

CHAPTER

49

**AIRBORNE
AUXILIARY
POWER**



**777-200/300
FAULT ISOLATION MANUAL**

**CHAPTER 49
AIRBORNE AUXILIARY POWER**

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1 thru 5	SEP 05/2017		106	Sep 05/2016		O 233	Sep 05/2017	
6	BLANK		107	Sep 05/2016		O 234	Sep 05/2017	
49-HOW TO USE THE FIM			108	Sep 05/2016		O 235	Sep 05/2017	
1	Jan 05/2013		49-10 TASKS			O 236	Sep 05/2017	
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3	Jan 05/2017		202	Sep 05/2016		O 238	Sep 05/2017	
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103	May 05/2015		O 209	Sep 05/2017		O 245	Sep 05/2017	
104	Sep 05/2015		210	May 05/2013		O 246	Sep 05/2017	
105	Sep 05/2015		O 211	Sep 05/2017		O 247	Sep 05/2017	
106	Sep 05/2015		212	May 05/2013		O 248	Sep 05/2017	
107	Sep 05/2015		O 213	Sep 05/2017		O 249	Sep 05/2017	
108	Sep 05/2015		214	May 05/2013		O 250	Sep 05/2017	
109	Sep 05/2015		O 215	Sep 05/2017		O 251	Sep 05/2017	
110	Sep 05/2015		O 216	Sep 05/2017		O 252	Sep 05/2017	
111	Sep 05/2015		O 217	Sep 05/2017		O 253	Sep 05/2017	
112	Sep 05/2015		O 218	Sep 05/2017		O 254	Sep 05/2017	
113	Sep 05/2015		O 219	Sep 05/2017		O 255	Sep 05/2017	
114	Sep 05/2015		O 220	Sep 05/2017		O 256	Sep 05/2017	
115	Sep 05/2015		O 221	Sep 05/2017		O 257	Sep 05/2017	
116	Sep 05/2015		O 222	Sep 05/2017		O 258	Sep 05/2017	
117	Sep 05/2015		223	May 05/2013		O 259	Sep 05/2017	
118	Sep 05/2015		224	May 05/2013		O 260	Sep 05/2017	
119	Sep 05/2015		225	May 05/2013		O 261	Sep 05/2017	
120	Sep 05/2015		O 226	Sep 05/2017		O 262	Sep 05/2017	
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102	Sep 05/2016		O 229	Sep 05/2017		O 265	Sep 05/2017	
103	Sep 05/2016		O 230	Sep 05/2017		O 266	Sep 05/2017	
104	Sep 05/2016		O 231	Sep 05/2017		O 267	Sep 05/2017	
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49-10 TASKS (cont)			49-20 TASKS (cont)			49-20 TASKS (cont)		
O 269	Sep 05/2017		O 224	Sep 05/2017		260	BLANK	
O 270	Sep 05/2017		O 225	Sep 05/2017		49-30 TASKS		
O 271	Sep 05/2017		O 226	Sep 05/2017		O 201	Sep 05/2017	
O 272	Sep 05/2017		O 227	Sep 05/2017		O 202	Sep 05/2017	
O 273	Sep 05/2017		O 228	Sep 05/2017		O 203	Sep 05/2017	
O 274	Sep 05/2017		O 229	Sep 05/2017		O 204	Sep 05/2017	
O 275	Sep 05/2017		O 230	Sep 05/2017		O 205	Sep 05/2017	
O 276	Sep 05/2017		O 231	Sep 05/2017		O 206	Sep 05/2017	
O 277	Sep 05/2017		O 232	Sep 05/2017		O 207	Sep 05/2017	
O 278	Sep 05/2017		O 233	Sep 05/2017		O 208	Sep 05/2017	
O 279	Sep 05/2017		O 234	Sep 05/2017		O 209	Sep 05/2017	
O 280	Sep 05/2017		O 235	Sep 05/2017		O 210	Sep 05/2017	
49-20 TASKS			O 236	Sep 05/2017		O 211	Sep 05/2017	
O 201	Sep 05/2017		O 237	Sep 05/2017		O 212	Sep 05/2017	
O 202	Sep 05/2017		O 238	Sep 05/2017		O 213	Sep 05/2017	
203	Jan 05/2013		O 239	Sep 05/2017		O 214	Sep 05/2017	
204	Jan 05/2013		O 240	Sep 05/2017		O 215	Sep 05/2017	
O 205	Sep 05/2017		O 241	Sep 05/2017		O 216	Sep 05/2017	
O 206	Sep 05/2017		O 242	Sep 05/2017		O 217	Sep 05/2017	
O 207	Sep 05/2017		O 243	Sep 05/2017		O 218	Sep 05/2017	
O 208	Sep 05/2017		O 244	Sep 05/2017		O 219	Sep 05/2017	
O 209	Sep 05/2017		O 245	Sep 05/2017		O 220	Sep 05/2017	
O 210	Sep 05/2017		O 246	Sep 05/2017		O 221	Sep 05/2017	
211	Sep 05/2016		O 247	Sep 05/2017		O 222	Sep 05/2017	
O 212	Sep 05/2017		O 248	Sep 05/2017		O 223	Sep 05/2017	
213	Sep 05/2016		O 249	Sep 05/2017		O 224	Sep 05/2017	
214	Sep 05/2016		O 250	Sep 05/2017		O 225	Sep 05/2017	
215	Sep 05/2016		O 251	Sep 05/2017		O 226	Sep 05/2017	
O 216	Sep 05/2017		O 252	Sep 05/2017		O 227	Sep 05/2017	
O 217	Sep 05/2017		O 253	Sep 05/2017		O 228	Sep 05/2017	
218	Jan 05/2013		O 254	Sep 05/2017		O 229	Sep 05/2017	
O 219	Sep 05/2017		O 255	Sep 05/2017		O 230	Sep 05/2017	
O 220	Sep 05/2017		O 256	Sep 05/2017		O 231	Sep 05/2017	
O 221	Sep 05/2017		O 257	Sep 05/2017		O 232	Sep 05/2017	
O 222	Sep 05/2017		O 258	Sep 05/2017		O 233	Sep 05/2017	
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O 235	Sep 05/2017		O 234	Sep 05/2017		O 219	Sep 05/2017	
O 236	Sep 05/2017		O 235	Sep 05/2017		O 220	Sep 05/2017	
49-40 TASKS			O 236	Sep 05/2017		O 221	Sep 05/2017	
O 201	Sep 05/2017		O 237	Sep 05/2017		O 222	Sep 05/2017	
O 202	Sep 05/2017		O 238	Sep 05/2017		O 223	Sep 05/2017	
O 203	Sep 05/2017		O 239	Sep 05/2017		O 224	Sep 05/2017	
O 204	Sep 05/2017		O 240	Sep 05/2017		O 225	Sep 05/2017	
O 205	Sep 05/2017		O 241	Sep 05/2017		O 226	Sep 05/2017	
O 206	Sep 05/2017		O 242	Sep 05/2017		O 227	Sep 05/2017	
O 207	Sep 05/2017		O 243	Sep 05/2017		O 228	Sep 05/2017	
O 208	Sep 05/2017		O 244	Sep 05/2017		49-52 TASKS		
O 209	Sep 05/2017		O 245	Sep 05/2017		O 201	Sep 05/2017	
O 210	Sep 05/2017		O 246	Sep 05/2017		O 202	Sep 05/2017	
O 211	Sep 05/2017		O 247	Sep 05/2017		O 203	Sep 05/2017	
O 212	Sep 05/2017		O 248	Sep 05/2017		O 204	Sep 05/2017	
O 213	Sep 05/2017		O 249	Sep 05/2017		O 205	Sep 05/2017	
O 214	Sep 05/2017		O 250	Sep 05/2017		O 206	Sep 05/2017	
O 215	Sep 05/2017		49-43 TASKS			O 207	Sep 05/2017	
O 216	Sep 05/2017		O 201	Sep 05/2017		O 208	Sep 05/2017	
O 217	Sep 05/2017		202	Jan 05/2013		O 209	Sep 05/2017	
O 218	Sep 05/2017		203	Jan 05/2013		O 210	Sep 05/2017	
O 219	Sep 05/2017		O 204	Sep 05/2017		O 211	Sep 05/2017	
O 220	Sep 05/2017		O 205	Sep 05/2017		O 212	Sep 05/2017	
O 221	Sep 05/2017		O 206	Sep 05/2017		O 213	Sep 05/2017	
O 222	Sep 05/2017		O 207	Sep 05/2017		O 214	Sep 05/2017	
O 223	Sep 05/2017		208	Jan 05/2013		O 215	Sep 05/2017	
O 224	Sep 05/2017		O 209	Sep 05/2017		O 216	Sep 05/2017	
O 225	Sep 05/2017		O 210	Sep 05/2017		O 217	Sep 05/2017	
O 226	Sep 05/2017		O 211	Sep 05/2017		O 218	Sep 05/2017	
O 227	Sep 05/2017		O 212	Sep 05/2017		O 219	Sep 05/2017	
O 228	Sep 05/2017		O 213	Sep 05/2017		O 220	Sep 05/2017	
O 229	Sep 05/2017		O 214	Sep 05/2017		A 221	Sep 05/2017	
O 230	Sep 05/2017		O 215	Sep 05/2017		A 222	BLANK	
O 231	Sep 05/2017		O 216	Sep 05/2017		49-53 TASKS		
O 232	Sep 05/2017		O 217	Sep 05/2017		O 201	Sep 05/2017	
O 233	Sep 05/2017		O 218	Sep 05/2017		O 202	Sep 05/2017	

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O 203	Sep 05/2017		O 239	Sep 05/2017		O 214	Sep 05/2017	
O 204	Sep 05/2017		O 240	Sep 05/2017		O 215	Sep 05/2017	
O 205	Sep 05/2017		O 241	Sep 05/2017		O 216	Sep 05/2017	
O 206	Sep 05/2017		O 242	Sep 05/2017		O 217	Sep 05/2017	
O 207	Sep 05/2017		O 243	Sep 05/2017		O 218	Sep 05/2017	
O 208	Sep 05/2017		O 244	Sep 05/2017		O 219	Sep 05/2017	
O 209	Sep 05/2017		O 245	Sep 05/2017		O 220	Sep 05/2017	
O 210	Sep 05/2017		O 246	Sep 05/2017		O 221	Sep 05/2017	
O 211	Sep 05/2017		O 247	Sep 05/2017		O 222	Sep 05/2017	
O 212	Sep 05/2017		O 248	Sep 05/2017		O 223	Sep 05/2017	
213	Jan 05/2013		O 249	Sep 05/2017		O 224	Sep 05/2017	
O 214	Sep 05/2017		O 250	Sep 05/2017		O 225	Sep 05/2017	
215	Jan 05/2013		O 251	Sep 05/2017		O 226	Sep 05/2017	
216	Jan 05/2013		O 252	Sep 05/2017		O 227	Sep 05/2017	
O 217	Sep 05/2017		O 253	Sep 05/2017		O 228	Sep 05/2017	
218	Jan 05/2013		O 254	Sep 05/2017		O 229	Sep 05/2017	
O 219	Sep 05/2017		O 255	Sep 05/2017		O 230	Sep 05/2017	
O 220	Sep 05/2017		O 256	Sep 05/2017		O 231	Sep 05/2017	
O 221	Sep 05/2017		O 257	Sep 05/2017		O 232	Sep 05/2017	
O 222	Sep 05/2017		O 258	Sep 05/2017		O 233	Sep 05/2017	
O 223	Sep 05/2017		A 259	Sep 05/2017		O 234	Sep 05/2017	
O 224	Sep 05/2017		A 260	BLANK		O 235	Sep 05/2017	
O 225	Sep 05/2017		49-60 TASKS			O 236	Sep 05/2017	
O 226	Sep 05/2017		O 201	Sep 05/2017		O 237	Sep 05/2017	
O 227	Sep 05/2017		O 202	Sep 05/2017		O 238	Sep 05/2017	
O 228	Sep 05/2017		O 203	Sep 05/2017		O 239	Sep 05/2017	
O 229	Sep 05/2017		O 204	Sep 05/2017		O 240	Sep 05/2017	
O 230	Sep 05/2017		O 205	Sep 05/2017		O 241	Sep 05/2017	
O 231	Sep 05/2017		O 206	Sep 05/2017		242	BLANK	
O 232	Sep 05/2017		O 207	Sep 05/2017		49-65 TASKS		
O 233	Sep 05/2017		O 208	Sep 05/2017		O 201	Sep 05/2017	
O 234	Sep 05/2017		209	Jan 05/2013		O 202	Sep 05/2017	
O 235	Sep 05/2017		O 210	Sep 05/2017		O 203	Sep 05/2017	
O 236	Sep 05/2017		O 211	Sep 05/2017		O 204	Sep 05/2017	
O 237	Sep 05/2017		O 212	Sep 05/2017		O 205	Sep 05/2017	
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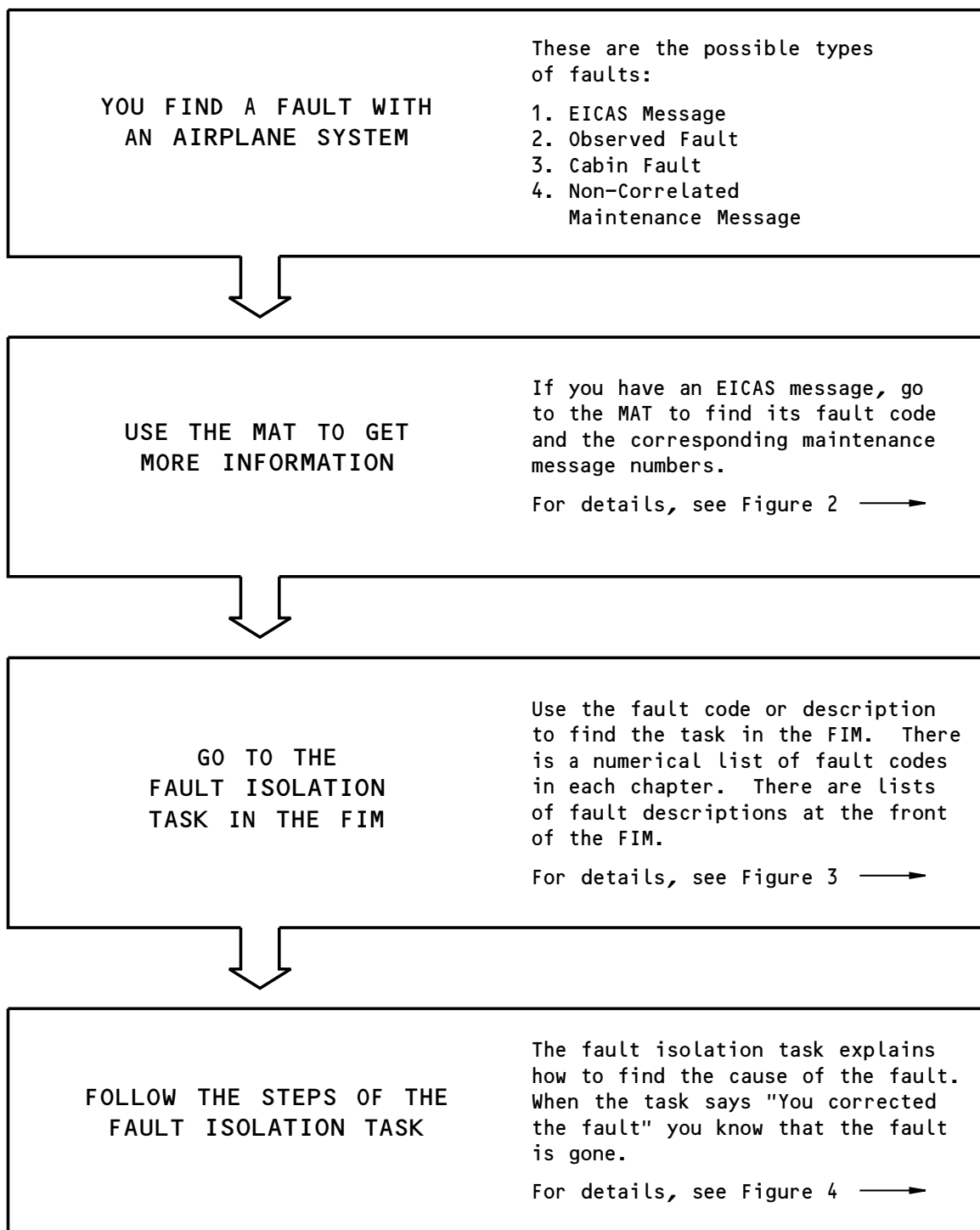
Subject/Page	Date	COC	Subject/Page	Date	COC	Subject/Page	Date	COC
49-65 TASKS (cont)			49-65 TASKS (cont)			49-70 TASKS (cont)		
O 207	Sep 05/2017		O 243	Sep 05/2017		O 210	Sep 05/2017	
O 208	Sep 05/2017		O 244	Sep 05/2017		O 211	Sep 05/2017	
O 209	Sep 05/2017		O 245	Sep 05/2017		O 212	Sep 05/2017	
O 210	Sep 05/2017		O 246	Sep 05/2017		O 213	Sep 05/2017	
O 211	Sep 05/2017		O 247	Sep 05/2017		O 214	Sep 05/2017	
O 212	Sep 05/2017		O 248	Sep 05/2017		O 215	Sep 05/2017	
213	Sep 05/2016		O 249	Sep 05/2017		O 216	Sep 05/2017	
214	Sep 05/2016		O 250	Sep 05/2017		O 217	Sep 05/2017	
O 215	Sep 05/2017		O 251	Sep 05/2017		O 218	Sep 05/2017	
216	Sep 05/2016		O 252	Sep 05/2017		O 219	Sep 05/2017	
217	Sep 05/2016		O 253	Sep 05/2017		O 220	Sep 05/2017	
O 218	Sep 05/2017		O 254	Sep 05/2017		O 221	Sep 05/2017	
O 219	Sep 05/2017		O 255	Sep 05/2017		O 222	Sep 05/2017	
O 220	Sep 05/2017		O 256	Sep 05/2017		O 223	Sep 05/2017	
O 221	Sep 05/2017		O 257	Sep 05/2017		O 224	Sep 05/2017	
O 222	Sep 05/2017		O 258	Sep 05/2017		O 225	Sep 05/2017	
O 223	Sep 05/2017		O 259	Sep 05/2017		O 226	Sep 05/2017	
O 224	Sep 05/2017		O 260	Sep 05/2017		O 227	Sep 05/2017	
O 225	Sep 05/2017		O 261	Sep 05/2017		O 228	Sep 05/2017	
O 226	Sep 05/2017		O 262	Sep 05/2017		O 229	Sep 05/2017	
O 227	Sep 05/2017		O 263	Sep 05/2017		O 230	Sep 05/2017	
O 228	Sep 05/2017		O 264	Sep 05/2017		O 231	Sep 05/2017	
O 229	Sep 05/2017		O 265	Sep 05/2017		O 232	Sep 05/2017	
O 230	Sep 05/2017		O 266	Sep 05/2017		O 233	Sep 05/2017	
O 231	Sep 05/2017		O 267	Sep 05/2017		O 234	Sep 05/2017	
O 232	Sep 05/2017		O 268	Sep 05/2017		O 235	Sep 05/2017	
O 233	Sep 05/2017		49-70 TASKS			O 236	Sep 05/2017	
O 234	Sep 05/2017		O 201	Sep 05/2017		A 237	Sep 05/2017	
O 235	Sep 05/2017		O 202	Sep 05/2017		A 238	BLANK	
O 236	Sep 05/2017		O 203	Sep 05/2017		49-98 TASKS		
O 237	Sep 05/2017		O 204	Sep 05/2017		201	Jan 05/2013	
O 238	Sep 05/2017		O 205	Sep 05/2017		202	BLANK	
O 239	Sep 05/2017		O 206	Sep 05/2017				
O 240	Sep 05/2017		O 207	Sep 05/2017				
O 241	Sep 05/2017		O 208	Sep 05/2017				
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E84424 S0000132469_V1

Basic Fault Isolation Process
Figure 1

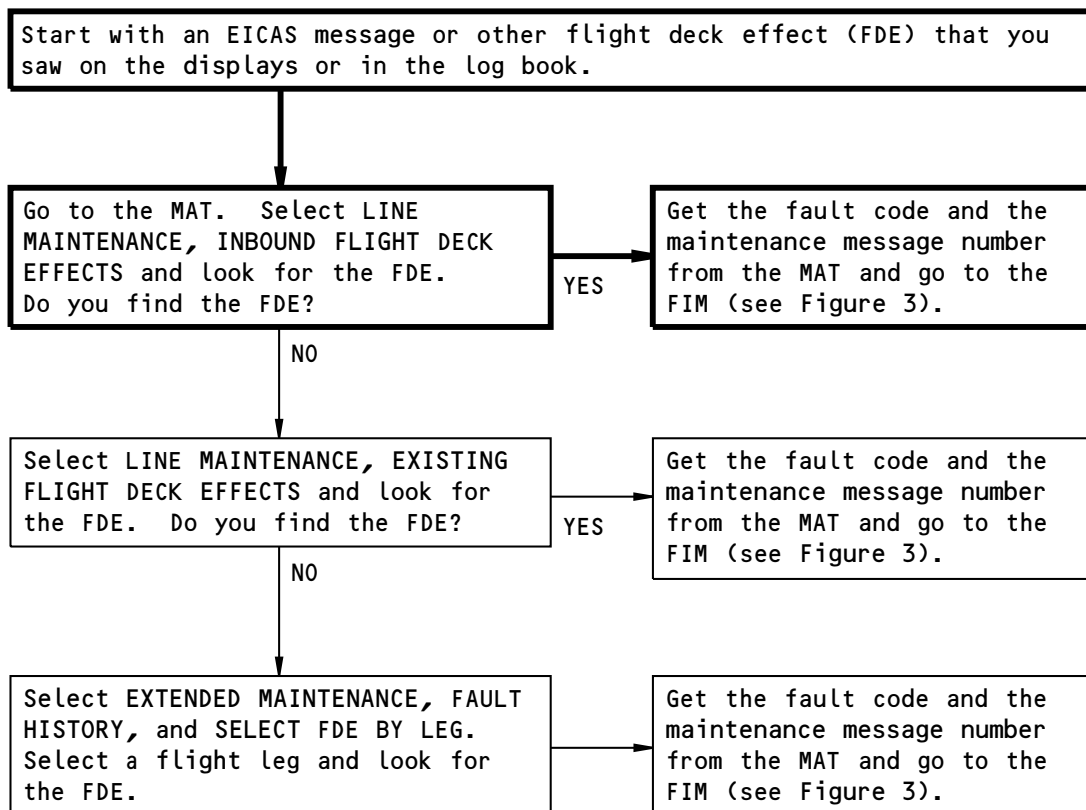
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NOTE: The bold lines show the most common path.

E84425 S0000132475_V1

Getting Fault Information from the MAT
Figure 2

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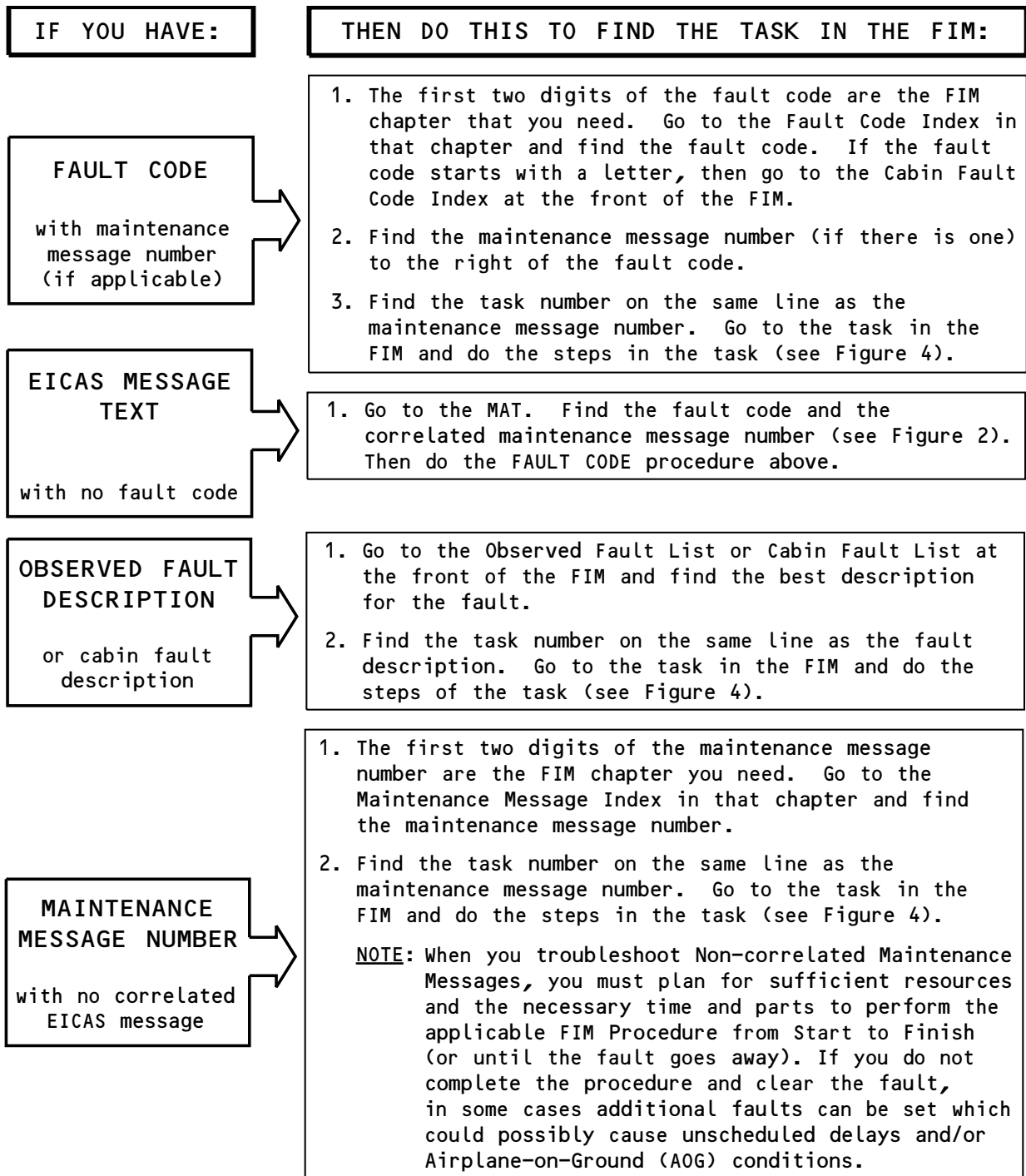
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E84427 S0000132476_V2

Finding the Fault Isolation Task in the FIM
Figure 3

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ASSUMED CONDITIONS AT START OF TASK

- External electrical power is ON
- Hydraulic power and pneumatic power are OFF
- Engines are shut down
- No equipment in the system is deactivated

INITIAL EVALUATION PARAGRAPH

- The Initial Evaluation paragraph at the start of the task helps you determine whether you can detect the fault right now.
- If you cannot detect the fault right now, then the task cannot isolate the fault and the Initial Evaluation paragraph will say that there was an intermittent fault.
- If you have an intermittent fault, you must use your judgement (and follow your airline's policy) to decide which components to replace. Then monitor the airplane to see if the fault happens again on subsequent flights.

FAULT ISOLATION STEPS

- The FIM task steps are presented in a specified order. "The If... then" statements will guide you along a logical path. But if you do not plan to follow the FIM task exactly, make sure that you read it before you start to isolate the fault. Some FIM procedures start with important steps that have an effect on the other steps in the procedure.
- When you are at the endpoint of the path, the step says "You corrected the fault." Complete the step and exit the procedure.
- The Recommended Maintenance Action that shows on the MAT for the maintenance message gives a list of possible causes in order by probability of failure. In the FIM procedure, the possible causes can be in a different order from the MAT.

WIRING CHECKS

When a step says "Do a wiring check", do these three types of electrical checks for the specified contacts (pins):

- continuity from contact to contact
- shorts between the contacts
- shorts from each contact to ground

E84428 S0000132477_V3

Doing the Fault Isolation Task
Figure 4

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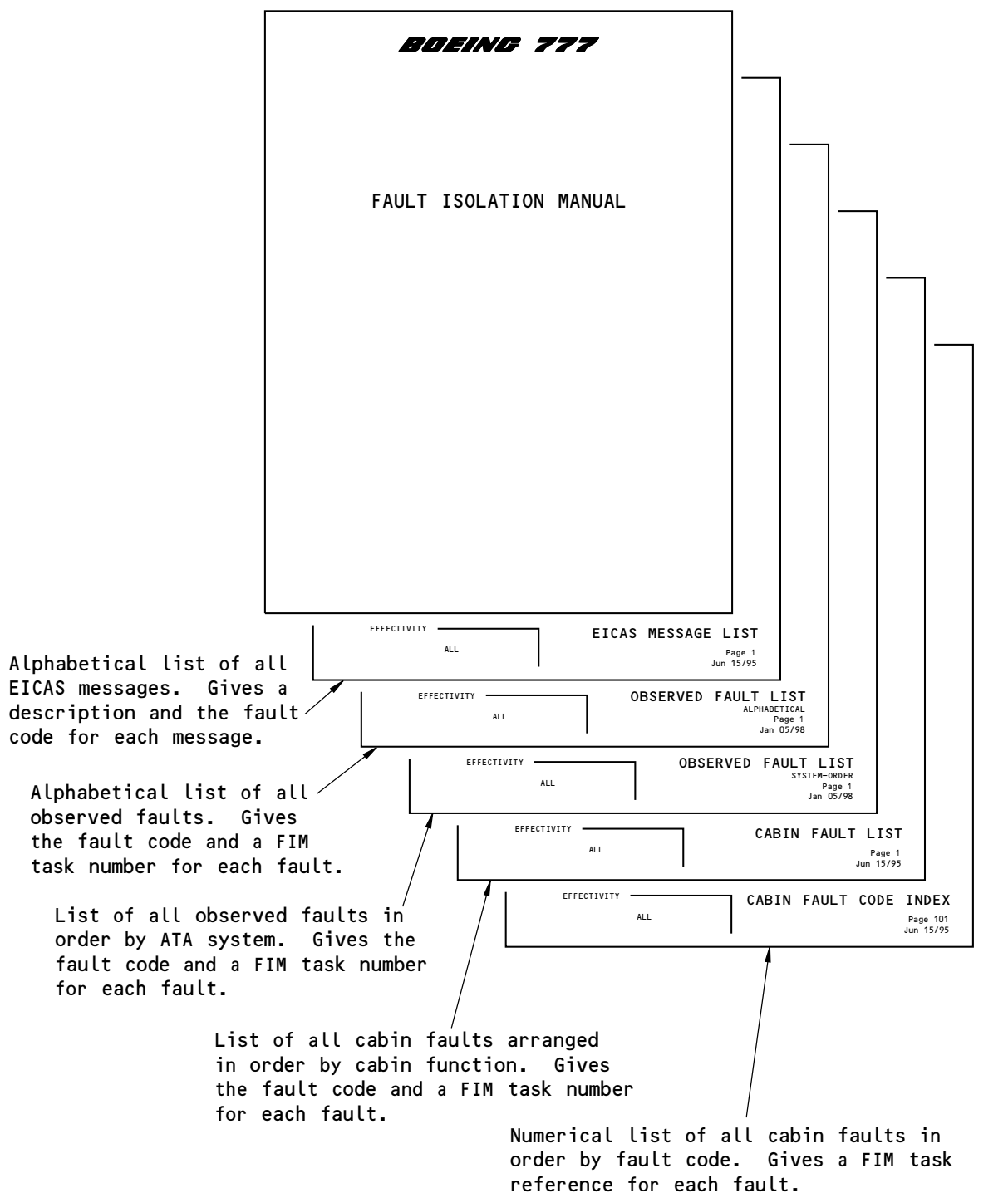
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F39750 S0000132478_V1

Subjects at Front of FIM
Figure 5

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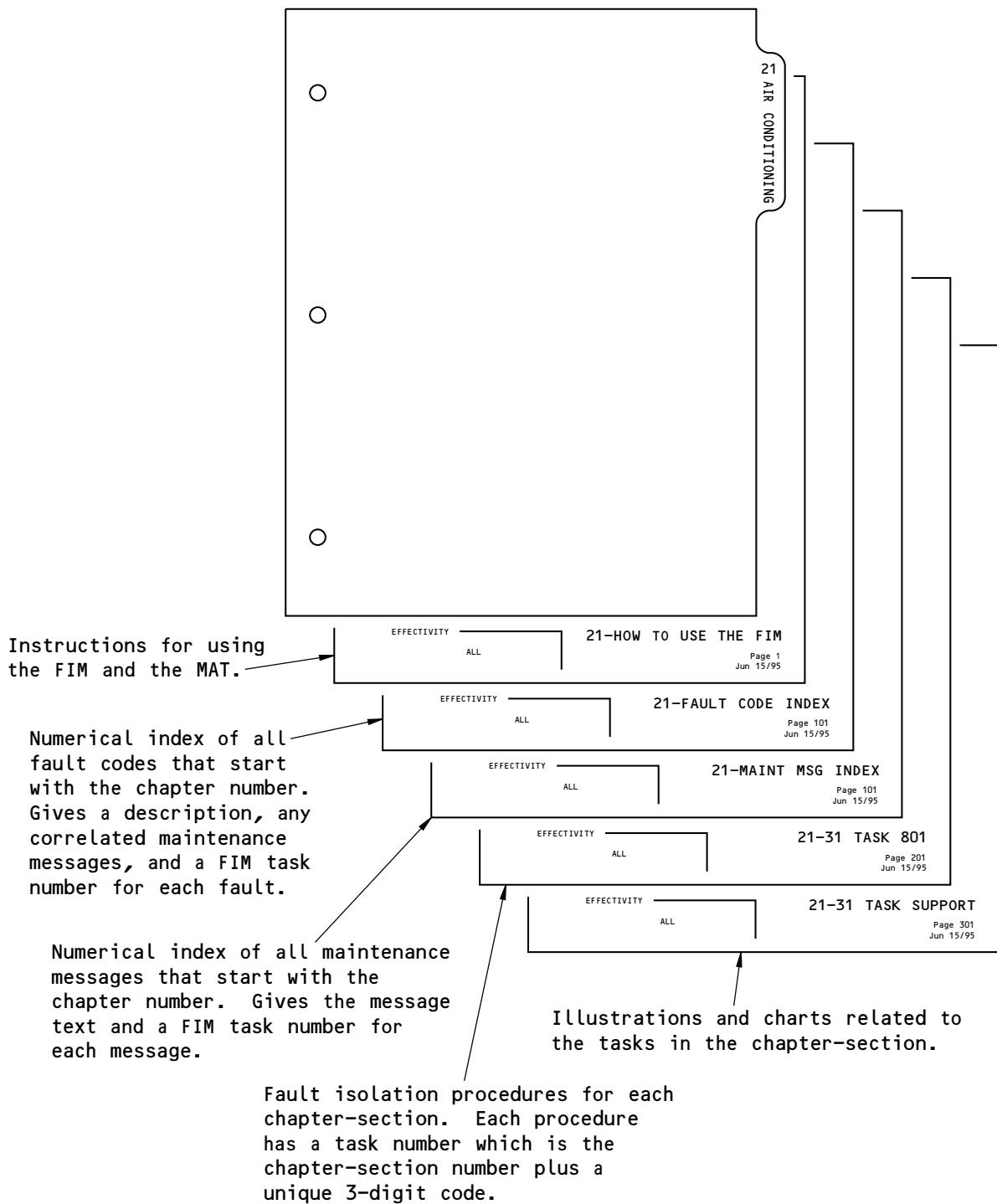
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F39837 S0000132479_V1

Subjects in Each FIM Chapter
Figure 6

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
491 001 00	APU LIMIT (EICAS CAUTION)	24-13850	24-08 TASK 803
		24-13851	24-08 TASK 803
		49-07920	49-10 TASK 801
		49-10260	49-20 TASK 801
		49-10270	49-20 TASK 802
		49-10650	49-70 TASK 812
		49-10960	49-70 TASK 811
		49-12040	49-20 TASK 820
		49-12880	49-20 TASK 805
		49-12890	49-20 TASK 805
		49-12900	49-20 TASK 806
		49-12910	49-20 TASK 807
		49-12920	49-20 TASK 808
		49-12980	49-20 TASK 816
		49-14141	49-10 TASK 829
		49-14142	49-10 TASK 830
		49-17003	49-10 TASK 832
491 002 00	APU SHUTDOWN (EICAS ADVISORY)	23-41050	23-93 TASK 801
		23-41060	23-93 TASK 803
		23-41100	23-93 TASK 803
		23-41160	23-93 TASK 801
		23-41170	23-93 TASK 801
		23-41240	23-93 TASK 801
		23-41370	23-93 TASK 801
		23-42050	23-93 TASK 802
		23-42060	23-93 TASK 804
		23-42100	23-93 TASK 804
		23-42160	23-93 TASK 802
		23-42170	23-93 TASK 802
		23-42240	23-93 TASK 802
		23-42370	23-93 TASK 802
		23-43050	26-22 TASK 801
		23-43060	28-25 TASK 801
		23-43100	30-11 TASK 803
		23-43160	26-23 TASK 802

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
491 002 00	APU SHUTDOWN (EICAS ADVISORY)	(continued)	
		23-43170	26-23 TASK 803
		23-43240	26-23 TASK 804
		23-43370	21-31 TASK 818
		23-45010	23-93 TASK 881
		23-46010	23-93 TASK 806
		23-47010	23-93 TASK 801
		23-47020	23-93 TASK 802
		23-48010	23-93 TASK 803
		23-48020	23-93 TASK 804
		23-81004	23-91 TASK 804
		23-81006	23-91 TASK 806
		23-91010	23-93 TASK 816
		23-91020	23-93 TASK 878
		23-92010	23-93 TASK 879
		23-92020	23-93 TASK 880
		24-13814	24-33 TASK 817
		24-13850	24-08 TASK 803
		24-13851	24-08 TASK 803
		26-19010	26-15 TASK 807
		26-19011	26-15 TASK 825
		28-19422	28-25 TASK 818
		28-19424	28-25 TASK 811
		28-19426	28-25 TASK 814
		28-19428	28-25 TASK 816
		28-19429	28-25 TASK 817
		28-19430	28-25 TASK 819
		49-07910	49-10 TASK 801
		49-07920	49-10 TASK 801
		49-07930	49-10 TASK 815
		49-07940	49-40 TASK 814
		49-07950	49-60 TASK 816
		49-07980	49-10 TASK 807
		49-08000	49-10 TASK 825
		49-10260	49-20 TASK 801
		49-10270	49-20 TASK 802

