Decrease the pressure slowly to 0 psig (0 kPa).

SUBTASK 26-23-00-420-001

- (6) Tighten the nut on the outlet fitting of the forward flow valve (STA 706, RBL 83, WL 196) to 360 ± 18 in-lb (41 ± 2 N·m).

NOTE: Use the same torque for the outlet fitting on the aft flow valve (STA 817, RBL 83, WL 196)

NOTE: Both flow valve outlets are size 10 (5/8 inch) fittings.

SUBTASK 26-23-00-780-017

- (7) Push the reset button on the forward pressure switch, S26002.

NOTE: When you test the aft cargo compartment tubing, use the aft pressure switch, S26003.

SUBTASK 26-23-00-780-018

- (8) Make sure that the DISCH light on the Cargo Fire/Engine Control Module, M80001, on the P5 panel is not in view.

SUBTASK 26-23-00-780-019

- (9) On the maintenance page for the EICAS, make sure that the indication for the applicable pressure switch shows NORMAL.

SUBTASK 26-23-00-480-034

- (10) Install a cargo firex tubing test equipment, SPL-1650, on the other nozzles in the forward cargo compartment.

SUBTASK 26-23-00-780-020

- (11) Slowly apply a pressure of 12.5 ± 2.5 psig (86.2 ± 17.3 kPa) to the tubing.

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- (a) Make sure that the DISCH light on the Cargo Fire/Engine Control Module does not come on.

NOTE: A sudden force of pressure when you first open the shutoff valve can cause the DISCH light to come on. If the DISCH light comes on, push the reset button on the pressure switch. Make sure that the DISCH light stays off.

SUBTASK 26-23-00-780-021



DO NOT PRESSURIZE THE TUBING TO MORE THAN 100 PSIG. APPLY PRESSURE ONLY TO THE TUBING. IF YOU APPLY PRESSURE MORE THAN 100 PSIG, YOU CAN CAUSE DAMAGE TO THE FLOW VALVE.

- (12) With a pressure of 12.5 ± 2.5 psig (86.2 ± 17.3 kPa) to the tubing, slowly increase the pressure to 92.5 ± 2.5 psig (637.8 ± 17.3 kPa).
- (a) Make sure that the DISCH light comes on.
- (b) Record the pressure.

SUBTASK 26-23-00-780-022

- (13) Close the shutoff valve.

- (a) After ten minutes, record the pressure again.

NOTE: If the pressure gage measures the pressure in increments of 5 psig (34 kPa), then measure the pressure after 33 minutes.

- (b) Make sure that the pressure does not decrease more than 3 psig (21 kPa) after 10 minutes.

NOTE: For 5 psig (34 kPa) increment pressure gages, make sure that the pressure does not decrease more than 10 psig (69 kPa) after 33 minutes.

SUBTASK 26-23-00-780-023



SLOWLY DECREASE THE PRESSURE IN THE TUBING. IF YOU DO NOT DECREASE THE PRESSURE SLOWLY, YOU CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (14) Slowly decrease the pressure in the tubing to 0 psig (0 kPa).
- (a) Make sure that the DISCH light stays on.
- (b) On the maintenance page for the EICAS, make sure that the indication for the applicable pressure switch shows SET.

SUBTASK 26-23-00-780-024

- (15) Push the reset button on the forward pressure switch, S26002.

NOTE: When you test the aft cargo compartment tubing, use the aft pressure switch, S26003.

- (a) Make sure that the DISCH light goes off.
- (b) On the maintenance page for the EICAS, make sure that the indication for the applicable pressure switch shows NORMAL.

SUBTASK 26-23-00-080-002

- (16) Disconnect the Regulated Dry Filtered Air Source, STD-1114, from the ported cargo firex tubing test equipment, SPL-1650.

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SUBTASK 26-23-00-080-003

- (17) Remove the cargo firex tubing test equipment, SPL-1650, from the supply nozzles in the applicable cargo compartment.

SUBTASK 26-23-00-420-010

- (18) Repeat the steps above for the aft cargo compartment.

H. Bottle Manifold Tubing Pressure Test

NOTE: The manifold tubing to be tested is between the flow valves and all of the fire bottles.

SUBTASK 26-23-00-080-008

- (1) Remove the filter/regulator (TASK 26-23-04-000-801).

SUBTASK 26-23-00-480-039

- (2) Connect the pressure adapter, COM-14304, to the inlet tube end fitting that was disconnected from the filter/regulator.

SUBTASK 26-23-00-480-074

- (3) Connect the Regulated Dry Filtered Air Source, STD-1114, to the pressure adapter.

SUBTASK 26-23-00-700-001

- (4) Do the flow test for the metered bottles:
 - (a) Disconnect the bottle hoses from the discharge outlet fittings.
 - (b) Apply a pressure of 42.5 ± 7.5 psig (293.0 ± 51.7 kPa).
 - (c) Make sure that the air moves freely from the bottle hoses.
 - (d) Slowly decrease the pressure in the tubing to 0 psig (0 kPa).
 - (e) Connect the bottle hoses to the discharge outlets.
 - 1) Tighten the nut on the bottle hoses to 360 ± 18 in-lb (41 ± 2 N·m).

SUBTASK 26-23-00-790-004



DO NOT PRESSURIZE THE TUBING TO MORE THAN 100 PSIG. APPLY PRESSURE ONLY TO THE TUBING. IF YOU APPLY PRESSURE MORE THAN 100 PSIG, YOU CAN CAUSE DAMAGE TO THE FLOW VALVE.

- (5) Apply a pressure of 92.5 ± 2.5 psig (637.8 ± 17.3 kPa) to the tubing.
 - (a) Record the pressure.
- (6) Close the shutoff valve.
 - (a) After 10 minutes, record the pressure again.

NOTE: For 5 psig (34 kPa) pressure gages, measure the pressure after 33 minutes.
 - (b) Make sure that the pressure does not decrease more than 3 psig (21 kPa) after 10 minutes.

NOTE: For 5 psig (34 kPa) increment pressure gages, make sure that the pressure does not decrease more than 10 psig (69 kPa) after 33 minutes.



SLOWLY DECREASE THE PRESSURE IN THE TUBING. IF YOU DO NOT DECREASE THE PRESSURE SLOWLY, YOU CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (7) Slowly decrease the pressure in the tubing to 0 psig (0 kPa).

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SUBTASK 26-23-00-080-009

- (8) Disconnect the Regulated Dry Filtered Air Source, STD-1114, from the pressure adapter, COM-14304.

SUBTASK 26-23-00-080-010

- (9) Disconnect the pressure adapter, COM-14304, from the filter/regulator inlet tube end fitting.

SUBTASK 26-23-00-420-011

- (10) Connect the pressure adapter, COM-10946, or pressure adapter, COM-14305, to the outlet tube end fitting that was disconnected from the filter/regulator.

NOTE: Use pressure adapter, COM-10946, if the outlet tube is size 10 (5/8 inch). If the outlet tube is size 12 (3/4 inch), then use pressure adapter, COM-14305.

SUBTASK 26-23-00-480-075

- (11) Connect the Regulated Dry Filtered Air Source, STD-1114, to the pressure adapter.

SUBTASK 26-23-00-700-002

- (12) Do the flow test for the flow valves and dump bottles:
- (a) Disconnect the tube from the inlet fitting on the forward and aft flow valves.
 - (b) Apply a pressure of 42.5 ± 7.5 psig (293.0 ± 51.7 kPa).
 - (c) Make sure that the air moves freely from the inlet tubes that were disconnected from the flow valves.
 - (d) Slowly decrease the pressure in the tubing to 0 psig (0 kPa).
 - (e) Tighten the nut on the inlet fitting of the forward and aft flow valve to 450 ± 23 in-lb (51 ± 3 N·m).

NOTE: Both flow valve inlets are size 12 (3/4 inch) fittings.

- (f) Disconnect the bottle hoses from the discharge outlet fittings.
- (g) Apply a pressure of 42.5 ± 7.5 psig (293.0 ± 51.7 kPa).
- (h) Make sure that the air moves freely from the bottle hoses.
- (i) Slowly decrease the pressure in the tubing to 0 psig (0 kPa).
- (j) Install the bottle hoses to the discharge outlets.
 - 1) Tighten the nut on the bottle hoses to 360 ± 18 in-lb (41 ± 2 N·m).

SUBTASK 26-23-00-790-005



DO NOT PRESSURIZE THE TUBING TO MORE THAN 100 PSIG. APPLY PRESSURE ONLY TO THE TUBING. IF YOU APPLY PRESSURE MORE THAN 100 PSIG, YOU CAN CAUSE DAMAGE TO THE FLOW VALVE.

- (13) Apply a pressure of 92.5 ± 2.5 psig (637.8 ± 17.3 kPa) to the tubing.
- (a) Record the pressure.
- (14) Close the shutoff valve.
- (a) After 10 minutes, record the pressure again.

NOTE: For 5 psig (34 kPa) pressure gages, measure the pressure after 33 minutes.
 - (b) Make sure that the pressure does not decrease more than 3 psig (21 kPa) after 10 minutes.

NOTE: For 5 psig (34 kPa) increment pressure gages, make sure that the pressure does not decrease more than 10 psig (69 kPa) after 33 minutes.

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SLOWLY DECREASE THE PRESSURE IN THE TUBING. IF YOU DO NOT DECREASE THE PRESSURE SLOWLY, YOU CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.

- (15) Slowly decrease the pressure in the tubing to 0 psig (0 kPa).

SUBTASK 26-23-00-420-013

- (16) Disconnect the Regulated Dry Filtered Air Source, STD-1114, from the pressure adapter, COM-10946, or pressure adapter, COM-14305.

SUBTASK 26-23-00-420-014

- (17) Disconnect the pressure adapter, from the filter/regulator outlet tube end fitting.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 26-23-00-420-016

- (1) Install the filter/regulator (TASK 26-23-04-400-801).

SUBTASK 26-23-00-860-015

- (2) Make sure that these circuit breakers are open and have safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-010-022

- (3) Remove the access pressure relief valve platform, SPL-1651, near the applicable fire extinguishing bottle.

SUBTASK 26-23-00-860-016

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-410-008

- (5) Do this task: Sidewall Liner Installation, TASK 25-52-06-400-801.

SUBTASK 26-23-00-410-009

- (6) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-23-00-410-010

- (7) Close these cargo doors:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door
823	Aft Small Cargo Door

————— END OF TASK —————

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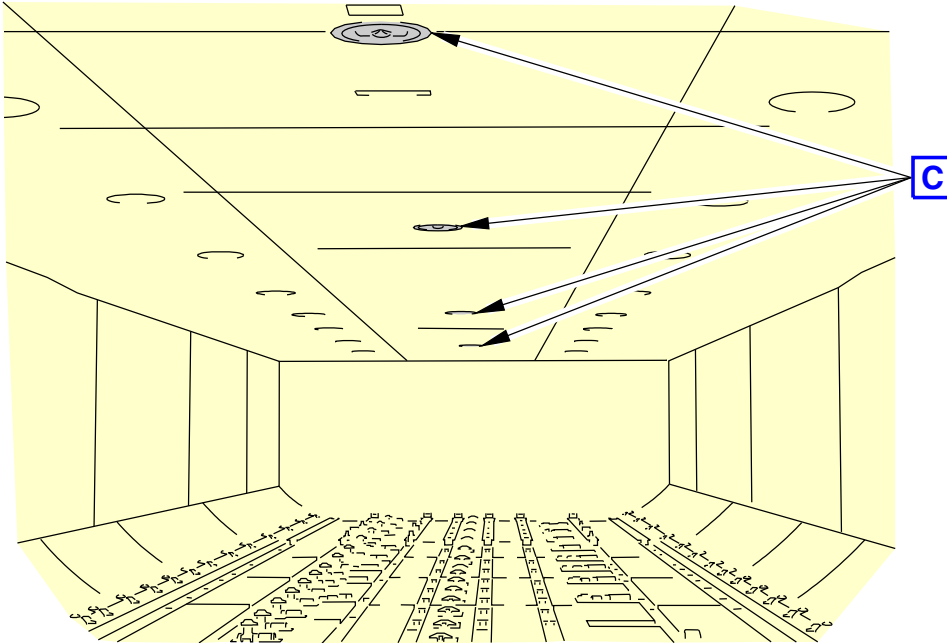
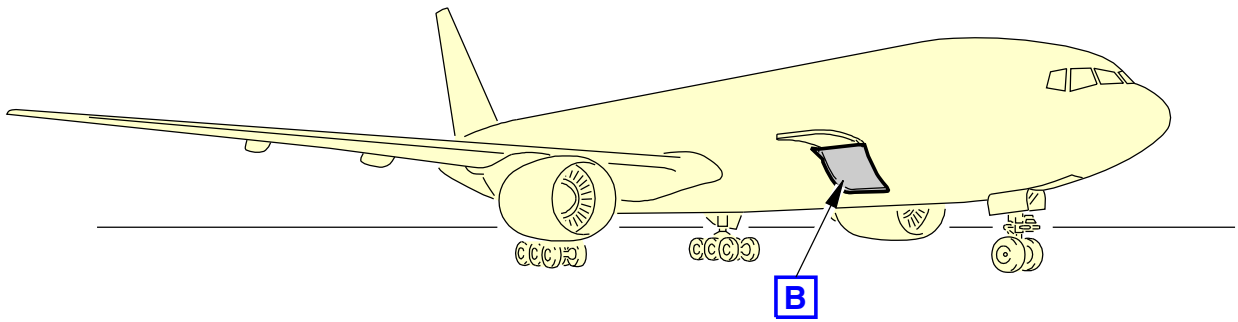
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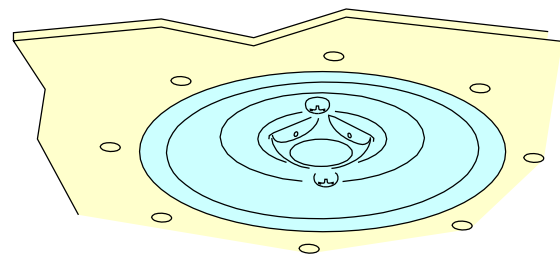
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FWD

**FORWARD CARGO COMPARTMENT
(AFT CARGO COMPARTMENT IS ALMOST THE SAME)**

B



**DISTRIBUTION NOZZLE
(EXAMPLE)**

C

E59839 S0006412307_V2

**Lower Cargo Fire Extinguishing Test
Figure 502/26-23-00-990-803**

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TASK 26-23-00-730-803

6. Cargo Fire Arm and Discharge Switch Test

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
21-00-00-800-801	Supply Conditioned Air to the Airplane (P/B 201)
21-27-00-700-801	Equipment Cooling System - System Test (P/B 501)
24-22-00-860-805	Supply Electrical Power (P/B 201)
24-22-00-860-806	Remove Electrical Power (P/B 201)
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
25-52-19-000-801	Bulk Cargo Compartment Aft End Wall Removal (P/B 401)
25-52-19-400-801	Bulk Cargo Compartment Aft End Wall Installation (P/B 401)
32-09-00-860-801	Air/Ground Mode Simulation (P/B 201)
45-10-00-760-801	How to Use Input Monitoring (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-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 260 Supplier: 55026 Opt Part #: 27 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536 Opt Part #: MODEL 27 Supplier: 89536
SPL-1649	Equipment - Test, Fire Extinguishing System Squib Part #: J26004-24 Supplier: 81205
SPL-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205
SPL-1652	Cable - Assembly, Cargo Fire Extinguishing System Squib Test Part #: J26004-25 Supplier: 81205
SPL-14051	Controller - Power Supply, E/E Cooling Fans (Airplanes with ELMS-2) Part #: J26006-32 Supplier: 81205

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Reference	Description
STD-1079	Resistor - 10K Ohm or Greater
STD-1139	Timer - Stop Watch, Accurate to 1 Second

C. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, Right
152	Aft Cargo Compartment, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door
823	Aft Small Cargo Door

E. Prepare for the Test

SUBTASK 26-23-00-860-038

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

SUBTASK 26-23-00-860-039

- (2) In the ground mode, start the forward cargo air conditioning as follows:
- (a) Do this task: Supply Conditioned Air to the Airplane, TASK 21-00-00-800-801.
 - (b) Make sure that the divert valve is open.

SUBTASK 26-23-00-860-040

- (3) Use a maintenance access terminal (MAT) to monitor the fans for a too hot condition (TASK 45-10-00-760-801).
- (a) Make these selections on the MAT:
 - 1) ONBOARD MAINTENANCE
 - 2) OTHER FUNCTIONS
 - 3) INPUT MONITORING
 - (b) Set GENERAL INPUT.
 - (c) Set CONTINUE.
 - (d) Put the cursor in the entry field.
 - (e) Use the keyboard to record the signal specification into the entry field:
 - 1) Record this signal specification: "X/629/SYS L/F85/1/20-20".

NOTE: In the position of X in the signal specification, use L if the CMC that is on is the left CMC. Use R if the CMC that is on is the right CMC.

 - a) Make sure that bit 10 and bit 13 values are 1.

NOTE: A too hot condition is equal to 0.
 - (f) Use the keyboard to record the signal specification into the entry field:

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- 1) Record this signal specification: "X/629/SYS L/F85/2/20-20".

NOTE: In the position of X in the signal specification, use L if the CMC that is on is the left CMC. Use R if the CMC that is on is the right CMC.

- a) Make sure that bit 10 and bit 13 values are 1.

NOTE: A too hot condition is equal to 0.

SUBTASK 26-23-00-010-026

- (4) Open this access door to get access to the Power Management Panels:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-23-00-860-041

- (5) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-010-027

- (6) Open these cargo doors:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door
823	Aft Small Cargo Door

SUBTASK 26-23-00-010-028

- (7) Remove the sidewall lining to get access to the fire extinguishing bottles and the flow valves. To remove the sidewall lining, do this task: Sidewall Liner Removal, TASK 25-52-06-000-801.
- (8) Remove the left end wall at Station 2062 in the bulk cargo compartment to get access to the lavatory/galley ventilation fans. To remove the end wall, do this task: Bulk Cargo Compartment Aft End Wall Removal, TASK 25-52-19-000-801.

SUBTASK 26-23-00-490-003

- (9) Install the access pressure relief valve platform, SPL-1651, near the applicable fire extinguishing bottle.

SUBTASK 26-23-00-030-004



KEEP THE CARGO DOORS OPEN DURING THE TEST. IF THE FIRE EXTINGUISHING BOTTLES ACCIDENTALLY RELEASE, KEEP ALL PERSONNEL OUT OF THE CARGO COMPARTMENT FOR A MINIMUM OF FIVE MINUTES. THE HALON IN THE FIRE EXTINGUISHING BOTTLES CAN CAUSE INJURIES TO PERSONNEL.

- (10) Disconnect the electrical connectors in the Table 512.

Table 512/26-23-00-993-840 Electrical Connector

Bottle/Flow Valve	Electrical Connector
Bottle 1A, B26013	DB26013A (Squib)
Bottle 1A, B26013	DB26013B (Press Sw)

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Table 512/26-23-00-993-840 Electrical Connector (Continued)

Bottle/Flow Valve	Electrical Connector
Bottle 1B, B26014	DB26014A (Squib)
Bottle 1B, B26014	DB26014B (Press Sw)
Bottle 2A, B26015	DB26015A (Squib)
Bottle 2A, B26015	DB26015B (Press Sw)
Bottle 2B, B26016	DB26016A (Squib)
Bottle 2B, B26016	DB26016B (Press Sw)
Bottle 2C, B26017	DB26017A (Squib)
Bottle 2C, B26017	DB26017B (Press Sw)
Fwd Flow Valve, V26201	DV26201A (Squib 1)
Fwd Flow Valve, V26201	DV26201B (Squib 2)
Aft Flow Valve, V26202	DV26202A (Squib 1)
Aft Flow Valve, V26202	DV26202B (Squib 2)



PUT A PROTECTIVE COVER ON THE SQUIB. IF YOU DO NOT PUT A PROTECTIVE COVER ON THE SQUIB, THE FIRE EXTINGUISHING BOTTLE CAN RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURIES TO PERSONS.



DO NOT PUT A SHUNT PLUG ON THE SQUIB. THE SHUNT PLUG CAN CAUSE DAMAGE TO THE SQUIB PINS.

- (a) Put protective caps, attached to the bottles and flow valves, on the squibs.

NOTE: The protective caps are attached to the fire extinguishing bottles. These protective caps prevent the squib from operation because of static electricity.

- (b) Make sure that the electrical and electronic equipment racks receive air.

NOTE: When the Fwd Cargo Arm Switch is ARMED or the Aft Cargo Arm Switch is ARMED, or if the Vent fan power is removed, and thus the vent fan is OFF, it is required to operate both air conditioning packs or supply conditioned air to the cabin if the outside air temperature is 30 °C or above to provide a proper temperature environment to the E/E Bay equipment. A supply fan must still be operating.

F. Cargo Fire Armed Switches Isolation Check

SUBTASK 26-23-00-860-042

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

Standby Power Management Panel, P310

Row	Col	Number	Name
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

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SUBTASK 26-23-00-730-261

- (2) Do these steps to make sure that the FWD ARM switch operates correctly:
- (a) Make sure that the EQUIP COOL switch is in the AUTO position.
NOTE: The EQUIP COOL switch is found on the AIR CONDITIONING Panel, P5.
 - (b) Make sure that this EICAS ADVISORY message does not show:
 - 1) EQUIPMENT COOLING OVRD
 - (c) Push the FWD ARM switch on the Cargo Fire/Engine Control Module on the P5 panel.
 - 1) Make sure that the ARMED indicator on the FWD ARM switch is in view.
 - (d) Make sure that this EICAS ADVISORY message shows:
 - 1) EQUIPMENT COOLING OVRD
 - (e) Push the FWD ARM switch on the Cargo Fire/Engine Control Module on the P5 panel.
 - 1) Make sure that the ARMED indicator on the FWD ARM switch is not in view.

SUBTASK 26-23-00-730-427



MAKE SURE THAT YOU COMPLETE THE STEPS TO SUPPLY POWER TO THE EQUIPMENT COOLING FAN IN FIVE MINUTES OR LESS. IF YOU DO NOT COMPLETE THE STEPS IN FIVE MINUTES, DAMAGE TO THE E/E BAY EQUIPMENT CAN OCCUR.

ARO ALL; AIRPLANES WITH ELMS-2

- (3) Do these steps to connect the E/E cooling fans power supply controller, SPL-14051, to the equipment cooling fans:

ARO ALL

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
H	17	C21613	EQPT CLG CGO HT VLV CTRL

NOTE: This makes sure that the cargo heat valve is closed.

- (b) Make sure that the vent valve is opened.
- (c) After a minimum of 40 seconds, do the subsequent step.
- (d) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	28	C21415	EQPT CLG VENT VLV
G	27	C21605	EQPT CLG SPLY FAN 1 CTRL
G	28	C21601	EQPT CLG VENT FAN CTRL
J	24	C24617	P110 PSU A PRI
P	15	C24655	P110 PSU B PRI
P	28	C24629	DC BUS TIE L

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	14	C21456	EQPT CLG DIVERT VLV

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Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
G	1	C21600	EQPT CLG SPLY FAN 2 CTRL
J	3	C24624	P110 PSU B ALTN
J	6	C24658	P110 PSU A ALTN
P	1	C24666	DC BUS TIE R

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
H	9	C21632	EQPT CLG SMOKE OVRD VLV MOT 1
H	10	C21634	EQPT CLG SMOKE OVRD VLV MOT 2

ARO ALL; AIRPLANES WITH ELMS-2

- (e) Put the L BUS TIE switch on the overhead panel, P5, to the ISLN position.
- (f) Put the R BUS TIE switch on the overhead panel, P5, to the ISLN position.



CAUTION

MAKE SURE THAT YOU COMPLETE THE STEPS TO SUPPLY POWER TO THE EQUIPMENT COOLING FAN IN FIVE MINUTES OR LESS. IF YOU DO NOT COMPLETE THE STEPS IN FIVE MINUTES, DAMAGE TO THE E/E BAY EQUIPMENT CAN OCCUR.

- (g) Disconnect the D10025 from the J25 receptacle and the D10003 from the J3 receptacle on the P100 Left Power Panel.
- (h) Disconnect the D20025 cable from the J25 receptacle on the P200 Right Power Panel.
- (i) Make sure that the vent fan control switch on the E/E cooling fans power supply controller, SPL-14051, is in the OFF position and the supply fan 2 control switch is in AUTO.
- (j) Do this to install the E/E cooling fans power supply controller, SPL-14051:
 - 1) Connect the vent fan control switch cable (P1) of the E/E cooling fans power supply controller, SPL-14051, to the J25 receptacle of the P100 Left Power Panel.
 - 2) Connect the power crossover cable (P3) of the E/E cooling fans power supply controller, SPL-14051, to the J3 receptacle of the P100 Left Power Panel
 - 3) Connect the other end of the crossover cable to the D10003 airplane connector plug.
 - 4) Connect the D10025 airplane connector plug to the vent fan control switch receptacle (J1).
 - 5) Connect the P4 jumper, from the crossover cable, into the J4 receptacle.
NOTE: The P4 jumper was added to avoid both supply fans operating at the same time.
 - 6) Connect the supply fan 2 control switch cable (P2) into the J25 receptacle of the P200 Right Power Panel.
 - 7) Connect the D20025 airplane connector plug into the J2 receptacle of the supply fan 2 control switch.
- (k) Put the L BUS TIE switch on the overhead panel, P5, to the AUTO position.

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ARO ALL; AIRPLANES WITH ELMS-2 (Continued)

- (l) Put the R BUS TIE switch on the overhead panel, P5, to the AUTO position.

ARO ALL

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
G	27	C21605	EQPT CLG SPLY FAN 1 CTRL
G	28	C21601	EQPT CLG VENT FAN CTRL
J	24	C24617	P110 PSU A PRI
P	15	C24655	P110 PSU B PRI
P	28	C24629	DC BUS TIE L

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
J	3	C24624	P110 PSU B ALTN
J	6	C24658	P110 PSU A ALTN
P	1	C24666	DC BUS TIE R

Remove the safety tag and close this circuit breaker:

ARO ALL; AIRPLANES WITH ELMS-2

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
G	1	C21600	EQPT CLG SPLY FAN 2 CTRL

ARO ALL

- (n) Make sure that the override valve is CLOSED for the portion that vents air in reverse mode and OPEN for the portion that directly controls the air flow from the supply fans.
- (o) Set the supply fan control switch to the ON position. After five seconds, do the subsequent step.
- (p) Make sure that air flows to the E/E bay from the supply fan.
- (q) Set the vent fan control switch to the ON position.
- (r) Make sure that air flows freely overboard from the vent fan.



STOP THE TEST IF THE FAN BECOMES TOO HOT. HEAT CAN CAUSE DAMAGE TO THE FAN.

- (s) Monitor the MAT for a too hot fan condition.

NOTE: A MAT bit change will show if the fan is too hot. Ignore the EICAS fan error message.

SUBTASK 26-23-00-730-262

- (4) Do these steps to make sure that the AFT ARM switch operates correctly:
- (a) Feel that the Lavatory/Galley Vent Fans, aft of the bulk cargo end wall, are on.
- (b) Push the AFT ARM switch on the Cargo Fire/Engine Control Module on the P5 panel.
- 1) Make sure that the ARMED indicator on the AFT ARM switch is in view.

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- 2) Feel that the Bulk Cargo Vent Fan is not on.
- 3) Feel that the Lavatory/Galley Vent Fans are not on.
- (c) Push the AFT ARM switch on the Cargo Fire/Engine Control Module on the P5 panel.
 - 1) Make sure that the ARMED indicator on the AFT ARM switch is not in view.
- (d) Put the CARGO TEMP SELECT switch to its position before the start of the subsequent test.

G. Cargo Fire Discharge Switch Isolation Check

SUBTASK 26-23-00-860-043

- (1) Set the Maintenance Access Terminal (MAT) to the air mode. To set the MAT to the air mode, do this task: Air/Ground Mode Simulation, TASK 32-09-00-860-801.

NOTE: Do the steps below in sequence without interruption due to the 20 minutes timer.

SUBTASK 26-23-00-730-263

- (2) On the squib test equipment, SPL-1649, make sure that the squib LOAD switches are in the OFF positions.

SUBTASK 26-23-00-860-056

- (3) Make sure that these circuit breakers are open and have safety tags:
Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

Row	Col	Number	Name
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-480-047

- (4) Do these steps to connect the squib test equipment, SPL-1649, and squib test cable, SPL-1652, to the forward flow valve and bottles 1A and 1B:
 - (a) Connect the electrical connector, DV26201A, for the forward flow valve to the test cable assembly.
 - (b) Connect the test cable assembly to the SQUIB #1 location on the first squib test equipment, SPL-1649.
 - (c) Connect the electrical connector, DV26201B, for the forward flow valve to the test cable assembly.
 - (d) Connect the test cable assembly to the SQUIB #2 location on the first squib test equipment, SPL-1649.
 - (e) Connect the electrical connector, DB26013A, for bottle 1A to the test cable assembly.
 - (f) Connect the test cable assembly to the SQUIB #1 location on the second squib test equipment, SPL-1649.
 - (g) Connect the electrical connector, DB26014A, for bottle 1B to the test cable assembly.
 - (h) Connect the test cable assembly to the SQUIB #2 location on the second squib test equipment, SPL-1649.

SUBTASK 26-23-00-480-048

- (5) Connect a digital/analog multimeter, COM-1793, to each SQUIB VOLTMETER location on the squib test equipment, SPL-1649.

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SUBTASK 26-23-00-730-264

- (6) Set the LOAD switches on each squib test equipment, SPL-1649, to the ON positions.

SUBTASK 26-23-00-860-044

- (7) Make sure that these circuit breakers are closed:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-730-265

- (8) Push the FWD ARM switch on the Cargo Fire/Engine Control Module, M80001, on the P5 panel.

- (a) Make sure that the ARMED indicator on the FWD ARM switch is in view.
- (b) Make sure that air flows to the E/E bay from the supply fan.
- (c) Make sure that air flows freely overboard from the vent fan.

NOTE: Ignore the EICAS fan and valve error messages. Monitor the MAT for a too hot fan condition.

SUBTASK 26-23-00-730-266

NOTE: To prevent circuit breaker from tripping. Make sure to set load switches on each squib test equipment, SPL-1649, to the off position after time and voltage requirements are reached.

- (9) Push and hold the DISCH switch on the Cargo Fire/Engine Control Module for a minimum of one second.

- (a) Make sure that the four multimeters show a minimum of 18 VDC when the DISCH switch is pushed. This shows the operation of the fire bottles (1A and 1B) and the forward flow control valve.

SUBTASK 26-23-00-730-267

- (10) Release the DISCH switch on the Cargo Fire/Engine Control Module.

SUBTASK 26-23-00-860-045

- (11) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-080-014

- (12) Do these steps to disconnect the squib test equipment, SPL-1649, from the forward flow valve and bottles 1A and 1B:

- (a) Disconnect the electrical connector, DV26201A, for the forward flow valve from the test cable assembly.
- (b) Disconnect the electrical connector, DV26201B, for the forward flow valve from the test cable assembly.
- (c) Disconnect the electrical connector, DB26013A, for bottle 1A from the test cable assembly.

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- (d) Disconnect the electrical connector, DB26014A, for bottle 1B from the test cable assembly.
- (e) Disconnect the test cable assemblies from the SQUIB locations on the squib test equipment, SPL-1649.

SUBTASK 26-23-00-430-009

- (13) Do these steps to connect the squib test equipment, SPL-1649, to bottles 2A through 2C:
 - (a) Connect the electrical connector, DB26015A, for bottle 2A to the test cable assembly.
 - (b) Connect the test cable assembly to the SQUIB #1 location on the first squib test equipment, SPL-1649.
 - (c) Connect the electrical connector, DB26016A, for bottle 2B to the test cable assembly.
 - (d) Connect the test cable assembly to the SQUIB #2 location on the first squib test equipment, SPL-1649.
 - (e) Connect the electrical connector, DB26017A, for bottle 2C to the applicable test cable assembly.
 - (f) Connect the test cable assembly to the SQUIB #1 location on the second squib test equipment, SPL-1649.

SUBTASK 26-23-00-860-046

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-860-054

- (15) Make sure that the FWD ARM switch is still pushed ON.

SUBTASK 26-23-00-730-281

- (16) Push the FWD ARM switch OFF, and then push the FWD ARM switch ON again to reset the timer.

NOTE: You must wait a minute for the timer to reset.

SUBTASK 26-23-00-730-269

- (17) Push and hold the DISCH switch on the Cargo Fire/Engine Control Module for a minimum of one second.

NOTE: The timer starts when you push the DISCH switch.

- (a) Start a stopwatch, STD-1139, approximately at the same time that you push the DISCH switch.

SUBTASK 26-23-00-860-057

- (18) Make sure that the three multimeters show less than 0.5 VDC for 19.5 minutes after you pushed the DISCH switch.

SUBTASK 26-23-00-730-279

NOTE: To prevent circuit breaker from tripping. Make sure to set load switches on each squib test equipment, SPL-1649, to the off position after time and voltage requirements are reached.

- (19) Make sure that the three multimeters show a minimum of 18.0 VDC after 20.5 minutes have passed since you pushed the DISCH switch. This indicates that the three metered fire bottles (2A, 2B and 2C) are operating.

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SUBTASK 26-23-00-730-272

- (20) Push the FWD ARM switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the ARMED indicator on the FWD ARM switch is not in view.

SUBTASK 26-23-00-860-047

- (21) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-080-016

- (22) Do these steps to disconnect the squib test equipment, SPL-1649, from the bottles 2A through 2C:
- (a) Disconnect the electrical connector, DB26015A, for bottle 2A from the test cable assembly.
- (b) Disconnect the electrical connector, DB26016A, for bottle 2B from the test cable assembly.
- (c) Disconnect the electrical connector, DB26017A, for bottle 2C from the applicable test cable assembly.
- (d) Disconnect the test cable assemblies from the SQUIB locations on the squib test equipment, SPL-1649.

SUBTASK 26-23-00-730-273

- (23) On the squib test equipment, SPL-1649, make sure that the squib LOAD switches are in the OFF positions.

SUBTASK 26-23-00-480-049

- (24) Do these steps to connect the squib test equipment, SPL-1649, to the aft flow valve and bottles 1A and 1B:
- (a) Connect the electrical connector, DV26202A, for the aft flow valve to the test cable assembly.
- (b) Connect the test cable assembly to the SQUIB #1 location on the first squib test equipment, SPL-1649.
- (c) Connect the electrical connector, DV26202B, for the aft flow valve to the test cable assembly.
- (d) Connect the test cable assembly to the SQUIB #2 location on the first squib test equipment, SPL-1649.
- (e) Connect the electrical connector, DB26013A, for bottle 1A to the test cable assembly.
- (f) Connect the test cable assembly to the SQUIB #1 location on the second squib test equipment, SPL-1649.
- (g) Connect the electrical connector, DB26014A, for bottle 1B to the test cable assembly.
- (h) Connect the test cable assembly to the SQUIB #2 location on the second squib test equipment, SPL-1649.

SUBTASK 26-23-00-480-050

- (25) Connect a digital/analog multimeter, COM-1793, to each SQUIB VOLTMETER location on the squib test equipment, SPL-1649.

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SUBTASK 26-23-00-730-274

- (26) Set the LOAD switches on each squib test equipment, SPL-1649, to the ON positions.

SUBTASK 26-23-00-860-048

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-730-275

- (28) Push the AFT ARM switch on the Cargo Fire/Engine Control Module, M80001, on the P5 panel.
- (a) Make sure that the ARMED indicator on the AFT ARM switch is in view.
- (b) Make sure that air flows to the electrical and electronic equipment racks.

SUBTASK 26-23-00-730-276

NOTE: To prevent circuit breaker from tripping. Make sure to set load switches on each squib test equipment, SPL-1649, to the off position after time and voltage requirements are reached.

- (29) Push and hold the DISCH switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the four multimeters show a minimum of 18 VDC.

SUBTASK 26-23-00-730-277

- (30) Release the DISCH switch on the Cargo Fire/Engine Control Module.

SUBTASK 26-23-00-730-278

- (31) Push the AFT ARM switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the ARMED indicator on the AFT ARM switch is not in view.

SUBTASK 26-23-00-860-049

- (32) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-080-017

- (33) Do these steps to disconnect the squib test equipment, SPL-1649, from the aft flow valve and bottles 1A and 1B:
- (a) Disconnect the electrical connector, DV26202A, for the aft flow valve from the test cable assembly.
- (b) Disconnect the electrical connector, DV26202B, for the aft flow valve from the test cable assembly.
- (c) Disconnect the electrical connector, DB26013A, for bottle 1A from the test cable assembly.
- (d) Disconnect the electrical connector, DB26014A, for bottle 1B from the test cable assembly.

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- (e) Disconnect the test cable assemblies from the SQUIB locations on the squib test equipment, SPL-1649.

SUBTASK 26-23-00-860-050

- (34) Set the Maintenance Access Terminal (MAT) to the ground mode. To set the MAT to the ground mode, do this task: Air/Ground Mode Simulation, TASK 32-09-00-860-801.

SUBTASK 26-23-00-860-082



MAKE SURE THAT YOU COMPLETE THE STEPS TO SUPPLY POWER TO THE EQUIPMENT COOLING FAN IN FIVE MINUTES OR LESS. IF YOU DO NOT COMPLETE THE STEPS IN FIVE MINUTES, DAMAGE TO THE E/E BAY EQUIPMENT CAN OCCUR.

- (35) Do these steps to put the equipment cooling fans back to their usual condition:
- (a) Open these circuit breakers and install safety tags:

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
G	27	C21605	EQPT CLG SPLY FAN 1 CTRL
G	28	C21601	EQPT CLG VENT FAN CTRL
J	24	C24617	P110 PSU A PRI
P	15	C24655	P110 PSU B PRI
P	28	C24629	DC BUS TIE L

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
J	3	C24624	P110 PSU B ALTN
J	6	C24658	P110 PSU A ALTN
P	1	C24666	DC BUS TIE R

Open this circuit breaker and install safety tag:

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
G	1	C21600	EQPT CLG SPLY FAN 2 CTRL

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- (b) Put the L BUS TIE switch on the overhead panel, P5, to the ISLN position.
- (c) Put the R BUS TIE switch on the overhead panel, P5, to the ISLN position.

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CAUTION

MAKE SURE THAT YOU COMPLETE THE STEPS TO SUPPLY POWER TO THE EQUIPMENT COOLING FAN IN FIVE MINUTES OR LESS. IF YOU DO NOT COMPLETE THE STEPS IN FIVE MINUTES, DAMAGE TO THE E/E BAY EQUIPMENT CAN OCCUR.

- (d) Disconnect the E/E cooling fans power supply controller, SPL-14051, from the D10025, D20025, and D10003 airplane connector plug and the P100 and P200 Power Panels.
- (e) Connect the D10025 and D10003 control cables to the P100 Left Power Panel and the D20025 to the P200 Right Power Panel.

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- (f) Put the L BUS TIE switch on the overhead panel, P5, to the AUTO position.
- (g) Put the R BUS TIE switch on the overhead panel, P5, to the AUTO position.

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

Left Power Management Panel, P110

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	28	C21415	EQPT CLG VENT VLV
G	27	C21605	EQPT CLG SPLY FAN 1 CTRL
G	28	C21601	EQPT CLG VENT FAN CTRL
H	17	C21613	EQPT CLG CGO HT VLV CTRL
J	24	C24617	P110 PSU A PRI
P	15	C24655	P110 PSU B PRI
P	28	C24629	DC BUS TIE L

Right Power Management Panel, P210

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	14	C21456	EQPT CLG DIVERT VLV
G	1	C21600	EQPT CLG SPLY FAN 2 CTRL
J	3	C24624	P110 PSU B ALTN
J	6	C24658	P110 PSU A ALTN
P	1	C24666	DC BUS TIE R

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
H	9	C21632	EQPT CLG SMOKE OVRD VLV MOT 1
H	10	C21634	EQPT CLG SMOKE OVRD VLV MOT 2

- (i) Do this task: Equipment Cooling System - System Test, TASK 21-27-00-700-801.

H. Put the Airplane Back to Its Usual Condition

SUBTASK 26-23-00-860-052

- (1) Make sure that these circuit breakers are open and have safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-430-010

- (2) Do these steps to connect the electrical connectors in the Table 513:

Table 513/26-23-00-993-847 Electrical Connector

Bottle/Flow Valve	Electrical Connector
Bottle 1A, B26013	DB26013A (Squib)
Bottle 1A, B26013	DB26013B (Press Sw)
Bottle 1B, B26014	DB26014A (Squib)

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Table 513/26-23-00-993-847 Electrical Connector (Continued)

Bottle/Flow Valve	Electrical Connector
Bottle 1B, B26014	DB26014B (Press Sw)
Bottle 2A, B26015	DB26015A (Squib)
Bottle 2A, B26015	DB26015B (Press Sw)
Bottle 2B, B26016	DB26016A (Squib)
Bottle 2B, B26016	DB26016B (Press Sw)
Bottle 2C, B26017	DB26017A (Squib)
Bottle 2C, B26017	DB26017B (Press Sw)
Fwd Flow Valve, V26201	DV26201A (Squib 1)
Fwd Flow Valve, V26201	DV26201B (Squib 2)
Aft Flow Valve, V26202	DV26202A (Squib 1)
Aft Flow Valve, V26202	DV26202B (Squib 2)

- (a) Remove the protective caps from the squibs.

NOTE: The protective caps are attached to the fire extinguishing bottles and the flow valves.

- (b) Do these steps to connect the electrical connectors to the squibs:



WARNING MAKE SURE THAT THERE IS NO VOLTAGE AT THE ELECTRICAL CONNECTOR. IF THERE IS A VOLTAGE AT THE ELECTRICAL CONNECTOR, THE SQUIB CAN RELEASE THE CONTENTS OF THE BOTTLE SUDDENLY. THIS CAN CAUSE INJURIES TO PERSONNEL.

- 1) Make sure that there is no voltage between pins 1 and 2 of the electrical connector.

NOTE: If you connect a resistor, STD-1079, across the digital/analog multimeter, COM-1793, you will remove the small voltage from the electrical connector.

- 2) Make sure that the squib electrical pins are not bent or damaged.

- 3) Make sure that the electrical connector is not dirty or damaged.

NOTE: The squib pins can cause damage to the electrical connector if the pins do not correctly engage the electrical connector.

- 4) Connect the electrical connectors to the squibs.

- 5) Do the steps that follow to make sure that you did not cause damage to the squib pins.

NOTE: You can cause damage to the pins when you first connect an electrical connector to the squib.

- a) Disconnect the electrical connector from the fire bottle squib.
- b) Make sure that the squib electrical pins are not bent or damaged.
- c) Make sure that the electrical connectors are not damaged.
- d) Connect the electrical connectors to the squibs.
- e) Connect the electrical connectors to the pressure switches on the fire extinguishing bottles.

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SUBTASK 26-23-00-090-002

- (3) Remove the access pressure relief valve platform, SPL-1651.

SUBTASK 26-23-00-860-053

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-710-042

- (5) Do this task: Cargo Fire Extinguishing Squibs - Operational Test, TASK 26-23-00-710-802.

SUBTASK 26-23-00-410-013



SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, THE FIRE EXTINGUISHING AGENT OR SMOKE CAN CAUSE INJURIES.

- (6) Do this task: Sidewall Liner Installation, TASK 25-52-06-400-801.
(7) Do this task: Bulk Cargo Compartment Aft End Wall Installation, TASK 25-52-19-400-801.

SUBTASK 26-23-00-410-014

- (8) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-23-00-410-015

- (9) Close these cargo doors:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door
823	Aft Small Cargo Door

SUBTASK 26-23-00-760-047

- (10) Do this task: Remove Electrical Power, TASK 24-22-00-860-806.

————— END OF TASK —————

TASK 26-23-00-730-804

7. Cargo Fire Arm and Discharge Switch Installation Test

(Figure 501)

A. General

- (1) The Cargo Fire Arm and Discharge Switch Test makes sure that the forward arm switch, aft arm switch and discharge switch operate correctly. Do this test after you replace one or more of these switches.
- (2) Parts of this test are to agree with AD 96-20-01.
- (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.

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B. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
32-09-00-860-801	Air/Ground Mode Simulation (P/B 201)
45-10-00-740-808	How to Use the Central Maintenance Computing System (P/B 201)
45-10-00-760-801	How to Use Input Monitoring (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-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 260 Supplier: 55026 Opt Part #: 27 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536 Opt Part #: MODEL 27 Supplier: 89536
SPL-1649	Equipment - Test, Fire Extinguishing System Squib Part #: J26004-24 Supplier: 81205
SPL-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205
SPL-1652	Cable - Assembly, Cargo Fire Extinguishing System Squib Test Part #: J26004-25 Supplier: 81205
STD-1079	Resistor - 10K Ohm or Greater

D. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

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E. Access Panels

Number	Name/Location

117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door
823	Aft Small Cargo Door

F. Prepare for the Test

SUBTASK 26-23-00-860-017

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

SUBTASK 26-23-00-010-023

- (2) Open this access door to get access to the Power Management Panels:

Number	Name/Location

117AL	Main Equipment Center Access Door

SUBTASK 26-23-00-860-018

- (3) Make sure that these circuit breakers are closed:

Left Power Management Panel, P110

Row	Col	Number	Name
C	27	C26414	AFT CGO SMOKE CTRL CHAN 1
C	28	C26413	FWD CGO SMOKE CTRL CHAN 1

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
B	7	C23605	OPAS 3
D	6	C23603	OPAS 1
G	20	C23602	OPAS 2

Right Power Management Panel, P210

Row	Col	Number	Name
E	2	C26415	FWD CGO SMOKE CTRL CHAN 2
E	3	C26416	AFT CGO SMOKE CTRL CHAN 2

Standby Power Management Panel, P310

Row	Col	Number	Name
F	4	C33611	MD & T CHANNEL 4

SUBTASK 26-23-00-860-019

- (4) Make sure that the Equipment Cooling Switch, S1 on the Air Conditioning Module, M21315 is set to AUTO.

SUBTASK 26-23-00-860-020

- (5) Set the Maintenance Access Terminal (MAT) to the ground mode. To set the MAT to the ground mode, do this task: Air/Ground Mode Simulation, TASK 32-09-00-860-801.

SUBTASK 26-23-00-860-021

- (6) Make these selections on the MAT:
- (a) EXTENDED MAINTENANCE
 - (b) EXISTING FAULTS
 - (c) 23 OVERHEAD PANEL ARINC 629 SYSTEM

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SUBTASK 26-23-00-860-022

- (7) Make sure that these CMCS messages do not show as ACTIVE on the MAT:
- (a) 23-43150, CARGO FIRE AFT ARM Switch
 - (b) 23-43160, CARGO FIRE DISCHARGE Switch
 - (c) 23-43170, CARGO FIRE FWD ARM Switch

SUBTASK 26-23-00-860-023

- (8) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-010-024

- (9) Open these cargo doors:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door
823	Aft Small Cargo Door

SUBTASK 26-23-00-010-025

- (10) Remove the sidewall lining to get access to the fire extinguishing flow valves. To remove the sidewall lining, do this task: Sidewall Liner Removal, TASK 25-52-06-000-801.

SUBTASK 26-23-00-490-002

- (11) Install the access pressure relief valve platform, SPL-1651 near the applicable flow valve.

SUBTASK 26-23-00-030-001



KEEP THE CARGO DOORS OPEN DURING THE TEST. IF THE FIRE EXTINGUISHING BOTTLES ACCIDENTALLY RELEASE, KEEP ALL PERSONNEL OUT OF THE CARGO COMPARTMENT FOR A MINIMUM OF FIVE MINUTES. THE HALON IN THE FIRE EXTINGUISHING BOTTLES CAN CAUSE INJURIES TO PERSONNEL.

- (12) Disconnect the electrical connectors in the Table 514 :

Table 514/26-23-00-993-831 Electrical Connector

Bottle/Flow Valve	Electrical Connector
Bottle 1A, B26013	DB26013A (Squib)
Bottle 1B, B26014	DB26014A (Squib)
Bottle 2A, B26015	DB26015A (Squib)
Bottle 2B, B26016	DB26016A (Squib)
Bottle 2C, B26017	DB26017A (Squib)
Fwd Flow Valve, V26201	DV26201A (Squib 1)
Fwd Flow Valve, V26201	DV26201B (Squib 2)
Aft Flow Valve, V26202	DV26202A (Squib 1)
Aft Flow Valve, V26202	DV26202B (Squib 2)

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PUT CAPS ON THE BOTTLE SQUIBS AND FLOW VALVE SQUIBS. IF YOU DO NOT PUT CAPS ON THE SQUIBS, THE SQUIBS CAN FIRE ACCIDENTALLY AND CAUSE INJURIES TO PERSONNEL.



DO NOT PUT A SHUNT PLUG ON THE SQUIB. THE SHUNT PLUG CAN CAUSE DAMAGE TO THE SQUIB PINS.

- (a) Put protective caps, attached to the bottles and flow valves, on the squibs.

NOTE: The protective caps are attached to the fire extinguishing bottles. These protective caps prevent the squib from the possible activation because of static electricity.

G. Cargo Fire Switch Test

SUBTASK 26-23-00-710-036

- (1) Push and hold the FIRE/OVHT TEST switch on the Cargo Fire/Engine Control Module in the flight compartment.

SUBTASK 26-23-00-710-037

- (2) In the flight compartment, make sure that these fire alarm indications occur:
- (a) On the Cargo Fire/Engine Control Module, the FWD light for the FWD ARM switch comes on
 - (b) On the Cargo Fire/Engine Control Module, the AFT light for the AFT ARM switch comes on.

NOTE: There are fire alarm indications for other fire protection systems in the flight compartment.

SUBTASK 26-23-00-710-038

- (3) Release the FIRE/OVHT TEST switch.
- (a) Make sure that the FWD light for the FWD ARM switch goes off.
 - (b) Make sure that the AFT light for the AFT ARM switch goes off.
 - (c) Make sure that the DISCH light for the DISCHARGE switch is not on.

SUBTASK 26-23-00-030-002

- (4) In the forward cargo compartment, disconnect the electrical connector, DS26002 from the pressure switch, S26002.

SUBTASK 26-23-00-480-041

- (5) Connect a jumper wire between pins 2 and 3 of the electrical connector, DS26002.
- (a) In the flight compartment, make sure that the DISCH light for the DISCHARGE switch is on.

SUBTASK 26-23-00-080-011

- (6) Disconnect the jumper wire from the electrical connector, DS26002.

SUBTASK 26-23-00-480-042

- (7) Connect the electrical connector, DS26002 to the pressure switch, S26002.
- (a) In the flight compartment, make sure that the DISCH light for the DISCHARGE switch is off.



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SUBTASK 26-23-00-860-024

- (8) On the squib test equipment, SPL-1649, make sure that the squib LOAD switches are in the OFF positions.

SUBTASK 26-23-00-430-005

- (9) Do these steps to connect the squib test equipment, SPL-1649 and squib test cable, SPL-1652 to the bottle 1A electrical connector:
- Connect the electrical connector, DB26013A, for bottle 1A to the applicable test cable assembly.
 - Connect the test cable assembly to the SQUIB #1 location on the squib test equipment, SPL-1649.

SUBTASK 26-23-00-480-043

- (10) Connect a digital/analog multimeter, COM-1793 to the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649.

SUBTASK 26-23-00-860-025

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

H. Input Monitoring Switch Check

SUBTASK 26-23-00-860-026

- (1) Use a maintenance access terminal (MAT) to do input monitoring of the wires to the switches (TASK 45-10-00-760-801).
- Look at the top right corner of the Existing Faults display to see which CMCF (left or right) is in control. The left CMCF is in control if this indication shows: This data is from the Left CMCF.
 - From the initial MAT menu, make these selections on the MAT:
 - ONBOARD MAINTENANCE
 - OTHER FUNCTIONS
 - INPUT MONITORING
 - Set GENERAL INPUT.
 - Set CONTINUE.
 - Put the cursor in the entry field.
 - Use the keyboard to record the signal specification into the entry field:
 - Record this signal specification:
X/629/SYS L/E77/1/7-7
NOTE: Do not use X in the signal specification. Where X shows, use L if the left CMCF is in control or use R if the right CMCF is in control.
 - Set RUN to monitor the input.
 - For bits 15 and 14, make sure that the value is 01.
 - For bits 1 and 0, make sure that the value is 01.

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- 3) Record this signal specification:
X/629/SYS L/E77/2/7-7
- (h) Set RUN to monitor the input.
 - 1) For bits 15 and 14, make sure that the value is 01.
 - 2) For bits 1 and 0, make sure that the value is 01.
 - 3) Record this signal specification:
X/629/SYS L/E77/1/8-8
- (i) Set RUN to monitor the input.
 - 1) For bits 15 and 14, make sure that the value is 01.
 - 2) Record this signal specification:
X/629/SYS L/E77/2/8-8
- (j) Set RUN to monitor the input.
 - 1) For bits 15 and 14, make sure that the value is 01.



CAUTION

MAKE SURE THAT YOU COMPLETE THE TASKS WITH THE SWITCH IN THE ARMED POSITION IN APPROXIMATELY FIVE MINUTES. IF YOU DO NOT COMPLETE THESE STEPS IN FIVE MINUTES, DAMAGE TO EQUIPMENT IN THE E/E BAY CAN OCCUR.

- (k) Push the FWD ARM switch on the Cargo Fire/Engine Control Module, M80001, on the P5 panel.
 - 1) Make sure that the ARMED indicator on the FWD ARM switch is in view.
- (l) Use the keyboard to record the signal specification into the entry field:
 - 1) Record this signal specification:
X/629/SYS L/E77/1/7-7

NOTE: Do not use X in the signal specification. Where X shows, use L if the left CMCF is in control or use R if the right CMCF is in control.
- (m) Set RUN to monitor the input.
 - 1) For bits 15 and 14, make sure that the value is 10.
 - 2) Record this signal specification:
X/629/SYS L/E77/2/7-7
- (n) Set RUN to monitor the input.
 - 1) For bits 15 and 14, make sure that the value is 10.

SUBTASK 26-23-00-710-039

- (2) Push and hold the DISCH switch on the Cargo Fire/Engine Control Module.
 - (a) Make sure that the digital/analog multimeter, COM-1793 for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649 shows a minimum of 18 VDC.

SUBTASK 26-23-00-710-040

- (3) Release the DISCH switch on the Cargo Fire/Engine Control Module.
 - (a) Make sure that the digital/analog multimeter, COM-1793 for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649 shows less than 1 VDC.

SUBTASK 26-23-00-710-041

- (4) Push the FWD ARM switch on the Cargo Fire/Engine Control Module.

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- (a) Make sure that the ARMED indicator on the FWD ARM switch is not in view.

SUBTASK 26-23-00-720-002

- (5) Push and hold the DISCH switch on the Cargo Fire/Engine Control Module.
 - (a) Make sure that the digital/analog multimeter, COM-1793 for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649 shows less than 1 VDC.

SUBTASK 26-23-00-720-003

- (6) Release the DISCH switch on the Cargo Fire/Engine Control Module.

SUBTASK 26-23-00-720-004

- (7) Make sure that the EICAS Advisory message, EQUIP COOLING OVRD, does not show on the EICAS display.

SUBTASK 26-23-00-720-005

- (8) Push the AFT ARM switch on the Cargo Fire/Engine Control Module.
 - (a) Make sure that the ARMED indicator on the AFT ARM switch is in view.
 - (b) On the MAT, use the keyboard to record the signal specification into the entry field:
 - 1) Record this signal specification:
X/629/SYS L/E77/1/8-8
NOTE: Do not use X in the signal specification. Where X shows, use L if the left CMCF is in control or use R if the right CMCF is in control.
 - (c) Select RUN to monitor the input.
 - 1) For bits 15 and 14, make sure that the value is 10.
 - 2) Record this signal specification:
X/629/SYS L/E77/2/8-8
 - (d) Set RUN to monitor the input.
 - 1) For bits 15 and 14, make sure that the value is 10.

SUBTASK 26-23-00-720-006

- (9) Push and hold the DISCH switch on the Cargo Fire/Engine Control Module.
 - (a) On the MAT, use the keyboard to record the signal specification into the entry field:
 - 1) Record this signal specification:
X/629/SYS L/E77/1/7-7
NOTE: Do not use X in the signal specification. Where X shows, use L if the left CMCF is in control or use R if the right CMCF is in control.
 - (b) Set RUN to monitor the input.
 - 1) For bits 1 and 0, make sure that the value is 10.
 - 2) Record this signal specification:
X/629/SYS L/E77/2/7-7
 - (c) Set RUN to monitor the input.
 - 1) For bits 1 and 0, make sure that the value is 10.
 - (d) Make sure that the digital/analog multimeter, COM-1793 for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649 shows a minimum of 18 VDC.

SUBTASK 26-23-00-720-007

- (10) Release the DISCH switch on the Cargo Fire/Engine Control Module.

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- (a) Make sure that the digital/analog multimeter, COM-1793 for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649 shows less than 1 VDC.

SUBTASK 26-23-00-720-008

- (11) Push the AFT ARM switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the ARMED indicator on the AFT ARM switch is not in view.

SUBTASK 26-23-00-720-009

- (12) Push and hold the DISCH switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the digital/analog multimeter, COM-1793 for the SQUIB #1 VOLTMETER location on the squib test equipment, SPL-1649 shows less than 1 VDC.

SUBTASK 26-23-00-720-010

- (13) Release the DISCH switch on the Cargo Fire/Engine Control Module.

SUBTASK 26-23-00-860-027

- (14) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-030-003

- (15) Disconnect the electrical connector, DB26013A, for bottle 1A from the squib test cable, SPL-1652.

I. Aft Flow Valve Load Test

SUBTASK 26-23-00-430-006

- (1) Do these steps to connect the squib test equipment, SPL-1649 and squib test cable, SPL-1652 to the aft flow valve connectors:
- (a) Connect the electrical connector, DV26202A, for the aft flow valve to the applicable test cable assembly.
- (b) Connect the test cable assembly to the SQUIB #1 location on the squib test equipment, SPL-1649.
- (c) Connect the electrical connector, DV26202B, for the aft flow valve to the applicable test cable assembly.
- (d) Connect the test cable assembly to the SQUIB #2 location on the squib test equipment, SPL-1649.

SUBTASK 26-23-00-430-007

- (2) Connect a digital/analog multimeter, COM-1793 to each SQUIB VOLTMETER location on the squib test equipment, SPL-1649.

SUBTASK 26-23-00-860-028

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

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SUBTASK 26-23-00-860-029

- (4) Set the LOAD switches on each squib test equipment, SPL-1649 to the OFF positions.

SUBTASK 26-23-00-720-011

- (5) Push and hold the DISCH switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the digital/analog multimeter, COM-1793 for the SQUIB #1 VOLTMETER and SQUIB #2 VOLTMETER locations on the squib test equipment, SPL-1649 show less than 1 VDC.

SUBTASK 26-23-00-720-012

- (6) Release the DISCH switch on the Cargo Fire/Engine Control Module.

SUBTASK 26-23-00-720-013

- (7) Push the AFT ARM switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the ARMED indicator on the AFT ARM switch is in view.

SUBTASK 26-23-00-720-014

- (8) Push and hold the DISCH switch on the Cargo Fire/Engine Control Module.

SUBTASK 26-23-00-720-015

- (9) Measure the voltage on the digital/analog multimeter, COM-1793 for the SQUIB #1 VOLTMETER location.

NOTE: This is the voltage with no load on the squib test equipment. Refer to this as the OFF voltage.

- (a) Make sure that the voltage is a minimum of 18 VDC.
- (b) Make a record of the voltage.

SUBTASK 26-23-00-720-016

- (10) Set the SQUIB #1 LOAD switch to the ON position.

SUBTASK 26-23-00-720-017

- (11) Measure the voltage on the digital/analog multimeter, COM-1793 for the SQUIB #1 VOLTMETER location.

NOTE: This is the voltage with a load on the squib test equipment. Refer to this as the ON voltage.

- (a) Make a record of the voltage.

SUBTASK 26-23-00-720-018

- (12) Set the SQUIB #1 LOAD switch to the OFF position.

SUBTASK 26-23-00-720-019

- (13) For the measured ON voltage, make sure that the measured OFF voltage is not more than the maximum OFF voltage shown in the Table 515

Table 515/26-23-00-993-832 Measured Voltage

Measured ON Voltage	Maximum OFF Voltage
19.0 - 30.0	32
18.0 - 18.99	30
17.0 - 17.99	28
16.0 - 16.99	27

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SUBTASK 26-23-00-720-020

- (14) Measure the voltage on the digital/analog multimeter, COM-1793 for the SQUIB #2 VOLTMETER location.

NOTE: This is the voltage with no load on the squib test equipment. Refer to this as the OFF voltage.

- (a) Make sure the voltage is a minimum of 18 VDC.
- (b) Make a record of the voltage.

SUBTASK 26-23-00-720-021

- (15) Set the SQUIB #2 LOAD switch to the ON position.

SUBTASK 26-23-00-720-022

- (16) Measure the voltage on the digital/analog multimeter, COM-1793 for the SQUIB #2 VOLTMETER location.

NOTE: This is the voltage with a load on the squib test equipment. Refer to this as the ON voltage.

- (a) Make a record of the voltage.

SUBTASK 26-23-00-720-023

- (17) Set the SQUIB #2 LOAD switch to the OFF position.

SUBTASK 26-23-00-720-024

- (18) For the measured ON voltage, make sure that the measured OFF voltage is not more than the maximum OFF voltage shown in the Table 516:

Table 516/26-23-00-993-833 Measured Voltage

Measured ON Voltage	Maximum OFF Voltage
19.0 - 30.0	32
18.0 - 18.99	30
17.0 - 17.99	28
16.0 - 16.99	27

SUBTASK 26-23-00-720-025

- (19) Release the DISCH switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the digital/analog multimeter, COM-1793 for these locations on the squib test equipment, SPL-1649 shows less than 1 VDC. The locations are SQUIB #1 VOLTMETER and SQUIB #2 VOLTMETER.

SUBTASK 26-23-00-720-026

- (20) Push the AFT ARM switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the ARMED indicator on the AFT ARM switch is not in view.

SUBTASK 26-23-00-860-030

- (21) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

Row	Col	Number	Name
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

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SUBTASK 26-23-00-080-012

- (22) Disconnect the electrical connectors, DV26202A and DV26202B, for the aft flow valve from the squib test cable, SPL-1652.