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
491 002 00	APU SHUTDOWN (EICAS ADVISORY)	(continued)	
		49-10410	49-30 TASK 801
		49-10420	49-30 TASK 802
		49-10430	49-30 TASK 805
		49-10440	49-30 TASK 806
		49-10450	49-30 TASK 807
		49-10460	49-30 TASK 808
		49-10470	49-30 TASK 809
		49-10480	49-30 TASK 810
		49-10490	49-30 TASK 811
		49-10610	49-40 TASK 811
		49-10620	49-40 TASK 812
		49-10630	49-40 TASK 813
		49-10650	49-70 TASK 812
		49-10660	49-40 TASK 801
		49-10670	49-40 TASK 802
		49-10700	49-40 TASK 806
		49-10760	49-40 TASK 807
		49-10840	49-43 TASK 804
		49-10850	49-43 TASK 805
		49-10960	49-70 TASK 811
		49-11110	49-53 TASK 804
		49-11175	49-53 TASK 807
		49-11180	49-53 TASK 807
		49-11290	49-52 TASK 808
		49-11460	49-60 TASK 801
		49-11590	49-60 TASK 817
		49-11670	49-40 TASK 810
		49-11680	49-30 TASK 803
		49-11690	49-30 TASK 803
		49-11700	49-30 TASK 804
		49-11710	49-60 TASK 801
		49-11720	49-60 TASK 801
		49-11790	49-40 TASK 815
		49-11910	49-60 TASK 806
		49-11920	49-60 TASK 808

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
491 002 00	APU SHUTDOWN (EICAS ADVISORY)	(continued)	
		49-11930	49-60 TASK 810
		49-11940	49-60 TASK 811
		49-11950	49-60 TASK 807
		49-11960	49-60 TASK 809
		49-11970	49-60 TASK 812
		49-11980	49-60 TASK 813
		49-12020	49-60 TASK 802
		49-12040	49-20 TASK 820
		49-12060	49-10 TASK 817
		49-12070	49-10 TASK 818
		49-12880	49-20 TASK 805
		49-12890	49-20 TASK 805
		49-12900	49-20 TASK 806
		49-12910	49-20 TASK 807
		49-12920	49-20 TASK 808
		49-12950	49-20 TASK 811
		49-12980	49-20 TASK 816
		49-13210	49-60 TASK 815
		49-13260	49-40 TASK 809
		49-13270	49-40 TASK 808
		49-14141	49-10 TASK 829
		49-14142	49-10 TASK 830
		49-17003	49-10 TASK 832
		49-17004	49-10 TASK 833
		NONE	49-10 TASK 821
491 003 00	APU REMOTE SHUTDOWN (EICAS STATUS)	28-19422	28-25 TASK 818
		28-19429	28-25 TASK 817
		49-17004	49-10 TASK 833
491 004 00	APU (EICAS STATUS) Before you do any task listed here, see FIM 49-10 TASK 821. NOTE: AIMS CAN LATCH THIS MESSAGE.		
		23-41001	23-93 TASK 819
		23-41002	23-93 TASK 844
		23-41050	23-93 TASK 801

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
491 004 00	APU (EICAS STATUS) Before you do any task listed here, see FIM 49-10 TASK 821. NOTE: AIMS CAN LATCH THIS MESSAGE.	(continued)	
		23-41060	23-93 TASK 803
		23-41100	23-93 TASK 803
		23-41160	23-93 TASK 801
		23-41170	23-93 TASK 801
		23-41240	23-93 TASK 801
		23-41370	23-93 TASK 801
		23-42001	23-93 TASK 841
		23-42002	23-93 TASK 845
		23-42050	23-93 TASK 802
		23-42060	23-93 TASK 804
		23-42100	23-93 TASK 804
		23-42160	23-93 TASK 802
		23-42170	23-93 TASK 802
		23-42240	23-93 TASK 802
		23-42370	23-93 TASK 802
		23-43050	26-22 TASK 801
		23-43060	28-25 TASK 801
		23-43100	30-11 TASK 803
		23-43160	26-23 TASK 802
		23-43170	26-23 TASK 803
		23-43240	26-23 TASK 804
		23-43370	21-31 TASK 818
		23-45010	23-93 TASK 881
		23-46010	23-93 TASK 806
		23-47010	23-93 TASK 801
		23-47020	23-93 TASK 802
		23-48010	23-93 TASK 803
		23-48020	23-93 TASK 804
		23-48801	23-93 TASK 881
		23-48802	23-93 TASK 806
		23-48841	23-93 TASK 819

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
491 004 00	APU (EICAS STATUS) Before you do any task listed here, see FIM 49-10 TASK 821. NOTE: AIMS CAN LATCH THIS MESSAGE.	(continued)	
		23-48842	23-93 TASK 841
		23-48861	23-93 TASK 844
		23-48862	23-93 TASK 845
		23-81004	23-91 TASK 804
		23-81006	23-91 TASK 806
		23-91010	23-93 TASK 816
		23-91020	23-93 TASK 878
		23-92010	23-93 TASK 879
		23-92020	23-93 TASK 880
		24-12056	24-32 TASK 820
		24-13814	24-33 TASK 817
		24-13815	24-61 TASK 806
		24-13850	24-08 TASK 803
		24-13851	24-08 TASK 803
		26-19010	26-15 TASK 807
		26-19011	26-15 TASK 825
		28-19422	28-25 TASK 818
		28-19424	28-25 TASK 811
		28-19426	28-25 TASK 814
		28-19428	28-25 TASK 816
		28-19429	28-25 TASK 817
		28-19430	28-25 TASK 819
		31-17477	31-10 TASK 824
		31-17478	31-10 TASK 825
		31-17481	31-10 TASK 826
		31-17482	31-10 TASK 827
		31-17679	31-10 TASK 850
		31-17680	31-10 TASK 851
		31-17683	31-10 TASK 852
		31-17684	31-10 TASK 853
		31-54013	31-43 TASK 868

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
491 004 00	APU (EICAS STATUS) Before you do any task listed here, see FIM 49-10 TASK 821. NOTE: AIMS CAN LATCH THIS MESSAGE.	(continued)	
		31-54014	31-43 TASK 869
		31-54121	31-41 TASK 838
		31-54122	31-41 TASK 839
		31-58013	31-43 TASK 872
		31-58014	31-43 TASK 873
		31-58121	31-41 TASK 856
		31-58122	31-41 TASK 857
		31-69401	31-42 TASK 825
		31-69402	31-42 TASK 825
		31-69465	31-42 TASK 848
		31-69466	31-42 TASK 848
		31-69601	31-42 TASK 857
		31-69602	31-42 TASK 857
		31-69665	31-42 TASK 875
		31-69666	31-42 TASK 875
		49-07910	49-10 TASK 801
		49-07920	49-10 TASK 801
		49-07930	49-10 TASK 815
		49-07940	49-40 TASK 814
		49-07950	49-60 TASK 816
		49-07970	26-15 TASK 824
		49-07980	49-10 TASK 807
		49-08000	49-10 TASK 825
		49-10260	49-20 TASK 801
		49-10270	49-20 TASK 802
		49-10410	49-30 TASK 801
		49-10420	49-30 TASK 802
		49-10430	49-30 TASK 805
		49-10440	49-30 TASK 806
		49-10450	49-30 TASK 807
		49-10460	49-30 TASK 808

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
491 004 00	APU (EICAS STATUS) Before you do any task listed here, see FIM 49-10 TASK 821. NOTE: AIMS CAN LATCH THIS MESSAGE.	(continued)	
		49-10470	49-30 TASK 809
		49-10480	49-30 TASK 810
		49-10490	49-30 TASK 811
		49-10500	49-30 TASK 812
		49-10510	49-30 TASK 813
		49-10610	49-40 TASK 811
		49-10620	49-40 TASK 812
		49-10630	49-40 TASK 813
		49-10650	49-70 TASK 812
		49-10660	49-40 TASK 801
		49-10670	49-40 TASK 802
		49-10700	49-40 TASK 806
		49-10760	49-40 TASK 807
		49-10830	49-43 TASK 803
		49-10840	49-43 TASK 804
		49-10850	49-43 TASK 805
		49-10960	49-70 TASK 811
		49-10970	49-52 TASK 801
		49-10990	49-52 TASK 804
		49-11110	49-53 TASK 804
		49-11150	49-60 TASK 804
		49-11160	49-60 TASK 805
		49-11175	49-53 TASK 807
		49-11180	49-53 TASK 807
		49-11290	49-52 TASK 808
		49-11460	49-60 TASK 801
		49-11480	49-60 TASK 802
		49-11490	49-60 TASK 803
		49-11520	49-65 TASK 801
		49-11530	49-65 TASK 802
		49-11540	49-65 TASK 801

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
491 004 00	APU (EICAS STATUS) Before you do any task listed here, see FIM 49-10 TASK 821. NOTE: AIMS CAN LATCH THIS MESSAGE.	(continued)	
		49-11550	49-65 TASK 802
		49-11570	49-43 TASK 808
		49-11590	49-60 TASK 817
		49-11670	49-40 TASK 810
		49-11680	49-30 TASK 803
		49-11690	49-30 TASK 803
		49-11700	49-30 TASK 804
		49-11710	49-60 TASK 801
		49-11720	49-60 TASK 801
		49-11790	49-40 TASK 815
		49-11800	49-40 TASK 803
		49-11910	49-60 TASK 806
		49-11920	49-60 TASK 808
		49-11930	49-60 TASK 810
		49-11940	49-60 TASK 811
		49-11950	49-60 TASK 807
		49-11960	49-60 TASK 809
		49-11970	49-60 TASK 812
		49-11980	49-60 TASK 813
		49-12020	49-60 TASK 802
		49-12030	49-40 TASK 810
		49-12031	49-40 TASK 816
		49-12060	49-10 TASK 817
		49-12070	49-10 TASK 818
		49-12910	49-20 TASK 807
		49-12920	49-20 TASK 808
		49-12950	49-20 TASK 811
		49-12980	49-20 TASK 816
		49-13210	49-60 TASK 815
		49-13260	49-40 TASK 809
		49-13270	49-40 TASK 808

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
491 004 00	APU (EICAS STATUS) Before you do any task listed here, see FIM 49-10 TASK 821. NOTE: AIMS CAN LATCH THIS MESSAGE.	(continued)	
		49-14141	49-10 TASK 829
		49-14142	49-10 TASK 830
		49-17003	49-10 TASK 832
		49-17004	49-10 TASK 833
		49-18801	49-60 TASK 818
		49-18840	49-65 TASK 801
		49-18860	49-65 TASK 802
		NONE	49-10 TASK 821
491 011 00	APU DOOR (EICAS STATUS)	24-13850	24-08 TASK 803
		24-13851	24-08 TASK 803
		49-07910	49-10 TASK 801
		49-07920	49-10 TASK 801
		49-14141	49-10 TASK 829
		49-14142	49-10 TASK 830
		49-17003	49-10 TASK 832
491 480 00	Maintenance memo shows on the MAT: APU SYSTEM.	23-41050	23-93 TASK 801
		23-41110	23-93 TASK 801
		23-41120	23-93 TASK 803
		23-41130	23-93 TASK 801
		23-41140	23-93 TASK 803
		23-41160	23-93 TASK 801
		23-41170	23-93 TASK 801
		23-41240	23-93 TASK 801
		23-41250	23-93 TASK 801
		23-41340	23-93 TASK 803
		23-41360	23-93 TASK 801
		23-41370	23-93 TASK 801
		23-41420	23-93 TASK 801
		23-41490	23-93 TASK 801
		23-41500	23-93 TASK 801
		23-41520	23-93 TASK 803

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
491 480 00	Maintenance memo shows on the MAT: APU SYSTEM.	(continued)	
		23-41530	23-93 TASK 801
		23-41540	23-93 TASK 801
		23-41550	23-93 TASK 801
		23-41560	23-93 TASK 801
		23-41675	23-93 TASK 914
		23-41700	23-93 TASK 803
		23-41710	23-93 TASK 801
		23-41720	23-93 TASK 803
		23-41730	23-93 TASK 803
		23-41850	23-93 TASK 803
		23-41860	23-93 TASK 803
		23-41870	23-93 TASK 803
		23-41900	23-93 TASK 803
		23-41910	23-93 TASK 803
		23-41980	23-93 TASK 801
		23-42050	23-93 TASK 802
		23-42110	23-93 TASK 802
		23-42120	23-93 TASK 804
		23-42130	23-93 TASK 802
		23-42140	23-93 TASK 804
		23-42160	23-93 TASK 802
		23-42170	23-93 TASK 802
		23-42240	23-93 TASK 802
		23-42250	23-93 TASK 802
		23-42340	23-93 TASK 804
		23-42360	23-93 TASK 802
		23-42370	23-93 TASK 802
		23-42420	23-93 TASK 802
		23-42490	23-93 TASK 802
		23-42500	23-93 TASK 802
		23-42520	23-93 TASK 804
		23-42530	23-93 TASK 802
		23-42540	23-93 TASK 802
		23-42550	23-93 TASK 802

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
491 480 00	Maintenance memo shows on the MAT: APU SYSTEM.	(continued)	
		23-42560	23-93 TASK 802
		23-42675	23-93 TASK 919
		23-42700	23-93 TASK 804
		23-42710	23-93 TASK 802
		23-42720	23-93 TASK 804
		23-42730	23-93 TASK 804
		23-42850	23-93 TASK 804
		23-42860	23-93 TASK 804
		23-42870	23-93 TASK 804
		23-42900	23-93 TASK 804
		23-42910	23-93 TASK 804
		23-42980	23-93 TASK 802
		23-43050	26-22 TASK 801
		23-43110	29-11 TASK 880
		23-43120	29-11 TASK 881
		23-43130	29-11 TASK 882
		23-43140	29-11 TASK 883
		23-43160	26-23 TASK 802
		23-43170	26-23 TASK 803
		23-43240	26-23 TASK 804
		23-43250	21-61 TASK 805
		23-43340	29-11 TASK 842
		23-43360	29-11 TASK 884
		23-43370	21-31 TASK 818
		23-43420	73-29 TASK 824
		23-43490	21-51 TASK 807
		23-43500	21-62 TASK 803
		23-43520	21-25 TASK 803
		23-43530	28-22 TASK 810
		23-43540	28-22 TASK 812
		23-43550	30-21 TASK 809
		23-43560	74-21 TASK 805
		23-43700	21-61 TASK 806
		23-43710	29-11 TASK 885

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
491 480 00	Maintenance memo shows on the MAT: APU SYSTEM.	(continued)	
		23-43720	29-11 TASK 886
		23-43730	29-21 TASK 803
		23-43850	21-51 TASK 821
		23-43860	21-62 TASK 805
		23-43870	73-29 TASK 825
		23-43900	30-21 TASK 810
		23-43910	74-21 TASK 806
		23-43980	21-25 TASK 804
		23-45010	23-93 TASK 881
		23-46010	23-93 TASK 806
		23-47010	23-93 TASK 801
		23-47020	23-93 TASK 802
		23-48010	23-93 TASK 803
		23-48020	23-93 TASK 804
		23-81004	23-91 TASK 804
		23-81006	23-91 TASK 806
		23-91010	23-93 TASK 816
		23-91020	23-93 TASK 878
		23-92010	23-93 TASK 879
		23-92020	23-93 TASK 880
		24-22001	24-41 TASK 821
		24-22002	24-41 TASK 821
		29-11080	29-11 TASK 928
		29-11090	29-11 TASK 928
		32-21000	32-09 TASK 807
		32-21001	32-09 TASK 808
		32-21100	32-09 TASK 802
		32-21101	32-09 TASK 801
		32-21300	32-09 TASK 803
		32-21301	32-09 TASK 804
		32-22000	32-09 TASK 809
		32-22001	32-09 TASK 809
		32-22100	32-09 TASK 809
		32-22101	32-09 TASK 809

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491 480 00	Maintenance memo shows on the MAT: APU SYSTEM.	(continued)	
		32-28801	32-09 TASK 821
		32-28802	32-09 TASK 822
		49-10450	49-30 TASK 807
		49-10460	49-30 TASK 808
		49-10470	49-30 TASK 809
		49-10680	49-40 TASK 804
		49-10690	49-40 TASK 805
		49-10810	49-43 TASK 802
		49-10820	49-43 TASK 802
		49-10880	49-43 TASK 801
		49-11120	49-53 TASK 802
		49-11130	49-53 TASK 802
		49-11140	49-53 TASK 803
		49-11460	49-60 TASK 801
		49-11520	49-65 TASK 801
		49-11530	49-65 TASK 802
		49-11580	49-43 TASK 809
		49-11630	49-70 TASK 809
		49-11640	49-70 TASK 807
		49-11650	49-70 TASK 810
		49-11660	49-70 TASK 808
		49-11780	49-53 TASK 801
		49-12040	49-20 TASK 820
		49-12880	49-20 TASK 805
		49-12890	49-20 TASK 805
		49-12900	49-20 TASK 806
		49-12930	49-20 TASK 809
		49-12940	49-20 TASK 810
		49-12960	49-20 TASK 812
		49-12970	49-20 TASK 815
		49-12980	49-20 TASK 816
		49-12990	49-20 TASK 813
		49-13000	49-20 TASK 814
491 498 00	APU COOLDOWN (EICAS MEMO)		49-10 TASK 823

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
491 499 00	APU RUNNING (EICAS MEMO)		49-10 TASK 824
491 611 00	APU: does not start at altitude.		23-98 TASK 803
491 612 00	APU: Successful start at altitude.		23-98 TASK 803
491 621 00	APU: oil quantity is low.		23-98 TASK 803
491 811 00	APU: Vibration is excessive.		49-10 TASK 820
491 812 00	APU: makes high-frequency noise.		49-10 TASK 827
491 821 00	APU: smoke or fumes in cabin when APU supplies pneumatic power.		49-10 TASK 808
491 825 00	APU: Sparks from exhaust pipe.		49-10 TASK 828
491 826 00	APU: Smoke from exhaust pipe.		49-10 TASK 836
491 831 00	APU: does not start and external electrical power is not available.		49-10 TASK 826
491 835 00	APU: does not start; no related maintenance message shows.		49-10 TASK 835
492 811 00	APU: oil consumption is excessive.		49-20 TASK 818
492 812 00	APU: oil leakage at drain mast.		49-20 TASK 817
494 001 00	APU AIR STARTER (EICAS STATUS) Before you do any task listed here, see FIM 49-98 TASK 803. NOTE: AIMS CAN LATCH THIS MESSAGE.	23-81004 23-81006 36-10110 36-10120 36-10150 36-10160 36-10290 36-10300 36-10420 36-10430 36-10480 36-10490 36-13001 36-13002 36-19401 36-19402 36-19601	23-91 TASK 804 23-91 TASK 806 36-12 TASK 808 36-12 TASK 807 36-12 TASK 803 36-12 TASK 804 36-12 TASK 803 36-12 TASK 804 36-12 TASK 804 36-12 TASK 803 36-21 TASK 805 36-21 TASK 801 36-13 TASK 810 36-13 TASK 811 36-13 TASK 804 36-13 TASK 805 36-13 TASK 806

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
494 001 00	APU AIR STARTER (EICAS STATUS) Before you do any task listed here, see FIM 49-98 TASK 803. NOTE: AIMS CAN LATCH THIS MESSAGE.	(continued) 36-19602 49-10840 49-10850 49-10860 49-10870 49-11560	 36-13 TASK 807 49-43 TASK 804 49-43 TASK 805 49-43 TASK 807 49-43 TASK 810 49-43 TASK 806
494 011 00	APU START SYS (EICAS STATUS) Before you do any task listed here, see FIM 49-98 TASK 803. NOTE: AIMS CAN LATCH THIS MESSAGE.	 23-81004 23-81006 24-13802 24-13809 24-13811 24-13819 24-13840 24-13841 24-18803 24-78843 24-78863 49-10410 49-10420 49-10440 49-10450 49-10460 49-10480 49-10490 49-10660 49-10670 49-10680 49-10690	 23-91 TASK 804 23-91 TASK 806 24-08 TASK 837 24-22 TASK 849 24-51 TASK 850 24-08 TASK 838 24-08 TASK 806 24-08 TASK 806 24-09 TASK 808 24-08 TASK 864 24-08 TASK 865 49-30 TASK 801 49-30 TASK 802 49-30 TASK 806 49-30 TASK 807 49-30 TASK 808 49-30 TASK 810 49-30 TASK 811 49-40 TASK 801 49-40 TASK 802 49-40 TASK 804 49-40 TASK 805

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
494 011 00	APU START SYS (EICAS STATUS) Before you do any task listed here, see FIM 49-98 TASK 803. NOTE: AIMS CAN LATCH THIS MESSAGE.	(continued) 49-10700 49-11460 49-11670 49-11680 49-11710 49-11790 49-13260 49-13270 49-19414 49-19613 49-19614	 49-40 TASK 806 49-60 TASK 801 49-40 TASK 810 49-30 TASK 803 49-60 TASK 801 49-40 TASK 815 49-40 TASK 809 49-40 TASK 808 49-65 TASK 827 49-65 TASK 828 49-65 TASK 828
495 001 00	APU BLEED AIR (EICAS STATUS) Before you do any task listed here, see FIM 49-98 TASK 803. NOTE: AIMS CAN LATCH THIS MESSAGE.	 36-10110 36-10120 49-10980 49-11000 49-11010 49-11170 49-11175 49-11180 49-11190 49-11200 49-11210 49-11220 49-11230 49-11240 49-11250 49-11260 49-11270	 36-12 TASK 808 36-12 TASK 807 49-52 TASK 803 49-52 TASK 806 49-52 TASK 807 49-53 TASK 806 49-53 TASK 807 49-53 TASK 807 49-53 TASK 809 49-53 TASK 811 49-53 TASK 811 49-53 TASK 812 49-53 TASK 814 49-53 TASK 815 49-53 TASK 815 49-53 TASK 816 49-53 TASK 817

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
495 001 00	APU BLEED AIR (EICAS STATUS) Before you do any task listed here, see FIM 49-98 TASK 803. NOTE: AIMS CAN LATCH THIS MESSAGE.	(continued)	
		49-11280	49-53 TASK 818
		49-11290	49-52 TASK 808
		49-11460	49-60 TASK 801
		49-11470	49-60 TASK 801
		49-11810	49-52 TASK 802
		49-11820	49-52 TASK 805
		49-11990	49-53 TASK 810
		49-12000	49-53 TASK 813
		49-12010	49-53 TASK 808
		49-12050	49-53 TASK 805
496 001 00	APU CONTROL (EICAS STATUS) Before you do any task listed here, see FIM 49-10 TASK 822. NOTE: AIMS CAN LATCH THIS MESSAGE.		
		23-81004	23-91 TASK 804
		23-81006	23-91 TASK 806
		24-13809	24-22 TASK 849
		24-13811	24-51 TASK 850
		24-13814	24-33 TASK 817
		31-54013	31-43 TASK 868
		31-54014	31-43 TASK 869
		31-54121	31-41 TASK 838
		31-54122	31-41 TASK 839
		31-58013	31-43 TASK 872
		31-58014	31-43 TASK 873
		31-58121	31-41 TASK 856
		31-58122	31-41 TASK 857
		31-69401	31-42 TASK 825
		31-69402	31-42 TASK 825
		31-69465	31-42 TASK 848
		31-69466	31-42 TASK 848
		31-69601	31-42 TASK 857

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
496 001 00	APU CONTROL (EICAS STATUS) Before you do any task listed here, see FIM 49-10 TASK 822. NOTE: AIMS CAN LATCH THIS MESSAGE.	(continued)	
		31-69602	31-42 TASK 857
		31-69665	31-42 TASK 875
		31-69666	31-42 TASK 875
		49-10430	49-30 TASK 805
		49-10760	49-40 TASK 807
		49-11460	49-60 TASK 801
		49-11520	49-65 TASK 801
		49-11530	49-65 TASK 802
		49-11540	49-65 TASK 801
		49-11550	49-65 TASK 802
		49-11700	49-30 TASK 804
		49-11890	49-60 TASK 802
		49-11900	49-60 TASK 801
		49-11910	49-60 TASK 806
		49-11920	49-60 TASK 808
		49-11930	49-60 TASK 810
		49-11940	49-60 TASK 811
		49-11950	49-60 TASK 807
		49-11960	49-60 TASK 809
		49-11970	49-60 TASK 812
		49-11980	49-60 TASK 813
		49-12060	49-10 TASK 817
		49-12070	49-10 TASK 818
		49-12950	49-20 TASK 811
		49-12960	49-20 TASK 812
		49-12990	49-20 TASK 813
		49-18801	49-60 TASK 818
		49-18840	49-65 TASK 801
		49-18860	49-65 TASK 802
		NONE	49-10 TASK 822
496 811 00	APU: load compressor surge.		49-53 TASK 819

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FAULT CODE	FAULT DESCRIPTION	MAINT MSG	GO TO FIM TASK
499 001 00	APU OIL QTY (EICAS STATUS) Before you do any task listed here, see FIM 49-98 TASK 803. NOTE: AIMS CAN LATCH THIS MESSAGE.	49-10280 49-11850 49-11870 49-11880 49-12860 49-12870	49-20 TASK 819 49-60 TASK 801 49-20 TASK 803 49-20 TASK 804 49-20 TASK 803 49-20 TASK 804

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MAINT MESSAGE	MESSAGE TEXT	GO TO FIM TASK
49-07910*	Inlet Door Position Switch shows door is closed during APU start.	49-10 TASK 801
49-07920*	Inlet Door Position Switch shows door position is closed while APU is running.	49-10 TASK 801
49-07930*	APU Fire Detection Card (FODC) fire shutdown signal, caused APU autosutdown.	49-10 TASK 815
49-07940*	AIMS-1, CPM/Comm OPS S/W 3166-HNP-002-11; AIMS-2, CMCF LDI 3111-BCG-00W-13; AIMS-2, CMCF LDI 3116-BCG-00W-14; AIMS-2, CMCF LDI 3117-BCG-00W-15; APU Exhaust Gas Temperature did not increase, caused autosutdown. AIMS-2, CMCF LDI 3114-BCG-00W-16; APU exhaust gas temperature did not increase, caused autosutdown.	49-40 TASK 814
49-07950*	APU speed droop caused autosutdown.	49-60 TASK 816
49-07960	AIMS-2, CMCF LDI 3114-BCG-00W-16; APU Maintenance Switch discrete does not agree with Signals from Overhead Panel Bus Controller (L) and Overhead Panel Bus Controller (R). AIMS-1, CPM/Comm OPS S/W 3166-HNP-002-11; AIMS-2, CMCF LDI 3111-BCG-00W-13; AIMS-2, CMCF LDI 3116-BCG-00W-14; AIMS-2, CMCF LDI 3117-BCG-00W-15; APU Maintenance Switch discrete does not agree with signals from Overhead Panel Bus Controller (L) and Overhead Panel Bus Controller (R).	49-10 TASK 810
49-07970*	APU Fire Detection Card did not indicate fire during fire overheat test.	26-15 TASK 824
49-07980*	APU fire handle/remote shutdown discrete does not indicate fire with APU Fire Handle in FIRE position.	49-10 TASK 807
49-08000*	APU fire handle/remote shutdown discrete caused APU autosutdown.	49-10 TASK 825
49-10260*	APU has high oil temperature.	49-20 TASK 801
49-10270*	APU has low oil pressure.	49-20 TASK 802
49-10280*	APU has low oil quantity.	49-20 TASK 819
49-10410*	Fuel Cluster shutoff solenoid circuit is shorted.	49-30 TASK 801
49-10420*	Fuel Cluster shutoff solenoid circuit is open.	49-30 TASK 802
49-10430*	Fuel Cluster metering valve LVDT circuit is failed.	49-30 TASK 805
49-10440*	Fuel Cluster fuel metering valve does not follow command.	49-30 TASK 806
49-10450*	Fuel Temperature Sensor (Fuel Cluster) circuit is shorted.	49-30 TASK 807

*If the MAT shows LATCHED for the correlated EICAS message, then you must erase the EICAS message after you complete the FIM task.

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MAINT MESSAGE	MESSAGE TEXT	GO TO FIM TASK
49-10460*	Fuel Temperature Sensor (Fuel Cluster) signal is out of range.	49-30 TASK 808
49-10470*	Fuel Filter Element (Fuel Cluster) is clogged.	49-30 TASK 809
49-10480*	Fuel Cluster torque motor circuit is open.	49-30 TASK 810
49-10490*	Fuel Cluster torque motor circuit is shorted.	49-30 TASK 811
49-10500*	AIMS-2, CMCF LDI 3114-BCG-00W-16; Fuel Cluster shutoff Valve is failed open. AIMS-1, CPM/Comm OPS S/W 3166-HNP-002-11; AIMS-2, CMCF LDI 3111-BCG-00W-13; AIMS-2, CMCF LDI 3116-BCG-00W-14; AIMS-2, CMCF LDI 3117-BCG-00W-15; Fuel Cluster shutoff valve is failed open.	49-30 TASK 812
49-10510*	AIMS-2, CMCF LDI 3114-BCG-00W-16; Fuel Cluster metering Valve is failed open. AIMS-1, CPM/Comm OPS S/W 3166-HNP-002-11; AIMS-2, CMCF LDI 3111-BCG-00W-13; AIMS-2, CMCF LDI 3116-BCG-00W-14; AIMS-2, CMCF LDI 3117-BCG-00W-15; Fuel Cluster metering valve is failed open.	49-30 TASK 813
49-10610*	APU hung start caused autoshtutdown.	49-40 TASK 811
49-10620*	APU speed did not reach 7%, caused autoshtutdown.	49-40 TASK 812
49-10630*	APU decelerated during electric start, caused autoshtutdown.	49-40 TASK 813
49-10650*	APU exhaust gas temperature exceeded limit during start.	49-70 TASK 812
49-10660*	Ignition Unit (Ignition Cluster) power input circuit is shorted.	49-40 TASK 801
49-10670*	Ignition Unit (Ignition Cluster) power input circuit is open.	49-40 TASK 802
49-10680*	Ignition Lead 1 (Ignition Cluster) high voltage circuit is open.	49-40 TASK 804
49-10690*	Ignition Lead 2 (Ignition Cluster) high voltage circuit is open.	49-40 TASK 805
49-10700*	Ignition Unit (Ignition Cluster) is failed.	49-40 TASK 806
49-10760*	Electric Starter Motor has brush wear.	49-40 TASK 807
49-10810	Air Turbine Starter Control Valve (ATSCV) RVDT is failed closed.	49-43 TASK 802
49-10820	Air Turbine Starter Control Valve (ATSCV) RVDT is failed open.	49-43 TASK 802
49-10830*	Air Turbine Starter Control Valve (ATSCV) is failed open.	49-43 TASK 803
49-10840*	Air Turbine Starter Control Valve (ATSCV) is failed closed.	49-43 TASK 804
49-10850*	Air Turbine Starter (ATS) failed to turn APU.	49-43 TASK 805

*If the MAT shows LATCHED for the correlated EICAS message, then you must erase the EICAS message after you complete the FIM task.

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MAINT MESSAGE	MESSAGE TEXT	GO TO FIM TASK
49-10860*	AIMS-2, CMCF LDI 3114-BCG-00W-16; Air Turbine Starter Control Valve (ATSCV) Solenoid circuit is shorted. AIMS-1, CPM/Comm OPS S/W 3166-HNP-002-11; AIMS-2, CMCF LDI 3111-BCG-00W-13; AIMS-2, CMCF LDI 3116-BCG-00W-14; AIMS-2, CMCF LDI 3117-BCG-00W-15; Air Turbine Starter Control Valve (ATSCV) solenoid circuit is shorted.	49-43 TASK 807
49-10870*	AIMS-2, CMCF LDI 3114-BCG-00W-16; Air Turbine Starter Control Valve (ATSCV) Solenoid circuit is open. AIMS-1, CPM/Comm OPS S/W 3166-HNP-002-11; AIMS-2, CMCF LDI 3111-BCG-00W-13; AIMS-2, CMCF LDI 3116-BCG-00W-14; AIMS-2, CMCF LDI 3117-BCG-00W-15; Air Turbine Starter Control Valve (ATSCV) solenoid circuit is open.	49-43 TASK 810
49-10880	Air Turbine Starter Control Valve (ATSCV) RVDT circuit is open.	49-43 TASK 801
49-10960*	APU exhaust gas temperature exceeded limit while running.	49-70 TASK 811
49-10970*	APU bleed pressure is high with IGV's closed.	49-52 TASK 801
49-10980*	Inlet Guide Vane (IGV) Actuator LVDT circuit is failed.	49-52 TASK 803
49-10990*	Inlet Guide Vane (IGV) Actuator does not follow command.	49-52 TASK 804
49-11000*	Inlet Guide Vane (IGV) Actuator torque motor circuit is open.	49-52 TASK 806
49-11010*	Inlet Guide Vane (IGV) Actuator torque motor circuit is shorted.	49-52 TASK 807
49-11110*	APU Controller (APUC) flow sensing system indicates low flow, caused autoshtutdown.	49-53 TASK 804
49-11120	Inlet Pressure Sensor (Pneumatic Cluster) signal is out of range.	49-53 TASK 802
49-11130	Inlet Pressure Sensor (Pneumatic Cluster) is failed.	49-53 TASK 802
49-11140	Inlet Pressure Sensor (Pneumatic Cluster) circuit is shorted.	49-53 TASK 803
49-11150*	Inlet Temperature Sensor circuit is shorted.	49-60 TASK 804
49-11160*	Inlet Temperature Sensor signal is out of range.	49-60 TASK 805
49-11170*	Surge Control Valve (Pneumatic Cluster) LVDT circuit is failed.	49-53 TASK 806
49-11175*	APU Controller (APUC) flow sensing system indicates low flow, caused autoshtutdown.	49-53 TASK 807
49-11180*	Surge Control Valve (Pneumatic Cluster) does not follow command.	49-53 TASK 807

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49-11190*	Differential Press Sensor(Pneumatic Cluster) signal is out of range with APU running.	49-53 TASK 809
49-11200*	Differential Press Sensor(Pneumatic Cluster) is out of range.	49-53 TASK 811
49-11210*	Differential Press Sensor(Pneumatic Cluster) circuit is failed.	49-53 TASK 811
49-11220*	Differential Press Sensor(Pneumatic Cluster) circuit is shorted.	49-53 TASK 812
49-11230*	Total Pressure Sensor (Pneumatic Cluster) signal is out of range with APU running.	49-53 TASK 814
49-11240*	Total Pressure Sensor (Pneumatic Cluster) signal is out of range.	49-53 TASK 815
49-11250*	Total Pressure Sensor (Pneumatic Cluster) circuit is failed.	49-53 TASK 815
49-11260*	Total Pressure Sensor (Pneumatic Cluster) circuit is shorted.	49-53 TASK 816
49-11270*	Surge Control Valve (Pneumatic Cluster) torque motor circuit is open.	49-53 TASK 817
49-11280*	Surge Control Valve (Pneumatic Cluster) torque motor circuit is shorted.	49-53 TASK 818
49-11290*	APU Check Valve failed open.	49-52 TASK 808
49-11460*	APU Controller (APUC) has an internal fault.	49-60 TASK 801
49-11470*	APU Controller (APUC) has an internal fault.	49-60 TASK 801
49-11480*	APU Controller (APUC) fuel shutoff solenoid circuit is failed.	49-60 TASK 802
49-11490*	APU Controller (APUC) fuel torque motor circuit is failed.	49-60 TASK 803
49-11520*	APU Controller (APUC) has an ARINC 629 fault.	49-65 TASK 801
49-11530*	APU Controller (APUC) has an ARINC 629 fault.	49-65 TASK 802
49-11540*	APU Controller (APUC) has no output on System ARINC 629 Bus (left).	49-65 TASK 801
49-11550*	APU Controller (APUC) has no output on System ARINC 629 Bus (right).	49-65 TASK 802
49-11560*	APU Controller (APUC) ATSCV solenoid circuit is failed off.	49-43 TASK 806
49-11570*	APU Controller (APUC) ATSCV solenoid circuit is failed on.	49-43 TASK 808
49-11580	APU Controller (APUC) ATSCV RVDT circuit is failed.	49-43 TASK 809
49-11590*	APU overspeed caused autosutdown.	49-60 TASK 817
49-11600	APU Controller (APUC) data memory module power supply circuit is failed off.	49-70 TASK 804
49-11610	APU Controller (APUC) data memory module power supply circuit is failed on.	49-70 TASK 803
49-11620	APU Controller (APUC) data memory module circuit is failed.	49-70 TASK 806
49-11630	Exhaust Gas Temperature Thermocouple 1 signal is lower than Exhaust Gas Temperature Thermocouple 2.	49-70 TASK 809

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49-11640	Exhaust Gas Temperature Thermocouple 1 circuit is open.	49-70 TASK 807
49-11650	Exhaust Gas Temperature Thermocouple 2 signal is lower than Exhaust Gas Temperature Thermocouple 1.	49-70 TASK 810
49-11660	Exhaust Gas Temperature Thermocouple 2 circuit is open.	49-70 TASK 808
49-11670*	APU Controller (APUC) electric starter command circuit is failed off.	49-40 TASK 810
49-11680*	APU Controller (APUC) fuel shutoff solenoid circuit is failed off.	49-30 TASK 803
49-11690*	APU Controller (APUC) fuel shutoff solenoid circuit is failed on.	49-30 TASK 803
49-11700*	APU Controller (APUC) fuel metering valve LVDT circuit is failed.	49-30 TASK 804
49-11710*	APU Controller (APUC) has an internal fault.	49-60 TASK 801
49-11720*	APU Controller (APUC) has an internal fault.	49-60 TASK 801
49-11730	APU Controller (APUC) fault light circuit is shorted.	49-10 TASK 811
49-11740	APU Controller (APUC) fault light circuit is failed off.	49-10 TASK 812
49-11750	APU Controller (APUC) fault light circuit is failed on.	49-10 TASK 812
49-11760	APU generator OFF light circuit is shorted.	49-10 TASK 813
49-11770	APU Controller (APUC) generator OFF light circuit is failed.	49-10 TASK 814
49-11780	APU Controller (APUC) inlet pressure sensor circuit is failed.	49-53 TASK 801
49-11790*	APU Controller (APUC) ignition unit power input circuit is failed off.	49-40 TASK 815
49-11800*	APU Controller (APUC) ignition unit power input circuit is failed on.	49-40 TASK 803
49-11810*	APU Controller (APUC) inlet guide vane LVDT circuit is failed.	49-52 TASK 802
49-11820*	APU Controller (APUC) IGV actuator torque motor circuit is failed off.	49-52 TASK 805
49-11850*	APU Controller (APUC) has an internal fault.	49-60 TASK 801
49-11870*	Oil Quantity/Sump Temperature Sensor quantity circuit is failed.	49-20 TASK 803
49-11880*	Oil Quantity/Sump Temperature Sensor quantity circuit is shorted.	49-20 TASK 804
49-11890*	APU Controller (APUC) fuel shutoff solenoid circuit is failed.	49-60 TASK 802
49-11900*	APU Controller (APUC) has an internal fault.	49-60 TASK 801
49-11910*	Speed Sensor 1 circuit is open.	49-60 TASK 806
49-11920*	Speed Sensor 1 circuit is shorted.	49-60 TASK 808
49-11930*	Speed Sensor 1 circuit is failed.	49-60 TASK 810
49-11940*	Speed Sensor 1 signal is lower than Speed Sensor 2.	49-60 TASK 811
49-11950*	Speed Sensor 2 circuit is open.	49-60 TASK 807

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49-11960*	Speed Sensor 2 circuit is shorted.	49-60 TASK 809
49-11970*	Speed Sensor 2 circuit is failed.	49-60 TASK 812
49-11980*	Speed Sensor 2 signal is lower than Speed Sensor 1.	49-60 TASK 813
49-11990*	APU Controller (APUC) differential pressure sensor circuit is failed.	49-53 TASK 810
49-12000*	APU Controller (APUC) total pressure sensor circuit is failed.	49-53 TASK 813
49-12010*	APU Controller (APUC) surge control valve torque motor circuit is failed off.	49-53 TASK 808
49-12020*	APU Controller (APUC) fuel shutoff solenoid circuit is failed.	49-60 TASK 802
49-12030*	APU Controller (APUC) electric starter command circuit is failed on.	49-40 TASK 810
49-12031*	APU Controller (APUC) electric starter command circuit is failed on.	49-40 TASK 816
49-12040	APU Controller (APUC) oil pressure sensor circuit is failed.	49-20 TASK 820
49-12050*	APU Controller (APUC) surge control valve LVDT circuit is failed.	49-53 TASK 805
49-12060*	28V DC APU BAT voltage is low.	49-10 TASK 817
49-12070*	28V DC BAT BUS Sect 2 voltage is low.	49-10 TASK 818
49-12810	Data Memory Module power supply circuit is shorted.	49-70 TASK 801
49-12820	Data Memory Module power supply circuit is open.	49-70 TASK 802
49-12830	Data Memory Module circuit is failed.	49-70 TASK 805
49-12860*	Oil Quantity/Sump Temperature Sensor quantity circuit is open.	49-20 TASK 803
49-12870*	Oil Quantity/Sump Temperature Sensor quantity circuit is shorted.	49-20 TASK 804
49-12880	Oil Pressure Sensor (Lube Cluster) signal is out of range.	49-20 TASK 805
49-12890	Oil Pressure Sensor (Lube Cluster) circuit is failed.	49-20 TASK 805
49-12900	Oil Pressure Sensor (Lube Cluster) circuit is shorted.	49-20 TASK 806
49-12910*	Oil Temperature Sensor (Lube Cluster) circuit is shorted.	49-20 TASK 807
49-12920*	Oil Temperature Sensor (Lube Cluster) signal is out of range.	49-20 TASK 808
49-12930	Oil Quantity/Sump Temperature Sensor temperature circuit is shorted.	49-20 TASK 809
49-12940	Oil Quantity/Sump Temperature Sensor temperature signal is out of range.	49-20 TASK 810
49-12950*	Generator Scavenge Oil Filter (Lube Cluster) is clogged.	49-20 TASK 811
49-12960*	Generator Filt Byp Vlv/Switch (Lube Cluster) circuit is shorted.	49-20 TASK 812
49-12970	Low Oil Pressure Switch (Lube Cluster) circuit is open.	49-20 TASK 815
49-12980*	Low Oil Pressure Switch (Lube Cluster) circuit is shorted.	49-20 TASK 816

*If the MAT shows LATCHED for the correlated EICAS message, then you must erase the EICAS message after you complete the FIM task.

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MAINT MESSAGE	MESSAGE TEXT	GO TO FIM TASK
49-12990*	Oil Filter Element (Lube Cluster) is clogged.	49-20 TASK 813
49-13000	Oil Filtr Byp Vlv/Switch (Lube Cluster) circuit is shorted.	49-20 TASK 814
49-13210*	APU high inlet temperature caused autoshtutdown.	49-60 TASK 815
49-13260*	(ELMS P310) electric starter command circuit is shorted.	49-40 TASK 809
49-13270*	(ELMS P310) electric starter command circuit is open.	49-40 TASK 808
49-14141*	APU Inlet Door is failed open.	49-10 TASK 829
49-14142*	APU Inlet Door is failed closed.	49-10 TASK 830
49-14143	APU Start Switch signal does not agree with signal from L-OPAS and R-OPAS.	49-10 TASK 831
49-15000	AIMS-2, CMCF LDI 3114-BCG-00W-16; APU De-ice valve Solenoid circuit is failed shorted. AIMS-1, CPM/Comm OPS S/W 3166-HNP-002-11; AIMS-2, CMCF LDI 3111-BCG-00W-13; AIMS-2, CMCF LDI 3116-BCG-00W-14; AIMS-2, CMCF LDI 3117-BCG-00W-15; APU De-ice valve solenoid circuit is failed shorted.	49-98 TASK 801
49-15010	AIMS-2, CMCF LDI 3114-BCG-00W-16; APU De-ice valve Solenoid circuit is failed open. AIMS-1, CPM/Comm OPS S/W 3166-HNP-002-11; AIMS-2, CMCF LDI 3111-BCG-00W-13; AIMS-2, CMCF LDI 3116-BCG-00W-14; AIMS-2, CMCF LDI 3117-BCG-00W-15; APU De-ice valve solenoid circuit is failed open.	49-98 TASK 801
49-15020	APU Controller (APUC) De-ice valve solenoid driver circuit is failed off.	49-98 TASK 801
49-15030	APU Controller (APUC) De-ice valve solenoid driver circuit is failed on.	49-98 TASK 801
49-17003*	Relay (APU INLET DOOR CONTROL) in P310 is not in commanded position.	49-10 TASK 832
49-17004*	Relay (APU EXTERNAL SHUTDOWN) in P310 is not in commanded position.	49-10 TASK 833
49-18801*	APU Controller (APUC) has no output on any bus.	49-60 TASK 818
49-18840*	APU Controller (APUC) has no output on System ARINC 629 Bus (left).	49-65 TASK 801
49-18860*	APU Controller (APUC) has no output on System ARINC 629 Bus (right).	49-65 TASK 802
49-19414*	APU Controller (APUC) has no input from ELMS P310 Electronics Unit on System ARINC 629 Bus (left).	49-65 TASK 827
49-19613*	APU Controller (APUC) has no input from ELMS P310 Electronics Unit on System ARINC 629 Bus (right).	49-65 TASK 828

*If the MAT shows LATCHED for the correlated EICAS message, then you must erase the EICAS message after you complete the FIM task.

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MAINT MESSAGE	MESSAGE TEXT	GO TO FIM TASK
49-19614*	APU Controller (APUC) has no input from ELMS P310 Electronics Unit on System ARINC 629 Bus (right).	49-65 TASK 828

*If the MAT shows LATCHED for the correlated EICAS message, then you must erase the EICAS message after you complete the FIM task.

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801. APU Inlet Door Closed Problems - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance messages: 49-07910, 49-07920.

B. Description

- (1) The APU inlet door did not open when commanded open or it closed while the APU is operating. This fault is detected by the APU controller.

C. Initial Evaluation

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

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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (2) Move the APU selector to the ON position. Then wait for 120 seconds.
- (a) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
- (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Move the APU selector to the OFF position.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Do a wiring check of the APU controller:
- (a) Disconnect the D65P connector from the E7 shelf.
- (b) Remove the APU controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
- (c) Measure the resistance between these pair of pins of connector DM49002AA at the E7 shelf and connector D65J at the E7 shelf (WDM 49-15-11).

DM49002AA	D65J	
pin D9	pin 41	<50 ohms

- (d) If the resistance is >50 ohms, then do these steps:

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- 1) Repair the wiring.
- 2) 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 3) Do the Repair Confirmation procedure at the end of this task.
 - a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - b) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (e) If the resistance is <50 ohms, then continue.
- (4) Replace the APU controller.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (2) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— END OF TASK —————

805. APU Maintenance Switch Problems - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 23-43080.

B. Description

- (1) The APU maintenance switch is failed.

C. Initial Evaluation

- (1) Make sure the BATTERY switch is ON.
- (2) Move the APU maintenance switch to the TEST position.
 - (a) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.

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- (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Move the APU maintenance switch to the NORM position.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU maintenance switch (S1), M73002, on the APU/EEC maintenance panel, P61 (WDM 49-61-11).
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) 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>
D	6	C23603	OPAS 1
G	20	C23602	OPAS 2

- (5) Do a wiring check between these pins of connector DM73002A at the (S1) APU maintenance switch M73002 (P61) and connector DM23217N at the overhead card file - right, M23217 (P61) (SSM 49-61-11), (WDM 49-61-11).

APU MAINT. SWITCH DM73002A

pin 7	.....	pin A10
pin 8	.....	pin A11
pin 6	.....	pin A9

OVERHEAD CARD FILE DM23217N

- (a) If you find a problem with the wiring, do this step:
 - 1) Repair the wiring.
- (b) 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>
D	6	C23603	OPAS 1
G	20	C23602	OPAS 2

- (c) Do the Repair Confirmation procedure at the end of this task.

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- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Replace the overhead card, M23217.

These are the tasks:

Overhead Panel Interface Card (OPIC) Removal, AMM TASK 23-93-02-000-801,
Overhead Panel Interface Card (OPIC) Installation, AMM TASK 23-93-02-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the BATTERY switch is ON.
- (2) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (3) Set the APU maintenance switch on the P61 panel to TEST and wait for 120 seconds.
- (4) Move the APU maintenance switch to the NORM position.
- (5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

————— END OF TASK —————

806. APU Selector Problems - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 23-43090.

B. Description

- (1) The APU selector is failed.

C. Initial Evaluation

- (1) Make sure the APU selector on the P5 panel is in the OFF position.
- (2) Set the APU selector to ON. Then wait for 120 seconds.
- (3) Hold the APU selector to START and wait 120 seconds.
- (4) Move the APU selector to the OFF position.
 - (a) If the MAT shows ACTIVE or LATCHED for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.

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- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU selector (S1), M24023, on the electrical control panel P5 (WDM 49-61-11).
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) 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>
D	6	C23603	OPAS 1
G	20	C23602	OPAS 2

- (5) Do a wiring check between these pins of connector DM24023B at the (S1) APU selector M24023 (P5) and connector DM23217G at the overhead card file - right, M23217 (P61) (SSM 49-61-11), (WDM 49-61-11).

APU SELECTOR DM24023B	OVERHEAD CARD FILE DM23217G
pin 31	pin B20
pin 32	pin B17
pin 33	pin B18
pin 30	pin B19

- (a) If you find a problem with the wiring, do this step:
 - 1) Repair the wiring.
- (b) 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>
D	6	C23603	OPAS 1
G	20	C23602	OPAS 2

- (c) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Replace the overhead card, M23217.

These are the tasks:

Overhead Panel Interface Card (OPIC) Removal, AMM TASK 23-93-02-000-801,
Overhead Panel Interface Card (OPIC) Installation, AMM TASK 23-93-02-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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E. Repair Confirmation

- (1) Make sure the APU selector on the P5 panel is in the OFF position.
- (2) Set the APU selector to ON. Then wait for 120 seconds.
- (3) Hold the APU selector to START and wait 120 seconds.
- (4) Move the APU selector to the OFF position.
- (5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

————— END OF TASK —————

807. APU Fire Switch Problems - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-07980.

B. Description

- (1) The APU fire switch did not indicate fire with the fire switch in the FIRE position.

C. Initial Evaluation

- (1) Do this task: APU Fire Switch Shutdown Test (Flight Compartment), AMM TASK 49-11-00-700-802.
 - (a) Wait for 120 seconds.
 - (b) If the MAT shows ACTIVE or LATCHED for the maintenance message, then do the Fault Isolation Procedure.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Remove the APU fire switch, S26401, on the P5 overhead panel. To remove it, do this task: APU Fire Switch Removal, AMM TASK 26-22-03-000-801.
 - (a) Make sure the APU fire switch is in the FIRE position.
 - (b) Measure the resistance between these pairs of pins of the connector DS26401 on the APU fire switch, S26401 (WDM 49-61-11).
 - 1) Pin 3 and pin 11, specified resistance <50 ohms.
 - (c) Put the APU fire switch in the normal position.
 - (d) Measure the resistance between these pairs of pins of the DS26401 connector receptacle on the APU fire switch, S26401 (WDM 49-61-11).
 - 1) Pin 3 and 11, specified resistance >100K ohms.
 - (e) If the resistance is not in the range specified, then do these steps:

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- 1) Replace the APU fire switch, S26401.
These are the tasks:
APU Fire Switch Removal, AMM TASK 26-22-03-000-801,
APU Fire Switch Installation, AMM TASK 26-22-03-400-801.
- 2) Do the Repair Confirmation procedure at the end of this task.
- 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) If the resistance is <50 ohms, then continue.
- (4) Do this check of the wiring:
 - (a) Remove the APU fire switch, S26401. To remove it, do this task: APU Fire Switch Removal, AMM TASK 26-22-03-000-801.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Do a wiring check between these pins of connector DM49002AA at the APU controller, M49002, and connector DS26401 at the APU fire switch, S26401 (P5) (WDM 49-61-11).

APU CONTROLLER DM49002AA	APU FIRE SWITCH DS26401
pin D6	pin 11
structure	pin 3
ground	ground

 - (d) If you find a problem with the wiring, do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the APU fire switch, S26401. To install it, do this task: APU Fire Switch Installation, AMM TASK 26-22-03-400-801.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (e) If you did not find a problem with the wiring, then continue.
- (5) Open these circuit breakers and install safety tags:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
D	6	C23603	OPAS 1
G	20	C23602	OPAS 2

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- (6) Do a wiring check between these pins of connector DS26401 at the APU fire switch, S26401 (P5), and DM23117K at the overhead cardfile left (P61), M23117 (SSM 26-20-12), (WDM 26-20-12).

APU FIRE SWITCH S26401		OVERHEAD CARD DM23117K	
pin 15	.....	pin B6	
pin 4	.....	pin B5	

- (a) If you find a problem with the wiring, do these steps:
- (b) Repair the wiring.
- (c) Remove the safety tags and close these circuit breakers:

Overhead Circuit Breaker Panel, P11

Row	Col	Number	Name
D	6	C23603	OPAS 1
G	20	C23602	OPAS 2

- (d) Do the Repair Confirmation procedure at the end of this task.
- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (7) Replace the APU controller, M49002.
- These are the tasks:
- APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (8) Replace the overhead card, M23117.

These are the tasks:

Overhead Panel Interface Card (OPIC) Removal, AMM TASK 23-93-02-000-801,
Overhead Panel Interface Card (OPIC) Installation, AMM TASK 23-93-02-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Do this task: APU Fire Switch Shutdown Test (Flight Compartment), AMM TASK 49-11-00-700-802.
- (a) Wait for 120 seconds.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

————— END OF TASK —————

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808. Smoke or Fumes Enter the Cabin - Fault Isolation

A. Description

- (1) Smoke or fumes came into the airplane cabin when the APU was the pneumatic supply to the environmental control system.
 - (a) The purpose of this task is to isolate the source of the smoke or fumes in the airplane cabin to the APU.

B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Inspect the fuselage exterior near the APU inlet door, and the inside of the APU inlet duct for signs that fluid went into the APU inlet.
 - (a) If fluid went into the APU inlet, find the cause of the fluid and repair as necessary.
 - 1) If hydraulic fluid went into the APU inlet, examine and clean the inlet and pneumatic ducts;
 - a) Do this task: Titanium Parts in Fire-Resistant Hydraulic Fluid Contamination Areas, AMM TASK 05-51-22-210-801.
 - b) Do this task: Air Supply Duct Cleaning, AMM TASK 36-12-04-100-801.
 - 2) Clear any contamination from the air supply system.
 - a) Do this task: Oil Contamination Removal from Air Conditioning and Pneumatic Systems, AMM TASK 21-00-01-100-801.
 - 3) If smoke or fumes continue to enter the airplane cabin, do these steps:
 - a) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.
 - b) Replace the APU. To replace the APU,
These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
 - (b) If no fluid went into the APU inlet, then do these steps:
 - 1) Inspect the APU load compressor for evidence of oil.

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- a) Do this task: APU Engine Inspection, AMM TASK 49-21-00-200-801.
NOTE: Get access to the APU load compressor through the IGV actuator. You loosen the nut on the cover plate and move the cover plate until you get access to the captive bolt. Use a socket wrench on the captive bolt and push the clevis assembly toward the IGV actuator. This action will open the IGV vanes manually. Remove the socket wrench and put the borescope through the IGV vanes to inspect the APU load compressor.
- 2) If oil is found in the APU load compressor, do the steps that follow:
 - a) These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
 - b) Do this task: Titanium Parts in Fire-Resistant Hydraulic Fluid Contamination Areas, AMM TASK 05-51-22-210-801.
 - c) Do this task: Air Supply Duct Cleaning, AMM TASK 36-12-04-100-801.
 - d) Do this task: Oil Contamination Removal from Air Conditioning and Pneumatic Systems, AMM TASK 21-00-01-100-801.
- 3) If oil is not found in the APU load compressor, do these steps:
 - a) Inspect the APU load compressor pneumatic duct output at the APU check valve for signs of oil contamination. Remove and re-install the APU check valve.
These are the tasks:
APU Check Valve Removal, AMM TASK 49-52-03-000-801,
APU Check Valve Installation, AMM TASK 49-52-03-400-801.
 - b) If oil contamination is found at the APU check valve, replace the APU.
These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
 - c) Inspect the load compressor oil seal buffer air supply tube for evidence of blockage. To inspect it, do this task: Buffer Air Supply Tube Check, AMM TASK 49-52-04-000-801.
 - d) Remove the load compressor drain tube. See figure 601 ((AMM PAGEBLOCK 49-16-00/601).
 - e) Examine the tube and mating fittings on the APU for blockage.
 - f) Clean the tube and fittings as necessary.
 - g) Install the load compressor drain tube.

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- h) Inspect the engine compressor case for cracks or holes and examine the engine insulation blanket for signs of air leakage or black soot material around the cracks or holes.
- i) If you find cracks or holes on the engine compressor case, replace the APU.
These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
- 4) If no blockage is found in the buffer air supply tube or load compressor drain tube, then the APU is not the source of smoke or fumes in the airplane cabin.
- 5) If blockage is found, do the steps that follow:
 - a) Do this task: Titanium Parts in Fire-Resistant Hydraulic Fluid Contamination Areas, AMM TASK 05-51-22-210-801.
 - b) Do this task: Air Supply Duct Cleaning, AMM TASK 36-12-04-100-801.
 - c) Do this task: Oil Contamination Removal from Air Conditioning and Pneumatic Systems, AMM TASK 21-00-01-100-801.

————— **END OF TASK** —————

810. APU Maintenance Switch Discrete and System 629 Disagree - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-07960.

B. Description

- (1) The discrete for the APU maintenance switch does not agree with the signals from the overhead panel bus controller (left) and the overhead bus controller (right).

C. Initial Evaluation

- (1) Make sure the BATTERY switch on the P5 panel is in the ON position.
- (2) Move the APU maintenance switch to the TEST position.
 - (a) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Move the APU maintenance switch to the NORM position.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.

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- (3) Replace the APU maintenance switch (S1), M73002, on the APU/EEC maintenance panel, P61 (WDM 49-61-11).
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Do this wiring check for the APU maintenance switch:
 - (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Remove the APU maintenance switch (WDM 49-61-11).
 - (c) Move the APU maintenance switch on the P61 panel to the TEST position.
 - (d) Measure the resistance between pin B4 and structure ground at the E7 shelf (WDM 49-61-11).
 - (e) If the resistance is >50 ohms, then do these steps:
 - 1) Repair the wiring.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
 - (f) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
 - (g) Measure the resistance between pin B4 and structure ground at the E7 shelf (WDM 49-61-11).
 - (h) If the resistance is <100K ohms, then do this step:
 - 1) Repair the wiring.
 - (i) 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>
D	6	C23603	OPAS 1
G	20	C23602	OPAS 2
 - (j) Do the Repair Confirmation procedure at the end of this task.

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- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the BATTERY switch on the P5 panel is in the ON position.
- (2) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (3) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (5) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

811. APUC Fault Light Circuit is Shorted - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11730.

B. Description

- (1) The APU fault light circuit has a short. This fault is detected by the APU controller.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Move the APU maintenance switch on the P61 overhead panel to the TEST position. Then wait for 120 seconds.

NOTE: If the fault light circuit is OK, then the fault light will flash one time.

- (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Move the APU maintenance switch to the NORM position.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU fault light on the P5 overhead panel (WDM 49-61-11).
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Do this wiring check for the APU fault light:

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- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
- (b) Remove the APU fault light (WDM 49-61-11).
- (c) Do a check for 5 VDC from pin K9 at the APU controller to structure ground (WDM 49-61-11).
- (d) If there is >5 VDC at pin K9, then do these steps:
 - 1) Repair the wiring.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Move the APU maintenance switch on the P61 overhead panel to the TEST position. Then wait for 120 seconds.

NOTE: If the fault light circuit is OK, then the fault light will flash one time.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

812. APUC Fault Light Circuit is Failed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance messages: 49-11740, 49-11750.

B. Description

- (1) The APU fault light circuit is failed. This fault is detected by the APU controller.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Move the APU maintenance switch on the P61 overhead panel to the TEST position. Then wait for 120 seconds.

NOTE: If the fault light circuit is OK, then the fault light will flash one time.

- (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.

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- (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Move the APU maintenance switch to the NORM position.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Do this wiring check for the APU fault light:
 - (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Remove the APU fault light from the P5 overhead panel (WDM 49-61-11).
 - (c) Measure the resistance between pin K9 and structure ground of the DM49002AB connector at the APU controller.
 - (d) If the resistance is <100K ohms, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is >100K ohms, then continue.
- (5) Replace APU fault light on the P5 overhead panel (WDM 49-61-11).
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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E. Repair Confirmation

- (1) Move the APU maintenance switch on the P61 overhead panel to the TEST position. Then wait for 120 seconds.
NOTE: If the fault light circuit is OK, then the fault light will flash one time.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Move the APU maintenance switch to the NORM position.

———— END OF TASK ————

813. APUC Generator OFF Light Circuit is Shorted - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11760.

B. Description

- (1) The APU generator OFF light circuit has a short. This fault is detected by the APU controller.

C. Initial Evaluation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) Do this task: Supply APU Generator Power, AMM TASK 24-22-00-860-803.
- (3) Do this task: Remove APU Generator Power, AMM TASK 24-22-00-860-809.
- (4) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.
 - (a) If the MAT shows ACTIVE or LATCHED for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Make sure the primary external power switch is ON.
- (4) Make sure the secondary external power switch is OFF.
- (5) Replace the APU generator switch, S2, in the P5 overhead panel (WDM 24-22-31).
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Do this wiring check for the APU generator off light:

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- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
- (b) Disconnect the DM24023C connector from the electrical panel, P5.
- (c) Do a wiring check between these pins of connector DM49002AB at the E-7 shelf and connector DM24023C at the P5 panel.

DM49002AB	DM24023C
pin H9	pin 59
pin H9	pin 61
pin H9	Structure
Ground	Ground

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Reconnect the D24023C connector.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (e) If you do not find a problem with the wiring, then continue.
- (7) Do this wiring check for the APU generator off light:
 - (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect the DM24023C connector from the electrical panel, P5.
 - (c) Do a check for 5 VDC from pin H9 of the DM49002AB connector at the E-7 shelf and structure ground (WDM 49-61-11).
 - (d) If there >5 VDC at pin H9, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Reconnect the D24023C connector.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (e) If there is not 5 VDC at pin H9, then continue.
- (8) Reconnect the DM24023C connector.
- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

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APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) Do this task: Supply APU Generator Power, AMM TASK 24-22-00-860-803.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

— END OF TASK —

814. APU Generator OFF Light Circuit is Failed Off - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11770.

B. Description

- (1) The OFF light circuit for the APU generator, on the P5 overhead panel, has a short. This fault is detected by the APU controller.

C. Initial Evaluation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) Do this task: Supply APU Generator Power, AMM TASK 24-22-00-860-803.
- (3) Do this task: Remove APU Generator Power, AMM TASK 24-22-00-860-809.
- (4) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.
 - (a) If the MAT shows ACTIVE or LATCHED for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Make sure the primary external power switch is ON.
- (4) Make sure the secondary external power switch is OFF.
- (5) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

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- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Replace APU generator switch (S2) on the P5 overhead panel (WDM 24-22-31).
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (7) Do this wiring check for the APU generator light:
 - (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect the DM24023C connector from the electrical panel, P5.
 - (c) Do a wiring check between these pins of connector DM24023C at the electrical panel, P5, M24023 and connector DM49002AB at the APU controller, M49002 (WDM 24-22-31).

DM49002AB	DM24023C
pin H9	pin 59
pin H9	pin 61
pin H9	Structure
Ground	Ground

- (d) If you find a problem with the wiring, do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Re-connect the DM24023C connector.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) Do this task: Supply APU Generator Power, AMM TASK 24-22-00-860-803.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— END OF TASK —————

815. Fire Shutdown Signal Caused APU Shutdown - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-07930.

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B. Description

- (1) The APU had an autosutdown because the APU controller received the fire signal from the fire detection card - APU, P85.
 - (a) This task has the steps to troubleshoot an incorrect fire indication from the fire detection card - APU, P85.

C. Initial Evaluation

- (1) Move the APU maintenance switch to the TEST position. Then wait 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (2) Move the APU maintenance switch to the NORM position.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the fire detection card - APU, P85.

These are the tasks:

APU Fire Control Card Removal, AMM TASK 26-15-03-000-801,
APU Fire Control Card Installation, AMM TASK 26-15-03-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.
- (5) Do this wiring check between the APU controller and the left integration panel, P105:
 - (a) Disconnect the D4854P connector from the left integration panel, P105.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.

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- (c) Measure the resistance between pin A1 and structure ground of the D4854P connector at the P105 panel (WDM 26-15-11).
- (d) If the resistance between pin A1 and structure ground is <50 ohms, then do these steps:
 - 1) Repair the wiring between the APU controller and the P105 panel.
 - 2) Re-connect the D4854P connector to the P105 panel.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (e) If the resistance between pin A1 and structure ground is >50 ohms, then continue.
- (6) Do this wiring check between the P105 panel and the current monitor card:
 - (a) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (b) Disconnect the D4854P connector from the P105 panel.
 - (c) Measure the resistance between pin A14 and structure ground of the D4854P connector at the P105 panel (WDM 26-15-11).

NOTE: Make sure the negative (-) lead of the ohm meter is on pin A14 and the positive lead (+) is on structure ground. There is a diode in the circuit.

- (d) If the resistance between pin A14 and structure ground is <50 ohms, then do these steps:
 - 1) Remove the current monitor card, M24520. To remove it, do this task: Current Monitor Card - Removal, AMM TASK 24-09-00-000-817-002.
 - 2) Measure the resistance between pin A14 and structure ground of the D4854P connector at the P105 panel (WDM 26-15-11).
 - NOTE:** Make sure the negative (-) lead of the ohm meter is on pin A14 and the positive lead (+) is on structure ground. There is a diode in the circuit.
 - 3) If the resistance between pin A14 and structure ground is <50 ohms, then do these steps:
 - a) Repair the wiring between the APU controller and the current monitor card, M24520, in the P310 panel.
 - b) Re-connect the D4854P connector to the P105 panel.
 - c) Re-install the current monitor card, M24520. To install it, do this task: Current Monitor Card - Installation, AMM TASK 24-09-00-400-813-002.
 - d) Do the Repair Confirmation procedure at the end of this task.
 - e) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the resistance between pin A14 and structure ground is >50 ohms, then do these steps:
 - a) Replace the current monitor card, M24520.
- These are the tasks:
Current Monitor Card - Removal, AMM TASK 24-09-00-000-817-002,
Current Monitor Card - Installation, AMM TASK 24-09-00-400-813-002.

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- b) Do the Repair Confirmation procedure at the end of this task.
 - c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (e) If the resistance between pin A14 and structure ground is >50 ohms, then continue.
- (7) Do this wiring check between the P105 panel and the left warning electronics unit, M31107:
 - (a) Re-connect the D4854P connector to the P105 panel.
 - (b) Disconnect the D4731P connector from the P105 panel.
 - (c) Measure the resistance between pin B2 and structure ground of the D4731P connector at the P105 panel (WDM 26-15-11).
 - (d) If the resistance between pin B2 and structure ground is <50 ohms, then do these steps:
 - 1) Remove the left warning electronics unit. To remove it, do this task: Warning Electronic Unit Removal, AMM TASK 31-51-01-000-801.
 - 2) Measure the resistance between pin B2 and structure ground of the D4731P connector at the P105 panel (WDM 26-15-11).
 - 3) If the resistance is <50 ohms, then do these steps:
 - a) Repair the wiring between the P105 panel and the left warning electronics unit.
 - b) Re-install the left warning electronics unit. To install it, do this task: Warning Electronic Unit Installation, AMM TASK 31-51-01-400-801.
 - c) Re-connect the D4731P connector to the P105 panel.
 - d) Do the Repair Confirmation procedure at the end of this task.
 - e) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the resistance is >50 ohms, then do these steps:
 - a) Replace the left warning electronics unit.
These are the tasks:
Warning Electronic Unit Removal, AMM TASK 31-51-01-000-801,
Warning Electronic Unit Installation, AMM TASK 31-51-01-400-801.
 - b) Do the Repair Confirmation procedure at the end of this task.
 - (e) If the resistance between pin B2 and structure ground is >50 ohms, then continue.
- (8) Do this wiring check between the P105 panel and the right warning electronics unit, M31107:
 - (a) Re-connect the D4731P connector to the P105 panel.
 - (b) Disconnect the D5728P connector from the P105 panel.
 - (c) Measure the resistance between pin A14 and structure ground of the D5728P connector at the P105 panel (WDM 26-15-11).
 - (d) If the resistance between pin A14 and structure ground is <50 ohms, then do these steps:
 - 1) Remove the right warning electronics unit. To remove it, do this task: Warning Electronic Unit Removal, AMM TASK 31-51-01-000-801.
 - 2) Measure the resistance between pin A14 and structure ground of the D5728P connector at the P105 panel (WDM 26-15-11).
 - 3) If the resistance is <50 ohms, then do these steps:
 - a) Repair the wiring between the P105 panel and the right warning electronics unit.

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- b) Re-install the right warning electronics unit. To install it, do this task: Warning Electronic Unit Installation, AMM TASK 31-51-01-400-801.
 - c) Re-connect the D5728P connector to the P105 panel.
 - d) Do the Repair Confirmation procedure at the end of this task.
 - e) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 4) If the resistance is >50 ohms, then do these steps:
- a) Replace the right warning electronics unit.
These are the tasks:
Warning Electronic Unit Removal, AMM TASK 31-51-01-000-801,
Warning Electronic Unit Installation, AMM TASK 31-51-01-400-801.
 - b) Do the Repair Confirmation procedure at the end of this task.
 - c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (9) Do this wiring check between the P105 panel and the left AIMS cabinet:
- (a) Re-connect the D5728P connector to the P105 panel.
 - (b) Disconnect the D4951P connector from the P105 panel.
 - (c) Measure the resistance between pin A1 and structure ground of the D4951P connector at the P105 panel (WDM 26-15-11).
 - (d) If the resistance between pin A1 and structure ground is <50 ohms, then do these steps:
 - 1) Remove the IOM(008) module from the left AIMS cabinet. To remove it, do this task: Input/Output Module (IOM) Removal, AMM TASK 31-41-11-000-801.
 - 2) Remove the IOM(009) module from the left AIMS cabinet. To remove it, do this task: Input/Output Module (IOM) Removal, AMM TASK 31-41-11-000-801.
 - 3) Measure the resistance between pin A1 and structure ground of the D4951P connector at the P105 panel.
 - 4) If the resistance is <50 ohms, then do these steps:
 - a) Repair the wiring between the APU controller and the left AIMS computer, M31101, in the E3-1 shelf.
 - b) Re-connect the D4951P connector to the P105 panel.
 - c) Re-install the IOM(009) module in the left AIMS cabinet. To install it, do this task: Input/Output Module (IOM) Installation, AMM TASK 31-41-11-400-801.
 - d) Re-install the IOM(008) module in the left AIMS cabinet. To install it, do this task: Input/Output Module (IOM) Installation, AMM TASK 31-41-11-400-801.
 - e) Do the Repair Confirmation procedure at the end of this task.
 - f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the resistance is >50 ohms, then continue.
NOTE: There is a short in one of the AIMS modules, IOM(008) or IOM(009).
 - 6) Remove the IOM(008) module from the left AIMS cabinet. To remove it, do this task: Input/Output Module (IOM) Removal, AMM TASK 31-41-11-000-801.



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- 7) Measure the resistance between pin A1 and structure ground of the D4951P connector at the P105 panel.
- 8) If the resistance is <50 ohms, then do these steps:
 - a) Replace the IOM(008) module.
These are the tasks:
Input/Output Module (IOM) Removal, AMM TASK 31-41-11-000-801,
Input/Output Module (IOM) Installation, AMM TASK 31-41-11-400-801.
 - b) Do the Repair Confirmation procedure at the end of this task.
 - c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 9) If the resistance is >50 ohms, then do these steps:
 - a) Replace the IOM(009) module.
These are the tasks:
Input/Output Module (IOM) Removal, AMM TASK 31-41-11-000-801,
Input/Output Module (IOM) Installation, AMM TASK 31-41-11-400-801.
 - b) Do the Repair Confirmation procedure at the end of this task.
 - c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (10) Do this wiring check between the P105 panel and the right AIMS cabinet:
 - (a) Re-connect the D4951P connector to the P105 panel.
 - (b) Disconnect the D5714P connector from the P105 panel.
 - (c) Measure the resistance between pin B7 and structure ground of the D5714P connector at the P105 panel (WDM 26-15-11).
 - (d) If the resistance between pin B7 and structure ground is <50 ohms, then do these steps:
 - 1) Remove the IOM(008) module from the right AIMS cabinet. To remove it, do this task: Input/Output Module (IOM) Removal, AMM TASK 31-41-11-000-801.
 - 2) Remove the IOM(009) module from the right AIMS cabinet. To remove it, do this task: Input/Output Module (IOM) Removal, AMM TASK 31-41-11-000-801.
 - 3) Measure the resistance between pin B7 and structure ground of the D5714P connector at the P105 panel.
 - 4) If the resistance is <50 ohms, then do these steps:
 - a) Repair the wiring between the APU controller and the right AIMS computer, M31201, in the E2-1 shelf.
 - b) Re-connect the D5714P connector to the P105 panel.
 - c) Re-install the IOM(009) module in the right AIMS cabinet. To install it, do this task: Input/Output Module (IOM) Installation, AMM TASK 31-41-11-400-801.
 - d) Re-install the IOM(008) module in the right AIMS cabinet. To install it, do this task: Input/Output Module (IOM) Installation, AMM TASK 31-41-11-400-801.
 - e) Do the Repair Confirmation procedure at the end of this task.
 - f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 5) If the resistance is >50 ohms, then continue.
NOTE: There is a short in one of the right AIMS modules, IOM(008) or IOM(009).
- 6) Remove the IOM(008) module from the right AIMS cabinet. To remove it, do this task: Input/Output Module (IOM) Removal, AMM TASK 31-41-11-000-801.
- 7) Measure the resistance between pin B7 and structure ground of the D4951P connector at the P105 panel.
- 8) If the resistance is <50 ohms, then do these steps:
 - a) Replace the IOM(008) module.
These are the tasks:
Input/Output Module (IOM) Removal, AMM TASK 31-41-11-000-801,
Input/Output Module (IOM) Installation, AMM TASK 31-41-11-400-801.
 - b) Do the Repair Confirmation procedure at the end of this task.
 - c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 9) If the resistance is >50 ohms, then do these steps:
 - a) Replace the IOM(009) module.
These are the tasks:
Input/Output Module (IOM) Removal, AMM TASK 31-41-11-000-801,
Input/Output Module (IOM) Installation, AMM TASK 31-41-11-400-801.
 - b) Do the Repair Confirmation procedure at the end of this task.
 - c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (e) If the resistance between pin B7 and structure ground is >50 ohms, then continue.
- (11) Do this wiring check between the P105 panel and the APU fire detection card, P85:
 - (a) Disconnect the D4909P connector from the P105 panel.
 - (b) Remove the APU fire detection card, P85.
 - (c) Measure the resistance between pin A16 and structure ground at the D4909P connector at the P105 panel (WDM 26-15-11).
 - (d) If the resistance is <50 ohms, then do these steps:
 - 1) Repair the wiring between the P105 panel and the APU fire detection card, P85.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (e) If the resistance is >50 ohms, then repair the wiring in the left integration panel, P105 (WDM 26-15-11).

E. Repair Confirmation

- (1) Do the test for the fire detection system:
 - (a) Move the APU maintenance switch on the P61 overhead panel to the TEST position.

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DO NOT PUSH THE FIRE/OVHT SWITCH FOR MORE THAN 30 SECONDS. IF YOU PUSH THE FIRE/OVHT SWITCH FOR MORE THAN 30 SECONDS, EICAS MESSAGES THAT ARE NOT NECESSARY CAN SHOW.

- (b) Push and hold the FIRE/OVHT switch on the P5 overhead panel.
- (c) These lights will come on:
 - 1) APU fire switch on the P5 panel.
 - 2) MASTER WARNING light on the glare shield panel, P7.
- (d) The TEST IN PROGRESS message will show on EICAS.
- (e) The fire alarm in the control cabin will come on.
- (f) The fire alarm on the service and APU remote shutdown panel, P40, will come on.
- (g) After 5 seconds, the TEST PASSED (or TEST FAILED) message will show on EICAS.
- (h) Release the FIRE/OVHT test switch.
- (i) The fire alarms will go off.
- (j) These lights will go off:
 - 1) The fire switch on the P5 panel.
 - 2) The MASTER WARNING on the P7 panel.
- (k) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (l) Move the APU maintenance switch to the NORM position.

————— **END OF TASK** —————

817. APU Battery Voltage is Low - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12060.

B. Description

- (1) The APU battery voltage was less than 10 VDC for 10 seconds.

C. Initial Evaluation

- (1) Make sure the BATTERY switch is ON.
- (2) Move the APU maintenance switch to the TEST position.
 - (a) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Move the APU maintenance switch to the NORM position.

D. Fault Isolation Procedure

- (1) Look at the Extended Maintenance, Existing Faults display on the MAT.
 - (a) Look for maintenance message related to the APU battery or the APU battery charger (ATA 24).
 - (b) If a maintenance message related to the APU battery or the APU battery charger shows, then do these steps:

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- 1) Find the message in the applicable FIM Maintenance Message Index.
 - 2) Do the specified task for maintenance message.
 - 3) If the task for the maintenance message did not fix this APU battery low voltage problem, then continue.
- (c) If no maintenance messages related to the APU battery or the APU battery charger show, then continue.



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (2) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (3) Make sure the APU selector is in the OFF position.
- (4) Replace the APU battery.

These are the tasks:

APU Battery Removal, AMM TASK 24-31-05-000-801,

APU Battery Installation, AMM TASK 24-31-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Do this check of the airplane wire harness:
 - (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Do a wiring check between these pins of connector DM49002AB at the APU controller and the terminal for the APUC 2 circuit breaker (WDM 49-61-11).

DM49002AB

APUC 2

pin 112 term 2

- (c) If you find a problem with the wiring, do this step:
 - 1) Repair the wiring.

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- 2) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (d) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

E. Repair Confirmation

- (1) Make sure the BATTERY switch is ON.
- (2) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (3) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (5) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

818. 28 VDC Bat Bus Voltage is Low - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12070.