J. Forward Flow Valve Load Test

SUBTASK 26-23-00-480-044

- (1) Do these steps to connect the squib test equipment, SPL-1649 and squib test cable, SPL-1652 to the forward flow valve connectors:
 - (a) Connect the electrical connector, DV26201A, for the forward flow valve to the applicable test cable assembly.
 - (b) Connect the test cable assembly to the SQUIB #1 location on the squib test equipment, SPL-1649.
 - (c) Connect the electrical connector, DV26201B, for the forward flow valve to the applicable test cable assembly.
 - (d) Connect the test cable assembly to the SQUIB #2 location on the squib test equipment, SPL-1649.

SUBTASK 26-23-00-480-045

- (2) Connect to each SQUIB VOLTMETER location on the squib test equipment, SPL-1649.

SUBTASK 26-23-00-860-031

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

Standby Power Management Panel, P310

Row	Col	Number	Name
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-720-027

- (4) Set the LOAD switches on each squib test equipment, SPL-1649 to the OFF positions.

SUBTASK 26-23-00-720-028

- (5) Push and hold the DISCH switch on the Cargo Fire/Engine Control Module.
 - (a) Make sure that the digital/analog multimeter, COM-1793 for these locations on the squib test equipment, SPL-1649 shows less than 1 VDC. The locations are SQUIB #1 VOLTMETER and SQUIB #2 VOLTMETER.

SUBTASK 26-23-00-720-029

- (6) Release the DISCH switch on the Cargo Fire/Engine Control Module.

SUBTASK 26-23-00-720-030



MAKE SURE THAT YOU COMPLETE THE TASKS WITH THE SWITCH IN THE ARMED POSITION IN APPROXIMATELY FIVE MINUTES. IF YOU DO NOT COMPLETE THESE STEPS IN FIVE MINUTES, DAMAGE TO EQUIPMENT IN THE E/E BAY CAN OCCUR.

- (7) Push the FWD ARM switch on the Cargo Fire/Engine Control Module.
 - (a) Make sure that the ARMED indicator on the FWD ARM switch is in view.

SUBTASK 26-23-00-720-031

- (8) Push and hold the DISCH switch on the Cargo Fire/Engine Control Module.

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SUBTASK 26-23-00-720-032

- (9) Measure the voltage on the digital/analog multimeter, COM-1793 for the SQUIB #1 VOLTMETER location.

NOTE: This is the voltage with no load on the squib test equipment. Refer to this as the OFF voltage.

- (a) Make sure that the voltage is a minimum of 18 VDC.
- (b) Make a record of the voltage.

SUBTASK 26-23-00-720-033

- (10) Set the SQUIB #1 LOAD switch to the ON position.

SUBTASK 26-23-00-720-034

- (11) Measure the voltage on the digital/analog multimeter, COM-1793 for the SQUIB #1 VOLTMETER location.

NOTE: This is the voltage with a load on the squib test equipment. Refer to this as the ON voltage.

- (a) Make a record of the voltage.

SUBTASK 26-23-00-720-035

- (12) Set the SQUIB #1 LOAD switch to the OFF position.

SUBTASK 26-23-00-720-036

- (13) For the measured ON voltage, make sure that the measured OFF voltage is not more than the maximum OFF voltage shown in the Table 517.

Table 517/26-23-00-993-834 Measured Voltage

Measured ON Voltage	Maximum OFF Voltage
19.0 - 30.0	32
18.0 - 18.99	30
17.0 - 17.99	28
16.0 - 16.99	27

SUBTASK 26-23-00-720-037

- (14) Measure the voltage on the digital/analog multimeter, COM-1793 for the SQUIB #2 VOLTMETER location.

NOTE: This is the voltage with no load on the squib test equipment. Refer to this as the OFF voltage.

- (a) Make sure that the voltage is a minimum of 18 VDC.
- (b) Make a record of the voltage.

SUBTASK 26-23-00-720-038

- (15) Set the SQUIB #2 LOAD switch to the ON position.

SUBTASK 26-23-00-720-039

- (16) Measure the voltage on the digital/analog multimeter, COM-1793 for the SQUIB #2 VOLTMETER location.

NOTE: This is the voltage with a load on the squib test equipment. Refer to this as the ON voltage.

- (a) Make a record of the voltage.

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SUBTASK 26-23-00-720-040

- (17) Set the SQUIB #2 LOAD switch to the OFF position.

SUBTASK 26-23-00-720-041

- (18) For the measured ON voltage, make sure that the measured OFF voltage is not more than the maximum OFF voltage shown in the Table 518:

Table 518/26-23-00-993-835 Measured Voltage

Measured ON Voltage	Maximum OFF Voltage
19.0 - 30.0	32
18.0 - 18.99	30
17.0 - 17.99	28
16.0 - 16.99	27

SUBTASK 26-23-00-720-042

- (19) Release the DISCH switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the digital/analog multimeter, COM-1793 for these locations on the squib test equipment, SPL-1649 shows less than 1 VDC. The locations are SQUIB #1 VOLTMETER and SQUIB #2 VOLTMETER.

SUBTASK 26-23-00-720-043

- (20) Push the FWD ARM switch on the Cargo Fire/Engine Control Module.
- (a) Make sure that the ARMED indicator on the FWD ARM switch is not in view.

SUBTASK 26-23-00-860-032

- (21) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

Row	Col	Number	Name
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-720-044

- (22) Use a maintenance access terminal (MAT) to do input monitoring of the wires to the switches (TASK 45-10-00-760-801).
- (a) Make these selections on the MAT:
- 1) ONBOARD MAINTENANCE
 - 2) OTHER FUNCTIONS
 - 3) INPUT MONITORING
- (b) Set GENERAL INPUT.
- (c) Set CONTINUE.
- (d) Put the cursor in the entry field.
- (e) Use the keyboard to record the signal specification into the entry field:
- 1) Record this signal specification:
X/629/SYS L/E77/1/7-7

NOTE: Do not use X in the signal specification. Use L if the CMC in control is the left CMC. Use R if the CMC in control is the right CMC.

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- (f) Set RUN to monitor the input.
 - 1) For bits 15 and 14, make sure that the value is 01.
 - 2) For bits 1 and 0, make sure that the value is 01.
 - 3) Record this signal specification:
X/629/SYS L/E77/2/7-7
- (g) Set RUN to monitor the input.
 - 1) For bits 15 and 14, make sure that the value is 01.
 - 2) For bits 1 and 0, make sure that the value is 01.
 - 3) Record this signal specification:
X/629/SYS L/E77/1/8-8
- (h) Set RUN to monitor the input.
 - 1) For bits 15 and 14, make sure that the value is 01.
 - 2) Record this signal specification:
X/629/SYS L/E77/2/8-8
- (i) Set RUN to monitor the input.
 - 1) For bits 15 and 14, make sure that the value is 01.

SUBTASK 26-23-00-080-013

- (23) Disconnect the electrical connectors, DV26201A and DV26201B, for the forward flow valve from the squib test cable, SPL-1652.

K. EICAS Message Test

SUBTASK 26-23-00-860-033

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

Standby Power Management Panel, P310

Row	Col	Number	Name
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-860-034

- (2) On the Flight Compartment Maintenance Panel, P61, set the GND TEST switch to ENABLE.

SUBTASK 26-23-00-720-045

- (3) Do this task: Cargo Fire Extinguishing Squibs - Operational Test, TASK 26-23-00-710-802.
 - (a) Make sure that these messages show on the EICAS display:
 - 1) BOTTLE 1A CARGO
 - 2) BOTTLE 1B CARGO
 - 3) BOTTLE 2A CARGO
 - 4) BOTTLE 2B CARGO
 - 5) BOTTLE 2C CARGO
 - 6) FLOW VALVE CARGO FWD
 - 7) FLOW VALVE CARGO AFT

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SUBTASK 26-23-00-720-046

- (4) Measure the voltage between pins 1 and 2 at each of the electrical connectors in the Table 519.
- (a) Make sure the voltage is less than 1 VDC for each of the connectors.

Table 519/26-23-00-993-837 Electrical Connector

Bottle/Flow Valve	Electrical Connector
Bottle 1A, B26013	DB26013A (Squib)
Bottle 1B, B26014	DB26014A (Squib)
Bottle 2A, B26015	DB26015A (Squib)
Bottle 2B, B26016	DB26016A (Squib)
Bottle 2C, B26017	DB26017A (Squib)
Fwd Flow Valve, V26201	DV26201A (Squib 1)
Fwd Flow Valve, V26201	DV26201B (Squib 2)
Aft Flow Valve, V26202	DV26202A (Squib 1)
Aft Flow Valve, V26202	DV26202B (Squib 2)

SUBTASK 26-23-00-860-035

- (5) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

Row	Col	Number	Name
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-430-008

- (6) Do these steps to connect the electrical connectors in the table that follows:

Table 520/26-23-00-993-838

Electrical Connector Table	
Bottle/Flow Valve	Electrical Connector
Bottle 1A, B26013	DB26013A (Squib)
Bottle 1B, B26014	DB26014A (Squib)
Bottle 2A, B26015	DB26015A (Squib)
Bottle 2B, B26016	DB26016A (Squib)
Bottle 2C, B26017	DB26017A (Squib)
Fwd Flow Valve, V26201	DV26201A (Squib 1)
Fwd Flow Valve, V26201	DV26201B (Squib 2)
Aft Flow Valve, V26202	DV26202A (Squib 1)
Aft Flow Valve, V26202	DV26202B (Squib 2)

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- (a) Remove the protective caps from the squibs.

NOTE: The protective caps are attached to the fire extinguishing bottles and the flow valves.

- (b) Do these steps to connect the electrical connectors to the squibs:

 WARNING	MAKE SURE THAT THERE IS NO VOLTAGE AT THE ELECTRICAL CONNECTOR. IF THERE IS A VOLTAGE AT THE ELECTRICAL CONNECTOR, THE SQUIB CAN RELEASE THE CONTENTS OF THE BOTTLE SUDDENLY. THIS CAN CAUSE INJURIES TO PERSONNEL.

- 1) Use a digital/analog multimeter, COM-1793 and make sure that there is no voltage between pins 1 and 2 of the electrical connector.

NOTE: If you connect a resistor, STD-1079 across the digital/analog multimeter, COM-1793, you will remove the small voltage from the electrical connector.

- 2) Make sure that the squib electrical pins are not bent or damaged.
 3) Make sure that the electrical connector is not dirty or damaged.

NOTE: The squib pins can cause damage to the electrical connector if the pins do not correctly engage the electrical connector.

- 4) Connect the electrical connectors to the squibs.

SUBTASK 26-23-00-860-036

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-00-720-047

- (8) Do this task: Cargo Fire Extinguishing Squibs - Operational Test, TASK 26-23-00-710-802.

- (a) Make sure that these messages do not show on the EICAS display:

- 1) BOTTLE DISCH CARGO
- 2) BOTTLE 1A CARGO
- 3) BOTTLE 1B CARGO
- 4) BOTTLE 2A CARGO
- 5) BOTTLE 2B CARGO
- 6) BOTTLE 2C CARGO
- 7) FLOW VALVE CARGO FWD
- 8) FLOW VALVE CARGO AFT

SUBTASK 26-23-00-720-048

- (9) Make these selections on the MAT:

- (a) EXTENDED MAINTENANCE
- (b) EXISTING FAULTS
- (c) 23 OVERHEAD PANEL ARINC 629 SYSTEM

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SUBTASK 26-23-00-720-049

- (10) Make sure that these CMCS messages do not show on the MAT:
- (a) 23-43150, CARGO FIRE AFT ARM Switch
 - (b) 23-43160, CARGO FIRE DISCHARGE Switch
 - (c) 23-43170, CARGO FIRE FWD ARM Switch

L. Put the Airplane Back to Its Usual Condition

SUBTASK 26-23-00-720-050

- (1) On the Flight Compartment Maintenance Panel, P61, set the GND TEST switch to NORM.

SUBTASK 26-23-00-090-001

- (2) Remove the access pressure relief valve platform, SPL-1651.

SUBTASK 26-23-00-860-037



WARNING

SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, THE FIRE EXTINGUISHING AGENT OR SMOKE CAN CAUSE INJURIES.

- (3) Do this task: Sidewall Liner Installation, TASK 25-52-06-400-801.

SUBTASK 26-23-00-410-011

- (4) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-23-00-410-012

- (5) Close these access panels:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door
823	Aft Small Cargo Door

————— END OF TASK —————

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LOWER CARGO FIRE EXTINGUISHING BOTTLES - REMOVAL/INSTALLATION

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has these tasks:
 - (1) A task to bleed halon from a system that is suspected of being pressurized.
 - (2) A removal of the lower cargo fire extinguishing bottles (fire extinguishing bottles)
 - (3) An installation of the fire extinguishing bottles.
- C. There are five fire extinguishing bottles installed in the forward cargo compartment. The bottles are installed on the right side of the airplane between the forward cargo lining and the airplane skin. There are two dump bottles (1A, B26013 and 1B, B26014) and three metered bottles (2A, B26015, 2B, B26016, and 2C, B26017). The dump bottles release immediately into the cargo compartment when you push the discharge switch. The metered bottles release slowly into the cargo compartment when you push the discharge switch.
- D. You must wait four hours for the contents of a bottle that has started to discharge to empty completely before attempting to remove the bottle.
- E. After the fire extinguishing bottles are empty, you must replace the bottles, the squibs, the applicable flow valves and the filter/regulator.

TASK 26-23-01-870-801

2. Lower Cargo Fire Extinguishing Bottle/Discharge Line Bleeding

(Figure 401)

A. General

- (1) This task is to be completed when Halon is suspected to be trapped in the metering manifold due to an uncommanded discharge of the metered bottles (2A, 2B, 2C, and 2D and 2E if installed) by ELMS after powering up the aircraft.
- (2) The only indication of this condition existing would be the following EICAS Status messages: BOTTLE 2A CARGO, BOTTLE 2B CARGO, BOTTLE 2C CARGO, and BOTTLE 2D CARGO and BOTTLE 2E CARGO (if installed), as well as the messages associated with the MAT squib test.
- (3) The pressurized system must be bled before the system can be serviced. Below are two optional procedures for bleeding the system. Both procedures are acceptable methods to service the system from an airworthiness standpoint, but Method A involves the intentional venting of the Halon to the atmosphere whereas Method B involves capture of the Halon. Since Halon released to the atmosphere will cause damage to the earth's ozone layer, Method B is the preferred procedure. Furthermore, in countries (such as the United States) where the intentional venting of Halon during servicing of Halon-containing equipment is illegal, Method A is not allowed. Before performing Method A, the operator should determine the laws governing the release of Halon from Halon-containing equipment that may apply in the locality where the service is being performed and act accordingly.
- (4) Both methods require access to the forward right hand cheek and involve gaining access to the metered fire bottles, 2A, 2B, 2C and 2D and 2E (if installed).
- (5) Method A – Quickest process involving the least amount of tools.

NOTE: Method A is not the preferred procedure since Halon will cause damage to the earth's ozone layer. Furthermore, Method A is not allowed in countries (such as the United States) where the intentional venting of Halon during servicing of Halon-containing equipment is illegal.

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- (6) Method B – Captures the halon but is more time consuming and consumes a flow valve.

NOTE: Method B is the preferred procedure.

B. References

Reference	Title
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-41-01-400-803	ESDS Handling for Metal Encased Unit Installation (P/B 201)
26-23-02-000-801	Lower Cargo Fire Extinguishing Bottle Squib Removal (P/B 401)
26-23-04-000-801	Lower Cargo Fire Extinguishing Filter/Regulator Removal (P/B 401)
26-23-05-000-801	Lower Cargo Fire Extinguishing Flow Valve 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-14113	Recovery Unit - Halon 1301 Part #: C700 Supplier: 4LMC6

D. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, Right

E. Method A - Quickest process involving the least amount of tools.

NOTE: Method A is not the preferred procedure since Halon will cause damage to the earth's ozone layer. Furthermore, Method A is not allowed in countries (such as the United States) where the intentional venting of Halon during servicing of Halon-containing equipment is illegal.

SUBTASK 26-23-01-870-002

NOTE: Halon will cause damage to the earth's ozone layer.



WARNING

WEAR SELF CONTAINED BREATHING EQUIPMENT AND KEEP ENTRANCE DOOR OPEN TO THE CARGO COMPARTMENT AND LOWER LOBE ATTENDANCE REST (LLAR) IF INSTALLED. THE HALON IN THE FIRE EXTINGUISHING BOTTLES CAN CAUSE INJURIES TO PERSONNEL DUE TO SUFFOCATION.



WARNING

WEAR PROPER PERSONNEL PROTECTIVE EQUIPMENT (PPE) WHEN DEALING WITH TRAPPED HIGH-PRESSURE REFRIGERANTS. HALON 1301 IS A REFRIGERANT AND CAN CAUSE INJURIES TO PERSONNEL DUE TO FREEZE BURNS ON EXPOSED SKIN.

- (1) Slowly open the filter-regulator outlet fitting to slowly vent the Halon 1301.

NOTE: This will relieve the trapped pressure.

Slowly open the filter-regulator inlet fitting (.750" B-nut) to slowly vent the Halon 1301.

NOTE: This will relieve the 300+ psi pressure trapped in the bottles and line.

- (2) Leave the cargo compartment/LLAR open and keep all personnel out of it until the halon is fully released and the area is ventilated with outside air.

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- (3) Once the system is depressurized, do the steps that follow to remove and replace the applicable metered bottles, squibs and filter/regulator.
 - (a) Do this task: Lower Cargo Fire Extinguishing Bottle Removal, TASK 26-23-01-020-801.
 - (b) Do this task: Lower Cargo Fire Extinguishing Bottle Squib Removal, TASK 26-23-02-000-801.



WARNING

KEEP THE CARGO COMPARTMENT DOOR OPEN. THE HALON IN THE FIRE EXTINGUISHING BOTTLES CAN CAUSE INJURIES TO PERSONNEL.



WARNING

CHECK THE INLET AND OUTLET FITTINGS OF THE FILTER REGULATOR FOR ICE ACCUMULATIONS BEFORE REMOVING. IF ICE ACCUMULATIONS EXISTS, USE CAUTION WHEN REMOVING THE FILTER REGULATOR. PRESSURIZED HALON MAY STILL BE TRAPPED IN THE LINES.

- (c) Do this task: Lower Cargo Fire Extinguishing Filter/Regulator Removal, TASK 26-23-04-000-801.

F. (Preferred Procedure) Method B - Captures the halon but is more time consuming and consumes a flow valve

NOTE: Method B is the preferred procedure.

SUBTASK 26-23-01-870-003

- (1) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB



WARNING

DO NOT TOUCH THE SQUIB BEFORE YOU DO THE PROCEDURES FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE THE FIRE BOTTLE TO RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURY TO PERSON AND DAMAGE EQUIPMENT.

- (2) Before you touch the squib, do these tasks, ESDS Handling for Metal Encased Unit Removal, TASK 20-41-01-000-803 and ESDS Handling for Metal Encased Unit Installation, TASK 20-41-01-400-803.



WARNING

PUT CAPS ON THE BOTTLE SQUIBS AND FLOW VALVE SQUIBS. IF YOU DO NOT PUT CAPS ON THE SQUIBS, THE SQUIBS CAN FIRE ACCIDENTALLY AND CAUSE INJURIES TO PERSONNEL.



CAUTION

DO NOT PUT A SHUNT PLUG ON THE SQUIB. THE SHUNT PLUG CAN CAUSE DAMAGE TO THE SQUIB PINS.

- (3) Disconnect the electrical connectors from bottle 1A and bottle 1B, bottle 2A, 2B, 2C and 2D and 2E (if installed), and the 2 squibs on the aft flow valve.

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- (4) Put protective covers on the squibs.
- (5) Remove the fitting from the outlet side of the flow valve, 0.8750" fitting, and hook up the tubing to the halon recovery unit, COM-14113.
- (6) Once the halon recovery unit, COM-14113, is setup and ready to capture the halon, close these circuit breakers:

Remove the safety tags and close these circuit breakers:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

In the flight deck, press the Cargo Fire FWD ARM switch on the P5 overhead panel.

- (7) **WARNING: KEEP ENTRANCE DOOR TO THE CARGO COMPARTMENT OPEN AND LLAR (IF INSTALLED) OPEN DURING THIS TASK. THE HALON IN THE FIRE EXTINGUISHING BOTTLES CAN CAUSE INJURIES TO PERSONNEL DUE TO SUFFOCATION.**

- (8) Press and hold the Cargo Fire Disch switch for one second on the P5 overhead panel.

NOTE: This will fire the squibs on the FWD flow valve and allow the halon to flow into the recover system

- (9) Wait between 3 and 4 hours.

NOTE: The halon will flow through the filter/regulator and will take between 3 and 4 hours depending on which filter/regulator is installed (determines mass flow rate) and whether or not bottle 2D and 2E is installed.

- (10) Once the system is depressurized remove and replace the metered bottles, 2A, 2B, 2C, and 2D and 2E (if installed) Lower Cargo Fire Extinguishing Bottle Removal, TASK 26-23-01-020-801, filter/regulator Lower Cargo Fire Extinguishing Filter/Regulator Removal, TASK 26-23-04-000-801, the FWD Flow Valve Lower Cargo Fire Extinguishing Flow Valve Removal, TASK 26-23-05-000-801, replace the FWD Flow Valve and the Metered bottles squibs Lower Cargo Fire Extinguishing Bottle Squib Removal, TASK 26-23-02-000-801.

————— **END OF TASK** —————

TASK 26-23-01-020-801

3. Lower Cargo Fire Extinguishing Bottle Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. General

- (1) When the extinguishing bottles [4] are discharged, the filter/regulator and flow valve must also be replaced. Do these tasks:
 - (a) Lower Cargo Fire Extinguishing Filter/Regulator Removal, TASK 26-23-04-000-801.
 - (b) Lower Cargo Fire Extinguishing Filter/Regulator Installation, TASK 26-23-04-400-801.
 - (c) Lower Cargo Fire Extinguishing Flow Valve Removal, TASK 26-23-05-000-801.
 - (d) Lower Cargo Fire Extinguishing Flow Valve Installation, TASK 26-23-05-400-801.

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B. References

Reference	Title
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-41-01-400-803	ESDS Handling for Metal Encased Unit Installation (P/B 201)
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
26-23-04-000-801	Lower Cargo Fire Extinguishing Filter/Regulator Removal (P/B 401)
26-23-04-400-801	Lower Cargo Fire Extinguishing Filter/Regulator Installation (P/B 401)
26-23-05-000-801	Lower Cargo Fire Extinguishing Flow Valve Removal (P/B 401)
26-23-05-400-801	Lower Cargo Fire Extinguishing Flow 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-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205

D. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, Right

E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door

F. Prepare for the Removal

SUBTASK 26-23-01-010-008

- (1) Open this access door to get access to the Standby Power Management Panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-23-01-860-002

- (2) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

Row	Col	Number	Name
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

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SUBTASK 26-23-01-010-009

- (3) Open this cargo door:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

G. Cargo Fire Extinguishing Bottles Removal

SUBTASK 26-23-01-010-010

- (1) Remove the sidewall lining to get access to the applicable fire extinguishing bottle (TASK 25-52-06-000-801).

SUBTASK 26-23-01-490-001

- (2) Install the access pressure relief valve platform, SPL-1651 near the applicable fire extinguishing bottle.

SUBTASK 26-23-01-020-003

- (3) Do these steps to remove a fire extinguishing bottle [4]:

- (a) Disconnect the electrical connector [2] from the bottle pressure switch [1].



DO NOT TRY TO REMOVE THE BOTTLE FOR FOUR HOURS AFTER YOU RELEASE THE CONTENTS INITIALLY. IF THE BOTTLE IS NOT EMPTY, INJURIES TO PERSONNEL CAN OCCUR.



BE CAREFUL WHEN YOU DISCONNECT THE HOSE ASSEMBLY FROM A FIRE EXTINGUISHING BOTTLE. PRESSURE CAN STAY IN THE METERED-PRESSURE HOSE AND TUBING FOR FOUR HOURS AFTER THE EXTINGUISHER AGENT IS RELEASED. WHEN YOU RELEASE THE PRESSURE IN THE HOSE AND TUBING, YOU CAN CAUSE INJURIES TO PERSONNEL.

- (b) Disconnect the applicable hose assembly [6] from the fire extinguishing bottle [4].

- 1) Install the protective caps on each of the discharge ports.
- 2) Install the protective caps on each of the discharge tubes.

- (c) Remove the bolt [10], washer [11] and washer [13] to disconnect the bonding jumper [12] from the fire extinguishing bottle [4].



DO NOT TOUCH THE SQUIB BEFORE YOU DO THE PROCEDURES FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE THE FIRE BOTTLE TO RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURY TO PERSON AND DAMAGE EQUIPMENT.

- (d) Before you touch the squib, do the procedure for devices that are sensitive to electrostatic discharge:

- 1) ESDS Handling for Metal Encased Unit Removal, TASK 20-41-01-000-803.
- 2) ESDS Handling for Metal Encased Unit Installation, TASK 20-41-01-400-803.

- (e) Disconnect the electrical connector [14] from the squib [15].

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WARNING

PUT CAPS ON THE BOTTLE SQUIBS AND FLOW VALVE SQUIBS. IF YOU DO NOT PUT CAPS ON THE SQUIBS, THE SQUIBS CAN FIRE ACCIDENTALLY AND CAUSE INJURIES TO PERSONNEL.



CAUTION

DO NOT PUT A SHUNT PLUG ON THE SQUIB. THE SHUNT PLUG CAN CAUSE DAMAGE TO THE SQUIB PINS.

- (f) Put the protective cap, attached to the bottle, on the squib.

NOTE: The protective caps are attached to the fire extinguishing bottles. These protective caps prevent the squib from the possible activation because of static electricity.

- (g) Remove the applicable bolts [9], bolts [17] and washers [16] that hold the fire extinguishing bottle [4] to the mounting bracket.



WARNING

BE CAREFUL WHEN YOU MOVE THE FIRE EXTINGUISHING BOTTLE. THE FIRE EXTINGUISHING BOTTLE IS PRESSURIZED AND HAS AN EXPLOSIVE CARTRIDGE AS A COMPONENT. IF THE FIRE EXTINGUISHING BOTTLE RELEASES ITS CONTENTS, IT CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT.



WARNING

BE CAREFUL WHEN YOU MOVE THE FIRE EXTINGUISHING BOTTLE. BECAUSE THE FIRE EXTINGUISHING BOTTLE WEIGHS 60-90 POUNDS (27-41 KG), INJURIES TO PERSONNEL CAN OCCUR.

- (h) Remove the fire extinguishing bottle [4] from the mounting bracket.



WARNING

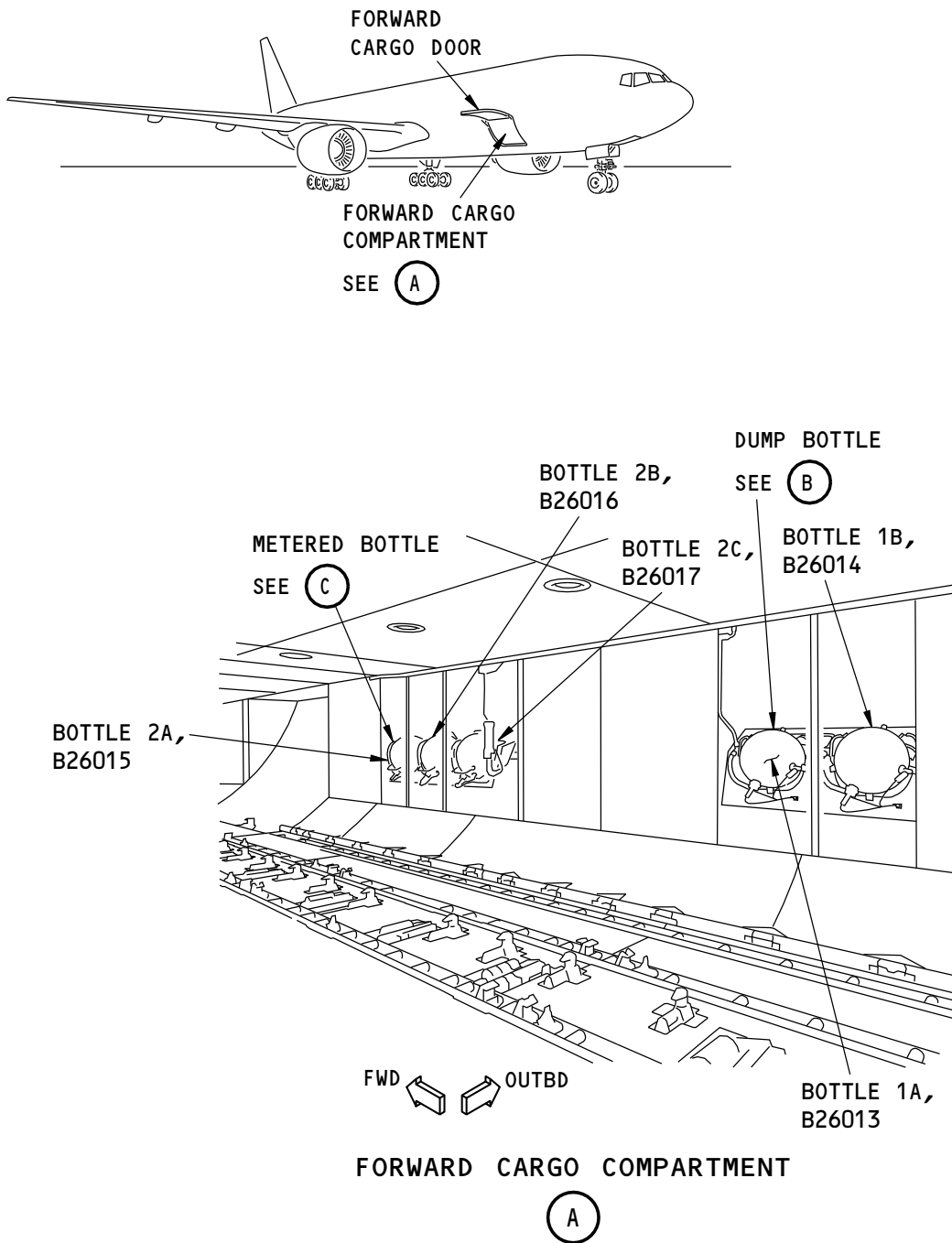
BE CAREFUL WHEN YOU DISCONNECT THE HOSE ASSEMBLY FROM A FIRE EXTINGUISHING BOTTLE. PRESSURE CAN STAY IN THE METERED-PRESSURE HOSE AND TUBING FOR FOUR HOURS AFTER THE EXTINGUISHER AGENT IS RELEASED. WHEN YOU RELEASE THE PRESSURE IN THE HOSE AND TUBING, YOU CAN CAUSE INJURIES TO PERSONNEL.

- (i) Remove the squib [15] from the discharge head [7].

————— **END OF TASK** —————



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C97256 S0006412322_V2

Lower Cargo Compartment Fire Extinguishing Bottle Installation
Figure 401/26-23-01-990-802 (Sheet 1 of 3)

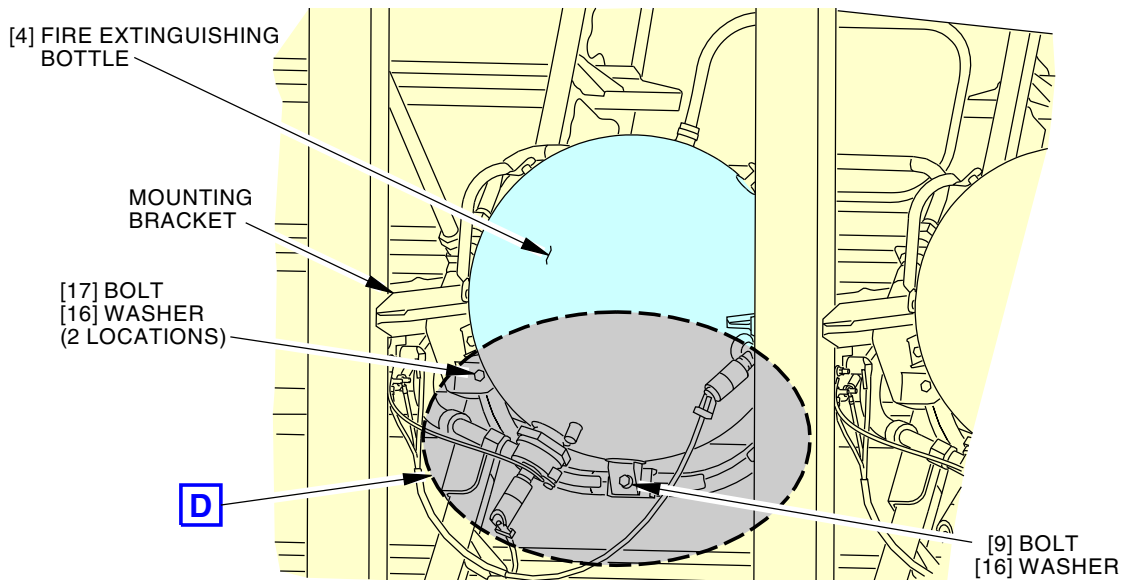
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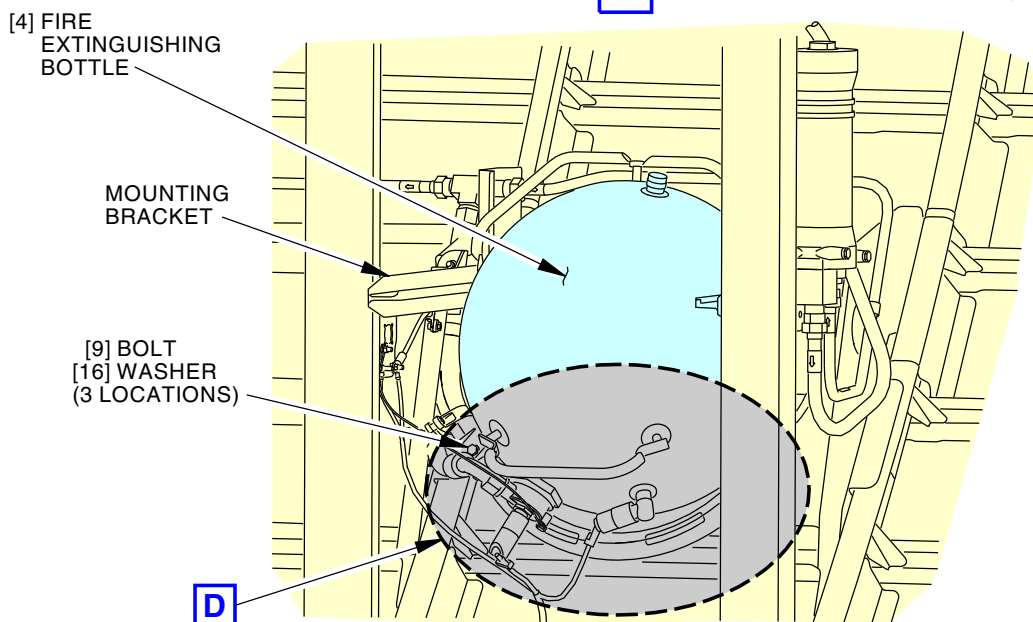
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**DUMP BOTTLE
(EXAMPLE)**

B



**METERED BOTTLE
(EXAMPLE)**

C

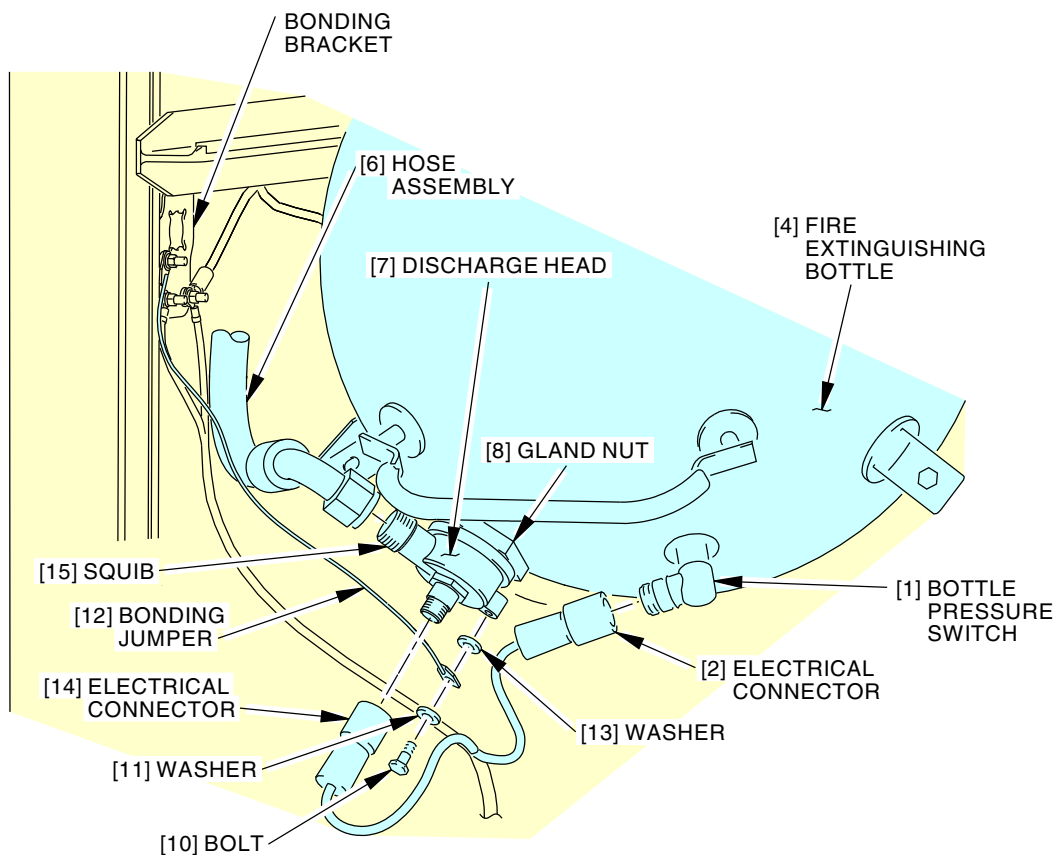
2299393 S0000521751_V2

**Lower Cargo Compartment Fire Extinguishing Bottle Installation
Figure 401/26-23-01-990-802 (Sheet 2 of 3)**

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**BOTTLE CONNECTIONS
(EXAMPLE)**

D

2297940 S0000521303_V2

**Lower Cargo Compartment Fire Extinguishing Bottle Installation
Figure 401/26-23-01-990-802 (Sheet 3 of 3)**

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TASK 26-23-01-420-801

4. Lower Cargo Fire Extinguishing Bottle Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-41-01-400-803	ESDS Handling for Metal Encased Unit Installation (P/B 201)
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
26-23-00-710-801	Cargo Fire Extinguishing Bottle Pressure Switch - Operational Test (P/B 501)
26-23-00-710-802	Cargo Fire Extinguishing Squibs - Operational Test (P/B 501)
26-23-01-790-802	Lower Cargo Fire Extinguishing Bottle Inspection (P/B 601)
26-23-02-400-801	Lower Cargo Fire Extinguishing Bottle Squib Installation (P/B 401)
WDM 26-23-11	Wiring Diagram Manual
WDM 26-23-51	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
COM-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 260 Supplier: 55026 Opt Part #: 27 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536 Opt Part #: MODEL 27 Supplier: 89536

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Reference	Description
COM-4907	Force Gauge With Resolution of 0.10 lb, +/-0.3% or better Part #: FDIX 100 Supplier: 0BFD9 Part #: FDIX 50 Supplier: 0BFD9 Part #: LG-5KG Supplier: 92456 Part #: PS-10 Supplier: 1GHM7 Opt Part #: FDI 100 Supplier: 0BFD9 Opt Part #: FDI 50 Supplier: 0BFD9 Opt Part #: FDV 100 Supplier: 0BFD9 Opt Part #: FDV 50 Supplier: 0BFD9
SPL-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205
STD-1079	Resistor - 10K Ohm or Greater

C. Consumable Materials

Reference	Description	Specification
B00083	Solvent - VM&P Naphthas	TT-N-95 Type II, ASTM D-3735 Type III
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
4	Bottle	26-23-01-01A-087	ARO ALL
		26-23-01-02-090	ARO ALL

E. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, Right

F. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door

G. Prepare for the Installation

SUBTASK 26-23-01-200-001

- (1) Accomplish inspection, do this task Lower Cargo Fire Extinguishing Bottle Inspection, TASK 26-23-01-790-802, if required.

SUBTASK 26-23-01-820-001

- (2) Before you install the fire extinguishing bottle, measure the weight.
 - (a) Make sure that its weight is not more than 0.3 percent different from the weight shown on the bottle.

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- (b) Use a force gauge, COM-4907.

NOTE: The measured weight of the fire extinguishing bottle includes the fully charged fire extinguishing bottle, the squib, and the squib protective cap. It does not include the inspection tag and other caps.

SUBTASK 26-23-01-010-011

- (3) Open this access door to get access to the Standby Power Management Panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-23-01-860-003

- (4) Make sure that this circuit breaker is open and has safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB

Make sure that this circuit breaker is open and has safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C

Make sure that this circuit breaker is open and has safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

H. Cargo Fire Extinguishing Bottles Installation

SUBTASK 26-23-01-010-012

- (1) Make sure that the sidewall lining is removed to get access to the applicable fire extinguishing bottle.
- (a) To remove the sidewall lining, do this task: Sidewall Liner Removal, TASK 25-52-06-000-801.

SUBTASK 26-23-01-490-002

- (2) Make sure that the access pressure relief valve platform, SPL-1651 is installed near the applicable fire extinguishing bottle.

SUBTASK 26-23-01-420-001

- (3) Do these steps to install a fire extinguishing bottle [4]:



WARNING

MOVE THE FIRE EXTINGUISHING BOTTLE CAREFULLY. THE FIRE EXTINGUISHING BOTTLE IS PRESSURIZED, AND HAS A SQUIB CARTRIDGE AS A COMPONENT. IF THE FIRE BOTTLE RELEASES ITS CONTENTS, INJURIES TO PERSONNEL AND DAMAGE TO EQUIPMENT CAN OCCUR.



WARNING

BE CAREFUL WHEN YOU MOVE THE FIRE EXTINGUISHING BOTTLE. BECAUSE THE FIRE EXTINGUISHING BOTTLE WEIGHS 60-90 POUNDS (27-41 KG), INJURIES TO PERSONNEL CAN OCCUR.

- (a) Put the fire extinguishing bottle [4] in its position in the mounting bracket.

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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.



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 a layer of Cor-Ban 27L Compound, G50237 or Mastinox 6856 K, C00913 to the applicable bolts [9], bolts [17], washers [16], and the mating surfaces between the fire extinguishing bottle [4] and the mounting bracket.
- (c) Install the applicable washers [16], bolts [9], and bolts [17] that hold the fire extinguishing bottle [4] to the mounting bracket.
 - If using Cor-Ban 27L Compound, G50237, tighten the applicable bolts [9] and bolts [17] to 12.5 ± 2.5 in-lb (1.4 ± 0.3 N·m).
 - If using Mastinox 6856 K, C00913, tighten the applicable bolts [9] and bolts [17] to 62.5 ± 12.5 in-lb (7.1 ± 1.5 N·m).
- (d) Connect the electrical connector [2] to the bottle pressure switch [1].
- (e) Do these steps if it is necessary:

NOTE: The bottle manufacturer can attach the head and gland nut by lockwire in the correct position.

- 1) Move the discharge head [7] to connect the hose assembly [6].



IF THE ALIGNMENT OF THE DISCHARGE HEAD IS NOT CORRECT, LOOSEN THE GLAND NUT BEFORE YOU MOVE THE DISCHARGE HEAD. IF YOU MOVE THE DISCHARGE HEAD BEFORE YOU LOOSEN THE GLAND NUT, YOU CAN DAMAGE THE DISCHARGE HEAD.

- 2) Tighten the gland nut [8] to 720 ± 60 in-lb (81 ± 7 N·m).
- 3) Attach a lockwire from the gland nut [8] to the discharge head [7].
- (f) Remove the protective cap from the discharge port.
- (g) Remove the protective cap from the discharge tube.
- (h) Connect the applicable hose assembly [6] to the discharge head [7].
 - 1) Tighten the connector on the hose assembly [6] to 360 ± 18 in-lb (41 ± 2 N·m).
- (i) Install the washer [13], washer [11] and bolt [10] to connect the bonding jumper [12] to the discharge head [7].
- (j) Do a check of the resistance between the fire extinguishing bottle [4] and the bonding bracket.

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- 1) Use an intrinsically safe approved bonding meter, COM-1550 which can measure 0.0001 ohm.
- 2) Make sure that the resistance is not more than 0.0025 ohm.
- 3) If the resistance is more than 0.0025 ohm, clean the surfaces that bond between the fire extinguishing bottle [4] and the bonding bracket with the solvent, B00083.
- 4) Do a check of the resistance again.



DO NOT TOUCH THE SQUIB BEFORE YOU DO THE PROCEDURES FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE THE FIRE BOTTLE TO RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURY TO PERSON AND DAMAGE EQUIPMENT.

- (k) Before you touch the squib, do the procedure for devices that are sensitive to electrostatic discharge:
 - 1) ESDS Handling for Metal Encased Unit Removal, TASK 20-41-01-000-803.
 - 2) ESDS Handling for Metal Encased Unit Installation, TASK 20-41-01-400-803.
- (l) If the squib was removed for transportation purposes, install squib per Lower Cargo Fire Extinguishing Bottle Squib Installation, TASK 26-23-02-400-801.
- (m) Remove the protective cap from the squib.
- (n) Do these steps to connect the electrical connector [14] to the squib [15].



MAKE SURE THAT THERE IS NO VOLTAGE AT THE ELECTRICAL CONNECTOR. IF THERE IS A VOLTAGE AT THE ELECTRICAL CONNECTOR, THE SQUIB CAN RELEASE THE CONTENTS OF THE BOTTLE SUDDENLY. THIS CAN CAUSE INJURIES TO PERSONNEL.

- 1) With a digital/analog multimeter, COM-1793, make sure that there is no voltage between pins 1 and 2 of the electrical connector [14].
- 2) If there is voltage between pins 1 and 2, do these steps:
 - a) Connect the digital/analog multimeter, COM-1793 across pins 1 and 2.
 - b) Connect a resistor, STD-1079 across the digital/analog multimeter, COM-1793 to remove any stray voltage from the electrical connector [14].
 - c) Disconnect the digital/analog multimeter, COM-1793.
- 3) Make sure that the squib electrical pins are not bent or damaged.

NOTE: The squib pins can cause damage to the electrical connector if the pins do not correctly engage the electrical connector.
- 4) Carefully examine the applicable electrical connector [14]: DB26013A, DB26014A, DB26015A, DB26016A, DB26017A WDM 26-23-11 and WDM 26-23-51.

NOTE: If a fire extinguishing bottle was discharged, there can be damage to the electrical connector.

 - a) Make sure that the connector shell on the electrical connector operates correctly and is not damaged.
 - b) Make sure that the locking ring on the rear of the electrical connector is not damaged.
 - c) If there is damage to the electrical connector, replace it.



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- 5) Connect the electrical connector [14] to the squib [15].

NOTE: Do not use an unusual force to connect the electrical connector to the squib.

- a) Make sure that the electrical connector is not loose and is attached tightly to the squib.

- 6) Do the steps that follow to make sure that you did not bend or cause damage to the squib pins.

NOTE: You can cause damage to the pins when you first connect an electrical connector to the squib.

- a) Disconnect the electrical connector from the fire bottle squib.
b) Make sure that the squib electrical pins are not bent or damaged.
c) Make sure that the electrical connector is not damaged.
d) Connect the electrical connector to the fire bottle squib.

NOTE: Do not use an unusual force to connect the connector to the squib.

- e) Make sure that the electrical connector is not loose and is attached tightly to the squib.

SUBTASK 26-23-01-860-004

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

I. Lower Cargo Compartment Fire Extinguishing Bottles Installation Test

SUBTASK 26-23-01-710-003

- (1) Do this task: Cargo Fire Extinguishing Bottle Pressure Switch - Operational Test, TASK 26-23-00-710-801.

SUBTASK 26-23-01-710-004

- (2) Do this task: Cargo Fire Extinguishing Squibs - Operational Test, TASK 26-23-00-710-802.

J. Put the Airplane Back to Its Usual Condition

SUBTASK 26-23-01-410-005

 WARNING	SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, THE FIRE EXTINGUISHING AGENT OR SMOKE CAN CAUSE INJURIES.

- (1) Do this task: Sidewall Liner Installation, TASK 25-52-06-400-801.

SUBTASK 26-23-01-410-003

- (2) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

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SUBTASK 26-23-01-410-004

(3) Close this cargo door:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

————— **END OF TASK** —————

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LOWER CARGO FIRE EXTINGUISHING BOTTLE - INSPECTION/CHECK

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has this task:

NOTE: Applicable to airplanes with -1 and -2 bottles installed (not applicable to -3 bottles).
Disregard this task if you have installed -3 bottles.

- (1) An inspection of the fill and safety fitting of the lower cargo fire extinguishing bottles (fire extinguishing bottles) for halon leaks.

TASK 26-23-01-790-802

2. Lower Cargo Fire Extinguishing Bottle Inspection

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)
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
26-23-01-020-801	Lower Cargo Fire Extinguishing Bottle Removal (P/B 401)
26-23-01-420-801	Lower Cargo Fire Extinguishing Bottle 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-1538	Cart - Nitrogen Bottle Part #: 7046-011 Supplier: 00994 Part #: 8377 Supplier: 94861 Part #: 8932 Supplier: 94861 Part #: NBNT Supplier: D2029
COM-4053	Leak Detector - Halon Part #: H10PM Supplier: 05083

C. Consumable Materials

Reference	Description	Specification
B00062	Solvent - Acetone (99.5% Grade)	ASTM D 329 (Supersedes O-A-51)
G00009	Compound - Organic Corrosion Inhibiting	BMS3-23

D. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, Right

E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door

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(Continued)

Number	Name/Location
821	Forward Large Cargo Door

F. General

SUBTASK 26-23-01-700-006

NOTE: Applicable to airplanes with -1 and -2 bottles installed (not applicable to -3 bottles).
Disregard this task if you have installed -3 bottles.

- (1) Portable Halide Leak Detector, Yokogawa H-10PM, or equivalent.
 - (a) The leak detector must find CFC agents at a rate (sensitivity) of 0.5 ounces/year minimum.

SUBTASK 26-23-01-700-007

- (2) The source of 30 psig (207 kPa) is dry, compressed air or nitrogen.

G. Prepare for Inspection

SUBTASK 26-23-01-760-002

- (1) Do this task: Remove Electrical Power, TASK 24-22-00-860-806.

H. Halon Leak Inspection

SUBTASK 26-23-01-790-003

- (1) Make sure that the halon leak detector, COM-4053 is calibrated to the 0.5 oz/yr sensitivity.

SUBTASK 26-23-01-840-010

- (2) Open this cargo door:

Number	Name/Location
821	Forward Large Cargo Door

SUBTASK 26-23-01-790-004

- (3) Remove the sidewall lining to get access to the applicable fire extinguishing bottle (TASK 25-52-06-000-801).

SUBTASK 26-23-01-700-010

- (4) Do a leak test of the fill and safety fitting as follows:



WARNING

WEAR EYE PROTECTION WHEN YOU DO THE LEAK TEST.
ACCIDENTAL DISCHARGE OF THE CONTAINER CAN CAUSE SERIOUS INJURY.

- (a) Remove the protection cap from the fill and safety fitting.
- (b) Operate the halon leak detector, COM-4053 as specified in the manufacturer's operating instructions.
- (c) Use the halon leak detector, COM-4053probe to test the fill and safety fitting for a leak.
- (d) If the halon leak detector, COM-4053 finds a leak:
 - 1) Install the protection cap on the fill and safety fitting.
 - 2) Replace the container. do these tasks:
 - a) Lower Cargo Fire Extinguishing Bottle Removal, TASK 26-23-01-020-801
 - b) Lower Cargo Fire Extinguishing Bottle Installation, TASK 26-23-01-420-801

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SUBTASK 26-23-01-100-002

- (5) If the halon leak detector, COM-4053 does not find a leak or the leak rate is less than one part in one hundred thousand cc/sec:



WARNING

PUT ON EYE PROTECTION BEFORE YOU CLEAN AND DRY THE BURST DISK, AND BEFORE YOU APPLY THE CORROSION INHIBITOR. IF THE CONTAINER RELEASES ITS CONTENTS, INJURIES TO PERSONNEL CAN OCCUR.



CAUTION

CLEAN AND DRY THE BURST DISK CAREFULLY. ALSO, APPLY THE CORROSION INHIBITOR CAREFULLY. DO NOT PUT A TOOL OR SHARP INSTRUMENT INTO THE FILL AND THE SAFETY FITTING. THE BURST DISK IN THE FITTING IS VERY THIN. DAMAGE TO THE DISK OR FITTING CAN OCCUR.

- (a) Clean the burst disk in the fill and the safety fitting. Apply 0.5 to 1.0 ml of solvent, B00062 with a squirt bottle.
- (b) Dry the disk with 30 psig (207 kPa) maximum of dry, compressed air or nitrogen from a nitrogen cart, COM-1538.
- (c) Repeat the two steps again.
- (d) Apply corrosion inhibiting compound, G00009 to the burst disk.
 - 1) Put the spray can tube into the fitting internal diameter.
 - 2) Apply the corrosion inhibiting compound, G00009 to the full surface of the burst disk.
- (e) Install the protection cap on the fill and safety fitting.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 26-23-01-400-001

- (1) Install the sidewall lining (TASK 25-52-06-400-801).

SUBTASK 26-23-01-840-011

- (2) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-23-01-840-012

- (3) Close this cargo door:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

SUBTASK 26-23-01-860-006

- (4) If necessary, supply electrical power (TASK 24-22-00-860-805).

————— **END OF TASK** —————

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LOWER CARGO FIRE EXTINGUISHING BOTTLE SQUIB - REMOVAL/INSTALLATION

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has two tasks:
 - (1) A removal of the squib on the fire extinguishing bottle
 - (2) An installation of the squib on the fire extinguishing bottle.
- C. There is one squib on each fire extinguishing bottle. The five fire extinguishing bottles are installed on the right side of the airplane between the forward cargo lining and the airplane skin. You can get access to the fire extinguishing bottles through the forward cargo compartment. The removal and installation procedure is the same for each squib.
- D. After the bottles are empty, you must replace the fire extinguishing bottles, the squibs, the applicable flow valves and the filter/regulator.

TASK 26-23-02-000-801

2. Lower Cargo Fire Extinguishing Bottle Squib Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. **References**

Reference	Title
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-41-01-400-803	ESDS Handling for Metal Encased Unit Installation (P/B 201)
25-52-06-000-801	Sidewall Liner 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-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205

C. **Location Zones**

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, Right

D. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door

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E. Prepare for the Removal

SUBTASK 26-23-02-010-001

- (1) Open this access door to get access to the Standby Power Management Panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-23-02-860-001

- (2) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-02-010-002

- (3) Open this cargo door to get access to the forward cargo compartment:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

SUBTASK 26-23-02-010-003

- (4) Remove the sidewall lining to get access to the applicable fire extinguishing bottle (TASK 25-52-06-000-801).

SUBTASK 26-23-02-480-001

- (5) Install the pressure relief valve platform, SPL-1651 near the applicable fire extinguishing bottle.

F. Squib Removal

SUBTASK 26-23-02-020-001

- (1) Do these steps to remove the squib [3]:



DO NOT TOUCH THE SQUIB BEFORE YOU DO THE PROCEDURES FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE THE FIRE BOTTLE TO RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

- (a) Before you touch the squib [3], do the procedure for devices that are sensitive to electrostatic discharge.

These are the tasks:

ESDS Handling for Metal Encased Unit Removal, TASK 20-41-01-000-803,

ESDS Handling for Metal Encased Unit Installation, TASK 20-41-01-400-803.

- (b) Disconnect the electrical connector [1] from the squib [3].



PUT A PROTECTIVE COVER ON THE SQUIB. IF YOU DO NOT PUT A PROTECTIVE COVER ON THE SQUIB, THE FIRE EXTINGUISHING BOTTLE CAN RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURIES TO PERSONS.

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(WARNING PRECEDES)



CAUTION

DO NOT PUT A SHUNT PLUG ON THE SQUIB. THE SHUNT PLUG CAN CAUSE DAMAGE TO THE SQUIB PINS.

- (c) Put the protective cover [4], attached to the bottle, on the squib [3].

NOTE: The protective caps are attached to the fire extinguishing bottles. These protective caps prevent the squib from the possible activation because of static electricity.

- (d) If necessary, remove the lockwire from the squib [3].
(e) Remove the jumper [5] from the squib [3].



WARNING

BE CAREFUL WHEN YOU DISCONNECT THE HOSE ASSEMBLY FROM A FIRE EXTINGUISHING BOTTLE. PRESSURE CAN STAY IN THE METERED-PRESSURE HOSE AND TUBING FOR FOUR HOURS AFTER THE EXTINGUISHER AGENT IS RELEASED. WHEN YOU RELEASE THE PRESSURE IN THE HOSE AND TUBING, YOU CAN CAUSE INJURIES TO PERSONNEL.

- (f) Remove the squib [3] from the discharge head [2].
(g) Remove and discard the packing [6] from the squib [3].

———— **END OF TASK** ————

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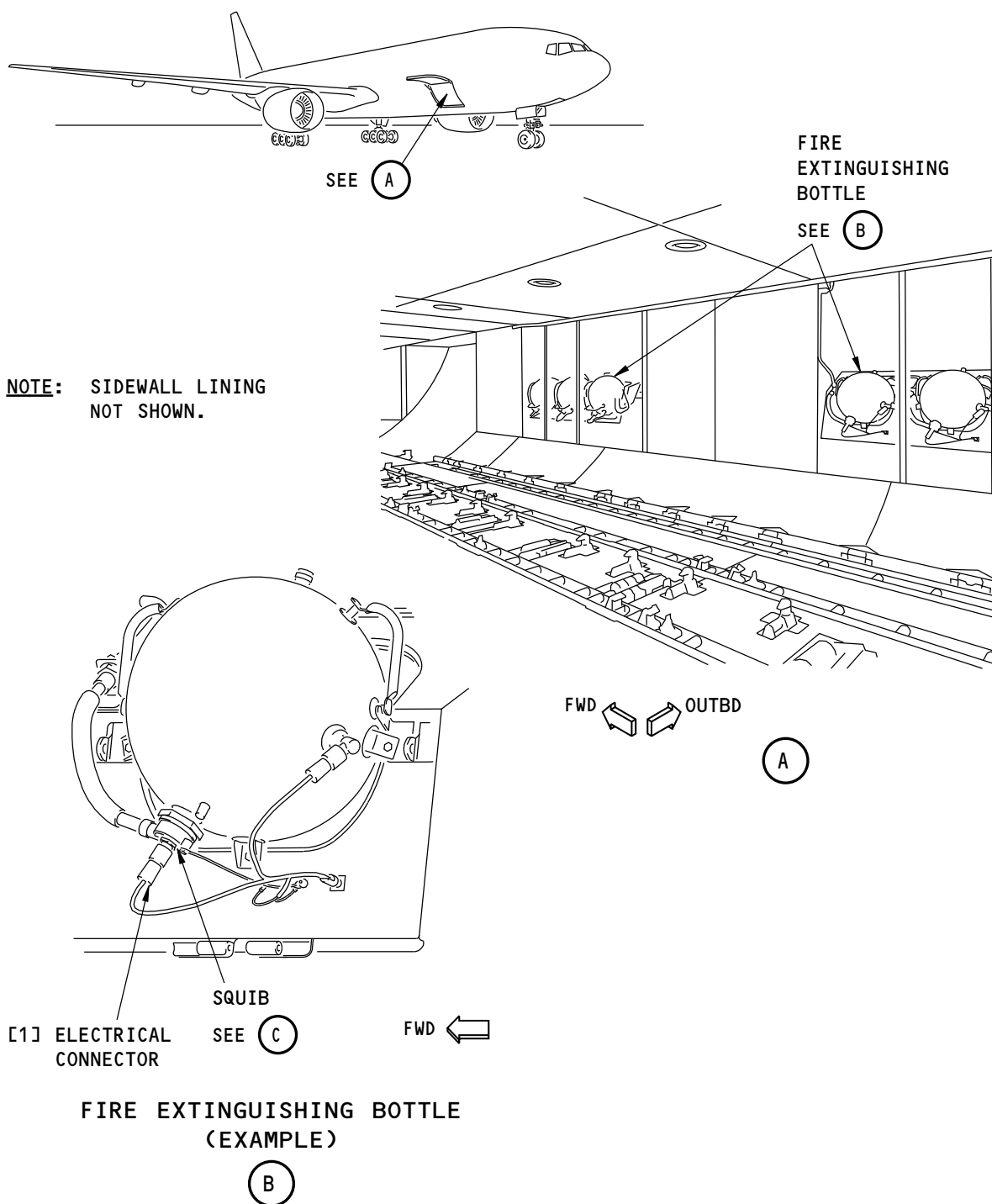
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Lower Cargo Fire Extinguishing Bottle Squib Installation
Figure 401/26-23-02-990-801 (Sheet 1 of 2)

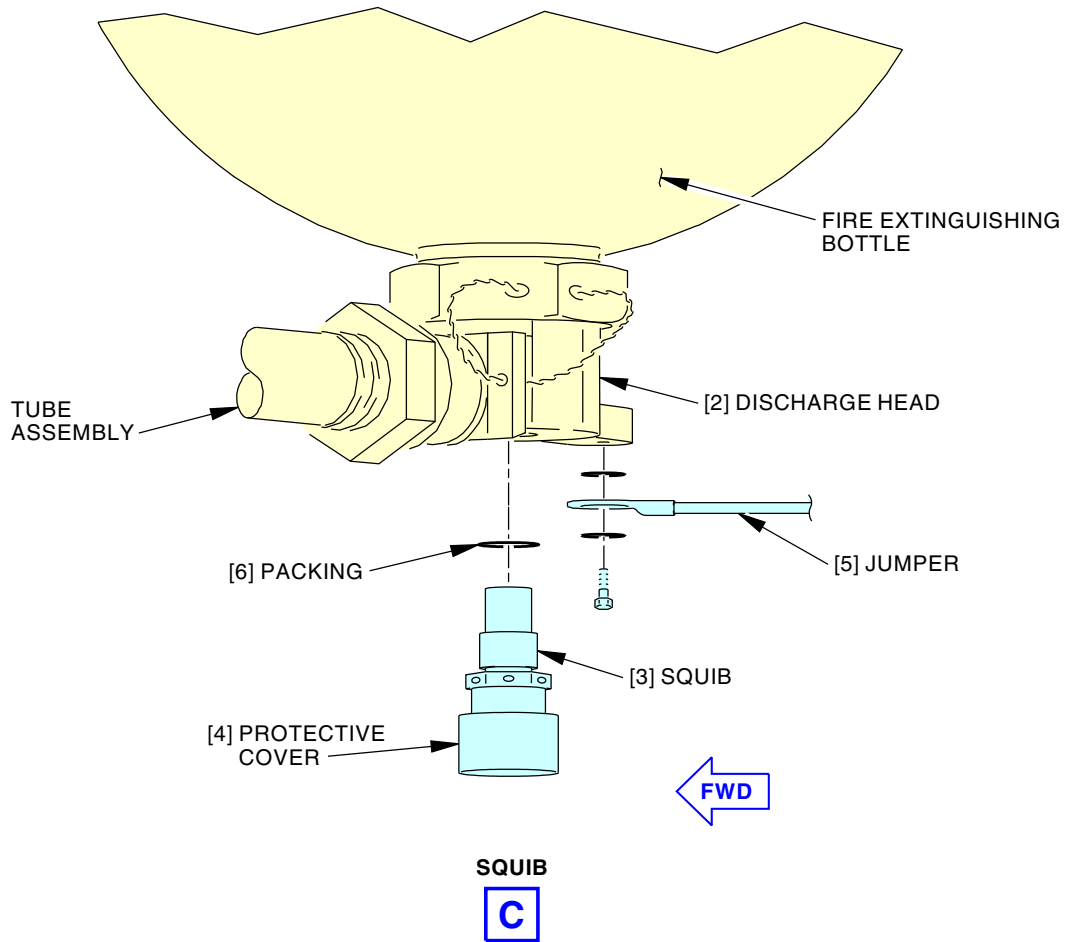
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Lower Cargo Fire Extinguishing Bottle Squib Installation
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TASK 26-23-02-400-801

3. Lower Cargo Fire Extinguishing Bottle Squib Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-41-01-400-803	ESDS Handling for Metal Encased Unit Installation (P/B 201)
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
26-23-00-710-802	Cargo Fire Extinguishing Squibs - Operational Test (P/B 501)
WDM 26-23-11	Wiring Diagram Manual
WDM 26-23-51	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-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 260 Supplier: 55026 Opt Part #: 27 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536 Opt Part #: MODEL 27 Supplier: 89536
SPL-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205
STD-1079	Resistor - 10K Ohm or Greater

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
3	Squib	26-23-01-01A-089	ARO ALL
		26-23-01-02-095	ARO ALL
6	Packing	26-23-01-01A-090	ARO ALL
		26-23-01-02-100	ARO ALL

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D. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, Right

E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door

F. Prepare for the Installation

SUBTASK 26-23-02-010-004

- (1) Open this access door to get access to the Standby Power Management Panel:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-23-02-860-002

- (2) Make sure that these circuit breakers are open and have safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-02-010-005

- (3) Open this cargo door to get access to the forward cargo compartment:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

SUBTASK 26-23-02-010-006

- (4) Remove the sidewall lining to get access to the applicable fire extinguishing bottle (TASK 25-52-06-000-801).