B. Description

- (1) The battery bus voltage was less than 10 VDC for 10 seconds.

C. Initial Evaluation

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

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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (2) Make sure the BATTERY switch is ON.
- (3) Move the APU maintenance switch on the P61 overhead panel to the TEST position and wait for 120 seconds.
 - (a) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (4) Move the APU maintenance switch to the NORM position.

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D. Fault Isolation Procedure

- (1) Look at the Extended Maintenance, Existing Faults display on the MAT.
 - (a) Look for maintenance message related to these systems.
 - 1) Main Battery (ATA 24)
 - 2) Main Battery Charger (ATA 24)
 - 3) 28 VDC Battery Bus (ATA 24)
 - (b) If a maintenance message related to the above systems show, then do these steps:
 - 1) Find the message in the applicable FIM Maintenance Message Index.
 - 2) Do the specified task for maintenance message.
 - 3) If the task for the maintenance message did not fix this battery bus low voltage problem, then continue.
 - (c) If no maintenance messages related to the above systems show, then continue.



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (2) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (3) Make sure the APU selector is in the OFF position.
- (4) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Do this check of the airplane wire harness:
 - (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Do a wiring check between these pins of connector DM49002AB at the APU controller and the terminal for the APUC 1 circuit breaker (WDM 49-61-11).

DM49002AB

APUC 1

pin 111 term 2

- (c) If you find a problem with the wiring, do this step:
 - 1) Repair the wiring.
 - 2) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (d) Do the Repair Confirmation procedure at the end of this task.

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- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

E. Repair Confirmation

- (1) Make sure the BATTERY switch is ON.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

819. Fire Overheat Test Switch Problems - Fault Isolation

A. Description

- (1) The APU controller did not receive the fire shutdown discrete during the FIRE/OVHT test.

B. Initial Evaluation

- (1) Move the APU selector on the P5 overhead panel to the ON position.



CAUTION

DO NOT HOLD THE FIRE/OVHT TEST SWITCH FOR MORE THAN 30 SECONDS. IF YOU HOLD THE FIRE/OVHT TEST SWITCH FOR MORE THAN 30 SECONDS, EICAS MESSAGES THAT ARE NOT NECESSARY CAN SHOW.

- (a) Push and hold the FIRE/OVHT TEST switch on the P5 overhead panel.
NOTE: The fire alarm will come on.
 - (b) After 5 seconds, release the FIRE/OVHT test switch.
 - (c) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (d) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (2) Move the APU selector to the OFF position.

C. Fault Isolation Procedure



CAUTION

MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Look at the Extended Maintenance, Existing Faults display on the MAT.
 - (a) Look for maintenance messages related to these systems:
 - 1) FIRE/OVHT TEST switch (ATA 26)

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- 2) A9 Fire Card - APU (ATA 26)
- (b) If a maintenance message related to the above systems show, then do these steps:
 - 1) Find the message in the applicable FIM Maintenance Message Index.
 - 2) Do the specified task for the maintenance message.
 - 3) If the task for the maintenance message does not fix this FIRE/OVHT TEST switch problem, then continue.
- (c) If no maintenance messages related to the systems above show, then continue.
- (4) Replace the APU fire detection card A9.

These are the tasks:
APU Fire Control Card Removal, AMM TASK 26-15-03-000-801,
APU Fire Control Card Installation, AMM TASK 26-15-03-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Do this check of the wiring:
 - (a) Disconnect the DP8509 connector from the P85 panel.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Do a wiring check between these pins of connector DM49002AA at the APU controller, M49002, and connector DP8509 at the P85 systems cardfile panel (WDM 26-15-11).

APU CONTROLLER DM49002AA	P85 PANEL DP8509
pin C10	pin 1

- (d) If you find a problem with the wiring, do these steps:
 - 1) Repair the wiring.
 - 2) Reconnect the DP8509 connector to the P85 panel.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (e) If you did not find a problem with the wiring, then continue.
- (6) Replace the APU controller, M49002.

These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

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49-10 TASK 819

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- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Move the APU selector on the P5 overhead panel to the ON position.



CAUTION

DO NOT HOLD THE FIRE/OVHT TEST SWITCH FOR MORE THAN 30 SECONDS. IF YOU HOLD THE FIRE/OVHT TEST SWITCH FOR MORE THAN 30 SECONDS, EICAS MESSAGES THAT ARE NOT NECESSARY CAN SHOW.

- (a) Push and hold the FIRE/OVHT TEST switch on the P5 overhead panel.

NOTE: The fire alarm will come on.
 - (b) After 5 seconds, release the FIRE/OVHT test switch.
 - (c) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (d) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (2) Move the APU selector to the OFF position.

————— END OF TASK —————

820. APU has Excessive Vibration - Fault Isolation

A. Description

- (1) The airplane floor has a high frequency vibration that you can feel when the APU is operating.

B. Fault Isolation Procedure



CAUTION

MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Do this task: Magnetic Chip Collector Inspection, AMM TASK 49-27-04-200-801.
 - (a) If the chip collector for the APU generator indicates that there is internal generator damage, then do these steps:
 - 1) Replace the APU generator.

These are the tasks:
APU Generator Removal, AMM TASK 24-21-01-000-801,
APU Generator Installation, AMM TASK 24-21-01-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (b) If the chip collectors for the APU indicate that there is internal APU damage, then do these steps:
 - 1) Replace the APU.

These are the tasks:

Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,

Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Examine the APU supports and vibration isolators for damage.
 - (a) If the APU supports or vibration isolators have damage, then do the applicable task:
 - These are the tasks:

APU Forward Support Removal, AMM TASK 49-13-01-000-801,

APU Forward Support Installation, AMM TASK 49-13-01-400-801.
 - These are the tasks:

Forward Vibration Isolator Removal, AMM TASK 49-13-01-000-802,

Forward Vibration Isolator Installation, AMM TASK 49-13-01-400-802.
 - These are the tasks:

APU Aft Support Removal, AMM TASK 49-13-02-000-801,

APU Aft Support Installation, AMM TASK 49-13-02-400-801.
 - These are the tasks:

APU Aft Vibration Isolator Removal, AMM TASK 49-13-02-000-802,

APU Aft Vibration Isolator Installation, AMM TASK 49-13-02-400-802.
 - These are the tasks:

Aft Mount Yoke Removal, AMM TASK 49-13-03-000-801,

Aft Mount Yoke Installation, AMM TASK 49-13-03-400-801.
 - 1) Do the Repair Confirmation procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (b) If the APU supports are OK, then continue.
- (5) Make sure the APU can turn freely:
 - (a) Remove the end cap from the electric starter motor.

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- (b) Use a socket and a ratchet on the shaft for the electric starter motor to turn the APU.
 - 1) Turn the socket counterclockwise, forward facing aft.
- (c) If the APU does not turn freely, then do these steps:
 - 1) Replace the APU.

These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (d) If the APU turns freely, then continue.
- (6) Replace the APU generator.

These are the tasks:
APU Generator Removal, AMM TASK 24-21-01-000-801,
APU Generator Installation, AMM TASK 24-21-01-400-801.

 - (a) Remove the filter element for the generator scavenge oil. To remove it, do this task: Generator Scavenge Oil Filter Element Removal, AMM TASK 49-27-03-000-802.
 - (b) If the filter element has unwanted material, then, do this task: Flush the APU Oil, AMM TASK 12-22-05-610-802.
 - (c) Install a new filter element. To install it, do this task: Generator Scavenge Oil Filter Element Installation, AMM TASK 49-27-03-400-802.
 - (d) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (7) Replace the APU.

These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

————— END OF TASK —————

821. EICAS Messages APU or APU SHUTDOWN - Fault Isolation

A. Description

- (1) The EICAS messages APU (Status) or APU SHUTDOWN (Advisory) show. It is possible that the APU status message will show with no correlated maintenance message on the MAT.
 - (a) The MAT may not display these messages due to timing between the APU controller (APUC) providing the fault to the Aircraft Information Management System (AIMS) and the de-powering of the APUC during normal shutdown.

B. Initial Evaluation

NOTE: AIMS can latch the APU EICAS message when it occurs. After you find the cause of the fault and correct it, it is possible that the EICAS message will continue to show.

- (1) If the MAT does not show a correlated maintenance message for this EICAS message, then do one or both of the following methods to display maintenance messages which may be correlated but not displayed:
 - (a) APUC TEST Mode Method:
 - 1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - 2) Let the APU operate for a minimum of 5 minutes.
 - 3) Place the APU MAINT test switch on the APU/EEC panel P61 in the flight deck to the TEST position.
 - 4) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

NOTE: Leave the APU MAINT test switch in the TEST position for at least 2 minutes after the APU speed reaches zero.
 - (b) Shop Fault Retrieval Method:
 - 1) Do this task: How to Find Shop Faults Data, AMM TASK 45-10-00-740-807.
 - 2) Look for Shop Faults which correspond to the date and time of the APU EICAS message as shown on the MAT.
 - 3) Do the specified Fault Isolation procedure for each maintenance message which corresponds to the shop fault numbers found (Table 201).

Table 201/49-10-00-993-801 Shop Fault Number to Maintenance Message Conversion

Fault Number	Maintenance Message
70	49-12070
139	49-08000
221	49-07990
254	49-07990
199	49-07980
198	49-07970
137	49-07950
133	49-07940

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Table 201/49-10-00-993-801 Shop Fault Number to Maintenance Message Conversion (Continued)

Fault Number	Maintenance Message
122	49-07920
121	49-07910

- (c) If the MAT still does not show a correlated maintenance message for this EICAS message, then do the Fault Isolation Procedure below.
- (2) If the MAT shows a correlated maintenance message for this EICAS message, then do these steps:
- Do not erase the EICAS message until you complete the task for the maintenance message.
 - Make sure that you have the correlated maintenance message number that shows on the MAT with the EICAS message.
 - Go back to the FIM Fault Code Index and find the fault code for the EICAS message.
 - Find the correlated maintenance message number and the task number to the right of the fault code.
 - Go to the specified task in the FIM and do the steps in the task.
 - After you do the actions in the task to correct the fault, do these steps:
 - Look at the MAT for the EICAS message.
 - If the MAT shows LATCHED for the EICAS message, then you must erase it from the EICAS status display. To erase it, do this task: Erasing a EICAS Status Message Latched by AIMS, AMM TASK 31-61-00-800-802.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- Make sure the APU selector is in the OFF position.
- Do these wiring checks:
 - Do a wiring check between these pins of connector DS26401 at the APU fire switch, S26401 (P5), and connector DM49002AA at the APU controller (SSM 26-20-12), (WDM 26-20-12).

**APU FIRE
SWITCH S26401**
pin 11

**APU
CONTROLLER
DM49002AA**
pin D6

- Do a wiring check between these pins of connector DK28322 at the APU fuel shutoff valve remote control relay, K28322 (P101), and connector DM49002AA at the APU controller (SSM 26-20-12), (WDM 26-20-12).

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RLY-APU FUEL
S/O VLV CTRL
S26401

pin A1

APU
CONTROLLER
DM49002AA

pin D6

- 1) If you find a problem with the wiring, do these steps:
- 2) Repair the wiring.
- 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>
D	6	C23603	OPAS 1
G	20	C23602	OPAS 2

- 4) If the EICAS message does not show, you corrected the fault.

————— **END OF TASK** —————

822. EICAS Message APU CONTROL - Fault Isolation

A. Description

- (1) The EICAS message APU CONTROL (Status) shows. It is possible that the EICAS message will show with no correlated maintenance message on the MAT.
 - (a) The MAT may not display these messages due to timing between the APU controller (APUC) providing the fault to the Aircraft Information Management System (AIMS) and the de-powering of the APUC during normal shutdown.

B. Initial Evaluation

NOTE: AIMS can latch this EICAS message when it occurs. After you find the cause of the fault and correct it, it is possible that the EICAS message will continue to show.

- (1) If the MAT does not show a correlated maintenance message for this EICAS message, then do one or both of the following methods to display maintenance messages which may be correlated but not displayed:
 - (a) APUC TEST Mode Method:
 - 1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - 2) Let the APU operate for a minimum of 5 minutes.
 - 3) Place the APU MAINT test switch on the APU/EEC panel P61 in the flight deck to the TEST position.
 - 4) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

NOTE: Leave the APU MAINT test switch in the TEST position for at least 2 minutes after the APU speed reaches zero.
 - (b) Shop Fault Retrieval Method:
 - 1) Do this task: How to Find Shop Faults Data, AMM TASK 45-10-00-740-807.
 - 2) Look for Shop Faults which correspond to the date and time of the APU EICAS message as shown on the MAT.
 - 3) Do the specified Fault Isolation procedure for each maintenance message which corresponds to the shop fault numbers found (Table 202).

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Table 202/49-10-00-993-802 Shop Fault Number to Maintenance Message Conversion

Fault Number	Maintenance Message
70	49-12070
139	49-08000
221	49-07990
254	49-07990
199	49-07980
198	49-07970
137	49-07950
133	49-07940
122	49-07920
121	49-07910

- (c) If the MAT still does not show a correlated maintenance message for this EICAS message, then do the Fault Isolation Procedure below.
- (2) If the MAT shows a correlated maintenance message for this EICAS message, then do these steps:
 - (a) Do not erase the EICAS message until you complete the task for the maintenance message.
 - (b) Make sure that you have the correlated maintenance message number that shows on the MAT with the EICAS message.
 - (c) Go back to the FIM Fault Code Index and find the fault code for the EICAS message.
 - (d) Find the correlated maintenance message number and the task number to the right of the fault code.
 - (e) Go to the specified task in the FIM and do the steps in the task.
 - (f) After you do the actions in the task to correct the fault, do these steps:
 - 1) Look at the MAT for the EICAS message.
 - 2) If the MAT shows LATCHED for the EICAS message, then you must erase it from the EICAS status display. To erase it, do this task: Erasing a EICAS Status Message Latched by AIMS, AMM TASK 31-61-00-800-802.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Do this check for related maintenance messages:
 - (a) Select the Existing Faults display on the MAT.
 - (b) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.

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- (c) Run the APU for a minimum of 2 minutes.
- (d) Look at the Existing Faults display on the MAT for these maintenance messages:
 - 1) 49-07990
 - 2) 49-10450
 - 3) 49-10460
 - 4) 49-10680
 - 5) 49-10690
- (e) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.
- (f) If the MAT shows ACTIVE or LATCHED for one of the maintenance messages specified above, then do these steps:
 - 1) Find the maintenance message in the applicable FIM Maintenance Message Index.
 - 2) Do the specified Fault Isolation Procedure for each maintenance message that shows.
- (g) If the MAT shows NOT ACTIVE for the maintenance messages specified above (or if the messages do not show), then continue.
- (h) Move the APU maintenance switch to the NORM position.
- (4) Look at the 49-MAINT MSG INDEX in the FIM.
 - (a) Do the FIM task for maintenance message 49-12060.

————— END OF TASK —————

823. EICAS Message APU COOLDOWN - Fault Isolation

A. Initial Evaluation

NOTE: This message shows after the APU has been running and you set the APU switch to OFF.
No maintenance action is necessary.

————— END OF TASK —————

824. EICAS Message APU RUNNING - Fault Isolation

A. Initial Evaluation

NOTE: This message shows when APU is running. No maintenance action is necessary.

————— END OF TASK —————

825. APU Fire Handle/Remote Shutdown Problems - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-08000.

B. Description

- (1) The APU fire handle/remote shutdown discrete caused an APU autosutdown.

C. Initial Evaluation

- (1) Push the Fire Handle on the P5 panel to the normal position.
- (2) Push the FIRE/OVERHEAT test switch on the P5 panel for 5 seconds.
- (3) Move the APU Maintenance switch on the P61 panel to the TEST position. Then wait 120 seconds.

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- (a) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault, or the Fire Handle on the P5 panel was pulled, or the APU STOP switch on the P40 panel was pushed.
- (b) If the MAT shows ACTIVE or LATCHED for the maintenance message, then do the Fault Isolation Procedure.
- (4) Move the APU Maintenance Switch on the P61 panel to the NORM position.

D. Fault Isolation Procedure



CAUTION

MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Do a wiring check between these pins of connector DM49002AA at the APU controller, M49002, and connector DK28322 at the APU remote shutdown relay, K28322 (P101) (WDM 49-61-11).

**APU
CONTROLLER
DM49002AA**

pin D6

**APU REMOTE
SHUTDOWN
RELAY DK28322**

pin A1

- (a) If you find a problem with the wiring, do these steps:
 - (b) Repair the wiring.
 - (c) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (d) Replace the APU remote shutdown relay, K28322 in the P101 Distribution Integration Panel- Door 1 (WDM 28-25-11).
 - 1) Do the Repair Confirmation procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Do this check of the wiring:
 - (a) Remove the APU fire switch, S26401. To remove it, do this task: APU Fire Switch Removal, AMM TASK 26-22-03-000-801.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Do a wiring check between these pins of connector DM49002AA at the APU controller, M49002, and connector DS26401 at the APU fire switch, S26401 (P5) (WDM 49-61-11).

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APU CONTROLLER DM49002AA	APU FIRE SWITCH DS26401
pin D6	pin 11
structure	pin 3
ground	ground

- (d) If you find a problem with the wiring, do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the APU fire switch, S26401. To install it, do this task: APU Fire Switch Installation, AMM TASK 26-22-03-400-801.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (e) If you did not find a problem with the wiring, then continue.
- (5) Remove the APU fire switch, S26401, on the P5 overhead panel. To remove it, do this task: APU Fire Switch Removal, AMM TASK 26-22-03-000-801.
 - (a) Make sure the APU fire switch is in the FIRE position.
 - (b) Measure the resistance between these pairs of pins of the connector DS26401 on the APU fire switch, S26401 (WDM 49-61-11).
 - 1) Pin 3 and pin 11, specified resistance <50 ohms.
 - (c) Put the APU fire switch in the normal position.
 - (d) Measure the resistance between these pairs of pins of the DS26401 connector receptacle on the APU fire switch, S26401 (WDM 49-61-11).
 - 1) Pin 3 and pin 11, specified resistance >100K ohms.
 - (e) If the resistance is not in the range specified, then do these steps:
 - 1) Replace the APU fire switch, S26401.
These are the tasks:
APU Fire Switch Removal, AMM TASK 26-22-03-000-801,
APU Fire Switch Installation, AMM TASK 26-22-03-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is <50 ohms, then continue.

E. Repair Confirmation

- (1) Turn the APU Maintenance Switch located in the P61 panel to the Test Position, then wait 120 seconds.

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- (2) Pull the APU Fire Switch, verify the maintenance message is set to ACTIVE.
- (3) Push the APU Fire Switch in and verify the maintenance message is set to NOT ACTIVE.
- (4) Push the APU Remote Shutdown Switch on the P40 Panel. Make sure maintenance message 49-19410 is set to ACTIVE.
- (5) Push the Fire/Overheat Test Switch on the P5 panel. Make sure maintenance message 28-19410 is set to NOT ACTIVE.
- (6) Do this task: APU Fire Switch Shutdown Test (Flight Compartment), AMM TASK 49-11-00-700-802.
 - (a) Wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

————— **END OF TASK** —————

826. APU Does Not Start and External Electrical Power is not Available - Fault Isolation

A. Description

- (1) The airplane has battery power only and the APU will not start. No external electrical power is available.

B. Fault Isolation Procedure

- (1) Look for EICAS messages for APU faults.
- (2) Use a ground air source to start the main engine(s). To start it, do this task: Engine Start (Selection), AMM TASK 71-00-00-800-835-H00.
- (3) Select LINE MAINTENANCE, EXISTING FLIGHT DECK EFFECTS on the MAT and find the EICAS message(s) you saw in the step above.
- (4) Get the fault code and correlated maintenance messages from the MAT.
- (5) Do this task: Usual Engine Stop, AMM TASK 71-00-00-800-837-H00.
- (6) Find each maintenance message in the Maintenance Message Index and do the specified fault isolation task.

————— **END OF TASK** —————

827. APU Makes High Frequency Noise - Fault Isolation

A. Description

- (1) The APU makes a high frequency noise. Damage to the compressor blades can cause this noise.

B. Fault Isolation Procedure

- (1) Examine the load compressor blades and the compressor blades for the power section. To examine them, do this task: APU Engine Inspection, AMM TASK 49-21-00-200-801.

————— **END OF TASK** —————

828. Sparks in Exhaust Out the Tailpipe - Fault Isolation

A. Description

- (1) Sparks are observed coming from the APU exhaust pipe during APU operation.

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B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Inspect the APU inlet plenum for any loose debris.
 - (a) Remove the access panel on the side of the inlet plenum.
 - (b) If any debris is found in the inlet plenum, remove it.
 - (c) Reinstall the access panel on the inlet plenum.
- (4) Inspect the APU exhaust duct for any loose debris.
 - (a) If any debris is found in the exhaust duct, replace the APU.
 - 1) These are the tasks:
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801,
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801.
 - (b) If no debris is found in the exhaust duct, then continue.
- (5) Inspect the APU compressor and turbine sections for evidence of damage.
 - (a) Do this task: APU Engine Inspection, AMM TASK 49-21-00-200-801.
- (6) Make sure the APU does not have any internal damage:
 - (a) Remove the end cap from the electric starter motor.
 - (b) Use a socket and a ratchet on the shaft for the electric starter motor to turn the APU.
 - (c) Turn the socket counterclockwise, forward facing aft.
 - (d) If the APU does not turn freely, then do these steps:
 - 1) Replace the APU, M49001.
These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
 - (e) If the APU did turn freely, then continue.
 - (f) Do this task: Magnetic Chip Collector Inspection, AMM TASK 49-27-04-200-801.
 - (g) If the magnetic chip collectors show internal APU damage, then do these steps:
 - 1) Replace the APU, M49001.

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These are the tasks:

Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM
TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method),
AMM TASK 49-11-01-000-801,

Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM
TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack
Method), AMM TASK 49-11-01-400-801.

- (h) If the magnetic chip collectors are OK, then continue.
- (7) Operate the APU to clear any remaining debris from the engine.
 - (a) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - (b) Operate the APU for at least 10 minutes.
 - (c) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.
 - (d) If sparks are still observed after 10 minutes of operation, replace the APU, M49001.

These are the tasks:

Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or
Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,

Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM
TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method),
AMM TASK 49-11-01-400-801.

- (e) If no significant amount of sparks are observed in the APU exhaust after 10 minutes of
operation, return the APU to service.

————— **END OF TASK** —————

829. APU Inlet Door is Failed Open - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-14141.

B. Description

- (1) The APU air inlet door did not close when commanded closed. This fault is detected by ELMS
2.

C. Initial Evaluation

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

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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (2) Move the APU selector to the ON position. Then wait for 120 seconds.
- (3) Move the APU selector to the OFF position. Then wait for 120 seconds.

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- (a) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
 - (4) Look at the APU air inlet door.
 - (a) If the APU air inlet door is open, do the Fault Isolation Procedure - Inlet Door is Open within this task.
 - (b) If the APU air inlet door is closed and the MAT shows ACTIVE or LATCHED for the maintenance message, then do the Fault Isolation Procedure - Inlet Door is Closed within this task.
- NOTE:** It is possible for the APU air inlet door to appear closed, yet not be completely closed enough to activate the limit switch. You must do the Fault Isolation Procedure - Inlet Door is Closed in order to determine the cause of the maintenance message.
- (c) If the APU air inlet door is closed and the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure - Inlet Door is Open

NOTE: There is a problem with the inlet door actuator.



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Make sure the inlet door actuator is in the ELEC mode:
 - (a) Remove the cover from the inlet door actuator.
 - (b) If MAN shows on the inlet door actuator, then do these steps:
 - 1) Turn the transfer cover counterclockwise until ELEC shows.
 - 2) Re-install the cover on the inlet door actuator.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - b) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (c) If ELEC shows on the inlet door actuator, then do these steps:
 - 1) Re-install the cover on the inlet door actuator.
 - 2) Continue with the Fault Isolation Procedure - Inlet Door is Open.
- (4) Make sure the inlet door actuator has electrical power:
 - (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	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

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- (b) Disconnect the DM49003P connector from the inlet door actuator.
- (c) 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	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (d) Do a check for 28 VDC from pin 4 (+) to pin 5 (-) on the electrical connector, DM49003P.
- (e) Do a check for <2 VDC from pin 6 (+) to pin 5 (-) on the electrical connector, DM49003P.
- (f) If there is 28 VDC between pin 4 and pin 5, and <2 VDC between pin 5 and pin 6, then do these steps:
 - 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	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 2) Replace the inlet door actuator.

These are the tasks:

Inlet Door Actuator Removal, AMM TASK 49-15-06-000-801,

APU Air Inlet Door Actuator Installation, AMM TASK 49-15-06-400-801.

- 3) Re-connect the DM49003P connector to the inlet door actuator.
- 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>
B	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 5) Do the Repair Confirmation procedure at the end of this task.
- 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 7) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (g) If there is not 28 VDC between pin 4 and pin 5, or there is >2 VDC between pin 5 and pin 6, then continue.
- (5) Make sure the inlet door actuator is grounded:
 - (a) 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	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (b) Disconnect the DM49003P connector from the inlet door actuator.

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- (c) Measure the resistance between pin 5 and structure ground of the DM49003P connector at the inlet door actuator (WDM 49-15-11).
- (d) If the resistance is >50 ohms, then do these steps:

- 1) Repair the wiring.
- 2) Re-connect the DM49003P connector to the inlet door actuator.
- 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>
B	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (e) If the resistance is <50 ohms, then continue.
- (6) Do this check of the airplane wire harness:
 - (a) 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	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (b) Remove the inlet door control relay, K49001 (WDM 49-15-11).
- (c) 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	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (d) Do a check for 28 VDC from pin A2 (+) to structure ground at the DK49001 connector of the inlet door control relay, K49001 (WDM 49-15-11).
- (e) If there is not 28 VDC at pin A2 at the DK49001 connector, then do these steps:
 - 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	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 2) Repair the wiring between the inlet door control relay, K49001 and circuit breaker, 310B7 (WDM 49-15-11).
- 3) Re-install the inlet door control relay, K49001 (WDM 49-15-11).

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

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<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 5) Do the Repair Confirmation procedure at the end of this task.
- 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 7) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (f) If there is 28 VDC at pin A2 at the DK49001 connector, then continue.
- (g) Disconnect the DM49003P connector from the inlet door actuator.
- (h) Install a jumper between pin 4 and pin 6 on the DM49003P connector.
- (i) Measure the resistance between this pair of pins at the inlet door control relay, K49001 (WDM 49-15-11).
- 1) Pin A1 and pin A3, specified resistance <50 ohms.
- (j) Remove the jumper from the DM49003P connector.
- (k) Measure the resistance between this pair of pins at the inlet door control relay, K49001 (WDM 49-15-11).
- 1) Pin A1 and pin A3, specified resistance >100K ohms.
- (l) If the resistance is not in the range specified, then do these steps:
- 1) Repair the wiring.
- 2) Re-connect the DM49003P connector to the inlet door actuator.
- 3) Re-install the inlet door control relay, K490001 (WDM 49-15-11).
- 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>
B	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 5) Do the Repair Confirmation procedure at the end of this task.
- 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 7) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (m) If the resistance is in the range specified, then continue.
- (7) Replace the inlet door control relay, K49001 (WDM 49-15-11).
- (a) 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	7	C49600	APU INLET DR ACTR

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Row	Col	Number	Name
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (b) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Fault Isolation Procedure - Inlet Door is Closed

NOTE: There is a problem with the APU air inlet door indication.



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Try to close the APU air inlet door further manually.
 - (a) Do this task: APU Access Doors (Open), AMM TASK 49-11-02-010-801.
 - (b) Remove the access cover from the inlet door actuator.

NOTE: The access cover is held in place with retaining springs.



DO NOT APPLY MORE THAN 10 INCH-POUNDS (1.1 NEWTON-METERS) OF TORQUE ON THE TRANSFER COVER SOCKET. DAMAGE CAN OCCUR IF YOU APPLY TOO MUCH TORQUE ON THE TRANSFER COVER SOCKET.

- (c) Turn the transfer cover socket on the inlet door actuator counterclockwise until MAN shows in the window of the transfer socket.

NOTE: The manual drive socket will show. The actuator is now in the manual mode.



DO NOT APPLY MORE THAN 65 INCH-POUNDS (7.3 NEWTON-METERS) OF TORQUE ON THE MANUAL DRIVE SOCKET. THE TORQUE THAT IS NECESSARY TO TURN THE CRANK WILL SUDDENLY INCREASE WHEN THE APU AIR INLET DOOR IS FULLY CLOSED. DAMAGE CAN OCCUR IF YOU APPLY TOO MUCH TORQUE ON THE MANUAL DRIVE SOCKET.

- (d) Turn the manual drive socket clockwise until the torque value suddenly increases.
- (e) If you are able to close the APU air inlet door further, then do these steps:
 - 1) Replace the inlet door actuator.

These are the tasks:
Inlet Door Actuator Removal, AMM TASK 49-15-06-000-801,
APU Air Inlet Door Actuator Installation, AMM TASK 49-15-06-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.

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- 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 4) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (f) If you are not able to close the APU air inlet door further, then continue.



MAKE SURE YOU PUT THE ACTUATOR IN THE ELECTRICAL MODE. IF YOU DO NOT PUT THE ACTUATOR IN THE ELECTRICAL MODE, THE APU AIR INLET DOOR CAN OPEN DURING FLIGHT. THIS CAN CAUSE DAMAGE TO THE APU AIR INLET DOOR AND INLET DOOR ACTUATOR.

- (g) Turn the transfer cover socket clockwise until ELEC shows in the forward window of the transfer cover.
- (h) Put the access cover on the inlet door actuator.
- (i) Do this task: APU Access Doors (Close), AMM TASK 49-11-02-410-801.
- (4) Make sure the limit switch inside the inlet door actuator is grounded:
 - (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	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (b) Disconnect the DM49003P connector from the inlet door actuator.
- (c) Measure the resistance between pin 1 and structure ground of the DM49003P connector at the inlet door actuator (WDM 49-15-11).
- (d) If the resistance is >50 ohms, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-connect the DM49003P connector to the inlet door actuator.
 - 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>
B	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 4) Do the Repair Confirmation procedure at the end of this task.
- 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 6) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (e) If the resistance is <50 ohms, then continue.
- (5) Make sure the limit switch inside the inlet door actuator is closed:

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- (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	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (b) Disconnect the DM49003P connector from the inlet door actuator.
- (c) Measure the resistance between pin 1 and pin 3 of the DM49003P connector receptacle for the inlet door actuator.
- (d) If the resistance is >50 ohms, then do these steps:

- 1) Replace the inlet door actuator.

These are the tasks:

Inlet Door Actuator Removal, AMM TASK 49-15-06-000-801,

APU Air Inlet Door Actuator Installation, AMM TASK 49-15-06-400-801.

- 2) Re-connect the DM49003P connector to the inlet door actuator.
- 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>
B	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 4) Do the Repair Confirmation procedure at the end of this task.
- 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (e) If the resistance is <50 ohms, then continue:
- (6) Make sure the circuit for the inlet door position switch is open:

NOTE: The circuit for the inlet door position switch is open when the inlet door is closed.

- (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	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (b) Disconnect the D7958P connector from the APU firewall at the 2410 bulkhead.
- (c) Examine the D7958P connector and backshell for contamination and damage.
- 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
- 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (d) Measure the resistance between pin 7 and pin 8 of the D7958P connector at the APU firewall (WDM 49-15-11).

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- (e) If the resistance between pin 7 and pin 8 of the D7958P connector at the APU firewall is <100K ohms, then do these steps:

- 1) Remove the inlet door position switch. To remove it, do this task: Inlet Door Position Switch Removal, AMM TASK 49-15-02-000-801.
- 2) Measure the resistance between pin 7 and pin 8 of the D7958P connector at the APU firewall.

NOTE: This wiring check examines the wires from the D7958P connector to the splices at the inlet door position switch.

- 3) If the resistance from the firewall to the splice is <100K ohms, then do these steps:

- a) Repair the wiring.

NOTE: There is a short between the wires.

- b) Re-connect the D7958P connector to the APU firewall.
- c) Re-install the inlet door position switch. To install it, do this task: Inlet Door Position Switch Installation, AMM TASK 49-15-02-400-801.
- d) 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- e) Do the Repair Confirmation procedure at the end of this task.
 - f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - g) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- 4) If the resistance from the firewall to the splice is >100K ohms, then do these steps:
- a) Re-connect the D7958P connector to the APU firewall.
 - b) Replace the inlet door position switch.
These are the tasks:
Inlet Door Position Switch Removal, AMM TASK 49-15-02-000-801,
Inlet Door Position Switch Installation, AMM TASK 49-15-02-400-801.
 - c) Do the Repair Confirmation procedure at the end of this task.
 - d) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - e) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (f) If the resistance between pin 7 and pin 8 of the D7958P connector at the APU firewall is >100K ohms, then continue.

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- (7) Do this wiring check of the airplane wire harness:
- (a) Make sure that these circuit breakers are open and have 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (b) Re-connect the electrical connector, D7958P to the APU firewall.
- (c) Disconnect the D31033P connector from the power management panel, P310.
- (d) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
- (e) Measure the resistance between these pairs of pins of the D31033P connector at the power management panel, P310 (WDM 49-15-11).
- 1) Pin 5 and structure ground, specified resistance >100K ohms.
 - 2) Pin 4 and structure ground, specified resistance <50 ohms.
 - 3) Pin 4 and pin 5, specified resistance >100K ohms.
- (f) If the resistance is not in the range specified, then do these steps:
- 1) Repair the wiring.
 - 2) Re-connect the D31033P connector to the power management panel, P310.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 4) 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 5) Do the Repair Confirmation procedure at the end of this task.
- 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 7) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.

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- (g) If the resistance is in the range specified, then continue.
- (8) Do a check of the signal interface unit (SIU 2), M24513 in the P310 power management panel.
- This is the task:

Signal Interface Unit - Exchange Check, AMM TASK 24-09-00-700-801-002.

- (9) Do this check of the wiring in the power management panel P310:
- (a) Make sure that these circuit breakers are open and have 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (b) Disconnect the DM24513 connector from the signal interface unit (SIU 2), M24513.
- (c) Measure the resistance between these pairs of pins of the DM24513C connector at the signal interface unit (SIU 2), M24513 (WDM 49-15-11).
- 1) Pin 14 and structure ground, specified resistance < 50 ohms.
 - 2) Pin 15 and structure ground, specified resistance > 100Kohms.
 - 3) Pin 14 and pin 15, specified resistance >100K ohms.
- (d) If the resistance is not in the range specified, then do these steps:
- 1) Repair the wiring.
 - 2) Re-connect the DM24513 connector to the signal interface unit (SIU 2), M24513.
 - 3) 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (e) If the resistance is in the range specified for each pair of pins, then continue.

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- (10) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.

- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

F. Repair Confirmation

- (1) Move the APU maintenance switch on the P61 overhead panel to the TEST position.
- (2) Move the APU selector to the ON position. Then wait for 120 seconds.
- (3) Move the APU selector to the OFF position. Then wait for 120 seconds.
- (4) If the MAT shows NOT ACTIVE (or if the message does not show), then you corrected the fault.
- (5) Move the APU maintenance switch on the P61 panel to the NORM position.

————— END OF TASK —————

830. APU Inlet Door is Failed Closed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-14142.

B. Description

- (1) The APU air inlet door did not open when commanded open or it closed while the APU is operating. This fault is detected by ELMS 2.
- (a) This fault can also be caused by a problem with the APU air inlet door indication system.

C. Initial Evaluation

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

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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (2) Move the APU selector to the ON position. Then wait for 120 seconds.
- (a) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Make sure the APU selector is in the ON position.
- (a) Look at the APU door status on the APU maintenance page.
- (b) If the APU door status shows OPEN and the MAT shows ACTIVE for the maintenance message, then try to clear the messages as follows:

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- 1) Make sure that either the primary or secondary external power is available and is selected ON.



MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS BEFORE YOU REMOVE ELECTRICAL POWER FROM THE P310 PANEL COMPUTING & COMMUNICATIONS UNIT. IF YOU DO NOT OBEY THESE INSTRUCTIONS, DAMAGE TO THE EQUIPMENT CAN OCCUR.

- 2) Make sure the airplane is in the configuration that follows:
 - a) Move the APU selector to the OFF position.
 - b) To make sure the APU has stopped, look at the APU maintenance page. Make sure the APU speed is zero.
 - c) Make sure the airplane air/ground system is in the ground mode.
 - d) Make sure that the airplane is not being refueled.
 - e) Make sure the PASS OXYGEN switch on the Overhead Panel, P5, is in the OFF position.
 - f) Make sure both engines are shutdown.

- 3) Open this circuit breaker:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
K	5	C24633	P310 PSU A ALTN

- 4) Open this circuit breaker:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	4	C24635	P310 PSU B PRI

- 5) Open this circuit breaker:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
J	5	C24640	P310 PSU B ALTN

- 6) Open this circuit breaker:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	7	C24641	P310 PSU A PRI

- 7) Close these circuit breakers:

Standby Power Management Panel, P310

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

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CAUTION

MAKE SURE YOU HAVE CLOSED THESE CIRCUIT BREAKERS ON THE STANDBY POWER MANAGEMENT PANEL, P310, PSU A PRI AND PSU B ALTN BEFORE YOU CLOSE CIRCUIT BREAKER PSU B PRI. IF YOU DO NOT OBEY THIS INSTRUCTION, THE APU ELECTRIC STARTER MOTOR WILL OPERATE.

- 8) Close this circuit breaker:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	4	C24635	P310 PSU B PRI

- 9) Move the APU selector to the ON position for 120 seconds.

- 10) Move the APU selector to the OFF position for 120 seconds.

- (c) If the APU DOOR EICAS status message does not show, then you corrected the fault.
(d) If the APU DOOR EICAS status message shows, move the APU selector to the ON position.

- (4) Look at the APU air inlet door:

- (a) If the APU air inlet door is open and the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure - Inlet Door is Open.
(b) If the APU air inlet door is closed, then do the Fault Isolation Procedure - Inlet Door is Closed.
(c) If the APU air inlet door is open and the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure - Inlet Door is Open

NOTE: There is a problem with the APU air inlet door indication.



CAUTION

MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
(2) Make sure the APU selector is in the OFF position.
(3) Do a check of the inlet door position switch:

NOTE: If the circuit is OK and the APU air inlet door is open, the inlet door position switch is closed.

- (a) 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

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<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	7	C49600	APU INLET DR ACTR
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (b) Disconnect the D7958P connector from the APU firewall at the 2410 bulkhead.
- (c) Examine the D7958P connector and backshell for contamination and damage.
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (d) Measure the resistance between pin 7 and pin 8 of the D7958P connector at the APU firewall (WDM 49-15-11).
- (e) If the resistance between pin 7 and pin 8 of the D7958P connector is >50 ohms, then do these steps:
 - 1) Do this task: Inlet Door Position Switch Adjustment, AMM TASK 49-15-06-820-802.
 - 2) If you could adjust the inlet door position switch, then do these steps:
 - 3) Re-connect the D7958P connector to the APU firewall.
 - 4) 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 5) Do the Repair Confirmation procedure at the end of this task.
 - a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - b) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- 6) If you could not adjust the inlet door position switch, then do these steps:
 - a) Cut the wire splices for the inlet door position switch.
 - b) Twist the conductors for the airplane wires together.
- 7) Measure the resistance between pin 7 and pin 8 of the D7958P connector at the APU firewall.