SUBTASK 26-23-02-480-002

- (5) Make sure, that pressure relief valve platform, SPL-1651 near the applicable fire extinguishing bottle.

G. Squib Installation

SUBTASK 26-23-02-420-001

- (1) Do these steps to install the squib [3]:
- (a) Make sure that the life of the squib [3] is sufficient to continue until the subsequent "C" check.

NOTE: The squib has a life of 10 years. The date for maintenance is recorded on the squib.

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WARNING

DO NOT TOUCH THE SQUIB BEFORE YOU DO THE PROCEDURES FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE THE FIRE BOTTLE TO RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURY TO PERSON AND DAMAGE EQUIPMENT.

- (b) Before you touch the squib [3], do the procedure for devices that are sensitive to electrostatic discharge.

These are the tasks:

ESDS Handling for Metal Encased Unit Removal, TASK 20-41-01-000-803,

ESDS Handling for Metal Encased Unit Installation, TASK 20-41-01-400-803.

- (c) Install the new packing [6].
(d) Install the squib [3] in the discharge head [2].
(e) Tighten the squib [3] to 95 $\pm$ 5 in-lb (11 $\pm$ 1 N·m).
(f) Install lockwire from squib [3] to discharge head [2].
(g) Remove the protective cover [4] from the squib [3].



WARNING

MAKE SURE THAT THERE IS NO VOLTAGE AT THE ELECTRICAL CONNECTOR. IF THERE IS A VOLTAGE AT THE ELECTRICAL CONNECTOR, THE SQUIB CAN RELEASE THE CONTENTS OF THE BOTTLE SUDDENLY. THIS CAN CAUSE INJURIES TO PERSONNEL.

- (h) Use a digital/analog multimeter, COM-1793. Make sure that there is no voltage between pins 1 and 2 of the electrical connector [1].
- (i) If there is voltage between pins 1 and 2, do these steps:
- 1) Connect a digital/analog multimeter, COM-1793 across pins 1 and 2.
 - 2) Connect a resistor, STD-1079 across the digital/analog multimeter, COM-1793 pins to remove a small voltage from the electrical connector [1].
 - 3) Disconnect the digital/analog multimeter, COM-1793.
- (j) Make sure that the squib electrical pins are not bent or damaged.
- NOTE: The squib pins can cause damage to the electrical connector if the pins do not correctly engage the electrical connector.
- (k) Carefully examine the applicable electrical connector [1] (WDM 26-23-11, WDM 26-23-51):
- DB26013A
 - DB26014A
 - DB26015A
 - DB26016A
 - DB26017A

NOTE: If a fire extinguishing bottle released its contents, the electrical connector can be damaged.

- 1) Make sure that the connector shell on the electrical connector [1] operates correctly and is not damaged.
- 2) Make sure that the locking ring on the rear of the electrical connector [1] is not damaged.

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- 3) If there is damage to the electrical connector [1], replace it.
- (l) Connect the electrical connector [1] to the squib [3].
 - 1) Do not use unusual force to connect the electrical connector [1] to the squib [3].
 - 2) Make sure that the electrical connector [1] is not loose and is attached tightly to the squib [3].
- (m) Do these steps to make sure that you did not bend or cause damage to the squib pins.

NOTE: This step is necessary because the pins can be damaged the first time that an electrical connector is connected to the squib.

 - 1) Disconnect the electrical connector [1] from the fire bottle squib [3].
 - 2) Make sure that the squib electrical pins are not bent or damaged.
 - 3) Make sure that the electrical connector [1] is not damaged.
 - 4) Connect the electrical connector [1] to the squib [3].
 - a) Do not use unusual force to connect the electrical connector [1] to the squib [3].
 - 5) Make sure that the electrical connector [1] is not loose and is attached tightly to the squib [3].
- (n) Attach a jumper [5] from the squib [3] to the discharge head [2].

SUBTASK 26-23-02-860-003

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

H. Lower Cargo Fire Extinguishing Bottles Installation Test

SUBTASK 26-23-02-710-001

- (1) Do this task: Cargo Fire Extinguishing Squibs - Operational Test, TASK 26-23-00-710-802.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 26-23-02-080-001

- (1) Remove the pressure relief valve platform, SPL-1651.

SUBTASK 26-23-02-410-001



WARNING

SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, THE FIRE EXTINGUISHING AGENT OR SMOKE CAN CAUSE INJURIES.

- (2) Install the sidewall lining (TASK 25-52-06-400-801).

SUBTASK 26-23-02-840-001

- (3) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

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SUBTASK 26-23-02-840-002

(4) Close this cargo door:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

————— **END OF TASK** —————

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LOWER CARGO FIRE EXTINGUISHING IN-LINE PRESSURE SWITCH - REMOVAL/INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) A removal of the in-line pressure switch for the lower cargo fire extinguishing system
 - (2) An installation of the in-line pressure switch.
- B. There are two pressure switches installed in the forward cargo compartment. The pressure switches are installed on the right side of the airplane between the forward cargo lining and the airplane skin. One switch is immediately forward of the forward flow valve. The other is immediately aft of the aft flow valve. The pressure switches show when pressure is high in the halon line downstream of the flow valve. The switch latches when the pressure is high.
- C. You must reset the pressure switch after the fire extinguishing bottles are released. It is not necessary to replace the pressure switches after the fire extinguishing bottles are released.

TASK 26-23-03-000-801

2. Lower Cargo Fire Extinguishing In-Line Pressure Switch Removal

(Figure 401)

A. **References**

Reference	Title
25-52-06-000-801	Sidewall Liner 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-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205

C. **Location Zones**

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, Right

D. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door

E. **Prepare for the Removal**

SUBTASK 26-23-03-010-001

- (1) Open this access door to get access to the Standby Power Management Panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

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SUBTASK 26-23-03-840-001

- (2) Open this circuit breaker and install safety tag:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
F	4	C33611	MD & T CHANNEL 4

SUBTASK 26-23-03-010-002

- (3) Open this cargo door to get access to the forward cargo compartment:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

F. Cargo Fire Extinguishing In-Line Pressure Switch Removal

SUBTASK 26-23-03-010-003

- (1) Remove the sidewall lining to get access to the pressure switch (TASK 25-52-06-000-801).

SUBTASK 26-23-03-480-001

- (2) Install the access pressure relief valve platform, SPL-1651 near the pressure switch.

SUBTASK 26-23-03-020-001

- (3) Do these steps to remove the in-line pressure switch [7]:
- (a) Disconnect the electrical connector [3] from the in-line pressure switch [7].
 - (b) Disconnect the inlet tube [1] from the in-line pressure switch [7].
 - (c) Remove the screw [5], washer [6] and clamp [4] that hold the in-line pressure switch [7] to the airplane structure.
 - (d) Remove the in-line pressure switch [7].

————— END OF TASK —————

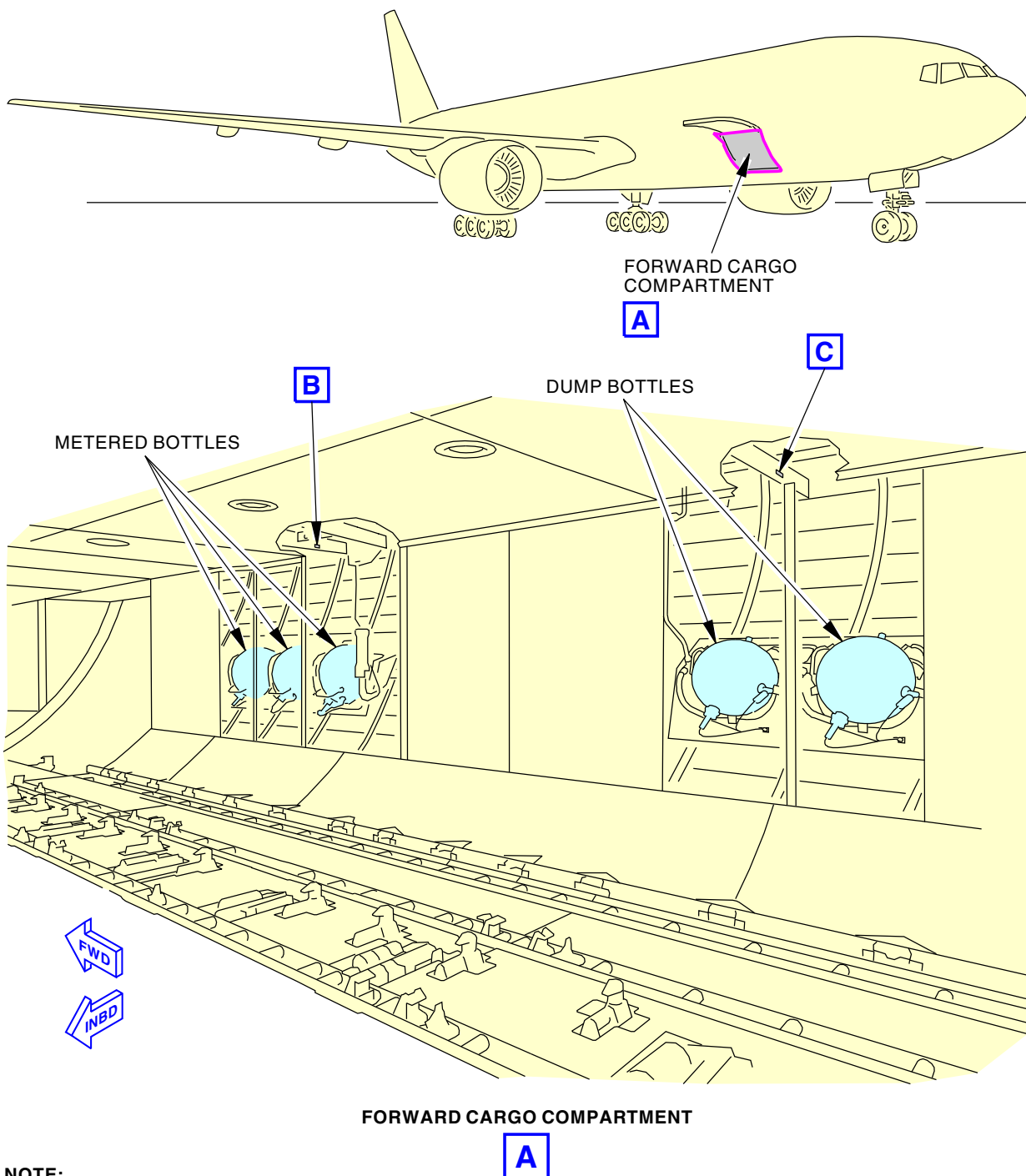
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NOTE:
SIDEWALL LINING NOT SHOWN.

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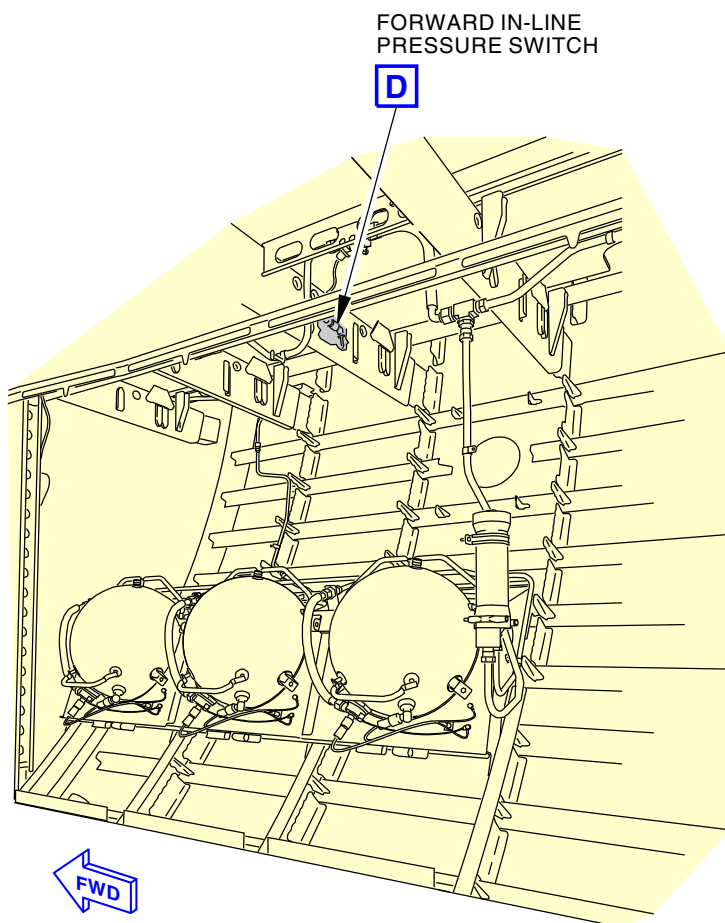
Lower Cargo Fire Extinguishing In-Line Pressure Switch Installation Figure 401/26-23-03-990-801 (Sheet 1 of 3)

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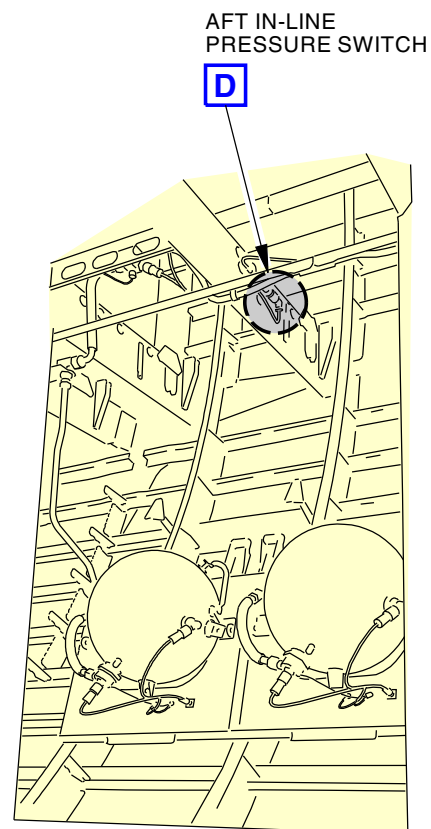
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B



C

NOTE:
SIDEWALL LINING IS NOT SHOWN.

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Lower Cargo Fire Extinguishing In-Line Pressure Switch Installation
Figure 401/26-23-03-990-801 (Sheet 2 of 3)

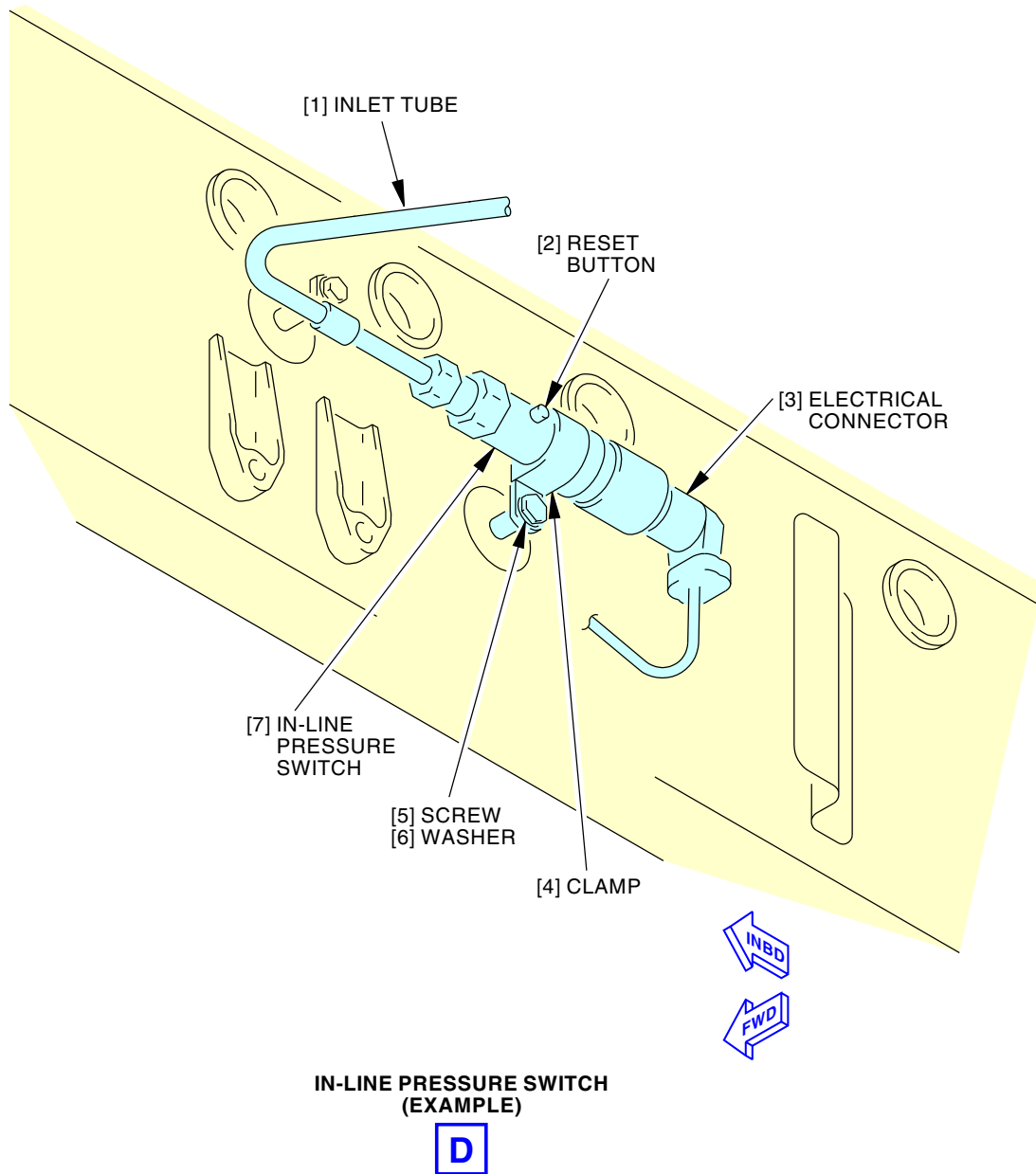
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Lower Cargo Fire Extinguishing In-Line Pressure Switch Installation
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TASK 26-23-03-400-801

3. Lower Cargo Fire Extinguishing In-Line Pressure Switch Installation

(Figure 401)

A. References

Reference	Title
24-22-00-860-805	Supply Electrical Power (P/B 201)
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
31-61-00-800-804	Showing a Maintenance Page (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-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205

C. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
7	Switch	26-23-03-01A-050	ARO ALL
		26-23-03-02-030	ARO ALL

D. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, Right
211	Flight Compartment, Left
212	Flight Compartment, Right

E. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door

F. Prepare for the Installation

SUBTASK 26-23-03-010-004

- (1) Open this access door to get access to the Standby Power Management Panel:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-23-03-840-002

- (2) Make sure that this circuit breaker is open and has safety tag:

Standby Power Management Panel, P310

Row	Col	Number	Name
F	4	C33611	MD & T CHANNEL 4

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SUBTASK 26-23-03-010-005

- (3) Open this cargo door to get access to the forward cargo compartment:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

G. Cargo Fire Extinguishing In-Line Pressure Switch Installation

SUBTASK 26-23-03-010-006

- (1) Remove the sidewall lining to get access to the applicable pressure switch (TASK 25-52-06-000-801).

SUBTASK 26-23-03-480-002

- (2) Make sure that the access pressure relief valve platform, SPL-1651 is installed to get access to the applicable pressure switch.

SUBTASK 26-23-03-420-001

- (3) Do these steps to install the in-line pressure switch [7]:
- (a) Put the in-line pressure switch [7] in its position on the airplane structure.
 - (b) Install the screw [5], washer [6] and clamp [4] that hold the in-line pressure switch [7] to the airplane structure.
 - (c) Connect the inlet tube [1] to the in-line pressure switch [7].
 - (d) Tighten the connector on the inlet tube to 110 ±5 in-lb (12 ±1 N·m).
 - (e) Connect the electrical connector [3] to the in-line pressure switch [7].
 - (f) Push the reset button [2] on the in-line pressure switch [7].

SUBTASK 26-23-03-860-001

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
F	4	C33611	MD & T CHANNEL 4

SUBTASK 26-23-03-860-002

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

SUBTASK 26-23-03-760-001

- (6) In the flight compartment, make sure that the EICAS Fire Protection maintenance page shows NORM for the applicable DISCHARGE PRESS SW indication (TASK 31-61-00-800-804).

H. Put the Airplane Back to Its Usual Condition

SUBTASK 26-23-03-080-001

- (1) Remove the access pressure relief valve platform, SPL-1651.

SUBTASK 26-23-03-410-001



SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, THE FIRE EXTINGUISHING AGENT OR SMOKE CAN CAUSE INJURIES.

- (2) Install the sidewall lining adjacent to the pressure switches (TASK 25-52-06-400-801).

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SUBTASK 26-23-03-840-003

(3) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-23-03-840-004

(4) Close this cargo door:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

———— **END OF TASK** ————

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LOWER CARGO FIRE EXTINGUISHING FILTER/REGULATOR - REMOVAL/INSTALLATION

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has these tasks:
 - (1) A removal of the filter/regulator for the lower cargo fire extinguishing system
 - (2) An installation of the filter/regulator.
- C. The filter/regulator contains a filter/drier, a pressure regulator, and a metering orifice to control the flow of extinguishing agent. The filter/regulator is installed on the right side of the airplane between the forward cargo lining and the airplane skin. The filter/regulator controls the rate of flow of extinguishing agent to the cargo compartment and keeps the concentration of extinguishing agent constant for 195 minutes maximum.
- D. After the cargo fire extinguishing bottles are released, you must replace the fire extinguishing bottles, the squibs, the applicable flow valves and the filter/regulator.

TASK 26-23-04-000-801

2. Lower Cargo Fire Extinguishing Filter/Regulator Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

<u>Reference</u>	<u>Title</u>
20-10-09-000-801	Flareless Tubing Assembly Removal (P/B 401)
25-52-06-000-801	Sidewall Liner 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.

<u>Reference</u>	<u>Description</u>
SPL-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205

C. Location Zones

<u>Zone</u>	<u>Area</u>
122	Forward Cargo Compartment, Right

D. Access Panels

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

E. Prepare for the Removal

SUBTASK 26-23-04-010-004

- (1) Open this cargo door to get access to the forward cargo compartment::

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

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SUBTASK 26-23-04-010-006

- (2) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

F. Cargo Fire Extinguishing Filter/Regulator Removal

SUBTASK 26-23-04-010-005

- (1) Remove the sidewall lining to get access to the filter/regulator [1]. To remove the sidewall lining, do this task: Sidewall Liner Removal, TASK 25-52-06-000-801.

SUBTASK 26-23-04-480-002

- (2) Install the access pressure relief valve platform, SPL-1651 near the filter/regulator [1].

SUBTASK 26-23-04-020-002

- (3) Do these steps to remove the filter/regulator [1]:



WARNING

BE CAREFUL WHEN YOU DISCONNECT THE HOSE ASSEMBLY FROM A FIRE EXTINGUISHING BOTTLE. PRESSURE CAN STAY IN THE METERED-PRESSURE HOSE AND TUBING FOR FOUR HOURS AFTER THE EXTINGUISHER AGENT IS RELEASED. WHEN YOU RELEASE THE PRESSURE IN THE HOSE AND TUBING, YOU CAN CAUSE INJURIES TO PERSONNEL.

- (a) Disconnect the outlet tube [8] from the filter/regulator [1] (Flareless Tubing Assembly Removal, TASK 20-10-09-000-801).

NOTE: Disconnect the outlet tube before you disconnect the inlet tube. If there is pressure in the tubing, it is safer to disconnect the outlet tube first.

- (b) Disconnect the inlet tube [7] from the filter/regulator [1] (Flareless Tubing Assembly Removal, TASK 20-10-09-000-801).
- (c) Remove the screw [4] and washer [3] from the clamp [2].
- (d) Remove the bolt [6] and washer [5] from the filter/regulator [1].
- (e) Remove the filter/regulator [1].

————— **END OF TASK** —————

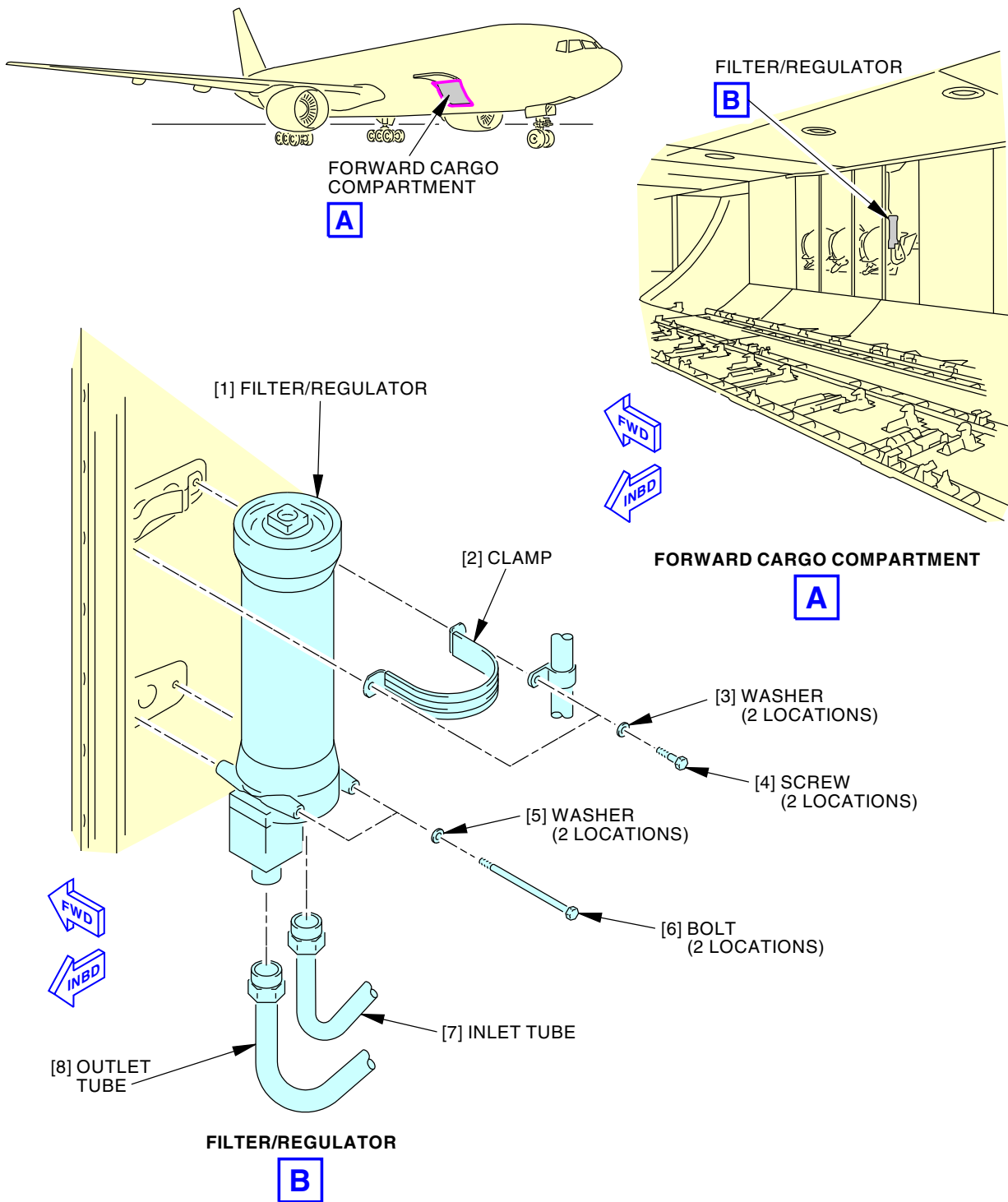
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Lower Cargo Fire Extinguishing Filter/Regulator Installation
Figure 401/26-23-04-990-801

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TASK 26-23-04-400-801

3. Lower Cargo Fire Extinguishing Filter/Regulator Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
20-10-09-400-801	Flareless Tubing Assembly Installation (P/B 401)
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner 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-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205

C. Location Zones

Zone	Area
122	Forward Cargo Compartment, Right

D. Access Panels

Number	Name/Location
821	Forward Large Cargo Door

E. Cargo Fire Extinguishing Filter/Regulator Installation

SUBTASK 26-23-04-010-003

- (1) Make sure that the sidewall lining is removed to get access to the filter/regulator. To remove the sidewall lining, do this task: Sidewall Liner Removal, TASK 25-52-06-000-801.

SUBTASK 26-23-04-080-001

- (2) Make sure that the access pressure relief valve platform, SPL-1651 is installed near the filter/regulator [1].