NOTE: This wiring check examines the wires from the D7958P connector to the splices at the inlet door position switch.
- 8) If the resistance from the firewall to the splice is >50 ohms, then do these steps:

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- a) Repair the wiring.
- b) Re-connect the airplane wires to the inlet door position switch.
- c) Re-connect the D7958P connector to the APU firewall.
- d) 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- e) Do the Repair Confirmation procedure at the end of this task.
 - f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - g) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- 9) If the resistance from the firewall to the splice is <50 ohms, then continue.
- 10) Make sure that these circuit breakers are open and have 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 11) Replace the inlet door position switch.

These are the tasks:

Inlet Door Position Switch Removal, AMM TASK 49-15-02-000-801,
Inlet Door Position Switch Installation, AMM TASK 49-15-02-400-801.

- a) Re-connect the D7958P connector to the APU firewall.
- b) 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

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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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- c) Do the Repair Confirmation procedure at the end of this task.
 - d) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - e) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (f) If the resistance between pin 7 and pin 8 of the D7958P connector is <50 ohms, then continue.
- (4) Make sure the inlet door position switch is grounded:
- (a) Make sure that these circuit breakers are open and have 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (b) Disconnect the D7958P connector from the APU firewall at the 2410 bulkhead.
- (c) Measure the resistance between pin 8 of connector D7958J at the APU firewall and structure ground (WDM 49-15-11).
- (d) If the resistance between pin 8 of connector D7958J and structure ground is >50 ohms, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-connect the D7958P connector to the APU firewall.
 - 3) 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

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- 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (e) If the resistance between pin 8 of connector D7958J and structure ground is <50 ohms, then continue.
- (5) Do this check of the inlet door limit switch inside the inlet door actuator:
- NOTE:** When the APU air inlet door is open, the circuit for the inlet door limit switch (inside the inlet door actuator) must be open.

- (a) 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (b) Disconnect the DM49003 connector from the inlet door actuator.
- (c) Examine the DM49003 connector and backshell for contamination and damage.
- 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (d) Measure the resistance between pin 1 and pin 3 of the connector receptacle for the DM49003 connector at the inlet door actuator.
- (e) If the resistance is <100K ohms, then do these steps:
- 1) Replace the inlet door actuator.

These are the tasks:

Inlet Door Actuator Removal, AMM TASK 49-15-06-000-801,

APU Air Inlet Door Actuator Installation, AMM TASK 49-15-06-400-801.

- 2) 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

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<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (f) If the resistance is >100K ohms, then continue.
- (6) Do this wiring check between the inlet door actuator and the APU firewall:
 - (a) Make sure that these circuit breakers are open and have 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (b) Re-connect the DM49003 connector to the inlet door actuator.
- (c) Disconnect the D7958P connector from the APU firewall at the 2410 bulkhead.
- (d) Measure the resistance between pin 1 and pin 3 of the D7958P connector at the APU firewall.
- (e) If the resistance is <100K ohms, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-connect the D7958P connector to the APU firewall.
 - 3) 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 4) Do the Repair Confirmation procedure at the end of this task.

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- 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 6) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (f) If the resistance is >100K ohms, then continue.
- (7) Do this wiring check of the airplane wire harness:
 - (a) Re-connect the D7958P connector to the APU firewall.
 - (b) Make sure that these circuit breakers are open and have 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (c) Disconnect the D31033P connector from the power management panel, P310.
- (d) Measure the resistance between these pairs of pins of the D31033P connector at the power management panel, P310 (WDM 49-15-11).
 - 1) Pin 5 and structure ground, specified resistance <50 ohms.
 - 2) Pin 4 and structure ground, specified resistance >100K ohms.
 - 3) Pin 4 and pin 5, specified resistance >100K ohms.
- (e) If the resistance is not in the range specified, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-connect the D31033P connector to the power management panel, P310.
 - 3) 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 4) Do the Repair Confirmation procedure at the end of this task.
- 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 6) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (f) If the resistance is in the range specified, then continue.
- (8) Do a check of the signal interface unit (SIU 2), M24513 in the P310 power management panel.
This is the task:
Signal Interface Unit - Exchange Check, AMM TASK 24-09-00-700-801-002.
- (9) Do this check of the wiring in the power management panel P310:
 - (a) Make sure that these circuit breakers are open and have 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (b) Re-connect the D31033P connector from the P310 panel.
- (c) Disconnect the DM24513 connector from the signal interface unit (2), M24513.
- (d) Measure the resistance between these pairs of pins of the DM24513C connector at the signal interface unit (2), M24513 (WDM 49-15-11).
 - 1) Pin 14 and structure ground, specified resistance <50 ohms.
 - 2) Pin 15 and structure ground, specified resistance >100K ohms.
 - 3) Pin 14 and pin 15, specified resistance >100K ohms.
- (e) If the resistance is not in the range specified, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-connect the DM24513 connector to the signal interface unit (2), M24513.
 - 3) 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 4) Do the Repair Confirmation procedure at the end of this task.
- 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 6) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (f) If the resistance is in the range specified, then do these steps:
 - 1) Re-connect the DM24513 connector to the signal interface unit (2), M24513.
 - 2) 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

E. Fault Isolation Procedure - Inlet Door is Closed

NOTE: There is a problem with the inlet door actuator.



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Make sure the inlet door actuator is in the ELEC mode:
 - (a) Remove the cover from the inlet door actuator.
 - (b) If MAN shows on the inlet door actuator, then do these steps:
 - 1) Turn the transfer cover counterclockwise until ELEC shows.
 - 2) Re-install the cover on the inlet door actuator.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - b) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (c) If ELEC shows on the inlet door actuator, then do these steps:
 - 1) Re-install the cover on the inlet door actuator.
 - 2) Continue with the Fault Isolation Procedure - Inlet Door is Closed.
- (4) Make sure the inlet door actuator has electrical power:

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

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<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (b) Disconnect the electrical connector, DM49003P from the inlet door actuator.

- (c) 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	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (d) Move the APU selector to the ON position.

- (e) Do a check for 28 VDC from pin 6 (+) to pin 5 (-) at the DM49003P connector of the inlet door actuator.

- (f) Do a check for <2 VDC from pin 4 (+) to pin 5 (-) at the DM49003P connector of the inlet door actuator.

- (g) If there is 28 VDC between pin 6 and pin 5 and <2 VDC between pin 4 and pin 5, then do these steps:

- 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	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 2) Replace the inlet door actuator.

These are the tasks:

Inlet Door Actuator Removal, AMM TASK 49-15-06-000-801,

APU Air Inlet Door Actuator Installation, AMM TASK 49-15-06-400-801.

- 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>
B	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 4) Do the Repair Confirmation procedure at the end of this task.

- a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- b) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

- (h) If there is not 28 VDC between pin 5 and pin 6, or there is >2 VDC between pin 4 and pin 5, then continue.

- (5) Make sure the inlet door actuator is grounded:

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- (a) 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	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (b) Disconnect the DM49003 connector from the inlet door actuator.
- (c) Measure the resistance between pin 5 and structure ground of the DM49003 connector at the inlet door actuator (WDM 49-15-11).
- (d) If the resistance is >50 ohms, then do these steps:
- 1) Repair the wiring.
 - 2) Re-connect the DM49003 connector to the inlet door actuator.
 - 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>
B	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (e) If the resistance is <50 ohms, then continue.
- (6) Do this check of the airplane wire harness:

- (a) 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	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (b) Remove the inlet door control relay, K49001 (WDM 49-15-11).
- (c) 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	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (d) Do a check for 28 VDC from pin A2 (+) to structure ground at the DK49001 connector of the inlet door control relay, K49001 (WDM 49-15-11).
- (e) If there is not 28 VDC at pin A2 at the DK49001 connector, then do these steps:

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- 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	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 2) Repair the wiring between the inlet door control relay, K49001 and circuit breaker 310B7 (WDM 49-15-11).
- 3) Re-install the inlet door control relay, K49001 (WDM 49-15-11).
- 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>
B	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 5) Do the Repair Confirmation procedure at the end of this task.
 - 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 7) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (f) If there is 28 VDC at pin A2, then continue.
 - (g) Remove the inlet door control relay, K49001 (WDM 49-15-11).
 - (h) Disconnect the DM49003 connector from the inlet door actuator.
 - 1) Install a jumper between pin 4 and pin 6 on the DM49003 connector.
 - (i) Measure the resistance between this pair of pins at the inlet door control relay, K49001 (WDM 49-15-11).
 - 1) Pin A1 and pin A3, specified resistance <50 ohms.
 - (j) Remove the jumper from the DM49003 connector.
 - (k) Measure the resistance between this pair of pins at the inlet door control relay, K49001 (WDM 49-15-11).
 - 1) Pin A1 and pin A3, specified resistance >100K ohms.
 - (l) If the resistance is not in the range specified, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-connect the DM49003 connector to the inlet door actuator.
 - 3) Re-install the inlet door control relay, K49001 (WDM 49-15-11).
 - 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>
B	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 5) Do the Repair Confirmation procedure at the end of this task.

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- 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 7) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (m) If the resistance is in the range specified, then continue.
- (7) Replace the inlet door control relay, K49001 (WDM 49-15-11).
 - (a) 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	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (b) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

F. Repair Confirmation

- (1) Move the APU selector to the OFF position. Then wait for 120 seconds.
- (2) Move the APU selector to the ON position. Then wait for 120 seconds.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (b) Move the APU selector to the OFF position.

————— **END OF TASK** —————

831. APU Start Switch Signal Does Not Agree With Signal From L-OPAS and R-OPAS - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-14143.

B. Description

- (1) The signal for the APU selector does not agree with the signal from left OPAS and right OPAS.

C. Initial Evaluation

- (1) Make sure the BATTERY switch on the P5 overhead panel is in the ON position.
- (2) Move the APU selector on the P5 overhead panel to the ON position.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Move the APU selector to the OFF position.

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D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Do a check of the signal interface unit (SIU 2), M24513 in the P310 power management panel.
This is the task:
Signal Interface Unit - Exchange Check, AMM TASK 24-09-00-700-801-002.
- (4) Replace the APU selector (S1), M24023, on the electrical control panel P5 (WDM 49-61-11).
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Do a wiring check between these pins of connector D31033P at the P310 panel and connector DM24023C at the APU selector, S1.

DM24023C	D31033P
pin 36	pin 2

- (a) If you find a problem with the wiring, do this step:
 - 1) Repair the wiring.
 - (b) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Do this check of the wiring in the P310 panel:
 - (a) Disconnect the DM24521 connector from the current monitor card, M24521.
 - (b) Disconnect the D31033P connector from the P310 panel.
 - (c) Do a wiring check between these pins of connector DM24521 at the current monitor card, M24521, and connector D31033P at the P310 panel (WDM 49-61-11).

DM24521	D31033P
pin 51	pin 2

- (d) If you find a problem with the wiring, do these steps:
 - 1) Repair the wiring.
 - 2) Re-connect the DM24521 connector to the current monitor card, M24521.
 - 3) Re-connect the D31033P connector to the P310 panel.

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- 4) Do the Repair Confirmation procedure at the end of this task.
- 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (e) Disconnect the DM24521 connector from the current monitor card, M24521.
- (f) Disconnect the DM24513C connector from the signal interface unit (SIU 2), M24513.
- (g) Do a wiring check between these pins of connector DM24521 at the current monitor card, M24521, and connector DM24513C at the signal interface unit (SIU 2), M24513 (WDM 49-61-11).

DM24521	DM24513C
pin 43	pin 13

- (h) If you find a problem with the wiring, do these steps:
 - 1) Repair the wiring.
 - 2) Re-connect the DM24521 connector to the current monitor card, M24521.
 - 3) Re-connect the DM24513C connector to the signal interface unit (SIU 2), M24513.
 - 4) 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 5) Do the Repair Confirmation procedure at the end of this task.
 - 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 7) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (7) Replace the current monitor card, M24521.

These are the tasks:

Current Monitor Card - Removal, AMM TASK 24-09-00-000-817-002,

Current Monitor Card - Installation, AMM TASK 24-09-00-400-813-002.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

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E. Repair Confirmation

- (1) Make sure the APU selector on the P5 panel is in the OFF position.
- (2) Set the APU selector to ON. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU selector to the OFF position.
- (5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

————— END OF TASK —————

832. APU Inlet Door Control Relay, K49001, In P310 Is Not In Commanded Position - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-17003.

B. Description

- (1) The inlet door control relay is not in the commanded position. This fault is detected by ELMS 2.

C. Initial Evaluation

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

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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (2) Move the APU selector to the ON position. Then wait for 120 seconds.

NOTE: If the inlet door actuation system is OK, the APU air inlet door will open.

- (3) Move the APU selector to the OFF position. Then wait for 120 seconds.

NOTE: If the inlet door actuation system is OK, the APU air inlet door will close.

- (a) If the MAT shows ACTIVE or LATCHED for the maintenance message, then do the Fault Isolation Procedure.
- (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.

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- (2) Make sure the APU selector is in the OFF position.
- (3) 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (4) Replace the inlet door control relay, K49001 in the P310 panel (WDM 49-15-11).
 - (a) 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (b) Do the Repair Confirmation procedure at the end of this task.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (d) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Do a check of the signal interface unit (SIU 2), M24513 in the P310 power management panel.
This is the task:

Signal Interface Unit - Exchange Check, AMM TASK 24-09-00-700-801-002.

- (6) Do this check of the wiring in the P310 panel:
 - (a) 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

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- (b) Remove the APU inlet door control relay, K49001 (WDM 49-15-11).
- (c) Close these circuit breakers:

Standby Power Management Panel, P310

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (d) Move the APU selector to ON.
- (e) Do a check for 28 VDC from pin X1 to structure ground on the electrical connector, DK49001.
- (f) Do a check for 28 VDC from pin Y1 to structure ground on the electrical connector, DK49001.
- (g) If there is not 28 VDC at pin X1 or pin Y1, then do these steps:
 - 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	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 2) Move the APU selector to OFF.
 - 3) Repair the wiring between pins X1 and Y1 and 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

- 4) 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 5) Do the Repair Confirmation procedure at the end of this task.
 - a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - b) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (h) If there is 28 VDC at pin X1 and pin Y1, then continue.

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- (i) 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	7	C49600	APU INLET DR ACTR
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- (j) Disconnect the DM24513 connector from the signal interface unit (SIU 2), M24513.
- (k) Remove the APU inlet door control relay, K49001 (WDM 49-15-11).
- (l) Do a wiring check between these pins of connector DK49001 at the APU inlet door control relay, K49001, and connector DM24513A at the signal interface unit (SIU 2), M24513 (WDM 49-15-11).

DM24513A	DK49001
pin 20	pin A3

- (m) Do a wiring check between these pins of connector DK49001 at the APU inlet door control relay, K49001, and connector DM24513B at the signal interface unit (SIU 2), M24513 (WDM 49-15-11).

DK49001	DM24513B
pin X2	pin 6
pin Y2	pin 7

- (n) If you find a problem with the wiring, do these steps:
- 1) Repair the wiring.
 - 2) Re-connect the DM24513 connector to the signal interface unit (SIU 2), M24513.
 - 3) Re-install the APU inlet door control relay, K49001 (WDM 49-15-11).
 - 4) 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
K	8	C24652	APU CRK CTRL
L	11	C28650	APU INLET DOOR/FUEL SOV CTRL

- 5) Do the Repair Confirmation procedure at the end of this task.
- 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 7) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

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E. Repair Confirmation

- (1) Move the APU maintenance switch on the P61 aft overhead panel to the TEST position.
- (2) Move the APU selector to the ON position. Then wait for 120 seconds.
NOTE: If the inlet door actuation system is OK, the APU air inlet door will open.
- (3) Move the APU selector to the OFF position. Then wait for 120 seconds.
NOTE: If the inlet door actuation system is OK, the APU air inlet door will close.
- (4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (5) Move the APU maintenance switch to the NORM position.

— END OF TASK —

833. APU External Shutdown Relay, K49002, In P310 Is Not In Commanded Position - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-17004.

B. Description

- (1) The APU external shutdown relay is not in the commanded position. This fault is detected by ELMS 2.

C. Initial Evaluation

- (1) Push the APU STOP switch on the APU shutdown and remote service panel, P40.
- (2) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (a) Push the FIRE/OVHT TEST switch on the P5 overhead panel to unlatch the APU remote shutdown system.
- (3) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
 - (a) Push the FIRE/OVHT TEST switch on the P5 overhead panel to unlatch the APU remote shutdown system.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Push the APU STOP switch on the APU Remote Shutdown and Service Panel, P40 on the nose gear.
- (4) If the APU FIRE light on the P40 panel does not come on, then do these steps:
 - (a) Replace the APU external shutdown relay, K49002 in the P310 panel (WDM 26-22-11).
 - 1) Do the Repair Confirmation procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (b) Do this check of the wiring:
- (c) Remove the APU external shutdown relay, K49002 (WDM 26-22-11).
- (d) Do a check for 28 VDC from pin X1 (+) to structure ground (-) at the APU external shutdown relay, K49002 (WDM 26-22-11).
- (e) Push and hold the APU STOP switch on the P40 panel.
- (f) Measure the resistance between pin X2 and structure ground at the APU external shutdown relay, K49002 (WDM 26-22-11).
- (g) If there is not 28 VDC at pin X1 when the APU STOP switch is pushed, or if pin X2 is not grounded, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the APU external shutdown relay, K49002 (WDM 26-22-11).
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (h) If there is 28 VDC at pin X1 and pin X2 is grounded, then continue.
- (i) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Do a check of the signal interface unit (SIU 1), M24512 in the P310 power management panel.
This is the task:
Signal Interface Unit - Exchange Check, AMM TASK 24-09-00-700-801-002.
- (6) If the APU FIRE light did come on and stay on, then do these steps:
 - (a) Remove the APU external shutdown relay, K49002 (WDM 26-22-11).
 - (b) Disconnect the DM24512A connector from the signal interface unit (SIU 1), M24512 in the P310 panel.
 - (c) Do a wiring check between these pins of connector DK49002 at the APU external shutdown relay, K49002, and connector DM24512A at the signal interface unit (SIU 1) (WDM 26-22-11).

DK49002

DM24512A

pin A2 pin 18

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Re-install the APU external shutdown relay, K49002 (WDM 26-22-11).
 - 2) Re-connect the DM24512A connector to the signal interface unit (SIU 1), M24512.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (e) If you do not find a problem with the wiring, then continue.
- (f) Re-connect the DM24512A connector to the signal interface unit (SIU 1), M24512.
- (g) Re-install the APU external shutdown relay, K49002 (WDM 26-22-11).

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E. Repair Confirmation

- (1) Push the APU STOP switch on the APU shutdown and remote service panel, P40.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (a) Push the FIRE/OVHT TEST switch on the P5 overhead panel to unlatch the APU remote shutdown system.

————— END OF TASK —————

834. APU Operates With Hydraulic Fluid-Contamination Fuel - Fault Isolation

A. Description

- (1) The APU operates with hydraulic fluid-contamination fuel.

B. Fault Isolation Procedure

- (1) Make sure there is a fuel contamination of hydraulic fluid to the APU fuel supply. To do a check if the fuel supply has contamination, do this task: Hydraulic Fluid Leakage in Fuel Tank - Fault Isolation, 28-11 TASK 806.

NOTE: The maximum hydraulic fluid contamination level and amount of time of APU operation with the hydraulic fluid-contamination fuel are found in this task.

- (2) Find the maximum hydraulic fluid contamination level.
- (3) If the hydraulic fluid contamination level is 0.1% or less, then do these steps:
 - (a) Record the type of hydraulic fluid and the amount of time of APU operation with the hydraulic fluid-contamination fuel.
 - (b) If the APU operation with the hydraulic fluid-contamination fuel is less than 16 APU hours, no action is necessary.
 - (c) If the APU operation with the hydraulic fluid-contamination fuel is more than 16 APU hours, then do this task: APU Engine Inspection, AMM TASK 49-21-00-200-801.
- (4) If the hydraulic fluid contamination level is between 0.1% and 0.5%, then do these steps:
 - (a) Record the type of hydraulic fluid and the amount of time of APU operation with the hydraulic fluid-contamination fuel.
 - (b) Make sure the hydraulic fluid-contamination fuel has been removed (purged) from the left main fuel tank and replenish with fuel.
 - (c) Put the 5 U.S.-gal (19 l) fuel resistant container, STD-201 below the APU.
 - (d) Do this task: Motor the APU, AMM TASK 49-11-00-800-801.
 - (e) Replace the fuel filter element. These are the tasks:
 - Fuel Filter Element Removal, AMM TASK 49-31-02-000-801,
 - Fuel Filter Element Installation, AMM TASK 49-31-02-400-801.
 - (f) If it is necessary, you can drain the fuel from the supply and return tube assemblies for the inlet guide vane actuator, surge control valve and fuel cluster.
 - (g) Remove the 5 U.S.-gal (19 l) fuel resistant container, STD-201.
 - (h) Do this task: APU Engine Inspection, AMM TASK 49-21-00-200-801.

NOTE: It is necessary that you do the annular combustion chamber, first stage stator vane and first stage turbine borescope inspection.

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- (i) Contact Boeing Service Engineering for the disposition of the APU due to continued APU operation.

NOTE: An APU operational inspection is recommended at three day intervals or 24 APU hour intervals for signs of fuel leakage and performance checks until the APU operation is satisfactory.

- (5) If the hydraulic fluid contamination level is more than 0.5%, contact Boeing Service Engineering and Honeywell for the disposition of the APU due to APU operation with hydraulic fluid-contamination fuel.

NOTE: Boeing Service Engineering and Honeywell personnel will review airline operator-supplied information, which include type of hydraulic fluid, hydraulic fluid contamination level and amount of time of APU operation with the hydraulic fluid-contamination fuel. These personnel will provide recommendations on a case-by-case basis.

————— **END OF TASK** —————

835. APU Does Not Start and No Related Maintenance Message Shows on the MAT - Fault Isolation

A. Description

- (1) The APU does not start on the ground and no related maintenance message shows on the MAT. The AIRCRAFT READY signal is not available.

B. Fault Isolation Procedure

- (1) Do a check of the signal interface unit (SIU 2), M24513 in the P310 power management panel.
This is the task:
Signal Interface Unit - Exchange Check, AMM TASK 24-09-00-700-801-002.

C. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - (a) Let the APU operate at a no load condition for 12 minutes.
- (2) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

836. Smoke in Exhaust Out the Tailpipe - Fault Isolation

A. Description

- (1) White smoke is observed coming from the APU tailpipe during an APU operation or APU shutdown. There is a small amount of oil in the turbine bearing cavity after an APU shutdown. Oil that comes in contact with the hot surfaces of the turbine bearing cavity will cause a white smoke condition.

B. Fault Isolation Procedure

- (1) Make sure the APU selector is in the OFF position.
- (2) Do a general visual inspection for signs of an oil leak from the turbine sump, hub of the aft turbine bearing support (location at the turbine bearing cavity), aft drain tube from the eductor/tailpipe or the gas path of the APU tailpipe (aft of the third-stage turbine rotor).
- (3) If you find signs of an oil leak from these areas and the APU oil consumption is satisfactory, replace the lube cluster. These are the tasks:
 - Lube Cluster Removal, AMM TASK 49-27-27-000-801,
 - Lube Cluster Installation, AMM TASK 49-27-27-400-801.

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- (a) Do the Repair Confirmation procedure at the end of the task.

C. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - (a) Let the APU operate at a no load condition for 12 minutes.
 - (b) If there is no or a small amount of white smoke from the APU tailpipe during the APU operation, then you corrected the fault.
 - (c) If there is a significant amount of white smoke from the APU tailpipe during the APU operation and there is a high APU oil consumption, replace the APU, M49001. These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
- (2) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

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801. High Oil Temperature - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10260.

B. Description

- (1) The APU has high oil temperature.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Do this check for related maintenance messages:
 - (a) Set the APU maintenance switch on the P61 overhead panel to the TEST position.
 - (b) Look at the Existing Faults display on the MAT for these maintenance messages:
 - 1) 49-12910
 - 2) 49-12920
 - 3) 49-12950
 - 4) 49-12990
 - (c) If the MAT shows ACTIVE or LATCHED for one of the maintenance messages specified above, then do these steps:
 - 1) Find the maintenance message in the applicable FIM Maintenance Message Index.
 - 2) Do the specified Fault Isolation Procedure for each maintenance message that shows.
 - 3) If the specified Fault Isolation Procedures does not fix the APU high oil temperature problem, then continue.
 - (d) If the MAT shows NOT ACTIVE for the maintenance messages specified above (or if the messages do not show), then continue.
 - (e) Move the APU maintenance switch to the NORM position.
- (4) Do this task: APU Oil Level Inspection, AMM TASK 12-13-04-200-801.

NOTE: Wait 10 minutes after APU shutdown before you check the oil level.

 - (a) If the oil level is low, service the APU.
 - (b) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Inspect the bleed air ducting in the APU compartment for damage that could cause leakage.
 - (a) If damage (leakage) is found, replace damaged ducting.

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- 1) Do the repair confirmation procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the maintenance message does not show), you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (b) If no damage (leakage) is found, then continue.
- (6) Inspect the flexible surge duct in the APU compartment for damage that could cause leakage.
- (a) If damage (leakage) is found, do this task: FLEXIBLE SURGE DUCT - REMOVAL/INSTALLATION, AMM 49-53-03/401
- 1) Do the repair confirmation procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the maintenance message does not show), you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (b) If no damage (leakage) is found, then continue.
- (7) Do this task: Magnetic Chip Collector Inspection, AMM TASK 49-27-04-200-801.
- (a) If the magnetic chip collectors are OK, then continue.
- (8) Examine the air inlet for the air/oil cooler:
- (a) If the air inlet is clogged, then clean the air/oil cooler, do this task: Air/Oil Cooler Cleaning, AMM TASK 49-27-09-000-802.
- 1) Do the Repair Confirmation procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (b) If the air inlet for the air/oil cooler is OK, then continue.
- (9) Make sure the APU turns freely:
- (a) Remove the end cap from the electric starter motor.
- (b) Use a socket and ratchet on the shaft to turn the electric starter motor shaft.
- 1) Turn the socket counterclockwise, forward facing aft.
- (c) If the APU does not turn freely, then replace the APU.
- These are the tasks:
- Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801, Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
- (d) If the APU turns freely, then continue.
- (10) Make sure there is a temperature drop across the air/oil cooler:
- (a) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (b) Use the APU air to operate the left and right air conditioning packs. To operate the packs, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.

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- (c) Use the APU generator to operate the left and the right transfer bus. To supply electrical power, do this task: Supply Electrical Power, AMM TASK 24-22-00-860-805.
- (d) To show the APU maintenance page, do this task: Showing a Maintenance Page, AMM TASK 31-61-00-800-804.
- (e) Look at the OIL TEMP and the OIL SUMP TEMP displays on the APU maintenance page.
- (f) Wait for the OIL TEMP display to show 60°C.
- (g) If the OIL SUMP TEMP display is less than 13°C above the OIL TEMP display, then the oil cooling system has a problem:
 - 1) Replace the oil thermostatic bypass valve.
These are the tasks:
Oil Thermal Bypass Valve Removal, AMM TASK 49-27-10-000-801,
Oil Thermal Bypass Valve Installation, AMM TASK 49-27-10-400-801.
 - a) Do the Repair Confirmation procedure at the end of this task.
 - b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - 2) Replace the air/oil cooler.
These are the tasks:
Air/Oil Cooler Removal, AMM TASK 49-27-09-000-801,
Air/Oil Cooler Installation, AMM TASK 49-27-09-400-801.
 - a) Do the Repair Confirmation procedure at the end of this task.
 - b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (h) If the air/oil cooler is OK, then replace the oil temperature sensor.
These are the tasks:
Oil Temperature Sensor Removal, AMM TASK 49-27-17-000-801,
Oil Temperature Sensor Installation, AMM TASK 49-27-17-400-801.
 - 1) Do the Repair Confirmation procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (i) Replace the lube cluster.
These are the tasks:
Lube Cluster Removal, AMM TASK 49-27-27-000-801,
Lube Cluster Installation, AMM TASK 49-27-27-400-801.
 - 1) Do the Repair Confirmation procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (11) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (b) If the APU wire harness does not have damage, then continue.
- (12) Replace the APU controller, M49002.

These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (13) Replace the APU, M49001.

These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or
Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or
Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - (a) Use the APU air to operate the left and right air conditioning packs. To operate the packs, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.
 - (b) Use the APU generator to operate the left and the right transfer bus. To supply electrical power, do this task: Supply Electrical Power, AMM TASK 24-22-00-860-805.
 - (c) Wait for the OIL TEMP display to become stable.

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- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

END OF TASK

802. Low Oil Pressure - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10270.

B. Description

- (1) The APU has low oil pressure.
- (2) The low oil pressure sensor is attached to the lube cluster.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Do this check for related maintenance messages:
 - (a) Set the APU maintenance switch on the P61 overhead panel to the TEST position.
 - (b) Look at the Existing Faults display on the MAT for these maintenance messages: 49-12880
49-12890
49-12950
49-12970
49-12980
49-12990
 - (c) If the MAT shows ACTIVE or LATCHED for one of the maintenance messages specified above, then do these steps:
 - 1) Find the maintenance message in the applicable FIM Maintenance Message Index.
 - 2) Do the specified Fault Isolation Procedure for each maintenance message.
 - 3) If the specified Fault Isolation Procedures does not fix the APU high oil temperature problem, then continue.
 - (d) If the MAT shows NOT ACTIVE for the maintenance messages specified above (or if the messages do not show), then continue.
 - (e) Move the APU maintenance switch to the NORM position.
- (4) Do this task: APU Oil Level Inspection, AMM TASK 12-13-04-200-801.
NOTE: Wait 10 minutes after APU shutdown before you check the oil level.
 - (a) If the oil level is low, service the APU. To service the APU, do this task: APU Oil Replenishing, AMM TASK 12-13-04-600-801.

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- (5) Examine the APU and the APU generator for signs of leakage:
- (a) If there is signs of leakage, then find and repair the cause of it.
 - (b) Do this task: Magnetic Chip Collector Inspection, AMM TASK 49-27-04-200-801.
 - (c) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - 1) Let the APU operate for 10 minutes.
 - 2) If the APU has an autoshutdown, then replace the lube cluster.

These are the tasks:

Lube Cluster Removal, AMM TASK 49-27-27-000-801,
Lube Cluster Installation, AMM TASK 49-27-27-400-801.
 - 3) Examine the drain tube assembly for leakage. To examine it, do this task: APU Drain System Leakage Check, AMM TASK 49-16-00-200-802.
 - a) If more than 10 drops of oil per hour come out of the middle drain tube, then replace the APU.

These are the tasks:

Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
 - 4) If there is smoke in the APU exhaust, replace the APU.

These are the tasks:

Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
 - 5) Examine the air/oil cooler supply tube and return tube for leakage.
 - 6) Examine the APU generator seal plate for leakage.
- (d) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.
- (e) Examine the drain tube assembly for leakage. To examine it, do this task: APU Drain System Leakage Check, AMM TASK 49-16-00-200-802.
 - 1) If more than 10 drops of oil per hour come out of the middle drain tube, then replace the APU.

These are the tasks:

Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
- (f) If there is no signs of leakage or smoke in the APU exhaust, then continue.

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- (6) Examine the APU wire harness:
- (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (c) If the APU wire harness does not have damage, then continue.
- (7) Replace the APU controller, M49002.
- These are the tasks:
- APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (a) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - 1) Let the APU operate for 10 minutes.
 - (b) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (8) Replace the APU, M49001.
- These are the tasks:
- Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or
Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or
Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
- (a) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - 1) Let the APU operate for 10 minutes.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - (a) Look at the APU maintenance page. To look at the APU maintenance page, do this task: Showing a Maintenance Page, AMM TASK 31-61-00-800-804.

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- (b) Use the APU air to operate the left and right air conditioning packs. To operate the packs, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.
- (c) Use the APU generator to operate the left and the right transfer bus. To supply electrical power, do this task: Supply Electrical Power, AMM TASK 24-22-00-860-805.
- (d) Wait for the OIL TEMP display to become stable.
- (e) Make sure the oil pressure is >40 psi.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

803. Oil Quantity Sensor Open - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance messages: 49-11870, 49-12860.

B. Description

- (1) The quantity circuit for the oil quantity/sump temperature sensor is open.
- (2) The oil quantity/sump temperature sensor is one assembly.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Do this check of the oil quantity/sump temperature sensor:
 - (a) Disconnect the D49021P connector from the oil quantity/sump temperature sensor.
 - (b) Connect the D49021P connector to a new or serviceable oil quantity/sump temperature sensor.
 - (c) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
 - (d) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then do these steps:

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- 2) Move the APU maintenance switch to the NORM position.
 - 3) Replace the oil quantity/sump temperature sensor.
These are the tasks:
Oil Quantity/Sump Temperature Sensor Removal, AMM TASK 49-94-01-000-801,
Oil Quantity/Sump Temperature Sensor Installation, AMM TASK 49-94-01-400-801.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - b) If the MAT shows ACTIVE for the maintenance message, then continue.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - a) Move the APU maintenance switch to the NORM position.
 - b) Disconnect the D49021P connector from the new oil quantity/sump temperature sensor.
 - c) Connect the D49021P connector to the installed oil quantity/sump temperature sensor.
 - d) Continue with the Fault Isolation Procedure.
- (4) Examine the APU wire harness:
- (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (c) If the APU wire harness does not have damage, then continue.
- (5) Do this resistance check of the APU wire harness:
- (a) Disconnect the D49021P connector from the oil quantity/sump temperature sensor, M49001M010.
 - (b) Disconnect the D49001P connector from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Disconnect the D49002P connector from the APU firewall.

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- (e) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (f) Install a jumper between pin 3 and pin 6 of connector D49021P.
- (g) Install a jumper between pin 4 and pin 6 of connector D49021P.
- (h) Measure the resistance between these pair of pins of connectors D49001P and D49002P at the APU firewall (WDM 49-94-11).

D49001P		D49002P	
pin 41	.....	pin 1	<10 ohms
pin 41	.....	pin 2	<10 ohms

- (i) If the resistance is >10 ohms for each pair of pins, do the steps that follow:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Re-connect the D49002P connector to the APU firewall.
 - 4) Remove the jumpers from the D49021P connector.
 - 5) Re-connect the D49021P connector to the oil quantity/sump temperature sensor.
 - 6) Do the Repair Confirmation procedure at the end of this task.
 - 7) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 8) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (j) If the resistance is <10 ohms for each pair of pins, then continue.
- (6) Do this resistance check of the airplane wire harness:
- (a) Remove the jumpers from the D49021P connector.
 - (b) Re-connect the D49021P connector to the oil quantity/sump temperature sensor.
 - (c) Disconnect the D49001P connector from the APU firewall.
 - (d) Disconnect the D49002P connector from the APU firewall.
 - 1) Install a jumper between pin 1 and pin 2 on the D49001B connector.
 - 2) Install a jumper between pin 1 of the D49001B connector and pin 41 of the D49001A connector.
 - (e) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (f) Measure the resistance between pin H1 and pin K1 of connector DM49002AB at the APU controller (WDM 49-94-11):
 - 1) Pin H1 and pin K1, specified resistance <10 ohms.
 - (g) Measure the resistance between these pair of pins of connectors DM49002AA and DM49002AB at the APU controller (WDM 49-94-11):

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DM49002AA

pin A11

DM49002AB

pin k1 <10 ohms

- (h) If the resistance is >10 ohms for each pair of pins, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Remove the jumpers from the APU firewall connectors.
 - 4) Re-connect the D49001P connector to the APU firewall.
 - 5) Re-connect the D49002P connector to the APU firewall.
 - 6) Do the Repair Confirmation procedure at the end of this task.
 - 7) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 8) If the MAT shows ACTIVE for the maintenance message, then continue.
- (i) If the resistance is <10 ohms for each pair of pins, then continue.
- (7) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

804. Oil Quantity Sensor Circuit Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance messages: 49-11880, 49-12870.

B. Description

- (1) The oil quantity circuit for the oil quantity/sump temperature sensor has a short.
- (2) The oil quantity/sump temperature sensor is one assembly.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
- (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (c) If the APU wire harness does not have damage, then continue.
- (4) Do this check of the connector for the oil quantity/sump temperature sensor:
 - (a) Disconnect the D49021P connector from the oil quantity/sump temperature sensor, M49001M010.
 - (b) Examine the D49021P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable oil quantity/sump temperature sensor, M49001M010, then do these steps:
 - (a) Connect the D49021P connector to the new oil quantity/sump temperature sensor.
 - (b) Move the APU MAINT switch on the P61 panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then do these steps:

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- 1) Move the APU MAINT switch on the P61 panel to the NORM position.
- 2) Replace the oil quantity/sump temperature sensor.
These are the tasks:
Oil Quantity/Sump Temperature Sensor Removal, AMM TASK 49-94-01-000-801,
Oil Quantity/Sump Temperature Sensor Installation, AMM TASK 49-94-01-400-801.
- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable oil quantity/sump temperature sensor, M49001M010, then to these steps:
 - (a) Make sure the APU MAINT switch is in the NORM position.
 - (b) Measure the resistance between these pair of pins of the connector receptacle for the oil quantity/sump temperature sensor, M49001M010 (WDM 49-94-11):
 - 1) Pin 3 and pin 5 (ground), specified resistance >100K ohms.
 - 2) Pin 4 and pin 5 (ground), specified resistance >100K ohms.
 - 3) Pin 6 and pin 5 (ground), specified resistance >100K ohms.
 - 4) Pin 3 and pin 6, specified resistance >100K ohms.
 - 5) Pin 4 and pin 6, specified resistance >100K ohms.
 - (c) If the resistance is <100K ohms for each pair of pins, then do the steps that follow:
 - 1) Replace the oil quantity/sump temperature sensor.
These are the tasks:
Oil Quantity/Sump Temperature Sensor Removal, AMM TASK 49-94-01-000-801,
Oil Quantity/Sump Temperature Sensor Installation, AMM TASK 49-94-01-400-801.
 - 2) Re-connect the D49021P connector to the oil quantity/sump temperature sensor.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the resistance is >100K ohms for each pair of pins, then continue.
- (7) Do this resistance check of the APU wire harness:
 - (a) Disconnect the D49021P connector from the oil quantity/sump temperature sensor, M49001M010.
 - (b) Disconnect the D49001P connector from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Disconnect the D49002P connector from the APU firewall.

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- (e) Examine the electrical connector D49002P for contamination and damage:
- 1) If the connector has contamination, clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (f) Measure the resistance between these pair of pins of connectors D49001P and D49002P at the APU firewall (WDM 49-94-11).