SUBTASK 26-23-04-420-001

- (3) Do these steps to install the filter/regulator [1]:
 - (a) Put the filter/regulator [1] in its position.
 - (b) Install the washer [5] and bolt [6] to the filter/regulator [1].
 - (c) Put the clamp [2] in its position around the filter/regulator [1].
 - (d) Install the screw [4] and washer [3] to the clamp [2].
 - (e) Connect the inlet tube [7] to the filter/regulator [1] (Flareless Tubing Assembly Installation, TASK 20-10-09-400-801).
 - 1) Tighten the inlet tube [7] to 280 ± 14 in-lb (32 ± 2 N·m).
 - (f) Connect the outlet tube [8] to the filter/regulator [1] (Flareless Tubing Assembly Installation, TASK 20-10-09-400-801).
 - 1) If the outlet tube [8] is size 10 (5/8 inch), then tighten to 360 ± 18 in-lb (41 ± 2 N·m).

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- 2) If the outlet tube [8] is size 12 (3/4 inch), then tighten to 450 ±23 in-lb (51 ±3 N·m).

F. Put the Airplane Back to Its Usual Condition

SUBTASK 26-23-04-080-002

- (1) Remove the access pressure relief valve platform, SPL-1651.

SUBTASK 26-23-04-410-001



WARNING

SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, THE FIRE EXTINGUISHING AGENT OR SMOKE CAN CAUSE INJURIES.

- (2) Install the sidewall lining adjacent to the filter/regulator. To install the sidewall lining, do this task: Sidewall Liner Installation, TASK 25-52-06-400-801.

SUBTASK 26-23-04-410-002

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	7	C26639	FIRE EXT CGO BTL 2A,2B & 2C
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-04-840-001

- (4) Close this cargo door:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

————— END OF TASK —————

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LOWER CARGO FIRE EXTINGUISHING FLOW VALVE - REMOVAL/INSTALLATION

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has these tasks:
 - (1) A removal of the flow valve for the lower cargo fire extinguishing system
 - (a) You can do the steps for the removal of the squibs if the maintenance life is more than 10 years at the subsequent "C" check.
 - (2) An installation of the flow valve.
 - (a) You can do the steps for the installation of the squibs if the service life is more than 10 years at the next "C" check.
- C. There are two flow valves in the lower cargo fire extinguishing system. One flow valve is for the forward cargo compartment and one is for the aft cargo compartment. The flow valves are on the right side of the airplane in the forward cargo compartment between the cargo lining and the airplane skin. In their usual condition, the flow valves are closed to flow. When one or two of the squibs operate, the flow valve opens. The fire extinguishing agent goes to the forward or aft cargo compartments when one of the flow valves opens. There are two squibs on each flow valve.
- D. After the cargo fire extinguishing bottles are empty, you must replace the fire extinguishing bottles, the applicable flow valve (which includes the squibs) and the filter/regulator.

TASK 26-23-05-000-801

2. Lower Cargo Fire Extinguishing Flow Valve Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. **References**

Reference	Title
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-41-01-400-803	ESDS Handling for Metal Encased Unit Installation (P/B 201)
25-52-06-000-801	Sidewall Liner 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-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205

C. **Location Zones**

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, Right

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D. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door

E. Prepare for the Removal

SUBTASK 26-23-05-010-001

- (1) To get access to the Power Management Panels, open this door:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-23-05-840-001

- (2) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

Row	Col	Number	Name
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-05-010-002

- (3) To get access to the forward cargo compartment, open this door:

Number	Name/Location
821	Forward Large Cargo Door

F. Cargo Fire Extinguishing Flow Valve Removal

SUBTASK 26-23-05-010-003

- (1) To remove the sidewall lining to get access to the flow valve lining, do this task:
TASK 25-52-06-000-801.

SUBTASK 26-23-05-480-001

- (2) Install the pressure relief valve platform, SPL-1651 near the flow valve.

SUBTASK 26-23-05-020-001

- (3) Do these steps to remove the flow valve [9]:



DO NOT TOUCH THE SQUIB BEFORE YOU DO THE PROCEDURES FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE THE FIRE BOTTLE TO RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURY TO PERSON AND DAMAGE EQUIPMENT.

- (a) Before you touch the squib, do these tasks, ESDS Handling for Metal Encased Unit Removal, TASK 20-41-01-000-803,
ESDS Handling for Metal Encased Unit Installation, TASK 20-41-01-400-803.
- (b) Disconnect the electrical connectors [2] from the squibs [11].



PUT CAPS ON THE BOTTLE SQUIBS AND FLOW VALVE SQUIBS. IF YOU DO NOT PUT CAPS ON THE SQUIBS, THE SQUIBS CAN FIRE ACCIDENTALLY AND CAUSE INJURIES TO PERSONNEL.

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(WARNING PRECEDES)



DO NOT PUT A SHUNT PLUG ON THE SQUIB. THE SHUNT PLUG CAN CAUSE DAMAGE TO THE SQUIB PINS.

- (c) Put the protective cover [10], attached to the flow valve [9], on the squib [11].

NOTE: The protective covers are attached to the flow valves. These protective covers prevent the squib from the activation because of static electricity.

- (d) Remove the bolt [5] and washer [6] that hold the bonding jumper [8] to the flow valve [9].



BE CAREFUL WHEN YOU DISCONNECT THE HOSE ASSEMBLY FROM A FIRE EXTINGUISHING BOTTLE. PRESSURE CAN STAY IN THE METERED-PRESSURE HOSE AND TUBING FOR FOUR HOURS AFTER THE EXTINGUISHER AGENT IS RELEASED. WHEN YOU RELEASE THE PRESSURE IN THE HOSE AND TUBING, YOU CAN CAUSE INJURIES TO PERSONNEL.

- (e) Loosen the nut on the inlet tube [7].
1) Disconnect the inlet tube [7] from the flow valve [9].
- (f) Loosen the nut on the outlet tube [1].
1) Disconnect the outlet tube [1] from the flow valve [9].
- (g) Remove the bolt [3] and washer [4] from the flow valve [9].
- (h) Remove the flow valve [9].

SUBTASK 26-23-05-020-002

- (4) For the removal of squibs [11] and packings preformed [12], do these steps:

NOTE: Do these steps for squibs which will be more than the 10-year service life at the subsequent "C" check date or if there was a fire bottle discharge.

- (a) Cut and remove the lockwire on the squibs [11].
1) Discard the lockwire.
- (b) Use a 7/8-inch wrench to remove the squibs [11].
- (c) Remove the packings (four positions).
1) Discard the packing preformed [12].

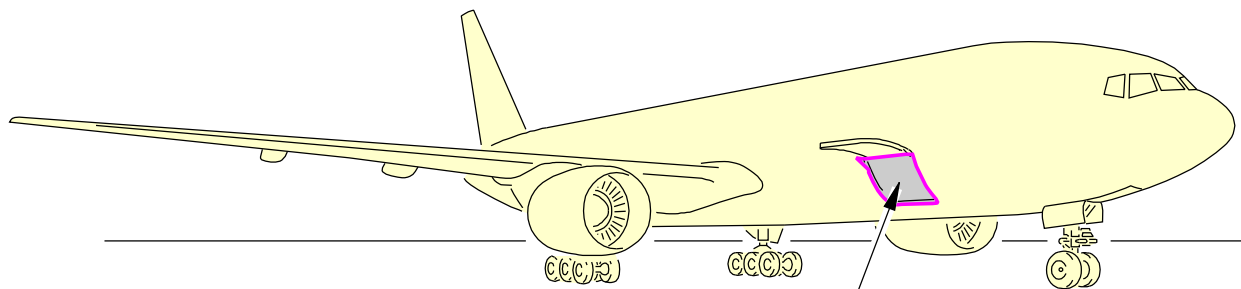
———— **END OF TASK** ————

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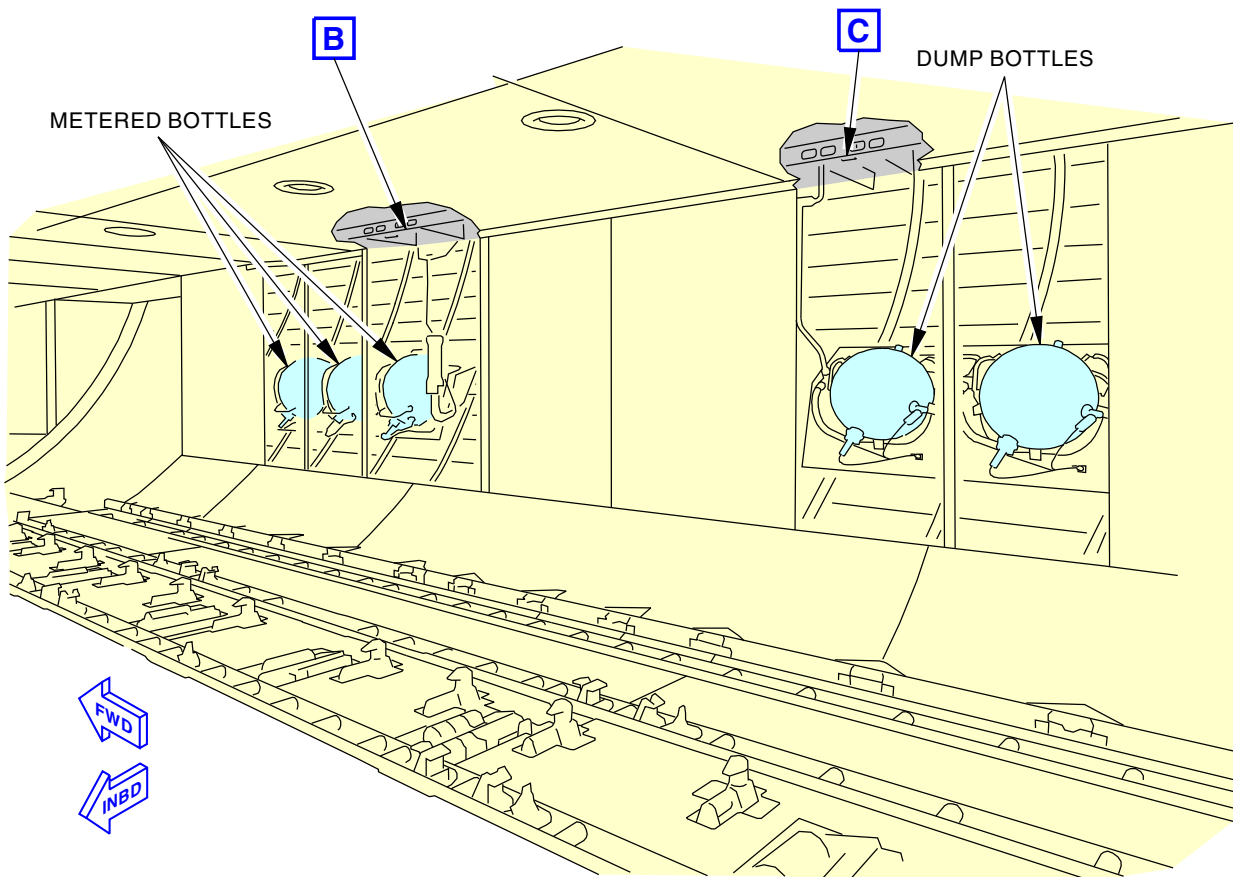


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FORWARD CARGO
COMPARTMENT

A



FORWARD CARGO COMPARTMENT

A

NOTE:
SIDEWALL LINING NOT SHOWN.

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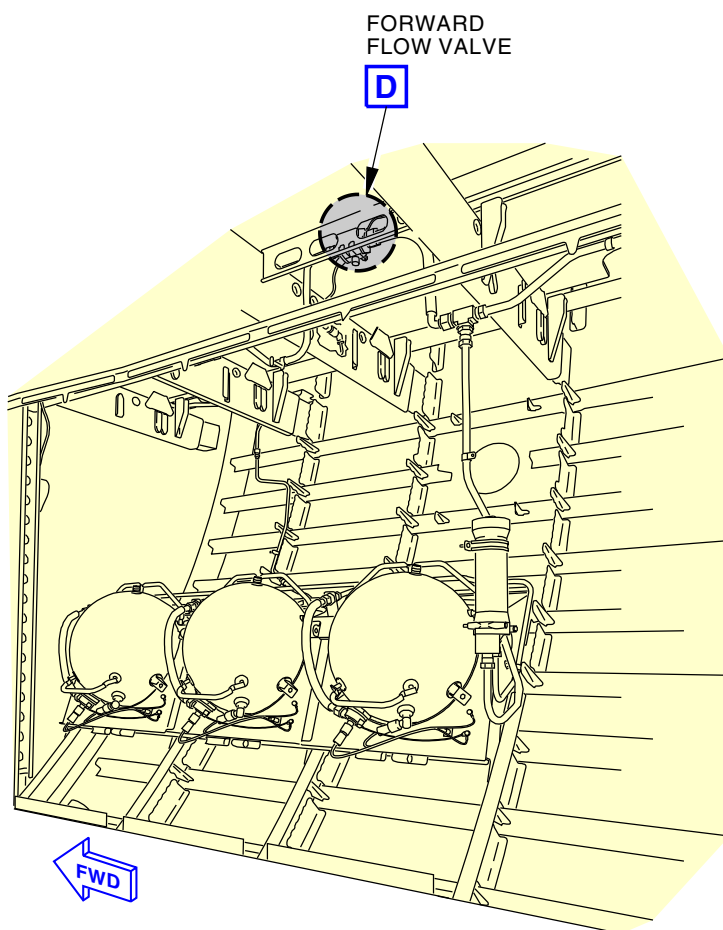
Lower Cargo Fire Extinguishing Flow Valve Installation
Figure 401/26-23-05-990-801 (Sheet 1 of 3)

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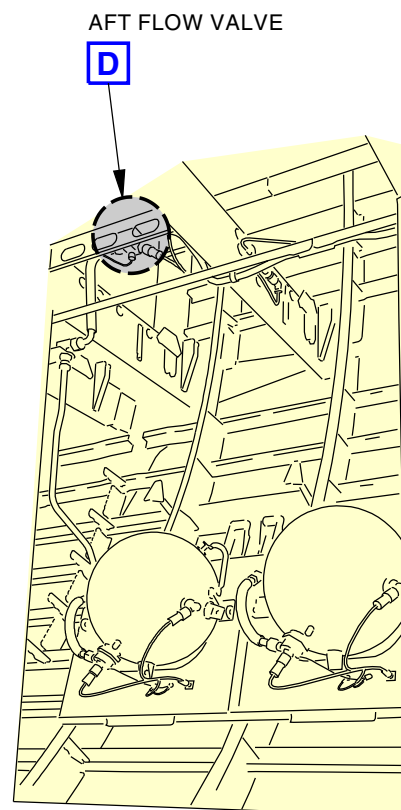
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B



C

NOTE:
SIDEWALL LINING IS NOT SHOWN.

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**Lower Cargo Fire Extinguishing Flow Valve Installation
Figure 401/26-23-05-990-801 (Sheet 2 of 3)**

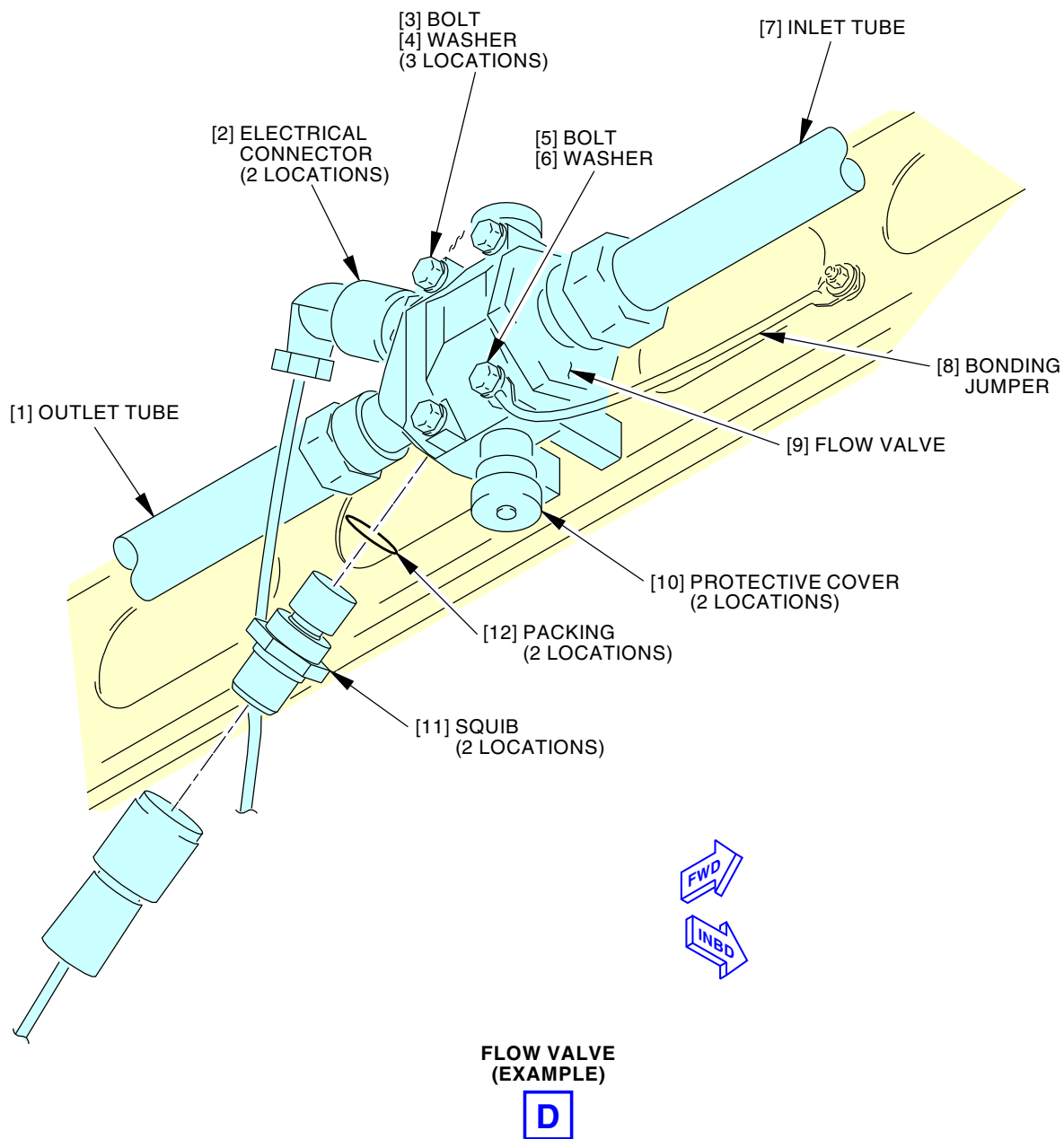
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Lower Cargo Fire Extinguishing Flow Valve Installation
Figure 401/26-23-05-990-801 (Sheet 3 of 3)

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TASK 26-23-05-400-801

3. Lower Cargo Fire Extinguishing Flow Valve Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-41-01-400-803	ESDS Handling for Metal Encased Unit Installation (P/B 201)
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
26-23-00-710-802	Cargo Fire Extinguishing Squibs - Operational Test (P/B 501)
26-23-00-730-802	Fire Extinguishing Tubing Leakage and Blockage - Functional Test (P/B 501)
26-23-03-400-801	Lower Cargo Fire Extinguishing In-Line Pressure Switch 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-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
COM-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 260 Supplier: 55026 Opt Part #: 27 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536 Opt Part #: MODEL 27 Supplier: 89536
SPL-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205

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(Continued)

Reference	Description
STD-1079	Resistor - 10K Ohm or Greater

C. Consumable Materials

Reference	Description	Specification
B00083	Solvent - VM&P Naphthas	TT-N-95 Type II, ASTM D-3735 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
9	Flow valve	26-23-05-01A-075	ARO ALL
		26-23-05-02-075	ARO ALL
12	Packing preformed	26-23-05-01A-085	ARO ALL
		26-23-05-02-085	ARO ALL

E. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, Right

F. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door

G. Prepare for the Installation

SUBTASK 26-23-05-010-004

- (1) To get access to the Power Management Panels, open this door:

Number	Name/Location
117AL	Main Equipment Center Access Door

SUBTASK 26-23-05-840-002

- (2) Make sure that these circuit breakers are open and have safety tags:

Standby Power Management Panel, P310

Row	Col	Number	Name
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

H. Cargo Fire Extinguishing Flow Valve Installation

SUBTASK 26-23-05-010-005

- (1) To remove the sidewall lining to get access to the applicable flow valve, do this task:
TASK 25-52-06-000-801.

SUBTASK 26-23-05-480-002

- (2) Make sure that the pressure relief valve platform, SPL-1651 is installed near the applicable flow valve.

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SUBTASK 26-23-05-420-002

- (3) Do these steps for the installation of squibs [11] for which the service life will be more than 10 years at the next "C" check:
- (a) Make sure that the protective covers [10] are installed on the squibs [11].
 - (b) Put a thin layer of pneumatic grease on the new packing preformed [12].
 - (c) Put packing on the squibs and into the inlet housing assembly of the flow valve [9].
 - (d) Install the squibs [11] in the flow valve [9].
 - (e) Use a 7/8-inch wrench to torque the cartridges to 90 ± 10 in-lb (10 ± 1 N·m).
 - (f) Safety the cartridges together with MS20995C32 lockwire, G01048 as specified by MS33540.

SUBTASK 26-23-05-420-001

- (4) Do these steps to install the flow valve [9]:
- (a) Put the flow valve [9] in its position on the airplane structure.
 - (b) Install the bolt [3] and washer [4] to the flow valve [9].
 - (c) Connect the inlet tube [7] to the flow valve [9].
 - 1) Tighten the nut on the inlet tube [7] to 450 ± 23 in-lb (51 ± 3 N·m).
 - (d) Connect the outlet tube [1] to the flow valve [9].
 - 1) Tighten the nut on the outlet tube [1] to 360 ± 15 in-lb (41 ± 2 N·m).
 - (e) Install the bolt [5] and washer [6] that hold the bonding jumper [8] to the flow valve [9].
 - (f) Do a check of the resistance between the flow valve [9] and the airplane structure.

NOTE: Use an intrinsically safe approved bonding meter, COM-1550 which can measure 0.0001 ohm.

 - 1) Make sure that the resistance is not more than 0.0025 ohm.
 - 2) If the resistance is more than 0.0025 ohm, clean the surfaces that bond between the flow valve [9] and the airplane structure with the solvent, B00083.
 - 3) Do a check of the resistance again.



WARNING

DO NOT TOUCH THE SQUIB BEFORE YOU DO THE PROCEDURES FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE THE FIRE BOTTLE TO RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURY TO PERSON AND DAMAGE EQUIPMENT.

- (g) Before you touch the squib, do these tasks: ESDS Handling for Metal Encased Unit Removal, TASK 20-41-01-000-803, ESDS Handling for Metal Encased Unit Installation, TASK 20-41-01-400-803.
- (h) Do these steps to connect the electrical connector [2] to the squibs [11]:
 - 1) Remove the protective cover [10] from the squib [11] and attach to the flow valve [9].

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MAKE SURE THAT THERE IS NO VOLTAGE AT THE ELECTRICAL CONNECTOR. IF THERE IS A VOLTAGE AT THE ELECTRICAL CONNECTOR, THE SQUIB CAN RELEASE THE CONTENTS OF THE BOTTLE SUDDENLY. THIS CAN CAUSE INJURIES TO PERSONNEL.

- 2) Use a digital/analog multimeter, COM-1793 and make sure there is no voltage between pins 1 and 2 of the electrical connector [2].
NOTE: If you connect a resistor, STD-1079 across the digital/analog multimeter, COM-1793, you will remove the stray voltage from the electrical connector.
- 3) Make sure that the squib electrical pins are not bent or damaged.
- 4) Make sure that the electrical connector [2] is not damaged.
NOTE: The squib pins can cause damage to the electrical connector if the pins do not correctly engage the electrical connector.
- 5) Connect the electrical connectors [2] to the squibs [11].
- 6) Do these steps to make sure that you did not bend or cause damage to the squib pins.
NOTE: This step is necessary because the pins can be damaged the first time an electrical connector is connected to the squib.
 - a) Disconnect the electrical connectors [2] from the squibs [11].
 - b) Make sure that the squib pins are not bent or damaged.
 - c) Make sure that the electrical connectors [2] are not damaged.
 - d) Connect the electrical connectors [2] to the squibs [11].
- 7) Make sure you reset the applicable in-line pressure switch (TASK 26-23-03-400-801).

SUBTASK 26-23-05-840-004

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

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-05-730-001

- (6) Do this task: Fire Extinguishing Tubing Leakage and Blockage - Functional Test, TASK 26-23-00-730-802.

SUBTASK 26-23-05-730-002

- (7) Do this task: Cargo Fire Extinguishing Squibs - Operational Test, TASK 26-23-00-710-802.

I. Put the Airplane Back to Its Usual Condition

SUBTASK 26-23-05-080-001

- (1) Remove the pressure relief valve platform, SPL-1651.

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SUBTASK 26-23-05-410-001



WARNING

SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, THE FIRE EXTINGUISHING AGENT OR SMOKE CAN CAUSE INJURIES.

- (2) To install the sidewall lining, do this task: TASK 25-52-06-400-801.

SUBTASK 26-23-05-840-003

- (3) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-23-05-840-005

- (4) Close this access door:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

————— END OF TASK —————

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LOWER CARGO COMPARTMENT FIRE EXTINGUISHING FLOW VALVE SQUIB - REMOVAL/ INSTALLATION

1. General

- A. This procedure has these tasks:
- (1) The removal of the lower cargo fire extinguishing flow valve squibs.
 - (2) The installation of the lower cargo fire extinguishing flow valve squibs.
- B. There are two flow valves in the lower cargo fire extinguishing system. One flow valve is for the forward cargo compartment and one is for the aft cargo compartment. The flow valves are on the right side of the airplane in the forward cargo compartment between the cargo lining and the airplane skin. There are two squibs on each flow valve.
- C. After the cargo fire extinguishing bottles are empty, you must replace the fire extinguishing bottles, the applicable flow valve (which includes the squibs) and the filter/regulator.

TASK 26-23-06-000-801

2. Lower Cargo Fire Extinguishing Flow Valve Squib Removal

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. **References**

Reference	Title
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-41-01-400-803	ESDS Handling for Metal Encased Unit Installation (P/B 201)
25-52-06-000-801	Sidewall Liner 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-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205

C. **Location Zones**

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, Right

D. **Access Panels**

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door

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E. Prepare for Removal

SUBTASK 26-23-06-010-001

- (1) To get access to the Power Management Panels, open this door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-23-06-865-001

- (2) Open these circuit breakers and install safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-06-010-002

- (3) To get access to the forward cargo compartment, open this door:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

F. Cargo Fire Extinguishing Flow Valve Squib Removal

SUBTASK 26-23-06-010-003

- (1) Remove the sidewall lining to get access to the flow valve squib (TASK 25-52-06-000-801).

SUBTASK 26-23-06-420-002

- (2) Install the pressure relief valve platform, SPL-1651 near the flow valve.

SUBTASK 26-23-06-030-001

- (3) Do these steps to remove the flow valve squibs [11].



DO NOT TOUCH THE SQUIB BEFORE YOU DO THE PROCEDURES FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE THE FIRE BOTTLE TO RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURY TO PERSON AND DAMAGE EQUIPMENT.

- (a) Before you touch the squib, do these tasks, ESDS Handling for Metal Encased Unit Removal, TASK 20-41-01-000-803, ESDS Handling for Metal Encased Unit Installation, TASK 20-41-01-400-803.
- (b) Disconnect the electrical connectors [2] from the squibs [11].



PUT CAPS ON THE BOTTLE SQUIBS AND FLOW VALVE SQUIBS. IF YOU DO NOT PUT CAPS ON THE SQUIBS, THE SQUIBS CAN FIRE ACCIDENTALLY AND CAUSE INJURIES TO PERSONNEL.



DO NOT PUT A SHUNT PLUG ON THE SQUIB. THE SHUNT PLUG CAN CAUSE DAMAGE TO THE SQUIB PINS.

- (c) Put the protective cover [10], attached to the flow valve [9], on the squib [11].

NOTE: The protective caps are attached to the flow valves. These protective caps prevent the squib from the activation because of static electricity.

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- (4) Remove the squibs [11]:
- (a) Cut and remove the lockwire on the squibs [11].
 - (b) Use a 7/8-inch wrench to remove the squibs [11].
 - (c) Remove the packing preformed [12].

———— **END OF TASK** ————

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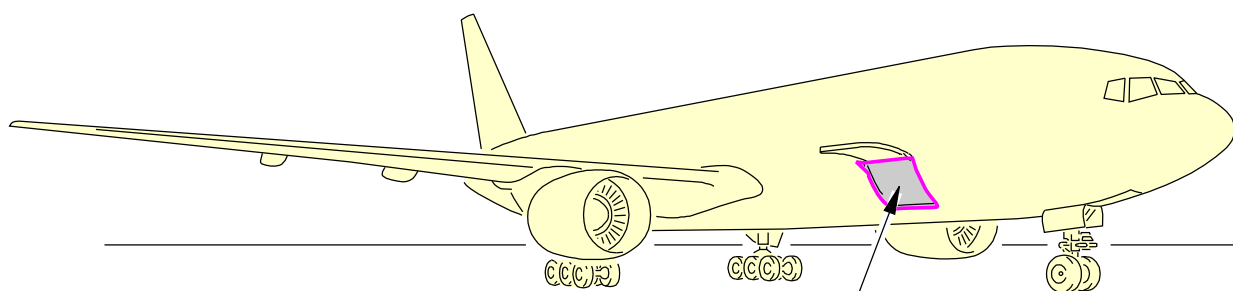
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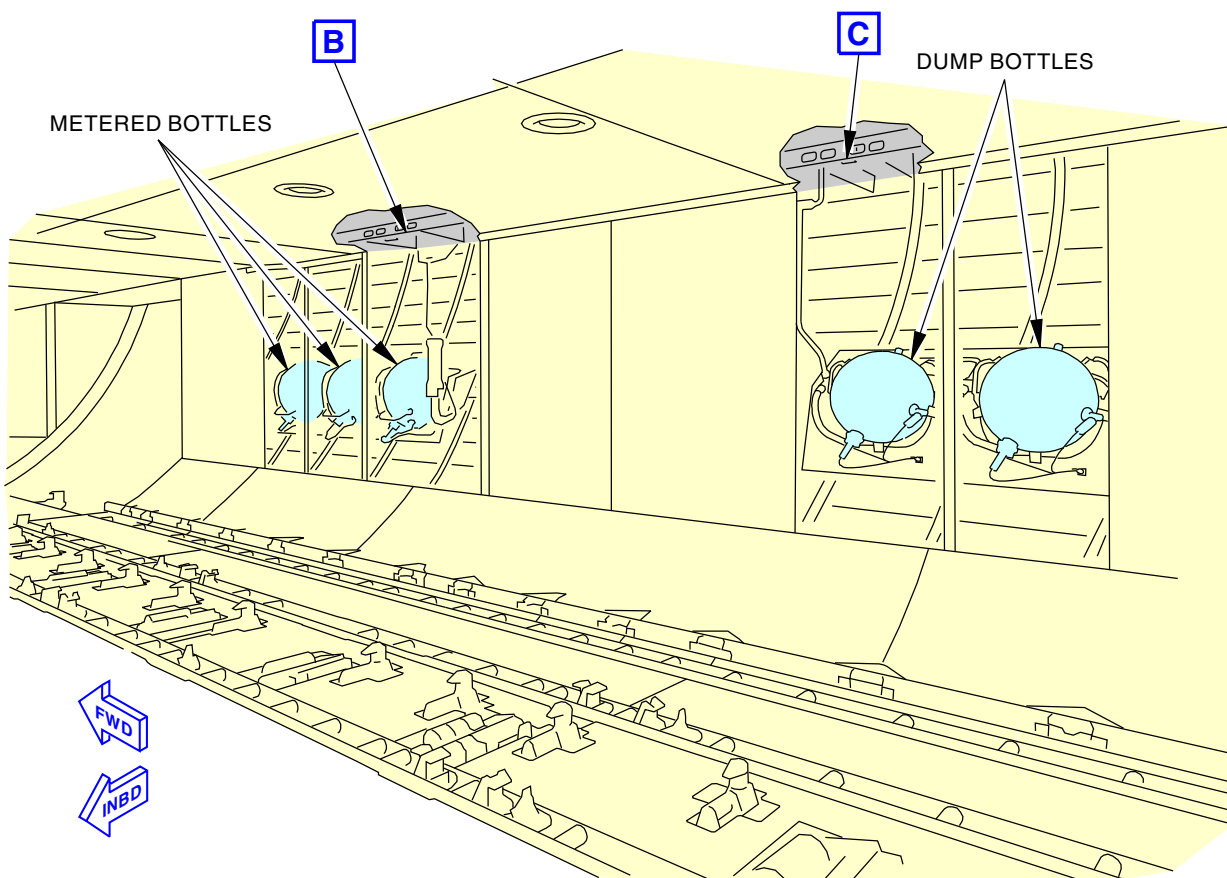


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FORWARD CARGO
COMPARTMENT

A



METERED BOTTLES

B

C

DUMP BOTTLES

FWD

INBD

FORWARD CARGO COMPARTMENT

A

NOTE:
SIDEWALL LINING NOT SHOWN.

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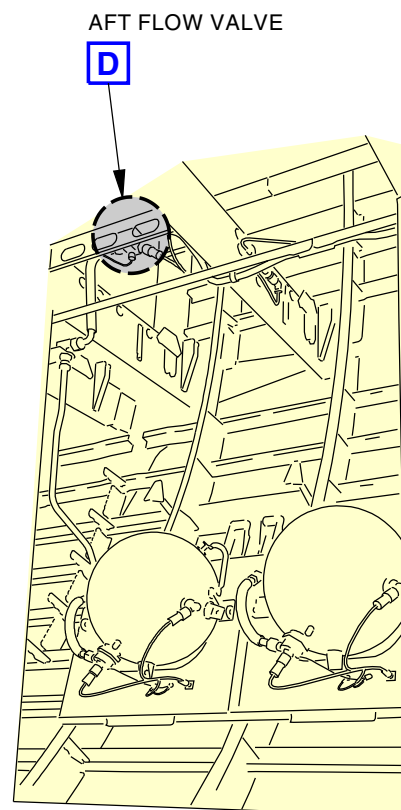
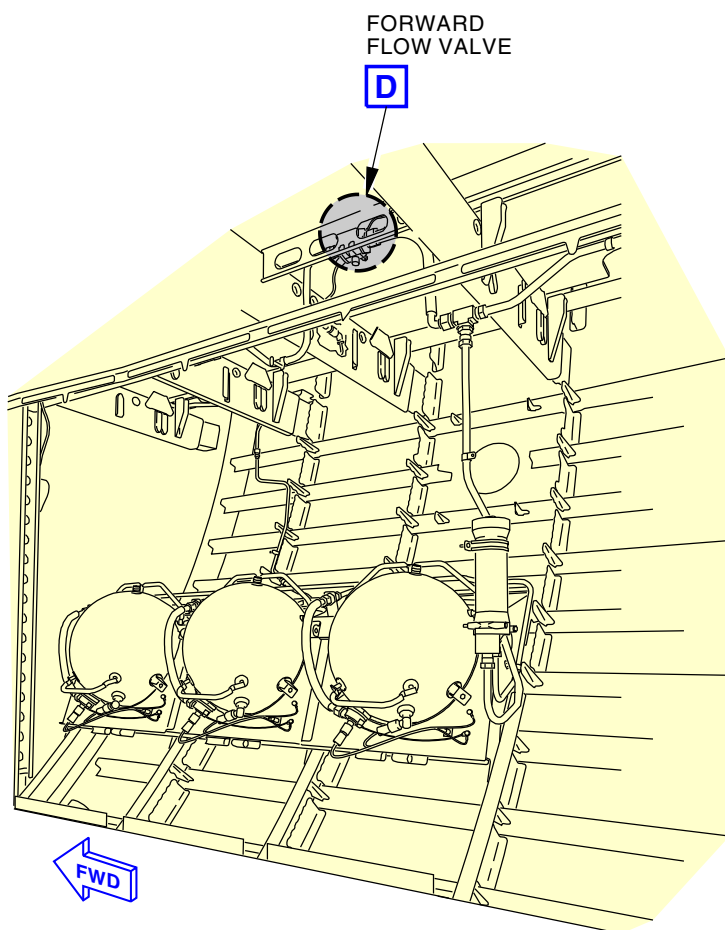
Lower Cargo Flow Valve Squib Installation
Figure 401/26-23-06-990-801 (Sheet 1 of 3)

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NOTE:
SIDEWALL LINING IS NOT SHOWN.

E03843 S0006412352_V2

**Lower Cargo Flow Valve Squib Installation
Figure 401/26-23-06-990-801 (Sheet 2 of 3)**

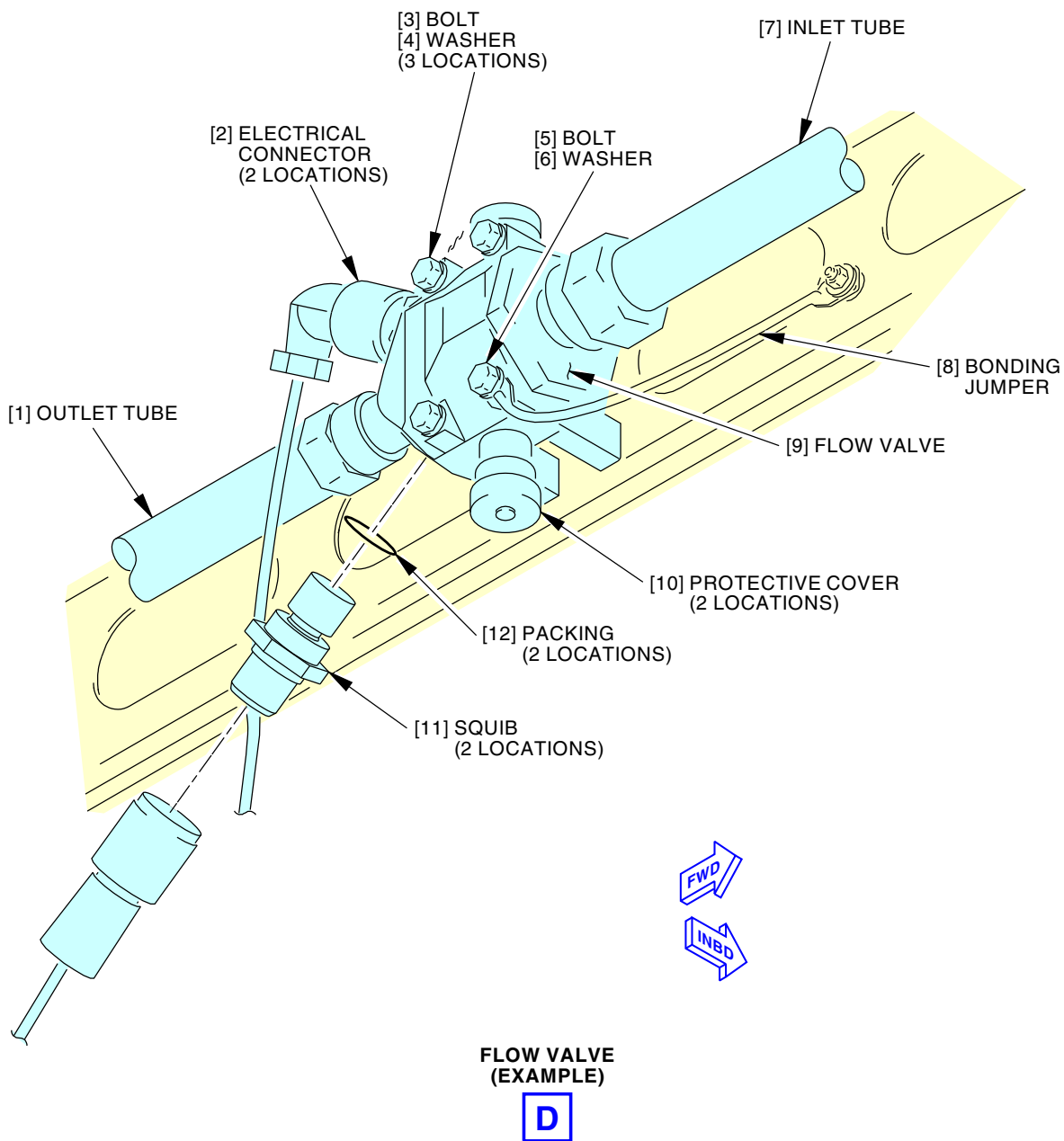
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**FLOW VALVE
(EXAMPLE)**

D

E03998 S0006412353_V3

Lower Cargo Flow Valve Squib Installation
Figure 401/26-23-06-990-801 (Sheet 3 of 3)

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TASK 26-23-06-400-801

3. Lower Cargo Fire Extinguishing Flow Valve Squib Installation

(Figure 401)

NOTE: This procedure is a scheduled maintenance task.

A. References

Reference	Title
20-41-01-000-803	ESDS Handling for Metal Encased Unit Removal (P/B 201)
20-41-01-400-803	ESDS Handling for Metal Encased Unit Installation (P/B 201)
25-52-06-000-801	Sidewall Liner Removal (P/B 401)
25-52-06-400-801	Sidewall Liner Installation (P/B 401)
26-23-00-710-802	Cargo Fire Extinguishing Squibs - Operational Test (P/B 501)
26-23-03-400-801	Lower Cargo Fire Extinguishing In-Line Pressure Switch 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-1793	Multimeter - Digital/Analog (or equivalent meter meets task requirements) Part #: 117 Supplier: 89536 Part #: 260-8XPI Supplier: 55026 Part #: 287 Supplier: 89536 Part #: 289 Supplier: 89536 Part #: 87V Supplier: 89536 Part #: FLUKE 27 II Supplier: 89536 Part #: FLUKE-77-4 Supplier: 89536 Opt Part #: 187 Supplier: 89536 Opt Part #: 189 Supplier: 89536 Opt Part #: 260 Supplier: 55026 Opt Part #: 27 Supplier: 89536 Opt Part #: 77 SERIES III Supplier: 89536 Opt Part #: 87 Supplier: 89536 Opt Part #: FLUKE 27 Supplier: 89536 Opt Part #: MODEL 27 Supplier: 89536
SPL-1651	Platform - Maintenance, Fire Extinguishing Bottles and Positive Pressure Relief Valve Removal/Installation Part #: J21003-1 Supplier: 81205
STD-1079	Resistor - 10K Ohm or Greater

C. Consumable Materials

Reference	Description	Specification
G01048	Lockwire - MS20995C32, Corrosion Resistant Steel - 0.032 Inch (0.8128 mm) Diameter	NASM20995

D. Expendables/Parts

AMM Item	Description	AIPC Reference	AIPC Effectivity
12	Packing preformed	26-23-05-01A-085	ARO ALL
		26-23-05-02-085	ARO ALL

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E. Location Zones

Zone	Area
117	Main Equipment Center, Left
118	Main Equipment Center, Right
122	Forward Cargo Compartment, Right

F. Access Panels

Number	Name/Location
117AL	Main Equipment Center Access Door
821	Forward Large Cargo Door

G. Prepare for the Installation

SUBTASK 26-23-06-410-001

- (1) To get access to the Power Management Panels, open this door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-23-06-865-002

- (2) Make sure that these circuit breakers are open and have safety tags:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

H. Cargo Fire Extinguishing Flow Valve Squib Installation

SUBTASK 26-23-06-000-001

- (1) To remove the sidewall lining to get access to the applicable flow valve [9] (TASK 25-52-06-000-801).

SUBTASK 26-23-06-490-001

- (2) Make sure that the pressure relief valve platform, SPL-1651 is installed near the applicable flow valve.

SUBTASK 26-23-06-420-001

- (3) Do these steps for the installation of cargo fire extinguishing flow valve squibs [11].

NOTE: The squib has a combined shelf and service life of 10 years from the service date.

NOTE: There are 2 squibs per valve.

- Make sure that the protective covers [10] are installed on the squibs [11].
- Put the new packing preformed [12] on the squibs [11].
- Install the squibs [11] in the flow valve [9].
- Use a 7/8-inch wrench to torque the cartridges to 90 ± 10 in-lb (10 ± 1 N·m).
- Safety the cartridges together with MS20995C32 lockwire, G01048 as specified by MS33540.

SUBTASK 26-23-06-430-001

- (4) Do these steps to connect the electrical connectors [2] to the squibs [11] on the cargo extinguishing flow valve [9].

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WARNING

DO NOT TOUCH THE SQUIB BEFORE YOU DO THE PROCEDURES FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE THE FIRE BOTTLE TO RELEASE ITS CONTENTS SUDDENLY AND CAUSE INJURY TO PERSON AND DAMAGE EQUIPMENT.

- (a) Before you touch the squib, do the procedure for devices that are sensitive to electrostatic discharge.

These are the tasks: ESDS Handling for Metal Encased Unit Removal, TASK 20-41-01-000-803, ESDS Handling for Metal Encased Unit Installation, TASK 20-41-01-400-803

- (b) Remove the protective cover [10] from the squib [11] and attach to the flow valve [9].



WARNING

MAKE SURE THAT THERE IS NO VOLTAGE AT THE ELECTRICAL CONNECTOR. IF THERE IS A VOLTAGE AT THE ELECTRICAL CONNECTOR, THE SQUIB CAN RELEASE THE CONTENTS OF THE BOTTLE SUDDENLY. THIS CAN CAUSE INJURIES TO PERSONNEL.

- (c) Use a digital/analog multimeter, COM-1793 and make sure there is no voltage between the pins 1 and 2 of the electrical connector [2].

- (d) If there is voltage between pins 1 and 2, do these steps:

- 1) Connect the digital/analog multimeter, COM-1793 across pins 1 and 2.
- 2) Connect a resistor, STD-1079 across the digital/analog multimeter, COM-1793 to remove any stray voltage from the electrical connector [2].
- 3) Disconnect the digital/analog multimeter, COM-1793.

- (e) Make sure that the squib electrical pins are not bent or damaged.

- (f) Make sure that the electrical connector [2] is not damaged.

NOTE: The squib pins can cause damage to the electrical connector if the pins do not correctly engage the electrical connector.

- (g) Connect the electrical connector [2] to the squib [11].

- (h) Do the steps that follow to make sure that you did not bend or cause damage to the squib pins.

NOTE: The pins can be damaged the first time that an electrical connector is connected to the squib.

- 1) Disconnect the electrical connector [2] from the squib [11].
- 2) Make sure that the squib electrical pins are not bent or damaged.
- 3) Make sure that the electrical connector [2] are not damaged.
- 4) Connect the electrical connector to the fire bottle squib.
- 5) Make sure you reset the applicable in-line pressure switch (Lower Cargo Fire Extinguishing In-Line Pressure Switch Installation, TASK 26-23-03-400-801).

SUBTASK 26-23-06-942-001

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

Standby Power Management Panel, P310

Row	Col	Number	Name
L	6	C26638	FIRE EXT CGO BTL 1A & VLV SQB

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(Continued)

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	8	C26640	FIRE EXT CGO BTL 1B & VLV SQB

SUBTASK 26-23-06-710-001

(6) Do this task: Cargo Fire Extinguishing Squibs - Operational Test, TASK 26-23-00-710-802.

I. Put The Airplane Back To Its Usual Condition

SUBTASK 26-23-06-020-001

(1) Remove the pressure relief valve platform, SPL-1651

SUBTASK 26-23-06-430-002



SEAL THE CARGO COMPARTMENT WITH THE LINING. OBEY THE INSTRUCTIONS IN THE SPECIFIED PROCEDURE WHEN YOU INSTALL THE LINING. IF YOU INSTALL THE LINING INCORRECTLY, THE FIRE EXTINGUISHING AGENT OR SMOKE CAN CAUSE INJURIES.

(2) To install the sidewall lining, do this task: TASK 25-52-06-400-801.

SUBTASK 26-23-06-410-002

(3) Close this access door:

<u>Number</u>	<u>Name/Location</u>
117AL	Main Equipment Center Access Door

SUBTASK 26-23-06-410-003

(4) Close this access door:

<u>Number</u>	<u>Name/Location</u>
821	Forward Large Cargo Door

———— **END OF TASK** ————

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LOWER CARGO FIRE CONTROL PANEL SWITCHES - REMOVAL/INSTALLATION

1. General

- A. This procedure contains a removal/installation of the Lower Cargo Fire Control Panel switches.
- B. The lower cargo arm and discharge switches are installed on the Cargo Fire/Engine Control Module, M80001, and located in the P5 Overhead Panel in the flight compartment.

TASK 26-23-07-960-801

2. Lower Cargo Fire Control Panel Switch Replacement

A. General

- (1) This task includes the steps to remove the FWD/AFT ARM and DISCH switches.
- (2) This task is also applicable to other systems that have the L/R ENG EEC Mode and the Engine Autostart switches located on the Cargo Fire Control Panel.
- (3) For more details, reference SWPM 20-84-14

B. References

Reference	Title
26-23-00-730-804	Cargo Fire Arm and Discharge Switch Installation Test (P/B 501)
33-13-00-960-802	Integral Panel Light - Pushbutton Switch Replacement (P/B 201)
SWPM 20-84-14	Standard Wiring Practices Manual

C. Location Zones

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

D. Lower Cargo Fire Control Panel Switch Replacement

SUBTASK 26-23-07-960-001

- (1) Do this task to replace the 09-532-0XXX switches on the Lower Cargo Fire Control Panel: Integral Panel Light - Pushbutton Switch Replacement, TASK 33-13-00-960-802.

E. Lower Cargo Fire Control Panel Switch Test

SUBTASK 26-23-07-480-001

- (1) Do this test to make sure that the switches function properly with the rest of the system: Cargo Fire Arm and Discharge Switch Installation Test, TASK 26-23-00-730-804.

————— **END OF TASK** —————

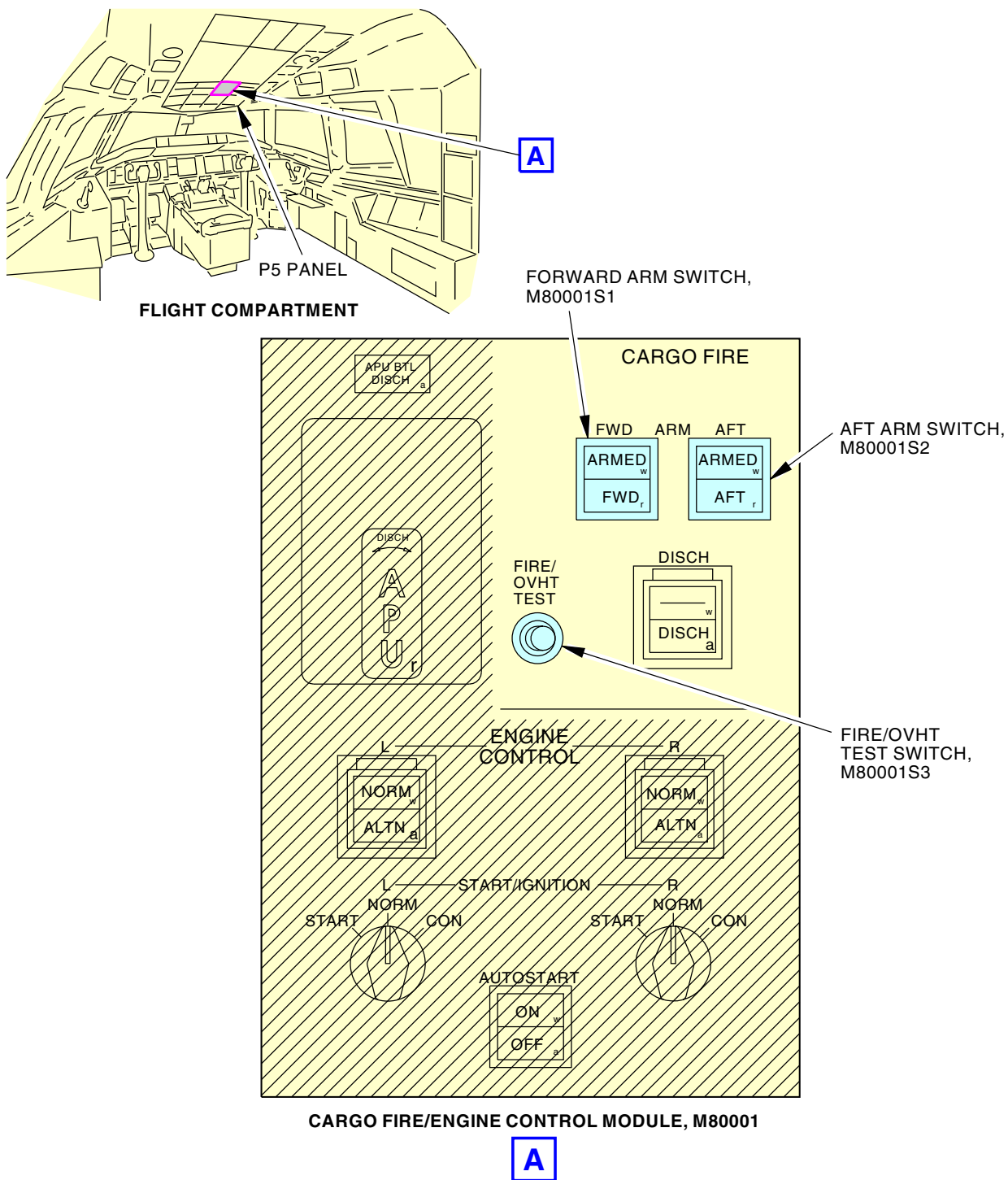
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Lower Cargo Fire Extinguishing Test
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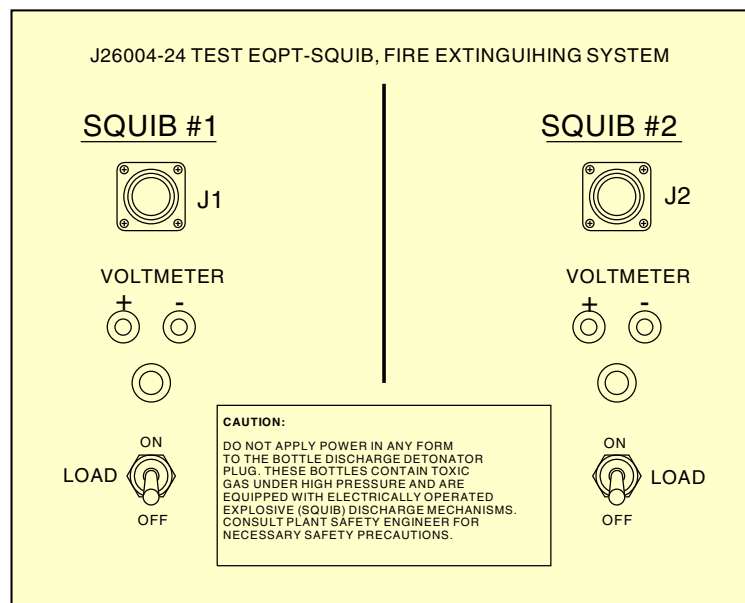
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**SQUIB TEST BOX
(EXAMPLE)**

E59834 S0006412305_V2

Lower Cargo Fire Extinguishing Test
Figure 401/26-23-07-990-801 (Sheet 2 of 2)

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LAVATORY COMPARTMENT FIRE EXTINGUISHING - MAINTENANCE PRACTICES

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has these tasks:
 - (1) A removal/installation of the fire extinguishing bottle in the lavatory compartment.
 - (2) An inspection/check of the fire extinguishing system in the lavatory compartment.
- C. The fire extinguishing system for the lavatory compartment operates automatically when heat is detected in the lavatory compartment. When heat is detected, the extinguisher fills the compartment with an inert gas. There is also a separate temperature indicator inside the compartment.

TASK 26-24-01-900-801

2. Lavatory Compartment Fire Extinguishing Bottle Removal/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
COM-6250	Gauge - Force
	Part #: LG-1KG Supplier: 92456
STD-1064	Scraper - Phenolic, Hard Resin

B. **Consumable Materials**

Reference	Description	Specification
A00027	Adhesive - Silicone Rubber, 1 Part, RTV	BAC5010 Type 60

C. **Location Zones**

Zone	Area
200	Upper Half of Fuselage

D. **Remove the Fire Extinguishing Bottle**

SUBTASK 26-24-01-010-001

- (1) Open the waste compartment door [2] to get access to the fire extinguishing bottle [4]. (Figure 201).

SUBTASK 26-24-01-020-001

- (2) Remove the waste container [1].

SUBTASK 26-24-01-020-007



BE CAREFUL WHEN YOU REMOVE THE SEALANT. DO NOT CAUSE A SCRATCH IN THE PAINT AROUND THE NOZZLES. THIS CAN CAUSE DAMAGE TO THE AREA AROUND THE NOZZLES.

- (3) With a hard resin phenolic scraper, STD-1064, remove the sealant around the nozzles [3] and the mount assembly [6].

SUBTASK 26-24-01-020-018

- (4) Remove all the screw(s) [7] and washer(s) [8] that hold the fire extinguishing bottle [4] and the mount assembly [6] to the waste compartment.

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SUBTASK 26-24-01-020-019

- (5) Remove the mounting screws [5] that hold the fire extinguishing bottle [4] to the mount assembly [6].

SUBTASK 26-24-01-020-003

- (6) Hold the fire extinguishing bottle [4] and carefully remove the nozzles [3] from the mount assembly [6].

E. Install the Fire Extinguishing Bottle

SUBTASK 26-24-01-280-005

- (1) Weigh the fire extinguishing bottle [4] with the force gauge, COM-6250 or something equivalent.

NOTE: The label, on the fire extinguishing bottle, contains the total weight of the bottle and its contents.

- (a) Record the weight shown on the fire extinguishing bottle [4].
- (b) Replace the bottle if the difference between the weight marked on the bottle and the measured weight is more than what is specified in Table 201:

Table 201/26-24-01-993-803

Part Number	Max Permitted Weight Loss (grams)
30100022-X	10
A800100-X	10
A825100-X	10
A826300-X	10
A826700-X	10
474276	10
474453-X	10
800100-X	10
G800100-X	5
G825100-X	5
G826300-X	5
G826700-X	5

SUBTASK 26-24-01-420-017

- (2) Put the fire extinguishing bottle [4] and the nozzles [3] into the mount assembly [6].

SUBTASK 26-24-01-420-009

- (3) Connect the fire extinguishing bottle [4] to the mount assembly [6] by installing the mounting screws [5].

SUBTASK 26-24-01-420-001

- (4) Install the mount assembly [6] into the waste compartment.
 - (a) Make sure that the waste container [1] does not hit the nozzles [3].

SUBTASK 26-24-01-420-005

- (5) Apply the adhesive, A00027, to seal the space between the nozzles [3] and the waste container [1].

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SUBTASK 26-24-01-420-002

- (6) Install all the screw(s) [7] and washer(s) [8] that will hold the mount assembly [6] to the waste compartment.

SUBTASK 26-24-01-420-003

- (7) Install the waste container [1].

SUBTASK 26-24-01-410-001

- (8) Close the waste compartment door [2].

———— END OF TASK ————

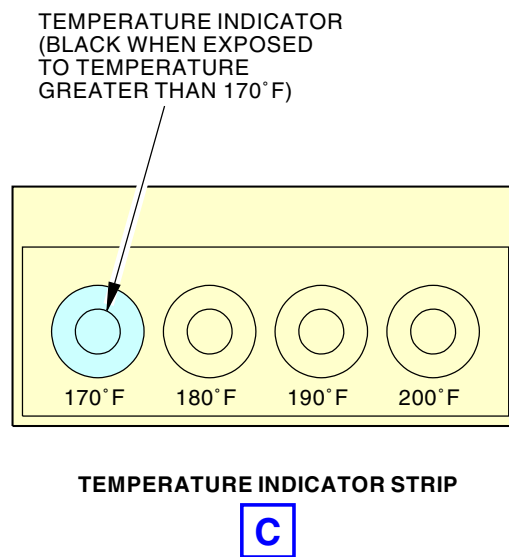
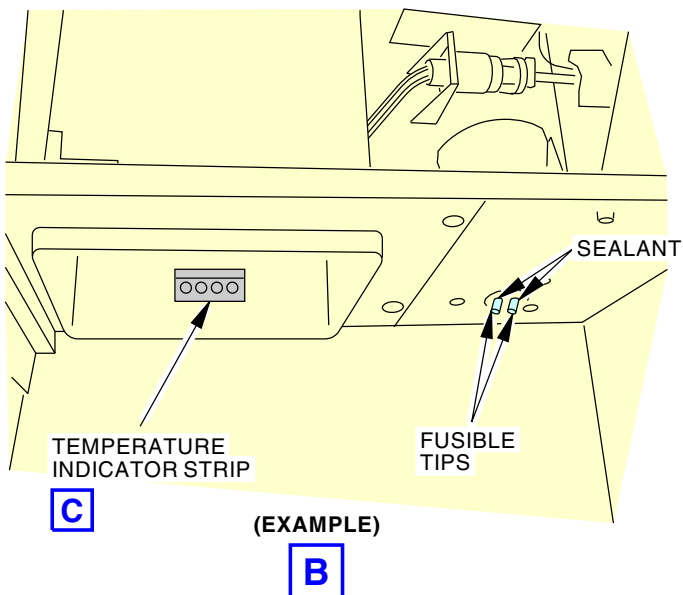
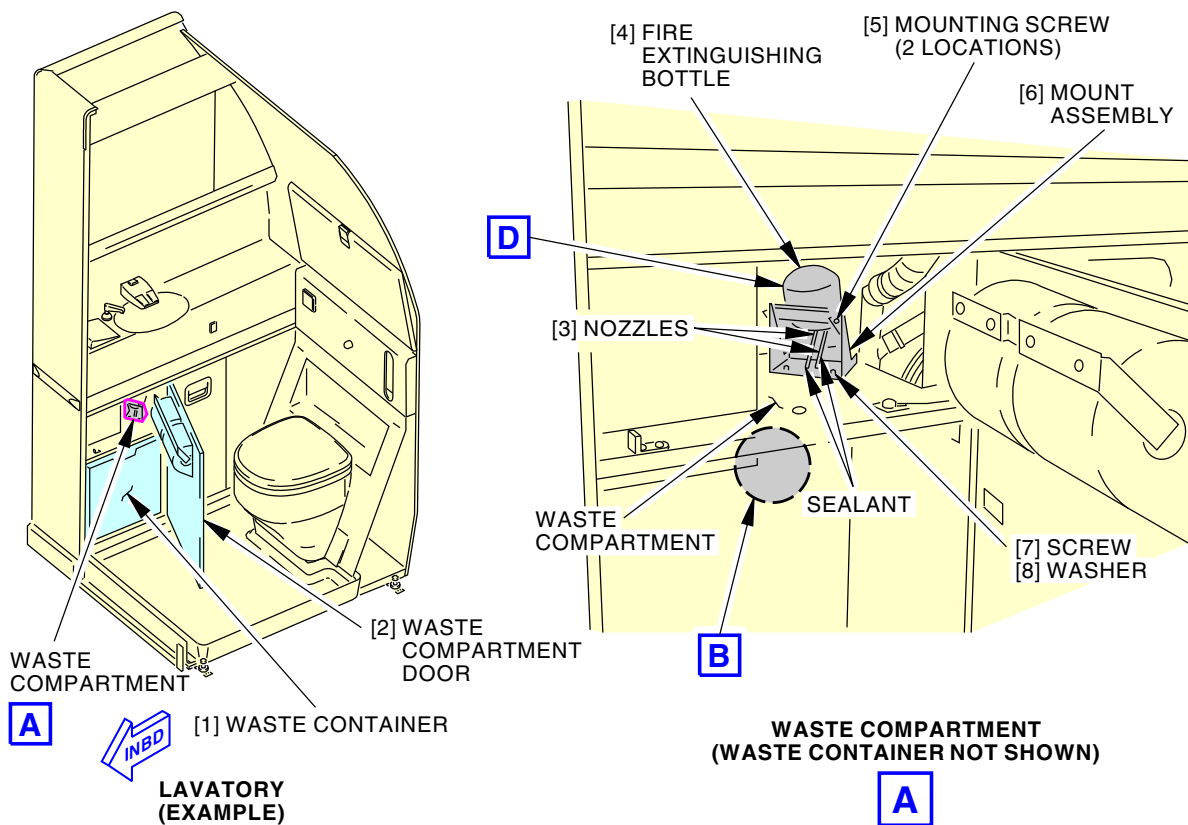
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D00290 S0006412373_V4

Lavatory Waste Compartment Fire Extinguishing - Maintenance Practices
Figure 201/26-24-01-990-801

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TASK 26-24-01-200-801

3. Lavatory Compartment Fire Extinguishing Bottle Inspection/Check

NOTE: This procedure is a scheduled maintenance task.