D49001P		D49002P	
pin 41	.....	pin 1	>100K ohms
pin 41	.....	pin 2	>100K ohms

- (g) Measure the resistance between these pair of pins of connector D49002P at the APU firewall (WDM 49-94-11):
- 1) Pin 1 and pin 2, specified resistance >100K ohms.
 - 2) Pin 1 and the connector backshell, specified resistance >100K ohms.
 - 3) Pin 2 and the connector backshell, specified resistance >100K ohms.
- (h) Measure the resistance between these pair of pins of connector D49001P at the APU firewall (WDM 49-94-11):
- 1) Pin 41 and the connector backshell, specified resistance >100K ohms.
- (i) If the resistance is <100K ohms for each pair of pins, do the steps that follow:
- 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Re-connect the D49002P connector to the APU firewall.
 - 4) Re-connect the D49021P connector to the oil quantity/sump temperature sensor.
 - 5) Do the Repair Confirmation procedure at the end of this task.
 - 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 7) If the MAT shows ACTIVE for the maintenance message, then continue.
- (j) If the resistance is >100K ohms for each pair of pins, then continue.
- (8) Do this resistance check of the airplane wire harness:
- (a) Disconnect the D49001P connector from the APU firewall.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - (c) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-94-11):
 - 1) Pin H1 and pin K1, specified resistance >100K ohms.
 - 2) Pin H1 and pin H2 (ground), specified resistance >100K ohms.
 - 3) Pin K1 and pin J1 (ground), specified resistance >100K ohms.

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- (e) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-94-11):

1) Pin A11 and pin A10 (ground), specified resistance >100K ohms.

- (f) Measure the resistance between these pair of pins of connectors DM49002AA and DM49002AB at the APU controller (WDM 49-94-11):

DM49002AA	DM49002AB	RESISTANCE
pin A11	pin k1	>100K ohms
pin A11	pin H1	>100K ohms

- (g) If the resistance is <100K for each pair of pins, then do these steps.

- 1) Repair the airplane wire harness.
- 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- 3) Re-connect the D49001P connector to the APU firewall.
- 4) Re-connect the D49002P connector to the APU firewall.
- 5) Do the Repair Confirmation procedure at the end of this task.
- 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 7) If the MAT shows ACTIVE for the maintenance message, then continue.

- (h) If the resistance is >100K ohms for each pair of pins, then continue.

- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

805. Oil Pressure Sensor Signal Out of Range - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance messages: 49-12880, 49-12890.

B. Description

- (1) The signal for the oil pressure sensor is out of range, or the circuit is failed.
- (2) The oil pressure sensor is attached to the lube cluster.

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C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
 - (2) Make sure the APU selector is in the OFF position.
 - (3) Replace the oil pressure sensor.

These are the tasks:

Oil Pressure Sensor Removal, AMM TASK 49-27-16-000-801,
Oil Pressure Sensor Installation, AMM TASK 49-27-16-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (4) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (c) If the APU wire harness does not have damage, then continue.
- (5) Do this resistance check of the APU wire harness:

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- (a) Disconnect the D49016P connector from the oil pressure sensor, M49001M301.
 - 1) Install a jumper between pin 1 and pin 2.
 - 2) Install a jumper between pin 3 and pin 4.
- (b) Disconnect the D49001P connector from the APU firewall.
- (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (d) Measure the resistance between these pairs of pins of connector D49001P at the APU firewall (WDM 49-94-11):
 - 1) Pin 27 and pin 28, specified resistance <50 ohms.
 - 2) Pin 29 and pin 30, specified resistance <50 ohms.
 - 3) Pin 27 and the connector backshell, specified resistance >100K ohms.
 - 4) Pin 28 and the connector backshell, specified resistance >100K ohms.
 - 5) Pin 29 and the connector backshell, specified resistance >100K ohms.
 - 6) Pin 30 and the connector backshell, specified resistance >100K ohms.
- (e) Remove the jumpers from the D49016P connector.
- (f) Measure the resistance between these pairs of pins of connector D49001P at the APU firewall (WDM 49-94-11):
 - 1) Pin 27 and pin 28, specified resistance >100K ohms.
 - 2) Pin 29 and pin 30, specified resistance >100K ohms.
- (g) If the resistance is not in the specified range for each pair of pins, do these steps:
 - 1) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Re-connect the D49016P connector to the oil pressure sensor.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) If the resistance is in the range specified for each pair of pins, then continue.
- (6) Do this resistance check of the airplane wire harness:
 - (a) Re-connect the D49016P connector to the oil pressure sensor.
 - (b) Disconnect the D49001P connector from the APU firewall.
 - 1) Install a jumper between pin 27 and pin 28 on the D49001P connector.
 - 2) Install a jumper between pin 29 and pin 30 on the D49001P connector.
 - (c) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.

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- (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-94-11):
 - 1) Pin D1 and pin D2, specified resistance <50 ohms.
 - 2) Pin F2 and pin H2, specified resistance <50 ohms.
 - 3) Pin D1 and pin D3 (ground), specified resistance >100K ohms.
 - 4) Pin D2 and pin D3 (ground), specified resistance >100K ohms.
 - 5) Pin F2 and pin G2 (ground), specified resistance >100K ohms.
 - 6) Pin H2 and pin G2 (ground), specified resistance >100K ohms.
- (e) Remove the jumpers from the D49016P connector.
- (f) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-94-11):
 - 1) Pin D1 and pin D2, specified resistance >100K ohms.
 - 2) Pin F2 and pin H2, specified resistance >100K ohms.
- (g) If the resistance is not in the specified range for each pair of pins, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Re-connect the D49001P connector to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) If the resistance is the specified range for each pair of pins, then continue.
- (7) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

806. Oil Pressure Sensor Circuit Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12900.

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B. Description

- (1) The oil pressure sensor circuit has a short.
- (2) The oil pressure sensor is attached to the lube cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (c) If the APU wire harness does not have damage, then continue.
- (4) Do this check of the connector for the oil pressure sensor:
 - (a) Disconnect the D49016P connector from the oil pressure sensor, M49001M301.
 - (b) Examine the D49016P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).

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- 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable oil pressure sensor, M49001M301, then do these steps:
 - (a) Connect the D49016P connector to the new oil pressure sensor.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the oil pressure sensor.
These are the tasks:
Oil Pressure Sensor Removal, AMM TASK 49-27-16-000-801,
Oil Pressure Sensor Installation, AMM TASK 49-27-16-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable oil pressure sensor, M49001M301, then do this resistance check of the oil pressure sensor:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between these pairs of pins of the connector receptacle for the oil pressure sensor:
 - 1) Pin 1 and pin 2, specified resistance >100 ohms.
 - 2) Pin 1 and pin 3, specified resistance >100 ohms.
 - 3) Pin 1 and pin 4, specified resistance >100 ohms.
 - 4) Pin 2 and pin 3, specified resistance >100 ohms.
 - 5) Pin 2 and pin 4, specified resistance >100 ohms.
 - 6) Pin 3 and pin 4, specified resistance >100 ohms.
 - 7) Pin 1 and pin 5 (ground), specified resistance >100K ohms.
 - 8) Pin 2 and pin 5 (ground), specified resistance >100K ohms.
 - 9) Pin 3 and pin 5 (ground), specified resistance >100K ohms.
 - 10) Pin 4 and pin 5 (ground), specified resistance >100K ohms.
 - (c) If the resistance is not in the specified range for each pair of pins, then do these steps:
 - 1) Replace the oil pressure sensor.
These are the tasks:
Oil Pressure Sensor Removal, AMM TASK 49-27-16-000-801,
Oil Pressure Sensor Installation, AMM TASK 49-27-16-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows ACTIVE for the maintenance message, then continue.

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- (d) If the resistance is in the specified range for each pair of pins, then continue.
- (7) Do this resistance check for the APU wire harness:
 - (a) Disconnect the D49016P connector from the oil pressure sensor, M49001M301.
 - (b) Disconnect the D49001P connector from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of connector D49001P at the APU firewall (WDM 49-94-11):
 - 1) Pin 27 and pin 28, specified resistance >100K ohms.
 - 2) Pin 27 and pin 29, specified resistance >100K ohms.
 - 3) Pin 27 and pin 30, specified resistance >100K ohms.
 - 4) Pin 28 and pin 29, specified resistance >100K ohms.
 - 5) Pin 28 and pin 30, specified resistance >100K ohms.
 - 6) Pin 29 and pin 30, specified resistance >100K ohms.
 - 7) Pin 27 and the connector backshell, specified resistance >100K ohms.
 - 8) Pin 28 and the connector backshell, specified resistance >100K ohms.
 - 9) Pin 29 and the connector backshell, specified resistance >100K ohms.
 - 10) Pin 30 and the connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Re-connect the D49016P connector to the oil pressure sensor.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is in the range specified for each pair of pins, then continue.
- (8) Do this resistance check for the airplane wire harness:
 - (a) Re-connect the D49016P connector to the oil pressure sensor.
 - (b) Disconnect the D49001P connector from the APU firewall.
 - (c) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-94-11):
 - 1) Pin D1 and pin D2, specified resistance >100K ohms.

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- 2) Pin D1 and pin D3 (ground), specified resistance >100K ohms.
- 3) Pin D2 and pin D3 (ground), specified resistance >100K ohms.
- (e) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-94-11):
 - 1) Pin F2 and pin H2, specified resistance >100K ohms.
 - 2) Pin F2 and pin G2 (ground), specified resistance >100K ohms.
 - 3) Pin H2 and pin G2 (ground), specified resistance >100K ohms.
- (f) Measure the resistance between these pairs of pins of connectors DM49002AA and DM49002AB at the APU controller (WDM 49-94-11):

DM49002AB	DM49002AA	RESISTANCE
pin D1	pin F2	>100K ohms
pin D1	pin H2	>100K ohms
pin D2	pin F2	>100K ohms
pin D2	pin H2	>100K ohms

- (g) If the resistance is <100K ohms for each pair of pins, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Re-connect the D49001P connector to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) If the resistance is >100K ohms for each pair of pins, then continue.
- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

———— **END OF TASK** ————

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807. Oil Temperature Sensor Circuit Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12910.

B. Description

- (1) The oil temperature sensor circuit has a short.
- (2) The oil temperature sensor is attached to the lube cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (c) If the APU wire harness does not have damage, then continue.
- (4) Do this check of the connector for the oil temperature sensor:
 - (a) Disconnect the D49014P connector from the oil temperature sensor, M49001M302.

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- (b) Examine the D49014P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable oil temperature sensor, M49001M302, then do these steps:
 - (a) Connect the D49014P connector to the new oil temperature sensor.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the oil temperature sensor.
These are the tasks:
Oil Temperature Sensor Removal, AMM TASK 49-27-17-000-801,
Oil Temperature Sensor Installation, AMM TASK 49-27-17-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable oil temperature sensor, then do this resistance check:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between these pairs of pins of the connector receptacle for the oil temperature sensor:
 - 1) Pin A and pin B, specified resistance >10 ohms.
 - 2) Pin A and structure ground, specified resistance >100K ohms.
 - 3) Pin B and structure ground, specified resistance >100K ohms.
 - (c) If the resistance is not in the specified range for each pair of pins, then do these steps:
 - 1) Replace the oil temperature sensor.
These are the tasks:
Oil Temperature Sensor Removal, AMM TASK 49-27-17-000-801,
Oil Temperature Sensor Installation, AMM TASK 49-27-17-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the resistance is in the specified range for each pair of pins, then continue.
- (7) Do this resistance check for the APU wire harness:
 - (a) Re-connect the D49014P connector from the oil temperature sensor, M49001M302.
 - (b) Disconnect the D49001P connector from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:



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- 1) If the connector has contamination, clean the connector (SWPM 20-60-01).
- 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (d) Measure the resistance between these pairs of pins of connector D49001P at the APU firewall (WDM 49-94-11):
 - 1) Pin 24 and the connector backshell, specified resistance >100K ohms.
 - 2) Pin 25 and the connector backshell, specified resistance >100K ohms.
- (e) If the resistance is <100K ohms for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (f) If the resistance is >100K ohms for each pair of pins, then continue.
- (8) Do this resistance check of the airplane wire harness:
 - (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-94-11):
 - 1) Pin E3 and pin F4 (ground), specified resistance >100K ohms.
 - 2) Pin E4 and pin F4 (ground), specified resistance >100K ohms.
 - (c) If the resistance is <100K ohms for each pair of pins, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the resistance is >100K ohms for each pair of pins, then continue.
- (9) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.



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- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

808. Oil Temperature Sensor Signal Out Of Range - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12920.

B. Description

- (1) The oil temperature sensor signal is out of range.
- (2) The oil temperature sensor is attached to the lube cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the oil temperature sensor.

These are the tasks:

Oil Temperature Sensor Removal, AMM TASK 49-27-17-000-801,

Oil Temperature Sensor Installation, AMM TASK 49-27-17-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.

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- (4) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (c) If the APU wire harness does not have damage, then continue.
- (5) Do this resistance check for the APU wire harness:
 - (a) Disconnect the D49001P connector from the APU firewall.
 - (b) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Measure the resistance between these pairs of pins of connector D49001P at the APU firewall (WDM 49-94-11):
 - 1) Pin 24 and pin 25, specified resistance <1000 ohms.
 - 2) Pin 24 and the connector backshell, specified resistance >100K ohms.
 - 3) Pin 25 and the connector backshell, specified resistance >100K ohms.
 - (d) If the resistance is not in the specified range for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is the specified range for each pair of pins, then continue.
- (6) Do this resistance check for the airplane wire harness:
 - (a) Re-connect the D49001P connector to the APU firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.

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- (c) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-94-11):
 - 1) Pin E3 and pin E4, specified resistance <1000 ohms.
 - 2) Pin E3 and pin F4 (ground), specified resistance >100K ohms.
 - 3) Pin E4 and pin F4 (ground), specified resistance >100K ohms.
 - (d) If the resistance is not in the specified range for each pair of pins, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is in the specified range for each pair of pins, then continue.
- (7) Replace the APU controller, M49002.
- These are the tasks:
- APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

809. Oil Sump Temperature Sensor Circuit Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12930.

B. Description

- (1) The temperature circuit for the oil quantity/sump temperature sensor has a short.
- (2) The oil quantity/sump temperature sensor is one assembly.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.

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- (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (c) If the APU wire harness does not have damage, then continue.
- (4) Do this check of the connector for the oil quantity/sump temperature sensor, M49001M010:
 - (a) Disconnect the D49021P connector from the oil quantity/sump temperature sensor, M49001M010.
 - (b) Examine the electrical connector D49021P for contamination and damage:
 - 1) If the connector has contamination, clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable oil quantity/sump temperature, M49001M010, then do these steps:
 - (a) Connect the D49021P connector to the oil quantity/sump temperature sensor.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the oil quantity/sump temperature sensor.
These are the tasks:

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- Oil Quantity/Sump Temperature Sensor Removal, AMM TASK 49-94-01-000-801,
Oil Quantity/Sump Temperature Sensor Installation, AMM TASK 49-94-01-400-801.
- 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (6) If you do not have a new or serviceable oil quantity/sump temperature sensor, M49001M010, then do this resistance check:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between these pairs of pins of the connector receptacle for the oil quantity/sump temperature sensor, M49001M010 (WDM 49-94-11):
 - 1) Pin 2 and pin 7, specified resistance >10 ohms.
 - 2) Pin 2 and pin 5 (ground), specified resistance >100K ohms.
 - 3) Pin 7 and pin 5 (ground), specified resistance >100K ohms.
 - (c) If the resistance is not in the specified range for each pair of pins, then do these steps:
 - 1) Replace the oil quantity/sump temperature sensor.
These are the tasks:
Oil Quantity/Sump Temperature Sensor Removal, AMM TASK 49-94-01-000-801,
Oil Quantity/Sump Temperature Sensor Installation, AMM TASK 49-94-01-400-801.
 - 2) Re-connect the D49021P connector to the oil quantity/sump temperature sensor.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the resistance is in the specified range for each pair of pins, then continue.
 - (7) Do this resistance check for the APU wire harness:
 - (a) Disconnect the D49021P connector from the oil quantity/sump temperature sensor.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-94-11):
 - 1) Pin 41 and pin 42, specified resistance >100K ohms.
 - 2) Pin 41 and the connector backshell, specified resistance >100K ohms.
 - 3) Pin 42 and the connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.

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These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

- 2) Re-connect the D49021P connector to the oil quantity/sump temperature sensor.
 - 3) Re-connect the D49002P connector to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (f) If the resistance is >100K ohms for each pair of pins, then continue.
- (8) Do this resistance check for the airplane wire harness:
- (a) Re-connect the D49021P connector to the oil quantity/sump temperature sensor.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - (c) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-94-11):
 - 1) Pin C4 and pin D4, specified resistance >100K ohms.
 - 2) Pin C4 and pin B4 (ground), specified resistance >100K ohms.
 - 3) Pin D4 and pin B4 (ground), specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms for each pair of pins, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is >100K ohms for each pair of pins, then continue.
- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

810. Sump Temperature Sensor Signal Out Of Range - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12940.

B. Description

- (1) The sump temperature signal for the oil quantity/sump temperature sensor is out of range.
- (2) The oil quantity/sump temperature sensor is one assembly.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Do this check of the oil quantity/sump temperature sensor, M49001M010:
 - (a) Disconnect the D49021P connector from the oil quantity/sump temperature sensor.
 - (b) Examine the D49021P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Connect the D49021P connector to a new or a serviceable oil quantity/sump temperature sensor.
 - (d) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
 - (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then do these steps:
 - 2) Move the APU maintenance switch to the NORM position.
 - 3) Replace the oil quantity/sump temperature sensor.

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These are the tasks:

Oil Quantity/Sump Temperature Sensor Removal, AMM TASK 49-94-01-000-801,
Oil Quantity/Sump Temperature Sensor Installation, AMM TASK 49-94-01-400-801.

- 4) Do the Repair Confirmation procedure at the end of this task.
 - a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - b) If the MAT shows ACTIVE for the maintenance message, then continue.
- 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - a) Move the APU maintenance switch to the NORM position.
 - b) Disconnect the D49021P connector from the new oil quantity/sump temperature sensor.
 - c) Connect the D49021P connector to the installed oil quantity/sump temperature sensor.
- (4) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (c) If the APU wire harness does not have damage, then continue.
- (5) Do this resistance check for the APU wire harness:
 - (a) Disconnect the D49002P connector from the APU firewall.
 - (b) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-94-11):
 - 1) Pin 41 and pin 42, specified resistance 10-1000 ohms.
 - 2) Pin 41 and the connector backshell, specified resistance >100K ohms.
 - 3) Pin 42 and the connector backshell, specified resistance >100K ohms.
- (d) Disconnect the D49021P connector from the oil quantity/sump temperature sensor.

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- (e) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-94-11):
 - 1) Pin 41 and pin 42, specified resistance >100K ohms.
- (f) If the resistance is not in the specified range for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-connect the D49021P connector to the oil quantity/sump temperature sensor.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (g) If the resistance is the specified range for each pair of pins, then continue.
- (6) Do this resistance check of the airplane wire harness:
 - (a) Re-connect the D49002P connector to the APU firewall.
 - (b) Re-connect the D49021P connector to the oil quantity/sump temperature sensor.
 - (c) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-94-11):
 - 1) Pin C4 and pin D4, specified resistance <1000 ohms.
 - 2) Pin C4 and pin B4 (ground), specified resistance >100K ohms.
 - 3) Pin D4 and pin B4 (ground), specified resistance >100K ohms.
 - (e) Disconnect the D49002P connector from the APU firewall.
 - (f) Measure the resistance between these pairs of pins of connector D49002P at the APU controller (WDM 49-94-11):
 - 1) Pin C4 and pin D4, specified resistance >100K ohms.
 - (g) If the resistance is not in the specified range for each pair of pins, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (h) If the resistance is in the specified range for each pair of pins, then continue.
- (7) Replace the APU controller, M49002.
These are the tasks:

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APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

811. Generator Filter Clogged - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12950.

B. Description

- (1) The filter element for the APU generator is clogged. The switch for the generator bypass valve/switch is in the bypass position.
- (2) The APU generator filter element and the generator bypass valve/switch are attached to the lube cluster.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Make sure this OMS message does not show:
 - (a) 49-12960
 - (b) If this maintenance message is LATCHED or ACTIVE, then do these steps:
 - 1) Do the Fault Isolation Procedure for the message that shows.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (c) If this maintenance message is NOT ACTIVE (or do not show), then continue.
- (4) Do this task: Magnetic Chip Collector Inspection, AMM TASK 49-27-04-200-801.

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- (a) If the magnetic chip collector for the generator scavenge has metal particles, do these steps:
 - 1) Replace the APU generator.
These are the tasks:
APU Generator Removal, AMM TASK 24-21-01-000-801,
APU Generator Installation, AMM TASK 24-21-01-400-801.
- (b) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Remove the generator scavenge filter element. To remove it, do this task: Generator Scavenge Oil Filter Element Removal, AMM TASK 49-27-03-000-802.
 - (a) Examine the filter element for contamination.
 - (b) If the filter element has contamination, replace the APU generator.
These are the tasks:
APU Generator Removal, AMM TASK 24-21-01-000-801,
APU Generator Installation, AMM TASK 24-21-01-400-801.
 - (c) Install a new filter element. To install it, do this task: Generator Scavenge Oil Filter Element Installation, AMM TASK 49-27-03-400-802.
 - (d) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Make sure the APU turns freely:
 - (a) Remove the end cap from the electric starter motor.
 - (b) Use a socket and ratchet on the shaft to turn the electric starter motor shaft.
 - 1) Turn the socket counterclockwise, forward facing aft.
 - (c) If the APU does not turn freely, then replace the APU.
These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or
Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM
TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method),
AMM TASK 49-11-01-400-801.
 - 1) Do the Repair Confirmation procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (d) If the APU turns freely, then continue.

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- (7) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (c) If the APU wire harness does not have damage, then continue.
- (8) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - (a) Let the APU operate for 5 minutes.
 - (b) Look at the status page on EICAS.
 - (c) Make sure the OIL TEMP is $>-18^{\circ}\text{C}$.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— END OF TASK —————

812. Generator Filter Bypass Valve/Switch Circuit Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12960.

B. Description

- (1) The generator filter bypass valve/switch circuit has a short. The generator filter bypass valve/switch is one assembly.
- (2) The generator filter bypass valve/switch is attached to the lube cluster.

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C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) Examine the oil temperature:
NOTE: This fault can not be detected if the oil temperature is $<-18^{\circ}\text{C}$.
 - (b) Look at the status page on lower EICAS.
 - (c) Make sure the oil temperature is $>-18^{\circ}\text{C}$.
 - (d) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (e) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (c) If the APU wire harness does not have damage, then continue.
- (4) Do this check of the connector for the generator filter bypass valve/switch:
 - (a) Disconnect the D49018P connector from the generator filter bypass valve/switch, M49001S301.
 - (b) Examine the D49018P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).

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- 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable generator filter bypass valve/switch, M49001S301, then do these steps:
 - (a) Connect the D49018P connector to the new generator filter bypass valve/switch.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the generator filter bypass valve/switch.

These are the tasks:
Generator Filter Bypass Valve/Switch Removal, AMM TASK 49-27-15-000-801,
Generator Filter Bypass Valve/Switch Installation, AMM TASK 49-27-15-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable generator filter bypass valve/switch, then do this resistance check:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Disconnect the D49018P connector from the generator filter bypass valve/switch, M49001S301.
 - (c) Measure the resistance between these pairs of pins of the connector receptacle for the generator filter bypass valve/switch (WDM 49-94-11):
 - 1) Pin 1 and pin 2, specified resistance >100K ohms.

NOTE: When the APU is shutdown, the generator filter bypass valve/switch is open.
 - 2) Pin 1 and pin 3 (ground), specified resistance >100K ohms.
 - 3) Pin 2 and pin 3 (ground), specified resistance >100K ohms.
 - (d) If the resistance is <100K ohms for each pair of pins, then do these steps:
 - 1) Replace the generator filter bypass valve/switch.

These are the tasks:
Generator Filter Bypass Valve/Switch Removal, AMM TASK 49-27-15-000-801,
Generator Filter Bypass Valve/Switch Installation, AMM TASK 49-27-15-400-801.
 - 2) Re-connect the D49018P connector to the generator filter bypass valve/switch, M49001S301.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.



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- (e) If the resistance is >100K ohms for each pair of pins, then continue.
- (7) Do this resistance check for the APU wire harness:
 - (a) Disconnect the D49018P connector from the generator filter bypass valve/switch.
 - (b) Disconnect the D49001P connector from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of connector D49001P at the APU firewall (WDM 49-94-11):
 - 1) Pin 4 and pin 32, specified resistance >100K ohms.
 - 2) Pin 32 and structure ground, specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D490018P connector to the generator filter bypass valve/switch.
 - 3) Re-connect the D49001P connector to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is >100K ohms for each pair of pins, then continue.
- (8) Do this resistance check of the airplane wire harness:
 - (a) Disconnect the D49001P connector from the APU firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-94-11):
 - 1) Pin C11 and pin E7, specified resistance >100K ohms.
 - 2) Pin C11 and structure ground, specified resistance >100K ohms.
 - 3) Pin E7 and structure ground, specified resistance >100K ohms.
 - (d) If the resistance is <100K ohms for each pair of pins, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.



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- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is >100K ohms for each pair of pins, then continue.
- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) Examine the oil temperature:

NOTE: This fault can not be detected if the oil temperature is <-18°C.

 - (a) Look at the status page on lower EICAS.
 - (b) Make sure the oil temperature is >-18°C.
- (4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (5) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

813. APU Oil Filter Clogged - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12990.

B. Description

- (1) The filter element for the APU is clogged. The switch for the oil filter bypass valve/switch is in the bypass position.
- (2) The oil filter bypass valve/switch is one assembly.
- (3) The APU oil filter element and the oil filter bypass valve/switch are attached to the lube cluster.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Do this check for a related maintenance message:

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- (a) Set the APU maintenance switch on the P61 overhead panel to the TEST position.
 - (b) Look at the Existing Faults display on the MAT for these maintenance message:
 - (c) 49-13000
 - (d) If the MAT shows ACTIVE or LATCHED for the maintenance message specified above, then do these steps:
 - 1) Find the maintenance message in the applicable FIM Maintenance Message Index.
 - 2) Do the specified Fault Isolation Procedure for the maintenance message.
 - 3) If the specified Fault Isolation Procedures does not fix the oil filter clogged problem, then continue.
 - (e) If the MAT shows NOT ACTIVE for the maintenance message specified above (or if the messages do not show), then continue.
 - (f) Move the APU maintenance switch to the NORM position.
- (4) Do this task: Magnetic Chip Collector Inspection, AMM TASK 49-27-04-200-801.
- (a) If the magnetic chip collectors have a problem, then do these steps:
 - 1) Do the Repair Confirmation Procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (b) If the magnetic chip collectors are OK, then continue.
- (5) Examine the APU oil filter element:
- (a) Remove the APU oil filter element. To remove it, do this task: Oil Filter Element Removal, AMM TASK 49-27-03-000-801.
 - (b) Examine the APU oil filter element for contamination.
 - (c) If the filter element has contamination, then do these steps:
 - 1) Remove the generator scavenge filter element. To remove it, do this task: Generator Scavenge Oil Filter Element Removal, AMM TASK 49-27-03-000-802.
 - 2) Examine the generator scavenge filter for contamination.
 - 3) If the generator scavenge filter element has contamination, then, do this task: Flush the APU Oil, AMM TASK 12-22-05-610-802.
 - (d) Install a new oil filter element. To install it, do this task: Oil Filter Element Installation, AMM TASK 49-27-03-400-801
 - (e) Install a new generator scavenge filter element. To install it, do this task: Generator Scavenge Oil Filter Element Installation, AMM TASK 49-27-03-400-802
- (6) Make sure the APU turns freely:
- (a) Remove the end cap from the electric starter motor.
 - (b) Use a socket and ratchet on the shaft to turn the electric starter motor shaft.
 - 1) Turn the socket counterclockwise, forward facing aft.
 - (c) If the APU does not turn freely, replace the APU.

These are the tasks:

Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or
Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,

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Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.

- (d) If the APU turns freely, then continue.
- (7) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the APU wire harness does not have damage, then continue.
- (8) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - (a) Let the APU operate for 5 minutes.
- (2) Examine the oil temperature:
NOTE: This fault can not be detected if the oil temperature is $<-18^{\circ}\text{C}$.
 - (a) Look at the status page on lower EICAS.
 - (b) Make sure the OIL TEMP is $>-18^{\circ}\text{C}$.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— END OF TASK —————

814. APU Oil Filter Bypass Valve/Switch Circuit Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-13000.

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B. Description

- (1) The oil filter bypass valve/switch circuit has a short.
- (2) The APU oil filter element and the oil filter bypass valve/switch are attached to the lube cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) Examine the oil temperature:
NOTE: This fault can not be detected if the oil temperature is $<-18^{\circ}\text{C}$.
 - (b) Look at the status page on lower EICAS.
 - (c) Make sure the oil temperature is $>-18^{\circ}\text{C}$.
 - (d) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (e) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (c) If the APU wire harness does not have damage, then continue.
- (4) Do this check of the connector for the APU oil filter bypass valve/switch:
 - (a) Disconnect the D49017P connector from the oil pressure sensor, M49001M300.

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- (b) Examine the D49017P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable oil filter bypass switch, M49001M300, then do these steps:
 - (a) Connect the D49017P connector to the new oil filter bypass switch.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the oil filter bypass switch.
These are the tasks:
Oil Filter Bypass Valve/Switch Removal, AMM TASK 49-27-07-000-801,
Oil Filter Bypass Valve/Switch Installation, AMM TASK 49-27-07-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable oil filter bypass switch, then do this resistance check:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Disconnect the D49017P connector from the new oil filter bypass valve/switch, M49001S300.
 - (c) Examine the electrical connector D49017P for contamination and damage:
 - 1) If the connector has contamination, clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of the connector receptacle for the oil filter differential pressure switch (WDM 49-94-11):
 - 1) Pin 1 and pin 2, specified resistance >100K ohms.
NOTE: When the APU is shutdown, the differential pressure switch is open.
 - 2) Pin 1 and pin 3 (ground), specified resistance >100K ohms.
 - 3) Pin 2 and pin 3 (ground), specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms for each pair of pins, then do these steps:
 - 1) Replace the oil filter bypass valve/switch.
These are the tasks:
Generator Filter Bypass Valve/Switch Removal, AMM TASK 49-27-15-000-801,
Generator Filter Bypass Valve/Switch Installation, AMM TASK 49-27-15-400-801.
 - 2) Re-connect the D49017P connector to the oil filter bypass valve/switch, M49001S300.

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- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) If the resistance is >100K ohms for each pair of pins, then continue.
- (7) Do this resistance check of the APU wire harness:
 - (a) Disconnect the D49017P connector from the oil filter differential pressure switch.
 - (b) Disconnect the D49001P connector from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of connector D49001P at the APU firewall (WDM 49-31-11, 49-94-11):
 - 1) Pin 4 and pin 31, specified resistance >100K ohms.
 - 2) Pin 31 and structure ground, specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D490017P connector to the APU oil filter bypass valve/switch.
 - 3) Re-connect the D49001P connector to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is >100K ohms for each pair of pins, then continue.
- (8) Do this resistance check of the airplane wire harness:
 - (a) Disconnect the D49001P connector from the APU firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-31-11, 49-94-11):
 - 1) Pin F9 and pin E7, specified resistance >100K ohms.
 - 2) Pin F9 and structure ground, specified resistance >100K ohms.
 - 3) Pin E7 and structure ground, specified resistance >100K ohms.
 - (d) If the resistance is <100K ohms for each pair of pins, then do these steps:

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- 1) Repair the airplane wire harness.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (e) If the resistance is >100K ohms for each pair of pins, then continue.
- (9) Replace the APU controller, M49002.
- These are the tasks:
- APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) Examine the oil temperature:
NOTE: This fault can not be detected if the oil temperature is <-18°C.
 - (a) Look at the status page on lower EICAS.
 - (b) Make sure the oil temperature is >-18°C.
- (4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (5) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

815. Low Oil Pressure Switch Circuit Open - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12970.

B. Description

- (1) The low oil pressure switch circuit is open.
- (2) The low oil pressure switch is attached to the lube cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.

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- (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (c) If the APU wire harness does not have damage, then continue.
- (4) Do this check of the connector for the low oil pressure switch, M49001S302:
 - (a) Disconnect the D49015P connector from the low oil pressure switch, M49001S302.
 - (b) Examine the D49015P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable low oil pressure switch, M49001S302, then do these steps:
 - (a) Connect the D49015P connector to the new low oil pressure switch.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the low oil pressure switch.
These are the tasks:
Low Oil Pressure Switch Removal, AMM TASK 49-27-14-000-801,

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Low Oil Pressure Switch Installation, AMM TASK 49-27-14-400-801.

- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable low oil pressure switch, then do this resistance check:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Disconnect the D49015P connector from the new low oil pressure switch, M49001S302.
 - (c) Examine the electrical connector D49015P for contamination and damage:
 - 1) If the connector has contamination, clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between pin 1 and pin 2 of the connector receptacle for the low oil pressure switch (WDM 49-94-11):
 - (e) If the resistance is >10 ohms, then do these steps:

NOTE: The low oil pressure switch is normally closed when the APU is shutdown.

 - 1) Replace the low oil pressure switch, M49001S302.

These are the tasks:

Low Oil Pressure Switch Removal, AMM TASK 49-27-14-000-801,
Low Oil Pressure Switch Installation, AMM TASK 49-27-14-400-801.

 - 2) Re-connect the D49015P connector to the low oil pressure switch, M49001S302.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is <10 ohms, then continue.
- (7) Do this resistance check of the APU wire harness:
 - (a) Re-connect the D49015P connector to the low oil pressure switch.
 - (b) Disconnect the D49001P connector from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between pin 4 and pin 26 of connector D49001P at the APU firewall (WDM 49-94-11).
 - (e) If the resistance is >10 ohms, then do these steps:
 - 1) Replace the APU wire harness.

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These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

- 2) Re-connect the D49001P connector to the APU firewall.
- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) If the resistance is <10 ohms, then continue.
- (8) Do this resistance check of the airplane wire harness:
 - (a) Re-connect the D49001P connector to the APU firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between pin F11 and pin E7 of connector DM49002AA at the APU controller (WDM 49-94-11).
 - (d) If the resistance is >10 ohms, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is <10 ohms for each pair of pins, then continue.
- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

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816. Low Oil Pressure Switch Circuit Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12980.

B. Description

- (1) The low oil pressure switch circuit has a short.
- (2) The low oil pressure switch is attached to the lube cluster.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the low oil pressure switch, M49001S302.

These are the tasks:

Low Oil Pressure Switch Removal, AMM TASK 49-27-14-000-801,

Low Oil Pressure Switch Installation, AMM TASK 49-27-14-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (c) If the APU wire harness does not have damage, then continue.
- (5) Do this resistance check of the APU wire harness:
 - (a) Disconnect the D49015P connector from the low oil pressure switch.

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- (b) Disconnect the D49001P connector from the APU firewall.
- (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (d) Measure the resistance between these pairs of pins of connector D49001P at the APU firewall (WDM 49-31-11, 49-94-11):
 - 1) Pin 4 and pin 26, specified resistance >100K ohms.
 - 2) Pin 26 and structure ground, specified resistance >100K ohms.
- (e) If the resistance is <100K ohms, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Re-connect the D49015P connector to the low oil pressure switch.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) If the resistance is >100K ohms, then continue.
- (6) Do this resistance check of the airplane wire harness:
 - (a) Disconnect the D49001P connector from the APU firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-31-11, 49-94-11):
 - 1) Pin F11 and pin E7, specified resistance >100K ohms.
 - 2) Pin F11 and structure ground, specified resistance >100K ohms.
 - 3) Pin E7 and structure ground, specified resistance >100K ohms.
 - (d) If the resistance is <100K ohms, then do these steps.
 - 1) Repair the airplane wire harness.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.

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- (e) If the resistance is >100K ohms for each pair of pins, then continue.
- (7) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— END OF TASK —————

817. Oil Leakage at APU Drain Mast - Fault Isolation

A. Description

- (1) There is oil leakage from the APU drain mast.

B. Fault Isolation Procedure

- (1) Do this task: APU Drain System Leakage Check, AMM TASK 49-16-00-200-802.
 - (a) If the leakage is within the limits, or if you did the corrective action given in the airplane maintenance manual procedure, then you corrected the fault.

————— END OF TASK —————

818. High APU Oil Consumption - Fault Isolation

A. Description

- (1) The oil consumption for the APU is UNSATISFACTORY CONSUMPTION if the rate is more than 0.32 qt (303 cc) or 0.3 l (300 cc) for each hour. The oil consumption for the APU is UNUSUAL CONSUMPTION if the rate is more than 0.12 qt (114 cc) or 0.115 l (115 cc) for each hour.

B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APU CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU for signs of external APU oil leakage:
 - (a) If there are signs of recent oil leakage, then do the applicable steps:
 - 1) Replace the component or the packing for the component.

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- 2) Tighten the fitting as necessary.
- 3) Do the Repair Confirmation procedure at the end of this task.
 - a) If there are no more signs of leakage, then you corrected the fault.
- (b) If there are no signs of recent oil leakage, then continue.
- (4) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - (a) Examine the APU oil lines for signs of leakage.
 - (b) If there is signs of oil leakage, then do these steps:
 - 1) Replace the component or the packing for the component.
 - 2) Tighten the fitting as necessary.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - a) If there are no more signs of leakage, then you corrected the fault.
 - (c) Examine the APU drain mast for drops of oil.
 - (d) If there is oil leakage at the APU drain mast, then do these steps:
 - 1) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.
 - 2) Do this task: APU Drain System Leakage Check, AMM TASK 49-16-00-200-802.
 - 3) If the leakage is within the limits or if you did the corrective action given in the airplane maintenance manual procedure, then you corrected the fault.
 - (e) If there is no oil leakage at the APU drain mast, then continue.
 - (f) Do the steps that follow to look for signs of oil leakage from the air/oil cooler:
 - 1) Examine the inner surfaces of the eductor and exhaust duct for signs of oil leakage.
 - a) If you see oil leakage from the air/oil cooler, do these tasks:
Air/Oil Cooler Removal, AMM TASK 49-27-09-000-801,
Air/Oil Cooler Installation, AMM TASK 49-27-09-400-801.
 - (g) Examine the APU exhaust for a large amount of smoke.
 - (h) If there is a large amount of smoke in the APU exhaust, then do these steps:
 - 1) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.
 - 2) Replace the APU, M49001. These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If there is not a large amount of smoke in the APU exhaust, then you corrected the fault.

C. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - (a) Let the APU operate at a no load condition for 12 minutes.
- (2) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— END OF TASK —————

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819. Low Oil Quantity - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10280.

B. Description

- (1) The APU oil quantity is less than 4.0 quarts.