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
COM-6250	Gauge - Force Part #: LG-1KG Supplier: 92456
STD-1064	Scraper - Phenolic, Hard Resin

B. Consumable Materials

Reference	Description	Specification
A00027	Adhesive - Silicone Rubber, 1 Part, RTV	BAC5010 Type 60

C. Location Zones

Zone	Area
200	Upper Half of Fuselage

D. Procedure

SUBTASK 26-24-01-280-001

- (1) Open the waste compartment door [2] to get access to the fire extinguishing bottle [4] in the waste compartment (Figure 201).

SUBTASK 26-24-01-020-004

- (2) Remove the waste container [1].

SUBTASK 26-24-01-960-001

- (3) Examine the fusible tips, nozzles and plumbing on the discharge tubes.
 - (a) Replace the fire extinguishing bottle and the temperature indicator strip if the fusible tips, nozzles or plumbing are melted, bent or damage.

SUBTASK 26-24-01-960-002

- (4) Examine the temperature indicator strip to see if one or more of the temperature indicators changed from gray to black.
 - (a) If one or more of the temperature indicators changed from gray to black, replace the temperature indicator strip.

SUBTASK 26-24-01-020-009

- (5) Remove the mounting screws [5] that hold the fire extinguishing bottle [4] in its position.

SUBTASK 26-24-01-020-010



BE CAREFUL WHEN YOU REMOVE THE SEALANT. DO NOT SCRATCH THE PAINT AROUND THE NOZZLES. THIS CAN CAUSE DAMAGE TO THE AREA AROUND THE NOZZLES.

- (6) With a hard resin phenolic scraper, STD-1064, remove the sealant between the nozzle holes and nozzles [3].

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SUBTASK 26-24-01-020-011

- (7) Hold the fire extinguishing bottle [4] and carefully remove the nozzles [3] through the holes in the seal.

SUBTASK 26-24-01-020-012

- (8) Remove the fire extinguishing bottle [4].

SUBTASK 26-24-01-211-002

- (9) Examine the end caps.
- (a) Replace the extinguishing bottle if there are dents or bending within about an inch of the end of the tips.

SUBTASK 26-24-01-280-002

- (10) With the force gauge, COM-6250 or equivalent, weigh the fire extinguishing bottle.

NOTE: The total weight of the fire extinguishant and the bottle is on the label of the fire extinguishing bottle.

- (a) Record the weight shown on the fire extinguishing bottle.
- (b) Replace the fire extinguishing bottle if the difference between the weight marked on the bottle and the measured weight is more than what is specified in Table 202:

Table 202/26-24-01-993-805

Part Number	Max Permitted Weight Loss (grams)
30100022-X	10
A800100-X	10
A825100-X	10
A826300-X	10
A826700-X	10
474276	10
474453-X	10
800100-X	10
G800100-X	5
G825100-X	5
G826300-X	5
G826700-X	5

SUBTASK 26-24-01-420-010

- (11) Put the fire extinguishing bottle [4] in its position.

SUBTASK 26-24-01-420-006

- (12) Install the nozzles [3] through the holes in the seal.
- (a) Make sure that the nozzles [3] point into the waste container [1] area.

SUBTASK 26-24-01-420-007

- (13) Install the mounting screws [5] that hold the fire extinguishing bottle [4] in its position.

SUBTASK 26-24-01-420-008

- (14) Apply the adhesive, A00027 to seal the space between the nozzles [3] and the waste compartment.

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SUBTASK 26-24-01-020-006

- (15) Install the waste container [1] in the waste compartment.

SUBTASK 26-24-01-280-004

- (16) Close the waste compartment door [2].

———— **END OF TASK** ————

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HALON/2-BTP FIRE EXTINGUISHERS - REMOVAL/INSTALLATION

1. General

- A. The extinguisher is mounted on a one/two quick-release strap bracket.

TASK 26-26-01-020-801

2. Remove the Extinguisher

(Figure 401)

A. Procedure

SUBTASK 26-26-01-030-001

- (1) Unfasten the quick-release strap.

NOTE: Some fire extinguishers can have a bracket with two quick-release straps.

SUBTASK 26-26-01-030-002

- (2) Remove the extinguisher from the bracket.

———— **END OF TASK** ————

EFFECTIVITY
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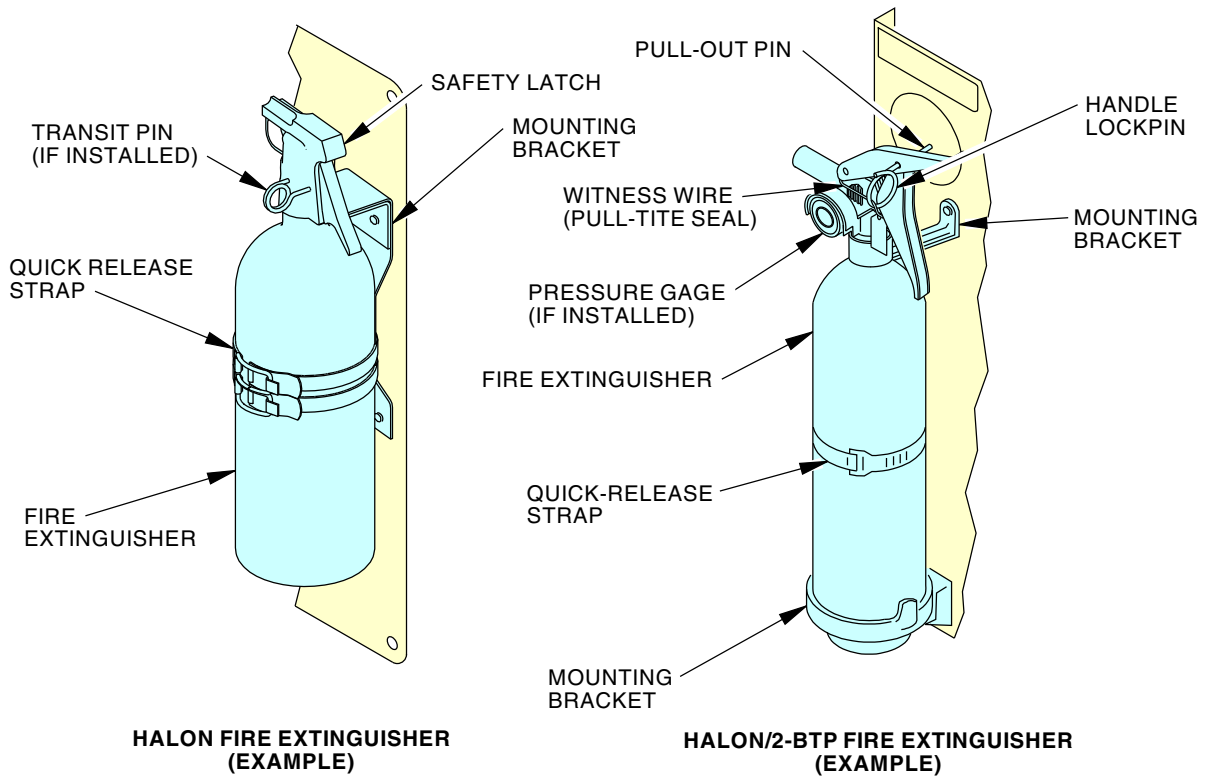
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**PORTABLE FIRE EXTINGUISHER
PLACARD**



2830790 S0000656929_V1

**Halon/2-BTP Fire Extinguishers Installation
Figure 401/26-26-01-990-803**

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TASK 26-26-01-430-801

3. Install the Extinguisher

(Figure 401)

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
COM-2529	Gauge - Force, Push/Pull/Spring Scale, 50 Pound Capacity Part #: FDIX 50 Supplier: 0BFD9 Opt Part #: FDI 50 Supplier: 0BFD9 Opt Part #: FDV 50 Supplier: 0BFD9
COM-11525	Gauge - Force, 10-lb capacity, with 0.05 increments and +/-0.2% accuracy or better Part #: PS-10 Supplier: 1GHM7

B. Procedure

SUBTASK 26-26-01-200-002

- (1) If the fire extinguisher has no pressure gage, use the recommended scale as follows:

NOTE: Its acceptable to use an equivalent scale if it follows the resolution and accuracy requirement, specified in the table below.

NOTE: Both scales in the table below give the same resolution and accuracy, but the total error is different due to the capacity of the scale. Therefore, use force gauge, COM-11525, as the recommended scale for bottles that weigh between 0 lb (0 kg) - 10 lb (5 kg). Similarly, use gauge, COM-2529, for bottles that weigh between 10 lb (5 kg) - 50 lb (23 kg).

Recommended Scales for Portable Fire Extinguishers

Scale	Bottle Weight	Resolution	Accuracy (%)	Total Error
force gauge, COM-11525, or equivalent	0 lb (0 kg) - 10 lb (5 kg)	0.05 lb (22.7 g)	0.2	0.02 lb (0.01 kg)
gauge, COM-2529, or equivalent	10 lb (5 kg) - 50 lb (23 kg)	0.05 lb (22.7 g)	0.2	0.10 lb (0.05 kg)

- (a) Make sure that the weight of the extinguisher is not less than the weight shown on the extinguisher nameplate.

SUBTASK 26-26-01-430-001

- (2) Make sure that the extinguisher is correctly installed in its mounting bracket.

SUBTASK 26-26-01-430-002

- (3) Fasten the quick-release strap.

NOTE: Some fire extinguishers can have a bracket with two quick-release straps.

SUBTASK 26-26-01-350-001-001

- (4) If installed, remove the transit pin.

————— **END OF TASK** —————

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HALON/2-BTP FIRE EXTINGUISHERS - INSPECTION/CHECK

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has a task to inspect the portable halon fire extinguishers.
- C. The portable fire extinguishers are installed in several general locations in the passenger compartment and flight compartment. If the extinguisher is not easy to see, the location will be identified with a placard. The extinguishers are usually installed in one or more of these areas: galley or lavatory stowage areas, lower lobe attendant rest module (if installed), flight crew rest (if installed), closets, doghouses, near attendant seats. There is one halon/2-BTP extinguisher installed in the flight compartment. On some airplanes, an extinguisher may be installed in the electronics bay.
- D. To service or recharge the fire extinguisher, refer to the applicable vendor manuals.

TASK 26-26-01-200-801

2. Halon/2-BTP Fire Extinguishers - Inspection/Check

(Figure 601)

NOTE: This procedure is a scheduled maintenance task.

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
COM-2529	Gauge - Force, Push/Pull/Spring Scale, 50 Pound Capacity Part #: FDIX 50 Supplier: 0BFD9 Opt Part #: FDI 50 Supplier: 0BFD9 Opt Part #: FDV 50 Supplier: 0BFD9
COM-11525	Gauge - Force, 10-lb capacity, with 0.05 increments and +/-0.2% accuracy or better Part #: PS-10 Supplier: 1GHM7

B. Location Zones

Zone	Area
200	Upper Half of Fuselage

C. Procedure

SUBTASK 26-26-01-210-017

- (1) Remove the extinguisher from the mounting bracket.

SUBTASK 26-26-01-210-001

- (2) Make sure that the instruction decal and the nameplate are in good condition.

SUBTASK 26-26-01-210-002

- (3) Make sure that the mounting bracket is attached correctly to the airplane.

SUBTASK 26-26-01-210-004

- (4) Make sure that the lock-pin or lock-wire is correctly installed on the handle.

SUBTASK 26-26-01-210-005

- (5) Examine the pressure gage (if installed) to make sure that the extinguisher has the correct pressure as shown on the instruction decal.

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SUBTASK 26-26-01-210-006

- (6) Make sure that there is no physical damage to the extinguisher.
- (7) If damage is found follow the procedures below:
 - (a) Nicks, dents or damage to the cylinder is commonly a result of incorrect handling. Discard cylinders with the following:
 - 1) Bulges.
 - 2) Dents that are more than 10 percent of the longest dimension of the dent.
 - 3) Scratches deeper than 0.004 in. (0.010 cm) or longer than 4.00 in. (10.16 cm).
 - 4) Gouges or nicks deeper than 0.004 in. (0.010 cm).
 - 5) Signs of pitting corrosion, line corrosion or large amounts of corrosion.
 - 6) Fire damage.
 - 7) Signs the cylinder has been near too much heat.
 - 8) Damaged threads.
 - 9) Damaged paint finish.
 - (b) A defective gage can cause an incorrect pressure reading, replace the gage.
 - (c) A leaking fire extinguisher can be caused by:
 - 1) A defective valve assembly.
 - 2) A defective neck seal.
 - 3) A damaged or defective stem.
 - (d) In the cases above, replace the defective part.
 - (e) A distorted cylinder can be caused by:
 - 1) Too much pressure.
 - 2) The cylinder walls have deteriorated.
 - (f) In both cases discard the fire extinguisher.

SUBTASK 26-26-01-960-001

- (8) Make sure that the Witness Wire [1] is attached on the handle.
 - (a) If the Witness Wire [1] is missing or broken, then do one of the steps below:
 - 1) Replace the Fire Extinguisher bottle.
 - 2) Replace the Witness Wire [1]:
 - a) Get a Witness Wire [1] from Kidde Aerospace.
 - b) Install the Witness Wire [1]:
 - <1> Install the Witness Wire [1] through the holes in the Handle Lockpin [2] and the body of the valve assembly.
 - <2> Pull the Witness Wire [1] tight and crimp the lead seal.

SUBTASK 26-26-01-200-003

- (9) If the fire extinguisher has a pressure gage, make sure that the fire extinguisher has the correct pressure.

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SUBTASK 26-26-01-200-001

- (10) If the fire extinguisher has no pressure gage, use the recommended scale as follows:

NOTE: Its acceptable to use an equivalent scale if it follows the resolution and accuracy requirement, specified in the table below.

NOTE: Both scales in the table below give the same resolution and accuracy, but the total error is different due to the capacity of the scale. Therefore, use force gauge, COM-11525, as the recommended scale for bottles that weigh between 0 lb (0 kg) - 10 lb (5 kg). Similarly, use gauge, COM-2529, for bottles that weigh between 10 lb (5 kg) - 50 lb (23 kg).

Recommended Scales for Portable Fire Extinguishers

Scale	Bottle Weight	Resolution	Accuracy (%)	Total Error
force gauge, COM-11525, or equivalent	0 lb (0 kg) - 10 lb (5 kg)	0.05 lb (22.7 g)	0.2	0.02 lb (0.01 kg)
gauge, COM-2529, or equivalent	10 lb (5 kg) - 50 lb (23 kg)	0.05 lb (22.7 g)	0.2	0.10 lb (0.05 kg)

- (a) Make sure that the weight of the extinguisher is not less than the weight shown on the extinguisher nameplate.

SUBTASK 26-26-01-210-003

- (11) Make sure that the extinguisher is installed tightly to the mounting bracket.

SUBTASK 26-26-01-210-008

- (12) If there are other manufacturer inspection or maintenance procedures that show on the extinguisher, do those procedures.

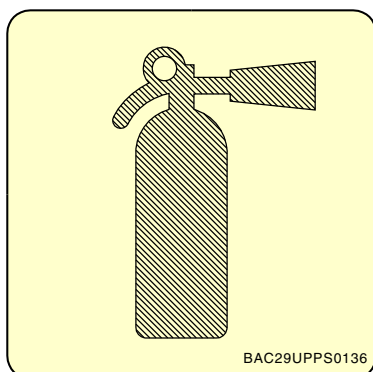
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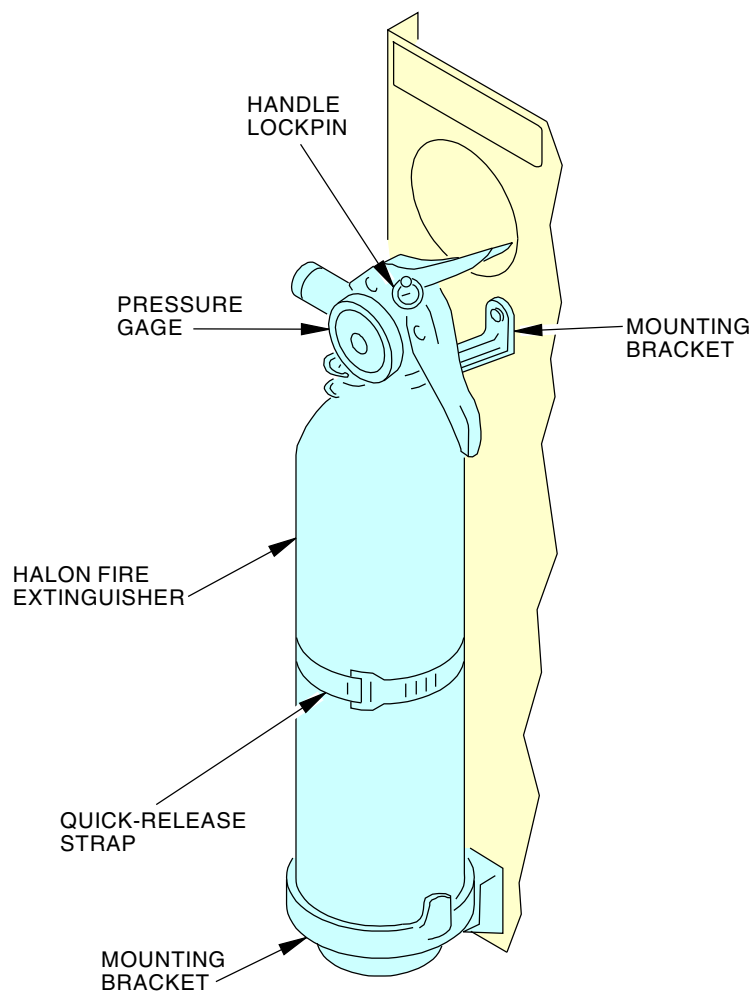
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**PORTABLE FIRE EXTINGUISHER
PLACARD**



**HALON FIRE EXTINGUISHER
(EXAMPLE)**

E18111 S0006412411_V2

**Halon/2-BTP Fire Extinguishers Inspection
Figure 601/26-26-01-990-801 (Sheet 1 of 2)**

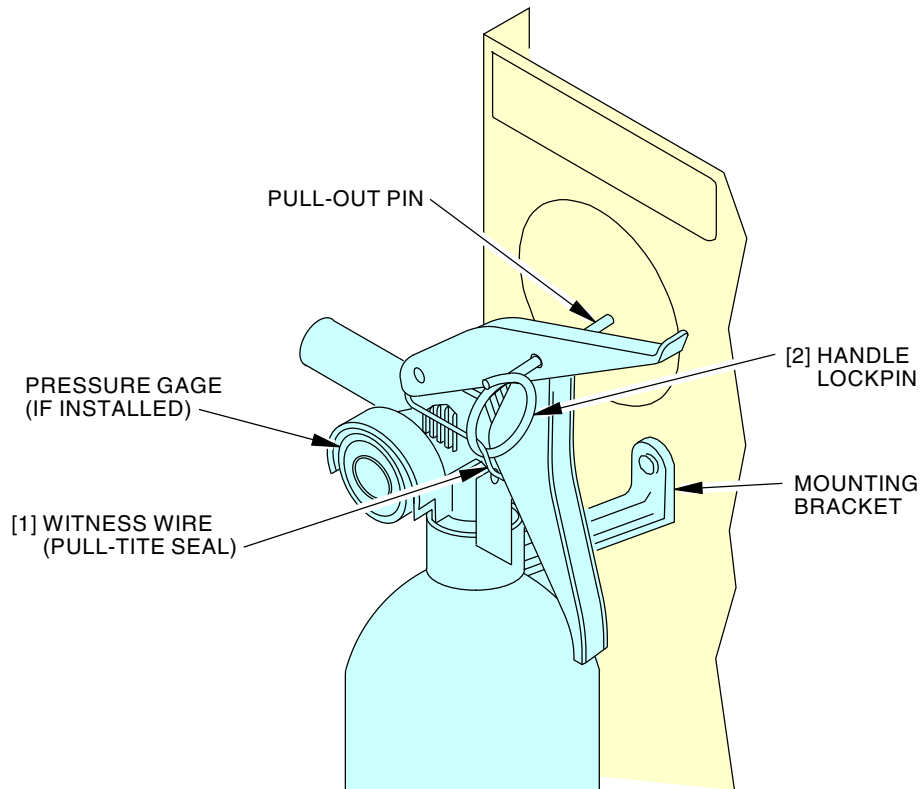
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**HALON FIRE EXTINGUISHER
(EXAMPLE)**

2402064 S0000554094_V2

Halon/2-BTP Fire Extinguishers Inspection
Figure 601/26-26-01-990-801 (Sheet 2 of 2)

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WATER FIRE EXTINGUISHERS - REMOVAL/INSTALLATION

1. General

- A. The extinguisher is mounted on a bracket which has a quick-release strap.

TASK 26-26-02-020-801

2. Remove the Extinguisher

A. Procedure

SUBTASK 26-26-02-030-001

- (1) Unfasten the quick-release strap.

SUBTASK 26-26-02-020-001

- (2) Remove the extinguisher from the bracket.

————— **END OF TASK** —————

TASK 26-26-02-430-801

3. Install the Extinguisher

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
COM-4907	Force Gauge With Resolution of 0.10 lb, +/-0.3% or better Part #: FDIX 100 Supplier: 0BFD9 Part #: FDIX 50 Supplier: 0BFD9 Part #: LG-5KG Supplier: 92456 Part #: PS-10 Supplier: 1GHM7 Opt Part #: FDI 100 Supplier: 0BFD9 Opt Part #: FDI 50 Supplier: 0BFD9 Opt Part #: FDV 100 Supplier: 0BFD9 Opt Part #: FDV 50 Supplier: 0BFD9

B. Procedure

SUBTASK 26-26-02-221-001

- (1) Before you install the fire extinguishing bottle, make sure the fully assembled bottle weighs between 6.6 lb (3.0 kg) to 7.1 lb (3.2 kg). Use the force gauge, COM-4907.

SUBTASK 26-26-02-430-001

- (2) Make sure that the extinguisher is correctly installed in its mounting bracket.

SUBTASK 26-26-02-430-002

- (3) Fasten the quick-release strap.

————— **END OF TASK** —————

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WATER FIRE EXTINGUISHERS - INSPECTION/CHECK

1. General

- A. This procedure contains scheduled maintenance task data.
- B. This procedure has a task to examine the water fire extinguishers.
- C. The fire extinguishers are installed in some general areas in the passenger compartment. You can identify the extinguisher with a placard. The extinguishers can be in one or more areas. The areas are the galley or lavatory stowage, lower lobe attendant rest module, flight crew rest, closets, and near the attendant seats.
- D. To charge the fire extinguisher, refer to the applicable vendor manuals.

TASK 26-26-02-200-801

2. Water Fire Extinguishers - Inspection/Check

(Figure 601)

NOTE: This procedure is a scheduled maintenance task.

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
COM-4907	Force Gauge With Resolution of 0.10 lb, +/-0.3% or better Part #: FDIX 100 Supplier: 0BFD9 Part #: FDIX 50 Supplier: 0BFD9 Part #: LG-5KG Supplier: 92456 Part #: PS-10 Supplier: 1GHM7 Opt Part #: FDI 100 Supplier: 0BFD9 Opt Part #: FDI 50 Supplier: 0BFD9 Opt Part #: FDV 100 Supplier: 0BFD9 Opt Part #: FDV 50 Supplier: 0BFD9
STD-252	Ferrule Crimping Tool

B. Consumable Materials

Reference	Description	Specification
G51248	Wire - Seal (P/N 204960)	

C. Location Zones

Zone	Area
200	Upper Half of Fuselage

D. Procedure

SUBTASK 26-26-02-210-001

- (1) Make sure that the instruction decal and the nameplate are not damaged.

SUBTASK 26-26-02-210-002

- (2) Make sure that the mounting bracket is attached correctly to the airplane.

SUBTASK 26-26-02-210-003

- (3) Make sure that the extinguisher is attached tightly to the mounting bracket.

SUBTASK 26-26-02-210-006

- (4) Make sure that there is no damage to the extinguisher.

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SUBTASK 26-26-02-210-007

- (5) With a force gauge, COM-4907, make sure that the weight of the extinguisher is between 6.63 lb (3.01 kg) and 7.13 lb (3.23 kg).

SUBTASK 26-26-02-210-008

- (6) Make sure that there are no leaks in the extinguisher.

SUBTASK 26-26-02-210-004

- (7) Make sure the seal wire, G51248 is correctly installed on the handle.
- (a) If the seal wire, G51248 is missing or broken then do one of the steps below:
- 1) Replace the bottle.
 - 2) Replace the seal wire, G51248 with a new one:
 - a) Get a new seal wire, G51248 from Kidde Aerospace.
 - b) Install the seal wire, G51248:
 - <1> Install the seal wire, G51248 through the holes in the lock ring and the body of the valve assembly.
 - <2> Pull the seal wire, G51248 tight and crimp the lead seal with the crimping tool, STD-252.

SUBTASK 26-26-02-210-009

- (8) If there are other manufacturer inspection or maintenance procedures that show on the extinguisher, do those procedures.

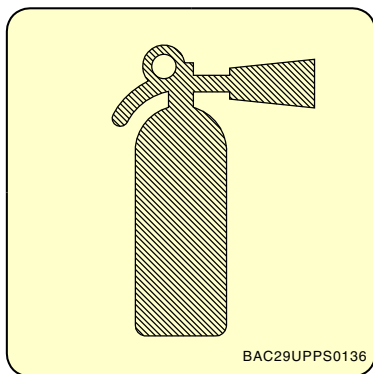
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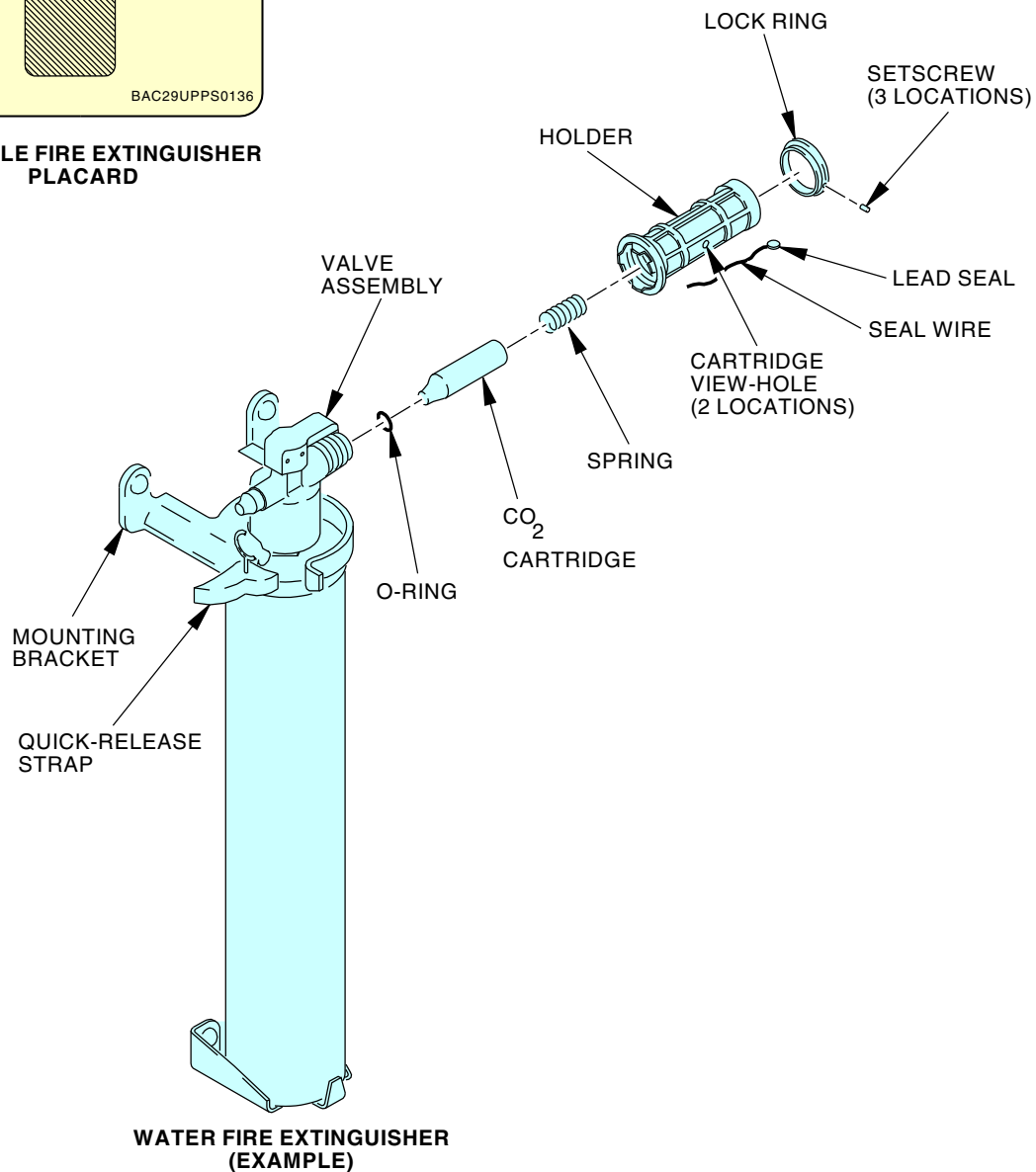
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**PORTABLE FIRE EXTINGUISHER
PLACARD**



**WATER FIRE EXTINGUISHER
(EXAMPLE)**

E18106 S0006412420_V3

**Water Fire Extinguishers Inspection
Figure 601/26-26-02-990-801**

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