C. Fault Isolation Procedure

- (1) Look at the oil level sight gage on the APU gearbox.
 - (a) If the oil level is below the ADD line, then do these steps:
 - 1) Service the APU. To service the APU, do this task: APU Oil Replenishing, AMM TASK 12-13-04-600-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (b) If the oil level is above the ADD line, then continue.
- (2) Look at the Extended Maintenance, Existing Faults display on the MAT.
 - (a) Look for these maintenance messages:
 - 1) 49-12860, Oil Quantity Sensor Open.
 - 2) 49-12270, Oil quantity Sensor Short Circuit.
 - (b) If a maintenance message above shows, then do these steps:
 - 1) Do the specified task for the maintenance message.
 - (c) If the task for the maintenance message did not fix the APU oil quantity problem, then continue:
 - (d) If no maintenance messages above show, then continue.
- (3) Replace the oil level/sump temperature sensor.

These are the tasks:

Oil Quantity/Sump Temperature Sensor Removal, AMM TASK 49-94-01-000-801,
Oil Quantity/Sump Temperature Sensor Installation, AMM TASK 49-94-01-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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D. Repair Confirmation

- (1) Make sure the airplane is in this configuration:
 - (a) The left and right engines are off
 - (b) The left and right engines are not starting
 - (c) The airplane is in the ground mode.
- (2) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (3) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (5) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

820. APUC Oil Pressure Sensor Circuit is Failed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12040.

B. Description

- (1) The oil pressure sensor circuit in the APU controller is failed.
- (2) The oil pressure sensor is attached to the lube cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.

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- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 2) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, then do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (c) If the APU wire harness does not have damage, then continue.
- (5) Do this resistance check for the APU wire harness:
 - (a) Disconnect the D49016P connector from the oil pressure sensor, M49001M301.
 - (b) Examine the electrical connector D49016P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Disconnect the D49001P connector from the APU firewall.
 - (d) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (e) Install a jumper between pin 1 and pin 2 on the D49016P connector.
 - (f) Install a jumper between pin 3 and pin 4 on the D49016P connector.
 - (g) Measure the resistance between these pair of pins of connector D49001P at the APU firewall (WDM 49-94-11):
 - 1) Pin 27 and pin 28, specified resistance <50 ohms.
 - 2) Pin 29 and pin 30, specified resistance <50 ohms.
 - 3) Pin 27 and the connector backshell, specified resistance >100K ohms.
 - 4) Pin 29 and the connector backshell, specified resistance >100K ohms.
 - (h) Remove the jumpers from the D49016P connector.
 - (i) Measure the resistance between these pairs of pins of connector D49001P at the APU firewall (WDM 49-94-11):

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- 1) Pin 27 and pin 28, specified resistance >100K ohms.
- 2) Pin 29 and pin 30, specified resistance >100K ohms.
- (j) If the resistance is not in the range specified for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the electrical connector D49016P to the oil pressure sensor.
 - 3) Re-connect the electrical connector D49001P to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (k) If the resistance is within the range specified, then continue.
- (6) Do the resistance check for the airplane wire harness:
 - (a) Re-connect the D49016P connector to the oil pressure sensor.
 - (b) Disconnect the D49001P connector from the APU firewall.
 - 1) Install a jumper between pin 27 and pin 28 on the DM49001A connector receptacle.
 - 2) Install a jumper between pin 29 and pin 30 on the DM49001A connector receptacle.
 - (c) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between these pair of pins of connector DM49002AB at the APU controller (WDM 49-94-11):
 - 1) Pin D1 and pin D2, specified resistance <50 ohms.
 - 2) Pin D1 and pin D3 (ground), specified resistance >100K ohms.
 - (e) Measure the resistance between these pair of pins of connector DM49002AA at the APU controller (WDM 49-94-11):
 - 1) Pin F2 and pin H2, specified resistance <50 ohms.
 - 2) Pin F2 and pin G2 (ground), specified resistance >100K ohms.
 - (f) Remove the jumpers from the DM49001A connector receptacle.
 - (g) Measure the resistance between these pair of pins of connector DM49002AB at the APU controller (WDM 49-94-11):
 - 1) Pin D1 and pin D2, specified resistance >100K ohms.
 - (h) Measure the resistance between these pair of pins of connector DM49002AA at the APU controller (WDM 49-94-11):
 - 1) Pin F2 and pin H2, specified resistance >100K ohms.
 - (i) If the resistance is not within the range specified, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Re-connect the D49016P connector to the oil pressure sensor.
 - 4) Do the Repair Confirmation procedure at the end of this task.

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- 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 6) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (j) If the resistance is within the range specified, then continue.
- (7) Replace the oil pressure sensor, M49001M301.

These are the tasks:

Oil Pressure Sensor Removal, AMM TASK 49-27-16-000-801,
Oil Pressure Sensor Installation, AMM TASK 49-27-16-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— **END OF TASK** —————

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801. Fuel Shutoff Solenoid Circuit Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10410.

B. Description

- (1) The APU fuel shutoff solenoid circuit has a short.
- (2) The fuel shutoff solenoid is part of the fuel cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (b) If the APU wire harness does not have damage, then continue.
- (4) Do this check of the connector for the fuel cluster:
 - (a) Disconnect the D49011P connector from the fuel cluster, M49001M100.
 - (b) Examine the D49011P connector for contamination:

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- 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable fuel cluster, M49001M100, then do these steps:
- (a) Connect the D49011P connector to the new fuel cluster.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the fuel cluster.These are the tasks:
Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable fuel cluster, then do this resistance check for the fuel shutoff solenoid:
- (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Disconnect the electrical connector D49011P from the fuel cluster.
 - (c) Measure the resistance between these pairs of pins of the connector receptacle on the fuel cluster, M49001M102 (WDM 49-31-11):
 - 1) Pin 9 and pin 10, specified resistance >10 ohms.
 - 2) Pin 9 and pin 11 (case ground), specified resistance >100K ohms.
 - 3) Pin 10 and pin 11 (case ground), specified resistance >100K ohms.
 - (d) If the resistance is not in the specified range for each pair of pins, do the steps that follow:
 - 1) Replace the fuel cluster.These are the tasks:
Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.
 - 2) Re-connect the D49011P connector to the fuel cluster.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (e) If the resistance is in the specified range for each pair of pins, then continue.
- (7) Do this resistance check of the APU wire harness:

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- (a) Disconnect the D49011P connector from the fuel cluster.
 - (b) Disconnect the D49001P connector from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of connector D49001P at the APU firewall (WDM 49-31-11):
 - 1) Pin 5 and pin 6, specified resistance >100K ohms.
 - 2) Pin 5 and structure ground, specified resistance >100K ohms.
 - 3) Pin 6 and structure ground, specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms for each pair of pins, do the steps that follow:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49011P connector to the fuel cluster.
 - 3) Re-connect the D49001P connector to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is >100K ohms for each pair of pins, then continue.
- (8) Do this resistance check of the airplane wire harness:
- (a) Re-connect the D49011P connector to the fuel cluster.
 - (b) Disconnect the D49001P connector from the APU firewall.
 - (c) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-31-11):
 - 1) Pin 120 and pin 121, specified resistance >100K ohms.
 - 2) Pin 120 and structure ground, specified resistance >100K ohms.
 - 3) Pin 121 and structure ground, specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms for each pair of pins, then do these steps.
 - 1) Repair the airplane wire harness.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 4) Do the Repair Confirmation procedure at the end of this task.

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- 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is >100K ohms for each pair of pins, then continue.
- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

— END OF TASK —

802. Fuel Shutoff Solenoid Circuit Open - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10420.

B. Description

- (1) The fuel shutoff solenoid circuit is open.
- (2) The fuel shutoff solenoid is part of the fuel cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

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D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (b) If the APU wire harness does not have damage, then continue.
- (4) Do this check of the connector for the fuel cluster:
 - (a) Disconnect the D49011P connector from the fuel cluster, M49001M100.
 - (b) Examine the D49011P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable fuel cluster, M49001M100, then do these steps:
 - (a) Connect the D49011P connector to the new fuel cluster.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the fuel cluster.
These are the tasks:
Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable fuel cluster, then do this resistance check of the fuel shutoff solenoid:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Disconnect the electrical connector D49011P from the fuel cluster.
 - (c) Measure the resistance between pin 9 and pin 10 of the connector receptacle on the fuel cluster, M49001M102 (WDM 49-31-11).
 - (d) If the resistance is >1000 ohms, then do these steps:
 - 1) Replace the fuel cluster.

These are the tasks:
Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.
 - 2) Re-connect the D49011P connector to the fuel cluster.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is <1000 ohms, then continue.
- (7) Do this resistance check of the APU wire harness:
 - (a) Re-connect the D49011P connector to the fuel cluster.
 - (b) Disconnect the D49001P connector from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between pin 5 and pin 6 of the connector D49001P at the APU firewall (WDM 49-31-11).
 - (e) If the resistance is >100K ohms, then do these steps:
 - 1) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.



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- (f) If the resistance is <100K ohms, then continue.
- (8) Do this resistance check of the airplane wire harness:
 - (a) Re-connect the D49001P connector to the APU firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between pin 120 and pin 121 of connector DM49002AB at the APU controller (WDM 49-31-11).
 - (d) If the resistance is >100K ohms, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is <100K ohms, then continue.
- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

803. APUC Fuel Shutoff Solenoid Driver Failed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance messages: 49-11680, 49-11690.

B. Description

- (1) The APU controller fuel shutoff solenoid circuit is failed. This can cause the fuel shutoff solenoid to close and an APU autosutdown. Most of the time, this fault is in the APU controller.
- (2) The fuel shutoff solenoid is part of the fuel cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (a) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
- (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Replace the fuel cluster.

These are the tasks:

Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (5) Examine the APU wire harness:

- (a) If the APU wire harness has damage, do the applicable step below:

- 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (b) If the APU wire harness does not have damage, then continue.

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E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

END OF TASK

804. APUC FMV LVDT Circuit is Failed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11700.

B. Description

- (1) The APUC excitation circuit for the fuel metering valve (FMV) LVDT is failed.
- (2) The FMV is part of the fuel cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the message, then continue.
- (4) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:

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- 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows ACTIVE for the message, then continue.
- (b) If the APU wire harness does not have damage, then continue.
- (5) Do this check of the connector for the fuel cluster:
 - (a) Disconnect the D49011P connector from the fuel cluster, M49001M100.
 - (b) Examine the D49011P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (6) If you have a new or serviceable fuel cluster, M49001M100, then do these steps:
 - (a) Connect the D49011P connector to the new fuel cluster.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the fuel cluster.
These are the tasks:
Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (7) If you do not have a new or serviceable fuel cluster, then do this resistance check of the FMV:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Disconnect the electrical connector D49011P from the fuel cluster.
 - (c) Measure the resistance between these pairs of pins of the connector receptacle on the fuel cluster, M49001M102 (WDM 49-31-11):
 - 1) Pin 4 and pin 14, specified resistance 10-100 ohms.
 - 2) Pin 4 and pin 11 (case ground), specified resistance >100K ohms.
 - 3) Pin 14 and pin 11 (case ground), specified resistance >100K ohms.

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- (d) If the resistance is not in the specified range for each pair of pins, do the steps that follow:
 - 1) Replace the fuel cluster.
These are the tasks:
Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.
 - 2) Re-connect the electrical connector D49011P to the fuel cluster.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (e) If the resistance is in the range specified, then continue.
- (8) Do a resistance check of the APU wire harness:
 - (a) Re-connect the electrical connector D49011P to the fuel cluster.
 - (b) Disconnect the electrical connector D49001P from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of the D49001P connector at the APU firewall (WDM 49-31-11):
 - 1) Pin 10 and pin 11, specified resistance 10-100 ohms.
 - 2) Pin 10 and the connector backshell, specified resistance >100K ohms.
 - 3) Pin 11 and the connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is not in the range specified for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the electrical connector D49001P to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is in the range specified, then continue.
- (9) Do a resistance check of the airplane wire harness:
 - (a) Re-connect the electrical connector D49001P to the firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.



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- (c) Measure the resistance between these pairs of pins of the DM49002AB at the APU controller (WDM 49-31-11):
 - 1) Pin E4 and pin E5, specified resistance 10-100 ohms.
 - 2) Pin E4 and E6 (ground), specified resistance >100K ohms.
 - 3) Pin E5 and E6 (ground), specified resistance >100K ohms.
- (d) If the resistance is not in the range specified for each pair of pins, do the steps that follow:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

805. FMV LVDT Circuit is Failed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10430.

B. Description

- (1) The fuel metering valve (FMV) LVDT circuit is failed.
- (2) The FMV is part of the fuel cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

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D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (b) If the APU wire harness does not have damage, then continue.
- (4) Do this check of the connector for the fuel cluster:
 - (a) Disconnect the D49011P connector from the fuel cluster, M49001M100.
 - (b) Examine the D49011P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable fuel cluster, M49001M100, then do these steps:
 - (a) Connect the D49011P connector to the new fuel cluster.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the fuel cluster.
These are the tasks:
Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable fuel cluster, then do this resistance check of the FMV:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Disconnect the electrical connector D49011P from the fuel cluster.
 - (c) Measure the resistance between these pairs of pins of the connector on the fuel cluster, M49001M102 (WDM 49-31-11):
 - 1) Pin 3 and pin 12, specified resistance 10-100 ohms.
 - 2) Pin 12 and pin 13, specified resistance 10-100 ohms.
 - 3) Pin 14 and pin 4, specified resistance 10-100 ohms.
 - 4) Pin 3 and pin 4, specified resistance >100K ohms.
 - 5) Pin 3 and pin 11 (case ground), specified resistance >100K ohms.
 - 6) Pin 4 and pin 11 (case ground), specified resistance >100K ohms.
 - (d) If the resistance is not in the range specified for each pair of pins, do the steps that follow:
 - 1) Replace the fuel cluster.
These are the tasks:
Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.
 - 2) Re-connect the D49011P connector to the fuel cluster.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is in the range specified for each pair of pins, then continue.
- (7) Do this resistance check of the APU wire harness:
 - (a) Re-connect the D49011P connector to the fuel cluster.
 - (b) Disconnect the D49001P connector from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of connector D49001P at the APU firewall (WDM 49-31-11):
 - 1) Pin 13 and pin 14, specified resistance 10-100 ohms.
 - 2) Pin 12 and pin 13, specified resistance 10-100 ohms.
 - 3) Pin 10 and pin 11, specified resistance 10-100 ohms.
 - 4) Pin 11 and pin 12, specified resistance >100K ohms.
 - 5) Pin 14 and the connector backshell, specified resistance >100K ohms.
 - 6) Pin 10 and the connector backshell, specified resistance >100K ohms.

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- (e) If the resistance is not in the range specified for each pair of pins, then do these steps:
- 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49011P connector to the fuel cluster.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (f) If the resistance is within the range specified for each pair of pins, then continue.
- (8) Do this resistance check of the airplane wire harness:
- (a) Re-connect the D49001P connector to the APU firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-31-11):
 - 1) Pin H8 and pin J7, specified resistance 10-100 ohms.
 - 2) Pin J7 and pin K8, specified resistance 10-100 ohms.
 - 3) Pin K8 and J8 (ground), specified resistance >100K ohms.
 - (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-31-11):
 - 1) Pin E4 and pin E5, specified resistance 10-100 ohms.
 - 2) Pin E4 and E6 (ground), specified resistance >100K ohms.
 - (e) Measure the resistance between this pair of pins of connector DM49002AA and connector DM49002AB at the APU controller (WDM 49-31-11).
- | DM49002AA | DM49001AB | RESISTANCE |
|------------------|-----------|------------|
| pin H8 | pin E4 | >100K ohms |
- (f) If the resistance is not within the range specified for each pair of pins, repair the airplane wire harness.
- 1) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows ACTIVE for the maintenance message, then continue.
- (g) If the resistance is within the range specified for each pair of pins, then continue.
- (9) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

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APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

— END OF TASK —

806. FMV Position Does Not Follow Command - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10440.

B. Description

- (1) The fuel metering valve (FMV) LVDT position does not follow command.
- (2) The FMV is part of the fuel cluster.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the fuel cluster.

These are the tasks:

Fuel Cluster Removal, AMM TASK 49-31-31-000-801,

Fuel Cluster Installation, AMM TASK 49-31-31-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Replace the APU lube cluster.

These are the tasks:

Lube Cluster Removal, AMM TASK 49-27-27-000-801,

Lube Cluster Installation, AMM TASK 49-27-27-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.

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- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Replace the APU controller, M49002.
- These are the tasks:
- APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Examine the APU wire harness:
- (a) If the APU wire harness has damage, do the applicable step below:
- 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
- These are the tasks:
- APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
- 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (b) If the APU wire harness does not have damage, then continue.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— END OF TASK —————

807. Fuel Temperature Sensor Circuit Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10450.

B. Description

- (1) The fuel temperature sensor circuit has a short.
- (2) The fuel temperature sensor is attached to the fuel cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
- (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (b) If the APU wire harness does not have damage, then continue.
- (4) Do this check of the connector for the fuel temperature sensor:
 - (a) Disconnect the D49009P connector from the fuel temperature sensor, M49001M101.
 - (b) Examine the D49009P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable fuel temperature sensor, M49001M101, then do these steps:
 - (a) Connect the D49009P connector to the new fuel temperature sensor.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the fuel temperature sensor.
These are the tasks:
Fuel Temperature Sensor Removal, AMM TASK 49-31-07-000-801,

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Fuel Temperature Sensor Installation, AMM TASK 49-31-07-400-801.

- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable fuel temperature sensor, then do this resistance check:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Disconnect the electrical connector D49009P from the fuel temperature sensor, M49001M101.
 - (c) Examine the electrical connector D49009P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of the connector on the fuel cluster, M49001M101 (WDM 49-31-11):
 - 1) Pin 1 and pin 2, specified resistance 10-1000 ohms.
 - 2) Pin 1 and pin 3 (case ground), specified resistance >100K ohms.
 - 3) Pin 2 and pin 3 (case ground), specified resistance >100K ohms.
 - (e) If the resistance is not in the specified range for each pair of pins, do the steps that follow:
 - 1) Replace the fuel temperature sensor.
These are the tasks:
Fuel Temperature Sensor Removal, AMM TASK 49-31-07-000-801,
Fuel Temperature Sensor Installation, AMM TASK 49-31-07-400-801.
 - 2) Re-connect the D49009P connector to the fuel cluster.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is in the specified range for each pair of pins, then continue.
- (7) Do this resistance check of the APU wire harness:
 - (a) Disconnect the D49009P connector to the fuel temperature sensor.
 - (b) Disconnect the D49001P connector from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of connector D49001P at the APU firewall (WDM 49-31-11):

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- 1) Pin 1 and pin 2, specified resistance >100K ohms.
- 2) Pin 1 and the connector backshell, specified resistance >100K ohms.
- 3) Pin 2 and the connector backshell, specified resistance >100K ohms.
- (e) If the resistance is <100K ohms for each pair of pins, do the steps that follow:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49009P connector to the fuel temperature sensor.
 - 3) Re-connect the D49001P connector to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (f) If the resistance is >100K ohms for each pair of pins, then continue.
- (8) Do this resistance check of the airplane wire harness:
 - (a) Re-connect the D49009P connector to the fuel temperature sensor.
 - (b) Disconnect the D49001P connector to the APU firewall.
 - (c) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-31-11):
 - 1) Pin A3 and pin C3, specified resistance >100K ohms.
 - 2) Pin A3 and pin B3 (ground), specified resistance >100K ohms.
 - 3) Pin C3 and pin B3 (ground), specified resistance >100K ohms.
- (e) If the resistance is <100K ohms for each pair of pins, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Re-connect the D49001P connector to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (f) If the resistance is >100K ohms for each pair of pins, then continue.
- (9) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.

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- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

808. Fuel Temperature Sensor Signal Out Of Range - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10460.

B. Description

- (1) The fuel temperature sensor signal is out of range.
- (2) The fuel temperature sensor is attached to the fuel cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the fuel temperature sensor.

These are the tasks:

Fuel Temperature Sensor Removal, AMM TASK 49-31-07-000-801,
Fuel Temperature Sensor Installation, AMM TASK 49-31-07-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.

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- (4) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (b) If the APU wire harness does not have damage, then continue.
- (5) Do this resistance check of the APU wire harness:
 - (a) Disconnect the D49001P connector from the APU firewall.
 - (b) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Measure the resistance between these pairs of pins of connector D49001P at the APU firewall (WDM 49-31-11):
 - 1) Pin 1 and pin 2, specified resistance 10-1000 ohms.
 - 2) Pin 1 and the connector backshell, specified resistance >100K ohms.
 - 3) Pin 2 and the connector backshell, specified resistance >100K ohms.
 - (d) If the resistance is not in the range specified for each pair of pins, do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is in the range specified for each pair of pins, then continue.
- (6) Do this resistance check of the airplane wire harness:
 - (a) Re-connect the D49001P connector to the APU firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.



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- (c) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-31-11):
 - 1) Pin A3 and pin C3, specified resistance 10-1000 ohms.
 - 2) Pin A3 and pin B3 (ground), specified resistance >100K ohms.
 - 3) Pin C3 and pin B3 (ground), specified resistance >100K ohms.
 - (d) If the resistance is not within the range specified for each pair of pins, repair the airplane wire harness.
 - 1) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is in the range specified for each pair of pins, then continue.
- (7) Replace the APU controller, M49002.
- These are the tasks:
- APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

809. Fuel Filter Clogged - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10470.

B. Description

- (1) The fuel filter has an impending clog.
- (2) The fuel filter element and the fuel filter differential pressure switch are attached to the fuel cluster.

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C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the fuel filter:
 - (a) Remove the fuel filter element. To remove it, do this task: Fuel Filter Element Removal, AMM TASK 49-31-02-000-801.
 - (b) Examine the filter element for metal particles.
 - (c) If the filter element has metal particles, replace the fuel cluster.

These are the tasks:

Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.

 - 1) Install a new filter element. To install it, do this task: Fuel Filter Element Installation, AMM TASK 49-31-02-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (d) If the filter element has contamination that is not metal, then examine the airplane fuel system for contamination.
 - (e) If there is no signs of contamination, then do these steps:
 - 1) Install a new filter element. To install it, do this task: Fuel Filter Element Installation, AMM TASK 49-31-02-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

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- 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (b) If the APU wire harness does not have damage, then continue.
- (5) Do this check of the connector for the fuel filter differential pressure switch:
- (a) Disconnect the D49010P connector from the fuel filter differential pressure switch, M49001S100.
 - (b) Examine the D49010P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (6) If you have a new or serviceable fuel filter differential pressure switch, M49001S100, then do these steps:
- (a) Connect the D49010P connector to the new fuel filter differential pressure switch.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the fuel filter differential pressure switch.

These are the tasks:

Fuel Filter Differential Pressure Switch Removal, AMM TASK 49-31-06-000-801,
Fuel Filter Differential Pressure Switch Installation, AMM TASK 49-31-06-400-801.

 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (7) If you do not have a new or serviceable fuel filter differential pressure switch, then do this resistance check:
- (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between these pairs of pins of connector receptacle D49010P at the fuel filter differential pressure switch (WDM 49-31-11):
 - 1) Pin 1 and pin 2, specified resistance >100K ohms.

NOTE: When the APU is shutdown, the fuel filter differential pressure switch is open.

 - 2) Pin 1 and pin 3 (case ground), specified resistance >100K ohms.
 - 3) Pin 2 and pin 3 (case ground), specified resistance >100K ohms.
 - (c) If the resistance is <100K ohms for each pair of pins, do these steps:
 - 1) Replace the fuel filter differential pressure switch.

These are the tasks:

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- Fuel Filter Differential Pressure Switch Removal, AMM TASK 49-31-06-000-801,
Fuel Filter Differential Pressure Switch Installation, AMM TASK 49-31-06-400-801.
- 2) Re-connect the D49010P connector to the fuel differential pressure switch.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (d) If the resistance is in the range specified for each pair of pins, then continue.
- (8) Do this resistance check of the APU wire harness:
- (a) Re-connect the D49010P connector to the fuel differential pressure switch.
 - (b) Disconnect the D49001P connector from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of connector D49001P at the APU firewall (WDM 49-31-11):
 - 1) Pin 3 and pin 4, specified resistance >100K ohms.
 - 2) Pin 3 and structure ground, specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49010P connector to the fuel differential pressure switch.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is in the range specified for each pair of pins, then continue.
- (9) Do this resistance check of the airplane wire harness:
- (a) Re-connect the D49001P connector to the APU firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller, M49002 (WDM 49-31-11):
 - 1) Pin D11 and pin E7, specified resistance >100K ohms.
 - 2) Pin D11 and structure ground, specified resistance >100K ohms.

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- 3) Pin E7 and structure ground, specified resistance >100K ohms.
- (d) If the resistance is <100K ohms for each pair of pins, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (e) If the resistance is in the range specified for each pair of pins, then continue.
- (10) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— END OF TASK —————

810. Fuel Torque Motor Circuit Open - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10480.

B. Description

- (1) The fuel torque motor circuit has an open.
- (2) The fuel torque motor is part of the fuel cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE or LATCHED for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

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D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
 - (b) If the APU wire harness does not have damage, then continue.
- (4) Do this check of the connector for the fuel torque motor:
 - (a) Disconnect the D49011P connector from the fuel cluster, M49001M100.
 - (b) Examine the D49011P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable fuel cluster, M49001M100, then do these steps:
 - (a) Connect the D49011P connector to the new fuel cluster.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the fuel cluster.
These are the tasks:
Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable fuel cluster, then do this resistance check of the fuel torque motor:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between pin 6 and pin 7 of the connector receptacle on the fuel cluster, M49001M102 (WDM 49-31-11).
 - (c) If the resistance is >100 ohms, then do these steps:
 - 1) Replace the fuel cluster.
These are the tasks:
Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.
 - 2) Re-connect the D49011P connector to the fuel cluster.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (d) If the resistance is <100 ohms, then continue.
- (7) Do this resistance check of the APU wire harness:
 - (a) Re-connect the D49011P connector to the fuel cluster.
 - (b) Disconnect the D49001P connector from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between pin 7 and pin 8 of connector D49001P at the APU firewall (WDM 49-31-11).
 - (e) If the resistance is >100 ohms, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is <100 ohms, then continue.

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- (8) Do this resistance check of the airplane wire harness:
 - (a) Re-connect the D49001P connector to the APU firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between pin G1 and pin G2 of connector DM49002AB at the APU controller (WDM 49-31-11).
 - (d) If the resistance is >100 ohms, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is <100 ohms, then continue.
- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Set the APU maintenance switch on the P61 panel to NORM.

————— END OF TASK —————

811. Fuel Torque Motor Circuit Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10490.

B. Description

- (1) The fuel torque motor circuit has a short.
- (2) The fuel torque motor is part of the fuel cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (a) If the MAT shows ACTIVE or LATCHED for the maintenance message, then do the Fault Isolation Procedure.
- (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
 - (b) If the APU wire harness does not have damage, then continue.
- (4) Do this check of the connector for the fuel cluster:
 - (a) Disconnect the D49011P connector from the fuel cluster, M49001M100.
 - (b) Examine the D49011P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable fuel cluster, M49001M100, then do these steps:
 - (a) Connect the D49011P connector to the new fuel cluster.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the fuel cluster.
These are the tasks:

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- Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.
- 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable fuel cluster, then do this resistance check of the fuel torque motor:
- (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between these pairs of pins of the connector receptacle on the fuel cluster, M49001M102 (WDM 49-31-11):
 - 1) Pin 6 and pin 7, specified resistance >5 ohms.
 - 2) Pin 6 and pin 11 (case ground), specified resistance >100K ohms.
 - (c) If the resistance is not in the range specified, then do these steps:
 - 1) Replace the fuel cluster.
These are the tasks:
Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.
 - 2) Re-connect the D49011P connector to the fuel cluster.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (d) If the resistance is in the range specified, then continue.
- (7) Do this resistance check of the APU wire harness:
- (a) Disconnect the D49011P connector from the fuel cluster.
 - (b) Disconnect the D49001P connector from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of connector D49001P at the APU firewall (WDM 49-31-11):
 - 1) Pin 7 and pin 8, specified resistance >100K ohms.
 - 2) Pin 7 and the connector backshell, specified resistance >100K ohms.
 - 3) Pin 8 and the connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms, then do these steps:
 - 1) Replace the APU wire harness.

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These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

- 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Re-connect the D49011P connector to the fuel cluster.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) If the resistance is >100K ohms, then continue.
- (8) Do this resistance check of the airplane wire harness:
- (a) Disconnect the D49001P connector from the APU firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-31-11):
 - 1) Pin G1 and pin G2, specified resistance >100K ohms.
 - 2) Pin G1 and pin G3 (ground), specified resistance >100K ohms.
 - 3) Pin G2 and pin G3 (ground), specified resistance >100K ohms.
 - (d) If the resistance is <100K ohms, then repair the airplane wire harness.
 - 1) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 2) Reconnect the D49001P connector to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is >100K ohms, then continue.
- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Set the APU maintenance switch to the NORM position.

————— **END OF TASK** —————

812. Fuel Shutoff Solenoid Failed On - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10500.

B. Description

- (1) The APU speed did not decrease after the fuel shutoff solenoid was commanded closed.
- (2) The fuel shutoff solenoid is part of the fuel cluster.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the fuel cluster.

These are the tasks:

Fuel Cluster Removal, AMM TASK 49-31-31-000-801,

Fuel Cluster Installation, AMM TASK 49-31-31-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (b) If the APU wire harness does not have damage, then continue.
- (5) Replace the APU controller, M49002.

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These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.

D. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position .
- (2) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - (a) Wait for the APU speed to reach 100%
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

NOTE: The APUC does a test of the fuel shutoff system during the APU shutdown sequence.
- (4) Set the APU maintenance switch to the TEST. Then wait for 120 seconds.
- (5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (6) Move the APU maintenance switch to the NORM position.

————— **END OF TASK** —————

813. Fuel Metering Valve Failed Open - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10510.

B. Description

- (1) The fuel metering valve did not close during the APU shutdown test.
- (2) The fuel metering valve is part of the fuel cluster.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the fuel cluster.

These are the tasks:

Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 2) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (b) If the APU wire harness does not have damage, then continue.
- (5) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.

D. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position .
- (2) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

NOTE: The APUC does a test of the fuel shutoff system during the APU shutdown sequence.
- (4) Set the APU maintenance switch to the TEST. Then wait for 120 seconds.
- (5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (6) Move the APU maintenance switch to the NORM position.

————— **END OF TASK** —————

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801. Ignition Unit Power Input Circuit Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10660.

B. Description

- (1) There is a short in the ignition unit power input circuit.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.



DO NOT TOUCH THE IGNITION COMPONENTS UNTIL YOU DO THESE STEPS. THESE STEPS WILL RELEASE THE HIGH VOLTAGE FROM THE IGNITION UNIT. IF YOU DO NOT OBEY THIS PROCEDURE, INJURY TO PERSONS CAN OCCUR.

- (3) Do these steps to release the high voltage from the ignition unit:
 - (a) Make sure 5 minutes have gone by since the last APU start.
 - (b) One at a time, disconnect the ignition leads from the bosses on the APU.

NOTE: The ignition lead connections to the APU hold the igniter plugs. When the ignition leads are disconnected, the igniter plugs can come out.

 - 1) Ground the ignition leads to the APU.
 - (c) Connect the ignition leads to the bosses on the APU.

- (4) Replace the ignition unit, M49001M201.

These are the tasks:

Ignition Unit Removal, AMM TASK 49-41-03-000-801,

Ignition Unit Installation, AMM TASK 49-41-03-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Examine the APU wire harness:
 - (a) If the APU wire harness is damaged, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (b) If the APU wire harness is not damaged, then continue.
- (7) Do a wiring check of the APU wire harness:
 - (a) Disconnect the electrical connector D49004P from the APU firewall.
 - (b) Examine the electrical connector D49004P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Disconnect the electrical connector D49008P from the ignition unit.
 - (d) Examine the electrical connector D49008P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (e) Measure the resistance between these pairs of pins of the D49004P connector at the APU firewall (WDM 49-41-11):
 - 1) Pin 4 and pin 5, specified resistance >100K ohms.
 - 2) Pin 4 and the connector backshell, specified resistance >100K ohms.
 - 3) Pin 5 and the connector backshell, specified resistance >100K ohms.
 - (f) If the resistance is <100K ohms for each pair of pins, then do the steps that follow:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the electrical connector D49004P to the APU firewall.
 - 3) Re-connect the electrical connector D49008P to the ignition unit.



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- 4) Do the Repair Confirmation procedure at the end of this task.
- 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (g) If the resistance is >100K ohms, then continue.
- (8) Do a wiring check of the airplane wire harness:
 - (a) Disconnect the electrical connector D49004P to the APU firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of the DM49002AB at the APU controller (WDM 49-41-11):
 - 1) Pin 114 and pin 115, specified resistance >1000 ohms.
 - 2) Pin 114 and pin H11 (ground), specified resistance >100K ohms.
 - 3) Pin 115 and pin H11 (ground), specified resistance >100K ohms.
 - (d) If the resistance is <100K ohms for each pair of pins, then do the steps that follow:
 - 1) Repair the airplane wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Re-connect the electrical connector D49004P to the APU firewall.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— END OF TASK —————

802. Ignition Unit Power Input Circuit Problems - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10670.

B. Description

- (1) There is an open in the power input circuit of the ignition unit.

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C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.



DO NOT TOUCH THE IGNITION COMPONENTS UNTIL YOU DO THESE STEPS. THESE STEPS WILL RELEASE THE HIGH VOLTAGE FROM THE IGNITION UNIT. IF YOU DO NOT OBEY THIS PROCEDURE, INJURY TO PERSONS CAN OCCUR.

- (3) Do these steps to release the high voltage from the ignition unit:
 - (a) Make sure 5 minutes have gone by since the last APU start.
 - (b) One at a time, disconnect the ignition leads from the bosses on the APU.

NOTE: The ignition lead connections to the APU hold the igniter plugs. When the ignition leads are disconnected, the igniter plugs can come out.

 - 1) Ground the ignition leads to the APU.
 - (c) Connect the ignition leads to the bosses on the APU.
- (4) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (b) If the APU wire harness does not have damage, then continue.
- (5) Replace the ignition unit, M49001M201.

These are the tasks:
Ignition Unit Removal, AMM TASK 49-41-03-000-801,
Ignition Unit Installation, AMM TASK 49-41-03-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

— END OF TASK —

803. Ignition Unit Power Input Problems - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11800.

B. Description

- (1) The APUC ignition unit power input circuit is failed on.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

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APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Replace the APU wire harness.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.



DO NOT TOUCH THE IGNITION COMPONENTS UNTIL YOU DO THESE STEPS. THESE STEPS WILL RELEASE THE HIGH VOLTAGE FROM THE IGNITION UNIT. IF YOU DO NOT OBEY THIS PROCEDURE, INJURY TO PERSONS CAN OCCUR.

- (5) Do these steps to release the high voltage from the ignition unit:
- (a) Make sure 5 minutes have gone by since the last APU start.
 - (b) One at a time, disconnect the ignition leads from the bosses on the APU.
- NOTE: The ignition lead connections to the APU hold the igniter plugs. When the ignition leads are disconnected, the igniter plugs can come out.
- 1) Ground the ignition leads to the APU.
 - (c) Connect the ignition leads to the bosses on the APU.
- (6) Replace the ignition unit, M49001M201.
- These are the tasks:
- Ignition Unit Removal, AMM TASK 49-41-03-000-801,
Ignition Unit Installation, AMM TASK 49-41-03-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

804. Igniter Plug 1 Problems - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10680.

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B. Description

- (1) The circuit for ignition lead 1 is open.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.



DO NOT TOUCH THE IGNITION COMPONENTS UNTIL YOU DO THESE STEPS. THESE STEPS WILL RELEASE THE HIGH VOLTAGE FROM THE IGNITION UNIT. IF YOU DO NOT OBEY THIS PROCEDURE, INJURY TO PERSONS CAN OCCUR.

- (3) Do these steps to release the high voltage from the ignition unit:
 - (a) Make sure 5 minutes have gone by since the last APU start.
 - (b) One at a time, disconnect the ignition leads from the bosses on the APU.
NOTE: The ignition lead connections to the APU hold the igniter plugs. When the ignition leads are disconnected, the igniter plugs can come out.
 - 1) Ground the ignition leads to the APU.
 - (c) Connect the ignition leads to the APU.
- (4) Replace igniter plug 1:
 - (a) These are the tasks:
Igniter Plug Removal, AMM TASK 49-41-02-000-801,
Igniter Plug Installation, AMM TASK 49-41-02-400-801.
 - 1) Do the Repair Confirmation procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (b) Examine the ignition lead contacts for contamination:
 - 1) If there are signs of contamination, then do the steps that follow:
 - a) Replace the ignition lead.
These are the tasks:
Ignition Lead Removal, AMM TASK 49-41-04-000-801,
Ignition Lead Installation, AMM TASK 49-41-04-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Do the resistance check for the ignition lead:
 - (a) Disconnect the ignition lead 1 from the boss on the APU.
 - (b) Disconnect the ignition lead 1 from the ignition unit.
 - (c) Measure the resistance from the center socket at the ignition unit end to the center connection at the igniter plug end.
 - (d) If the resistance is >1 ohm, then do these steps:
 - 1) Replace the ignition lead.
These are the tasks:
Ignition Lead Removal, AMM TASK 49-41-04-000-801,
Ignition Lead Installation, AMM TASK 49-41-04-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is <1 ohm, then continue.
- (6) Replace the ignition unit, M49001M201.
These are the tasks:
Ignition Unit Removal, AMM TASK 49-41-03-000-801,
Ignition Unit Installation, AMM TASK 49-41-03-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (7) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (b) If the APU wire harness does not have damage, then continue.

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- (8) Do a wiring check of the APU wire harness:
- (a) Disconnect the electrical connector D49008P from the ignition unit.
 - (b) Examine the electrical connector D49008P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Install a jumper between pin 1 and pin 2 on the D49008P connector.
 - (d) Disconnect the electrical connector D49004P from the APU firewall.
 - (e) Examine the electrical connector D49004P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (f) Measure the resistance between pin 4 and pin 5 of the D49004P connector at the APU firewall (WDM 49-41-11).
 - (g) If the resistance is >100 ohms, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the electrical connector D49004P to the APU firewall.
 - 3) Re-connect the electrical connector D49008P to the ignition unit.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (h) If the resistance is <100 ohms, then continue.
- (9) Do a wiring check of the airplane wire harness:
- (a) Re-connect the electrical connector D49008P to the ignition unit.
 - (b) Disconnect the D49004P connector.
 - 1) Install a jumper between pin 7 and pin 8.
 - (c) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between pin E10 and pin E11 of the DM49002AA at the APU controller (WDM 49-41-11).
 - (e) If the resistance is >100 ohms, then do the steps that follow:
 - 1) Repair the airplane wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Remove the jumper from the electrical connector D49004P.
 - 3) Re-connect the electrical connector D49004P to the APU firewall.

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- 4) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 5) Do the Repair Confirmation procedure at the end of this task.
 - 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 7) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) If the resistance is <100 ohms, then continue.
- (10) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) If the MAT shows ACTIVE or LATCHED for the maintenance message, do the steps that follow:



WARNING

DO NOT TOUCH THE IGNITION COMPONENTS UNTIL YOU DO THESE STEPS. THESE STEPS WILL RELEASE THE HIGH VOLTAGE FROM THE IGNITION UNIT. IF YOU DO NOT OBEY THIS PROCEDURE, INJURY TO PERSONS CAN OCCUR.

- (a) Do these steps to release the high voltage from the ignition unit:
 - 1) Make sure 5 minutes have gone by since the last APU start.
 - 2) One at a time, disconnect the ignition leads from the bosses on the APU.

NOTE: The ignition lead connections to the APU hold the igniter plugs. When the ignition leads are disconnected, the igniter plugs can come out.

 - a) Ground the ignition leads to the APU.
 - 3) Connect the ignition leads to the bosses on the APU.
- (b) Continue with the Fault Isolation Procedure.

————— **END OF TASK** —————

805. Igniter Plug 2 Problems - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10690.

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B. Description

- (1) The circuit for ignition lead 2 is open.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.



DO NOT TOUCH THE IGNITION COMPONENTS UNTIL YOU DO THESE STEPS. THESE STEPS WILL RELEASE THE HIGH VOLTAGE FROM THE IGNITION UNIT. IF YOU DO NOT OBEY THIS PROCEDURE, INJURY TO PERSONS CAN OCCUR.

- (3) Do these steps to release the high voltage from the ignition unit:
 - (a) Make sure 5 minutes have gone by since the last APU start.
 - (b) One at a time, disconnect the ignition leads from the bosses on the APU.

NOTE: The ignition lead connections to the APU hold the igniter plugs. When the ignition leads are disconnected, the igniter plugs can come out.

 - 1) Ground the ignition leads to the APU.
 - (c) Connect the ignition leads to the APU.
- (4) Replace igniter plug 2:
 - (a) These are the tasks:

Igniter Plug Removal, AMM TASK 49-41-02-000-801,
Igniter Plug Installation, AMM TASK 49-41-02-400-801.

 - 1) Do the Repair Confirmation procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (b) Examine the ignition lead contacts for contamination.
 - 1) If there are signs of contamination, then do the steps that follow:
 - a) Replace the ignition lead.

These are the tasks:
Ignition Lead Removal, AMM TASK 49-41-04-000-801,
Ignition Lead Installation, AMM TASK 49-41-04-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Do the resistance check for the ignition lead:
 - (a) Disconnect the ignition lead 2 from the boss on the APU.
 - (b) Disconnect the ignition lead 2 from the ignition unit.
 - (c) Measure the resistance from the center socket at the ignition unit end to the center connection at the igniter plug end.
 - (d) If the resistance is >1 ohm, then do these steps:
 - 1) Replace ignition lead 2.
These are the tasks:
Ignition Lead Removal, AMM TASK 49-41-04-000-801,
Ignition Lead Installation, AMM TASK 49-41-04-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is <1 ohm, then continue.
- (6) Replace the ignition unit, M49001M201.
These are the tasks:
Ignition Unit Removal, AMM TASK 49-41-03-000-801,
Ignition Unit Installation, AMM TASK 49-41-03-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (7) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (b) If the APU wire harness does not have damage, then continue.

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- (8) Do a wiring check of the APU wire harness:
- (a) Disconnect the electrical connector D49008P from the ignition unit.
 - (b) Examine the electrical connector D49008P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Install a jumper between pin 3 and pin 4 on the D49008P connector.
 - (d) Disconnect the electrical connector D49004P from the APU firewall.
 - (e) Examine the electrical connector D49004P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (f) Measure the resistance between pin 4 and pin 5 of the D49004P connector at the APU firewall (WDM 49-41-11).
 - (g) If the resistance is >100 ohms, then do the steps that follow:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the electrical connector D49004P to the APU firewall.
 - 3) Remove the jumper from the electrical connector D49008P.
 - 4) Re-connect the electrical connector D49008P to the ignition unit.
 - 5) Do the Repair Confirmation procedure at the end of this task.
 - 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 7) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (h) If the resistance is <100 ohms, then continue.
- (9) Do a wiring check of the airplane wire harness:
- (a) Disconnect the D49004P connector.
 - 1) Install a jumper between pin 7 and pin 8.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between pin E10 and pin E11 of the DM49002AA at the APU controller (WDM 49-41-11).
 - (d) If the resistance is >100 ohms, then do the steps that follow:
 - 1) Repair the airplane wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Remove the jumper from the electrical connector D49004P.
 - 3) Re-connect the electrical connector D49004P to the APU firewall.

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- 4) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 5) Do the Repair Confirmation procedure at the end of this task.
 - 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 7) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (e) If the resistance is <100 ohms, then continue:
- (10) Replace the APU controller, M49002.
- These are the tasks:
- APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) If the MAT shows ACTIVE or LATCHED for the maintenance message, do the steps that follow:



WARNING

DO NOT TOUCH THE IGNITION COMPONENTS UNTIL YOU DO THESE STEPS. THESE STEPS WILL RELEASE THE HIGH VOLTAGE FROM THE IGNITION UNIT. IF YOU DO NOT OBEY THIS PROCEDURE, INJURY TO PERSONS CAN OCCUR.

- (a) Do these steps to release the high voltage from the ignition unit:
 - 1) Make sure 5 minutes have gone by since the last APU start.
 - 2) One at a time, disconnect the ignition leads from the bosses on the APU.
NOTE: The ignition lead connections to the APU hold the igniter plugs. When the ignition leads are disconnected, the igniter plugs can come out.
 - a) Ground the ignition leads to the APU.
 - 3) Connect the ignition leads to the bosses on the APU.
- (b) Continue with the Fault Isolation Procedure.

————— **END OF TASK** —————

806. Ignition Unit Failure - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10700.

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B. Description

- (1) There is an internal failure in the ignition unit. This maintenance message can also show when there are two open circuit problems with igniter plug 1 and igniter plug 2 at the same time.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.



DO NOT TOUCH THE IGNITION COMPONENTS UNTIL YOU DO THESE STEPS. THESE STEPS WILL RELEASE THE HIGH VOLTAGE FROM THE IGNITION UNIT. IF YOU DO NOT OBEY THIS PROCEDURE, INJURY TO PERSONS CAN OCCUR.

- (3) Do these steps to release the high voltage from the ignition unit:
 - (a) Make sure 5 minutes have gone by since the last APU start.
 - (b) One at a time, disconnect the ignition leads from the bosses on the APU.

NOTE: The ignition lead connections to the APU hold the igniter plugs. When the ignition leads are disconnected, the igniter plugs can come out.

 - 1) Ground the ignition leads to the APU.
 - (c) Connect the ignition leads to the APU.
- (4) Replace the ignition unit, M49001M201.

These are the tasks:
Ignition Unit Removal, AMM TASK 49-41-03-000-801,
Ignition Unit Installation, AMM TASK 49-41-03-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Replace both igniter plugs:
 - (a) These are the tasks:
Igniter Plug Removal, AMM TASK 49-41-02-000-801,
Igniter Plug Installation, AMM TASK 49-41-02-400-801.
 - 1) Do the Repair Confirmation procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

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- (6) Replace both igniter leads:
 - (a) These are the tasks:

Ignition Lead Removal, AMM TASK 49-41-04-000-801,
Ignition Lead Installation, AMM TASK 49-41-04-400-801.

 - 1) Do the Repair Confirmation procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (7) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (b) If the APU wire harness does not have damage, then continue.
- (8) Do a wiring check of the APU wire harness:
 - (a) Disconnect the electrical connector D49008P from the ignition unit.
 - 1) Install a jumper between pin 3 and pin 4.
 - (b) Disconnect the electrical connector D49004P from the APU firewall.
 - (c) Examine the electrical connector D49004P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between pin 8 and pin 7 of the connector D49004P at the APU firewall (WDM 49-41-11).
 - (e) If the resistance is >10 ohms, then do these steps:
 - 1) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Remove the jumper from the D49008P connector.
 - 3) Re-connect the electrical connector D49008P to the ignition unit.

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- 4) Do the Repair Confirmation procedure at the end of this task.
- 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) If the resistance is <10 ohms, then continue.
- (9) Do a wiring check of the airplane wire harness:
 - (a) Re-connect the electrical connector D49004P to the firewall.
 - (b) Make sure the electrical connector D49008P is disconnected.
 - 1) Install a jumper between pin 3 and pin 4.
 - (c) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between pin E10 and pin E11 of the connector DM49002AA at the APU controller (WDM 49-41-11).
 - (e) If the resistance is >10 ohms, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Remove the jumper from the D49008P connector.
 - 3) Re-connect the electrical connector D49008P to the ignition unit.
 - 4) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 5) Do the Repair Confirmation procedure at the end of this task.
 - 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 7) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is <10 ohms, then continue.
- (10) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Remove the jumper from the D49008P connector.
 - (b) Re-connect the electrical connector D49008P to the ignition unit.
 - (c) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

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807. Electric Starter Motor Brush Wear - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10760.

B. Description

- (1) The electric starter motor has brush wear.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (b) If the APU wire harness does not have damage, then continue.
- (4) Do these steps to examine the electrical connector for the brush wear indicator on the electric starter motor.
 - (a) Disconnect the electrical connector D49032P from the electric starter motor.
 - (b) Examine the electrical connector D49032P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).

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- 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) Replace the electric starter motor.
These are the tasks:
Electric Starter Motor Removal, AMM TASK 49-42-01-000-801,
Electric Starter Motor Installation, AMM TASK 49-42-01-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (6) Do a wiring check of the APU wire harness:
 - (a) Re-connect the electrical connector D49032P to the electric starter motor.
 - (b) Disconnect the electrical connector D49001P from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Disconnect the electrical connector D49004P from the APU firewall.
 - (e) Examine the electrical connector D49004P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (f) Measure the resistance between this pair of pins of connectors D49001P and connector D49004P at the APU firewall (WDM 49-41-11).

D49001P	D49004P	RESISTANCE
pin 4	pin 9	>1000 ohms

- (g) If the resistance is <1000 ohms, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the electrical connector D49001P to the APU firewall.
 - 3) Re-connect the electrical connector D49004P to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (h) If the resistance is >1000 ohms, then continue.
- (7) Do a wiring check of the airplane wire harness:
 - (a) Re-connect the electrical connector D49001P to the firewall.
 - (b) Re-connect the electrical connector D49004P to the firewall.
 - (c) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between pin D7 and pin E7 of the connector DM49002AA at the APU controller (WDM 49-41-11).
 - (e) If the resistance is <1000 ohms, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is >1000 ohms, then continue.

- (8) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

808. ELMS Electric Start Command Circuit Open - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-13270.

B. Description

- (1) The APUC detects an open in the start command circuit.

C. Initial Evaluation

- (1) Make sure the BATTERY switch on the P5 panel is ON.

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- (2) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (3) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE or LATCHED for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (4) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Do this check of the airplane wiring:
 - (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Do a check for 28 VDC between pin K10 of the DM49002AB connector at the E-7 shelf and structure ground (WDM 49-41-11).
 - (c) If there is 28 VDC at pin K10, then do these steps:
 - (d) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 1) Do the Repair Confirmation procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (e) If there is not 28 VDC at pin K10, then continue:
- (4) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (5) Do a check for 28 VDC between pin 3 of the D31033P connector at the P310 panel and structure ground (WDM 49-41-11).
- (6) If there is 28 VDC at pin 3, then do these steps:
 - (a) Repair the wires between the P310 panel and the APU controller.
 - (b) Reconnect the D31033P connector.
 - (c) Do the Repair Confirmation procedure at the end of this task.
 - (d) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (e) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

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- (7) If there is not 28 VDC at pin 3, then do these steps:
- (a) Disconnect the K24030 Auto Start Control Relay from the DK24030 connector at the P310 panel.
 - (b) Do a check for 28 VDC between pin X1 of connector DK24030 in the P310 panel and structure ground (WDM 24-31-21).
 - (c) If 28 VDC is present at DK24030 pin X1, do these steps:
 - 1) Do a wiring check between these pins of connector DK24030 in the P310 panel and connector D31033P at the P310 panel (WDM 24-31-21).

DK24030	D31033P
pin X2	pin 3

- 2) If you find a problem with the wiring, then do these steps:
 - a) Repair the airplane wiring harness.
 - b) Replace the Relay K24030.
 - c) Reconnect the D31033P connector.
 - d) Do the repair confirmation procedure at the end of this task.
- 3) If you do not find a problem with the wiring, then do these steps:
 - a) Replace the Relay K24030 with a new relay.
 - b) Reconnect the D31033P connector.
 - c) Do the repair confirmation procedure at the end of this task.
- (d) If there is not 28 VDC present at DK24030 pin X1, do these steps:
 - 1) Make sure that this circuit breaker is closed:

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Row	Col	Number	Name
K	8	C24652	APU CRK CTRL

- 2) Do a wiring check between pin X1 of connector DK24030 in the P310 panel and Circuit Breaker C24652.
- 3) If you find a problem with the wiring, then do these steps:
 - a) Repair the airplane wiring harness.
 - b) Replace the Relay K24030.
 - c) Reconnect the D31033P connector.
 - d) Do the repair confirmation procedure at the end of this task.
- 4) If you do not find a problem with the wiring, then do these steps:
 - a) Replace the Relay K24030 with a new relay.
 - b) Reconnect the D31033P connector.
 - c) Do the repair confirmation procedure at the end of this task.

E. Repair Confirmation

- (1) Make sure the BATTERY switch on the P5 panel is ON.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

END OF TASK

809. ELMS Electric Start Command Circuit Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-13260.

B. Description

- (1) The APUC detects a short in the electric start command circuit.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Do this check of the airplane wiring:
 - (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect the DM24512C connector from the ELMS2 signal interface unit (SIU1), M24512.
 - (c) Do a check for 5 VDC between pin K10 of the DM49002AB connector at the E-7 shelf and structure ground (SSM 49-41-11).
 - (d) If there is <5 VDC at pin K10, then do these steps:
 - 1) Re-connect the DM24512C connector to the SIU1, M24512.
 - 2) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (e) If there is >5 VDC at pin K10, then continue.
- (4) Do a wiring check of the airplane wire harness:
 - (a) Disconnect the DM24512C connector from the signal interface unit 1 (SIU1), M24512.
 - (b) Disconnect the D31033P connector from the P310 panel.
 - (c) Do a check for 5 VDC between pin 3 of the D31033P connector at the P310 panel and structure ground (SSM 49-41-11).
 - (d) If there is <5 VDC at pin 3, then do these steps:

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- 1) Repair the wires between the P310 panel and the APU controller.
 - 2) Re-connect the DM24512C connector to the SIU1, M24512.
 - 3) Re-connect the D31033P connector.
 - 4) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 5) Do the Repair Confirmation procedure at the end of this task.
 - 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 7) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (e) If there is >5 VDC at pin 3, then continue.
- (5) Do this check of the airplane wire harness:
- (a) Disconnect the DM24512C connector from the signal interface unit 1 (SIU1), M24512.
 - (b) Do a check for 5 VDC between pin 12 of the DM24512C connector at the SIU1, M24512 and structure ground (SSM 49-41-11).
 - (c) If there is <5 VDC at pin 12, then do these steps:
 - 1) Repair the wiring between the SIU1, M24512 and the APU controller, M49002.
 - 2) Re-connect the electrical connector, DM24512C to the SIU1, M24512.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (d) If there is >5 VDC at pin 12, then do these steps:
 - 1) Replace the SIU1, M24512.

These are the tasks:
Signal Interface Unit - Removal, AMM TASK 24-09-00-000-814-002,
Signal Interface Unit - Installation, AMM TASK 24-09-00-400-810-002.
 - 2) Re-connect the electrical connector, DM24512C to the SIU1, M24512.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

D. Repair Confirmation

- (1) Make sure the APU bleed switch on the P5 overhead panel is in the OFF position.
- (2) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— END OF TASK —————

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810. APUC Electric Start Command Circuit is Failed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance messages: 49-11670, 49-12030.

B. Description

- (1) The APUC electric start command circuit is failed.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Do this wiring check of the airplane wire harness:
 - (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect the electrical connector, DM24512C from the ELMS2 signal interface unit 1 (SIU1), M24512, at the P310 power management panel.
 - (c) Do a wiring check between these pins of connector DM49002AB at the E7 shelf and connector DM24512C at the SIU1, M24512 (SSM 49-41-11).

DM49002AB

DM24512C

pin K10 pin 12

- (d) If you find a problem with the wiring, do these steps:
 - 1) Repair the airplane wire harness.
 - 2) 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

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<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	6	C49601	APUC 1
K	8	C24652	APU CRK CTRL

This circuit breaker is inoperative and should remain open:

Ground Service/Handling Power Panel, P320

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	12	C49400	APU OIL HTR ASSY (INOP)

- 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 4) Re-connect the electrical connector, DM24512C to the SIU1, M24512.
 - 5) Do the Repair Confirmation procedure at the end of this task.
 - 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 7) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (e) If you do not find a problem with the wiring, then continue.
- (5) Replace the signal interface unit 1 (SIU1), M24512.
- These are the tasks:
- Signal Interface Unit - Removal, AMM TASK 24-09-00-000-814-002,
Signal Interface Unit - Installation, AMM TASK 24-09-00-400-810-002.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Make sure the APU BLEED switch on the P5 panel is OFF.
- (2) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

811. APU Hung Start - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10610.

B. Description

- (1) The APU did not accelerate after it had a lightoff.

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C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Look at the Extended Maintenance, Existing Faults display on the MAT.
 - (a) Look for maintenance messages related to these systems:
 - 1) APU battery/APU battery charger (ATA 24)
 - 2) Airplane fuel delivery system to the APU (ATA 28)
 - 3) Air supply to the APU (ATA 36)
 - 4) APU inlet pressure sensor (ATA 49)
 - 5) APU inlet temperature sensor (ATA 49)
 - 6) APU fuel system (ATA 49)
 - 7) APU air turbine starter (ATA 49)
 - 8) APU electric starter motor (ATA 49)
 - 9) APU controller (ATA 49)
 - 10) APU IGVA (Inlet Guide Vane Actuator) LVDT circuit failed (ATA 49)
 - (b) If a maintenance message related to the above systems show, then do these steps:
 - 1) Find the message in the applicable FIM Maintenance Message Index.
 - 2) Do the specified task for the maintenance message.
 - 3) If the task for the maintenance message does not fix the APU hung start problem, then continue.
 - (c) If no maintenance messages related to the systems above show, then continue.
- (4) Do the steps that follow to start the APU with the air turbine starter (ATS):
 - (a) Make sure the APU BLEED switch is in the AUTO position.
 - (b) To supply pneumatic power with an external source, do this task: Pressurize the Pneumatic System, AMM TASK 36-00-00-860-802.

NOTE: You must supply pneumatic power for the APU to do an air turbine start attempt.
 - (c) Make sure these EICAS messages do not show:
 - 1) BLEED VALVE APU (Status)
 - 2) APU AIR STARTER (Status)
 - (d) If one of these EICAS messages show, do these steps:
 - 1) Go to the MAT and find the fault code for the applicable EICAS message.
 - 2) Find the correlated maintenance message number for the applicable EICAS message.
 - 3) Go to the Fault Code Index in the applicable FIM chapter.
 - 4) Do the specified task for the correlated maintenance message.

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- 5) After you do the applicable task for the EICAS messages that show, then continue.
- (e) To show the air supply maintenance page, do this task: Showing a Maintenance Page, AMM TASK 31-61-00-800-804.
 - 1) Look at the DUCT PRESS display on the Air Synoptic Page.
 - 2) If the DUCT PRESS is less than 18 psig, there is a problem with the air supply to the APU.

NOTE: The ATS needs 18 to 22 psig to start the APU.
- (f) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.

NOTE: The APU will do an air turbine start attempt.
- (g) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.
- (5) Do the steps that follow to start the APU with the electric starter motor:
 - (a) Make sure the APU BLEED switch is in the OFF position.
 - (b) To look at the APU maintenance page, do this task: Showing a Maintenance Page, AMM TASK 31-61-00-800-804.
 - (c) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - 1) Look at the APU BAT DC-V display on the APU maintenance page.
 - 2) If the voltage falls below 14 VDC, then there is a problem with the electric starter motor, the APU battery or the APU battery charger.
 - (d) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.
- (6) If the APU started with the air turbine starter and did not start with the electric starter motor, then do the steps that follow:
 - (a) Remove the electric starter motor. To remove it, do this task: Electric Starter Motor Removal, AMM TASK 49-42-01-000-801.
 - (b) Turn the electric starter clutch with your hand.

NOTE: If the shaft of the clutch is sheared, then the clutch will turn freely. If the clutch is not sheared, then the clutch will feel heavy when you turn the clutch (this will turn the APU). To visually be sure, you can gain access to the power section compressor blades through the inlet plenum side access cover. If the clutch is not sheared, you can see the power section compressor blades move when the clutch is turned. If the clutch is sheared, the power section compressor blades will not move when the clutch is turned.
 - (c) If the electric starter clutch is sheared, then do these steps:
 - 1) Replace the electric starter clutch.

These are the tasks:
Electric Starter Clutch Removal, AMM TASK 49-42-02-000-801,
Electric Starter Clutch Installation, AMM TASK 49-42-02-400-801.
 - 2) Do the Repair Confirmation (electric starter motor) procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (d) If the electric starter clutch is OK, then to these steps:
 - 1) Replace the electric starter motor.

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These are the tasks:

Electric Starter Motor Removal, AMM TASK 49-42-01-000-801,
Electric Starter Motor Installation, AMM TASK 49-42-01-400-801.

- 2) Do the Repair Confirmation (electric starter motor) procedure at the end of this task.
- 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

- (e) Replace the APU battery.

These are the tasks:

APU Battery Removal, AMM TASK 24-31-05-000-801,
APU Battery Installation, AMM TASK 24-31-05-400-801.

- 1) Do the Repair Confirmation (electric starter motor) procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) Replace the APU crank contactor.

These are the tasks:

APU Crank Contactor Removal, AMM TASK 24-31-09-000-801,
APU Crank Contactor Installation, AMM TASK 24-31-09-400-801.

- 1) Do the Repair Confirmation (electric starter motor) procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (7) If the APU did not start with the electric starter motor or the ATS, then do these steps:
- (a) Examine the inlet pressure line for blockage:
 - 1) Look at the P2 pressure in the APU autosutdown report, if the P2 pressure was low, then do these steps:
 - a) Do this task: Inlet Pressure Sensor Removal, AMM TASK 49-53-05-000-801
 - b) Clean the inlet pressure line with compressed air.
 - c) Do this task: Inlet Pressure Sensor Installation, AMM TASK 49-53-05-400-801
 - d) Do the Repair Confirmation procedure at the end of this task.
 - e) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - f) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - 2) If the P2 pressure in the APU autosutdown report was normal, then continue.
 - (b) Do these steps to examine the inlet plenum for blockage:
 - 1) Remove the access panel on the side of the inlet plenum.

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- 2) Make sure the screen in the inlet plenum is free of blockage.
 - 3) If the screen in the inlet plenum has blockage, then do these steps:
 - a) Remove the blockage.
 - b) Re-install the access panel on the inlet plenum.
 - c) Do the Repair Confirmation procedure at the end of this task.
 - d) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - e) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - 4) Make sure there is no signs of foreign object damage (FOD).
 - 5) If there is signs of foreign object damage (FOD), then do these steps.
 - a) Replace the APU.

These are the tasks:

Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,

Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.

NOTE: You can do the APU borescope procedure to verify that the APU has internal damage (AMM TASK 49-21-00-200-801).
 - b) Do the Repair Confirmation procedure at the end of this task.
 - c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - d) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - 6) If there is no signs of blockage or FOD, then continue.
- (c) Remove the end cap from the electric starter motor.
- (d) Use a socket and a ratchet on the shaft for the electric starter motor to turn the APU.
- 1) Turn the socket counterclockwise, forward facing aft.
 - 2) If the APU does not turn freely, then replace the APU, M49001.
- These are the tasks:
- Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
- Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
- 3) Do the Repair Confirmation (ATS) procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

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- 6) If the APU did turn freely, then continue.
- (e) Do this task: Magnetic Chip Collector Inspection, AMM TASK 49-27-04-200-801.
 - 1) If the magnetic chip collectors show internal APU damage, then replace the APU, M49001.

These are the tasks:

Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,

Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
 - 2) Do the Repair Confirmation (ATS) procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - 5) If the magnetic chip collectors are OK, then continue.
- (f) Replace the fuel cluster, M49001M100.

These are the tasks:

Fuel Cluster Removal, AMM TASK 49-31-31-000-801,

Fuel Cluster Installation, AMM TASK 49-31-31-400-801.

 - 1) Do the Repair Confirmation (ATS) procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (g) Replace the inlet pressure sensor.

These are the tasks:

Inlet Pressure Sensor Removal, AMM TASK 49-53-05-000-801,

Inlet Pressure Sensor Installation, AMM TASK 49-53-05-400-801.

 - 1) Do the Repair Confirmation (ATS) procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (h) Replace the inlet temperature sensor.

These are the tasks:

Inlet Temperature Sensor Removal, AMM TASK 49-61-03-000-801,

Inlet Temperature Sensor Installation, AMM TASK 49-61-03-400-801.

 - 1) Do the Repair Confirmation (ATS) procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (i) If the airplane was in storage or the APU did not operate for a long time, do this task: Purge the Air from the APU Fuel Supply Line, AMM TASK 28-25-00-700-801.
 - 1) Do the Repair Confirmation (ATS or Electric Starter Motor) procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (j) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - 1) Do the Repair Confirmation (ATS) procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (8) If the APU started with the ATS and the electric starter motor, then do these steps:

NOTE: The APU can have a normal start on the ground and fail the start attempt in the air.

 - (a) Replace the inlet pressure sensor.

These are the tasks:

Inlet Pressure Sensor Removal, AMM TASK 49-53-05-000-801,
Inlet Pressure Sensor Installation, AMM TASK 49-53-05-400-801.
 - (b) Disconnect the pressure lines from the pneumatic cluster.
 - 1) Remove the packings from the pressure lines.
 - 2) Use dry compressed air to purge the pressure lines.
 - 3) Install new packings on the pressure lines.
 - 4) Re-connect the pressure lines.
 - (c) Replace the inlet temperature sensor.

These are the tasks:

Inlet Temperature Sensor Removal, AMM TASK 49-61-03-000-801,
Inlet Temperature Sensor Installation, AMM TASK 49-61-03-400-801.

 - 1) Do the Repair Confirmation (ATS) procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation (ATS)

- (1) Make sure the APU BLEED switch on the P5 overhead panel is in the AUTO position.
- (2) To supply pneumatic power with an external source, do this task: Pressurize the Pneumatic System, AMM TASK 36-00-00-860-802.

NOTE: You must supply pneumatic power for the APU to do an air turbine start attempt.

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- (3) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
NOTE: The APU will do an air turbine start attempt.
- (4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (5) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

E. Repair Confirmation (Electric Starter Motor)

- (1) Make sure the APU BLEED switch is in the OFF position.
- (2) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
NOTE: The APU will do an electric start attempt.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— END OF TASK —————

812. APU Electric Starter System Problems - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10620.

B. Description

- (1) The APU did not reach 7% speed during an electric start attempt. A battery discharge of approximately 100 amps is necessary for the electric starter motor to turn the APU above the 7% speed. If the electric starter motor gets less than 100 amps, then the APU may not reach 7% speed and the cause of this maintenance message to show is an electrical fault. If the electric starter motor gets more than 100 amps, then the APU speed is above 7% and the cause of this maintenance message to show is a mechanical fault.

C. Initial Evaluation

- (1) Make sure the BATTERY switch on the P5 overhead panel is ON.
- (2) Look at the Extended Maintenance, Existing Faults display on the MAT.
 - (a) Look for maintenance messages related to these systems:
 - 1) APU battery/APU battery charger (ATA 24)
 - 2) APU electric starter motor (ATA 49)
 - 3) APU controller (ATA 49)
 - (b) If a maintenance message related to the systems above show, then do these steps:
 - 1) Find the message in the applicable FIM Maintenance Message Index.
 - 2) Do the specified task for the maintenance message.
 - 3) If the task for the maintenance message did not fix the APU electric starter system problem, then continue.
 - (c) If no maintenance messages related to the systems above show, then continue.
- (3) Do these steps to start the APU with the electric starter:
 - (a) Make sure the APU BLEED switch on the P5 overhead panel is in the OFF position.

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- (b) 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>
K	8	C24652	APU CRK CTRL

- (c) Look at the APU BAT-A display on the APU maintenance page. To see it, do this task:
Showing a Maintenance Page, AMM TASK 31-61-00-800-804.
- (d) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (e) If the APU BAT-A display shows a battery discharge of less than 100 amps before starter cutout and the APU speed is 7%, then do the Fault Isolation Procedure - Electrical Fault.
- NOTE: There is an open in the power supply circuit for the electric starter motor.
- 1) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.
- (f) If the APU BAT-A display shows a battery discharge of more than 100 amps before starter cutout and the APU speed is 7%, then do the Fault Isolation Procedure - Mechanical Fault.

NOTE: There is a problem with the APU, the electric starter motor, or the electric starter motor clutch.

- 1) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

D. Fault Isolation Procedure - Electrical Fault



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Make sure the leads are connected to the electric starter motor.
- (a) If the leads are not connected to the electric starter motor, then connect the leads.
- 1) Do the Repair Confirmation procedure at the end of this task.
- 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (b) If the leads are connected to the electric starter motor, then continue.
- (4) Do this check of the wiring for the electric starter motor:
- (a) Move the APU selector on the P5 panel to the START position.
- (b) Do a check for 28 VDC from terminal X1 of the crank contactor relay, K24494 to structure ground (WDM 24-31-21).
- (c) If there is 28 VDC at terminal X1 at the crank contactor relay, then do these steps:
- 1) Do a check for 28 VDC from terminal A2 of the crank contactor relay, K24494 to structure ground (WDM 24-31-21).
- 2) If there is not 28 VDC at terminal A2, then do these steps:

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- a) Replace the APU crank contactor relay.
These are the tasks:
APU Crank Contactor Removal, AMM TASK 24-31-09-000-801,
APU Crank Contactor Installation, AMM TASK 24-31-09-400-801.
 - b) Do the Repair Confirmation procedure at the end of this task.
 - c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - d) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- 3) If there is 28 VDC at terminal A2, then do these steps:
 - 4) Do a check for 28 VDC at terminal F2 of the electric starter motor to structure ground (WDM 24-31-21).
 - 5) If there is 28 VDC at terminal F2, then do these steps:
 - a) Replace the electric starter motor.
These are the tasks:
Electric Starter Motor Removal, AMM TASK 49-42-01-000-801,
Electric Starter Motor Installation, AMM TASK 49-42-01-400-801.
 - b) Do the Repair Confirmation procedure at the end of this task.
 - c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - d) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - 6) If there is not 28 VDC at pin A2, then do these steps:
 - a) Repair the wiring between the electric starter motor and the APU crank contactor relay.
 - b) Do the Repair Confirmation procedure at the end of this task.
 - c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - d) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (d) If there is not 28 VDC at terminal X1 at the crank contactor relay, then do these steps:
 - 1) Replace the auto start control relay K24030 in the P310 panel (WDM 24-31-21).
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Do this check of the wiring between the ELMS P310 panel and the APU crank control relay, K24494.
 - (a) Disconnect the D31011P connector from the P310 panel.
 - (b) Measure the resistance between pin 25 of the D31011P connector and structure ground.
 - (c) If the resistance is >50 ohms, then do these steps:

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- 1) Repair the wiring between the ELMS P310 panel and the K24494 relay.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (d) If the resistance is <50 ohms, then continue.
- (6) Do this check of the wiring in the P310 panel:
- (a) Remove the AUTO start control relay, K24030 (WDM 24-31-21).
 - (b) Disconnect the D31011P connector from the P310 panel.
 - (c) Do a wiring check between these pins of connector DK24030 at the AUTO start control relay K24030 and the connector receptacle D31011J at the P310 panel.

DK24030	D31011J
pin B1	pin 25

- (d) Do a wiring check between these pins of connector DM49002AB at the APU controller and the connector DK24030 at the K24030 relay.

DK24030	DM49002AB
pin X2	pin K10

- (e) If you find a problem with the wiring, then do these steps:
- 1) Repair the wiring.
 - 2) Re-install the AUTO start control relay, K24030 (WDM 24-31-21).
 - 3) Re-connect the D31011P connector.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) If you do not find a problem with the wiring, then do these steps:
- 1) Re-install the AUTO start control relay, K24030 (WDM 24-31-21).
 - 2) Re-connect the D31011P connector.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Fault Isolation Procedure - Mechanical Fault



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.

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- (2) Make sure the APU selector is in the OFF position.
- (3) Make sure the APU does not have any internal damage:
 - (a) Remove the end cap from the electric starter motor.
 - (b) Use a socket and a ratchet on the shaft for the electric starter motor to turn the APU.
 - (c) Turn the socket counterclockwise, forward facing aft.
 - (d) If the APU does not turn freely, then do these steps:
 - 1) Replace the APU, M49001.
These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
 - 2) Do the Repair Confirmation (ATS) procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (e) If the APU did turn freely, then continue.
- (f) Do this task: Magnetic Chip Collector Inspection, AMM TASK 49-27-04-200-801.
- (g) If the magnetic chip collectors show internal APU damage, then do these steps:
 - 1) Replace the APU, M49001.
These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
 - 2) Do the Repair Confirmation (ATS) procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (h) If the magnetic chip collectors are OK, then continue.
- (4) Examine the electric starter motor and the electric starter motor clutch:
 - (a) Remove the electric starter motor. To remove it, do this task: Electric Starter Motor Removal, AMM TASK 49-42-01-000-801.
 - (b) Turn the electric starter clutch with your hand.
NOTE: If the shaft of the clutch is sheared, then the clutch will turn freely. If the clutch is not sheared, then the clutch will feel heavy when you try to turn it.
 - (c) If the electric starter clutch is sheared, then do these steps:

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- 1) Replace the electric starter clutch.
These are the tasks:
Air Turbine Starter (ATS) Clutch Removal, AMM TASK 49-43-02-000-801,
Air Turbine Starter (ATS) Clutch Installation, AMM TASK 49-43-02-400-801.
 - 2) Do the Repair Confirmation (electric starter motor) procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Replace the electric starter motor.
These are the tasks:
Electric Starter Motor Removal, AMM TASK 49-42-01-000-801,
Electric Starter Motor Installation, AMM TASK 49-42-01-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Replace the APU battery.
These are the tasks:
APU Battery Removal, AMM TASK 24-31-05-000-801,
APU Battery Installation, AMM TASK 24-31-05-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (7) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

F. Repair Confirmation

- (1) Make sure the APU BLEED switch is in the OFF position.
- (2) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
NOTE: The APU will do an electric start attempt.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- (4) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

— END OF TASK —

813. APU Decelerated During an Electric Start - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10630.

B. Description

- (1) The APU decelerated after light-off during an electric start attempt. This fault will protect the electric starter motor clutch from a crash engagement.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Look at the Extended Maintenance, Existing Faults display on the MAT.
 - (a) Look for maintenance messages related to these systems:
 - 1) APU battery/APU battery charger (ATA 24)
 - 2) APU related ELMS electronics unit cards (ATA 24)
 - 3) Airplane fuel delivery system to the APU (ATA 28)
 - 4) APU ignition system (ATA 49)
 - 5) APU inlet pressure sensor (ATA 49)
 - 6) APU inlet temperature sensor (ATA 49)
 - 7) APU fuel system (ATA 49)
 - 8) APU electric starter motor (ATA 49)
 - 9) APU controller (ATA 49)
 - (b) If a maintenance message related to the systems above shows, then do these steps:
 - 1) Find the message in the applicable FIM Maintenance Message Index.
 - 2) Do the specified task for the maintenance message.
 - 3) If no maintenance messages related to the systems above show, then continue.
 - (c) If the task for the maintenance message did not fix this APU electric start problem, then continue.
- (4) Make sure the APU does not have any internal damage:
 - (a) Remove the end cap from the electric starter motor.
 - (b) Use a socket and a ratchet on the shaft for the electric starter motor to turn the APU.
 - (c) Turn the socket counterclockwise, forward facing aft.
 - (d) If the APU does not turn freely, then do these steps:
 - 1) Replace the APU, M49001.

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These are the tasks:

Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,

Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.

- 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (e) If the APU did turn freely, then continue.
- (f) Do this task: Magnetic Chip Collector Inspection, AMM TASK 49-27-04-200-801.
- (g) If the magnetic chip collectors show internal APU damage, then do these steps:
- 1) Replace the APU, M49001.

These are the tasks:

Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,

Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.

- 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (h) If the magnetic chip collectors are OK, then continue.
- (5) Examine the electric starter motor and the electric starter motor clutch:
- (a) Remove the electric starter motor. To remove it, do this task: Electric Starter Motor Removal, AMM TASK 49-42-01-000-801.
 - (b) Turn the electric starter clutch with your hand.
NOTE: If the shaft of the clutch is sheared, then the clutch will turn freely. If the clutch is not sheared, then the clutch will feel heavy when you try to turn the APU.
 - (c) If the electric starter clutch is sheared, then do these steps:
 - 1) Replace the electric starter clutch.

These are the tasks:

Electric Starter Clutch Removal, AMM TASK 49-42-02-000-801,
Electric Starter Clutch Installation, AMM TASK 49-42-02-400-801.

- 2) Do the Repair Confirmation procedure at the end of this task.
- 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (d) Replace the electric starter motor.
These are the tasks:
Electric Starter Motor Removal, AMM TASK 49-42-01-000-801,
Electric Starter Motor Installation, AMM TASK 49-42-01-400-801.
 - 1) Do the Repair Confirmation procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Replace the fuel cluster, M49001M100.
These are the tasks:
Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (7) Examine the inlet pressure line for blockage:
 - (a) Look at the P2 pressure in the APU autosutdown report, if the P2 pressure was low, then do these steps:
 - 1) Do this task: Inlet Pressure Sensor Removal, AMM TASK 49-53-05-000-801
 - 2) Clean the inlet pressure line with compressed air.
 - 3) Do this task: Inlet Pressure Sensor Installation, AMM TASK 49-53-05-400-801
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (b) If the P2 pressure in the APU autosutdown report was normal, then continue.
- (8) Replace the inlet pressure sensor.
These are the tasks:
Inlet Pressure Sensor Removal, AMM TASK 49-53-05-000-801,
Inlet Pressure Sensor Installation, AMM TASK 49-53-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (9) Replace the inlet temperature sensor, M49001M007.

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These are the tasks:

Inlet Temperature Sensor Removal, AMM TASK 49-61-03-000-801,
Inlet Temperature Sensor Installation, AMM TASK 49-61-03-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (10) If the airplane was in storage or the APU did not operate for a long time, do this task: Purge the Air from the APU Fuel Supply Line, AMM TASK 28-25-00-700-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (11) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (12) Replace the electric starter motor, M49001M001.

These are the tasks:

Electric Starter Motor Removal, AMM TASK 49-42-01-000-801,
Electric Starter Motor Installation, AMM TASK 49-42-01-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

D. Repair Confirmation

- (1) Make sure the APU BLEED switch on the P5 overhead panel is in the OFF position.
- (2) Make sure the BATTERY switch on the P5 overhead panel is in the ON position.
- (3) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
NOTE: The APU will do an electric start attempt.
- (4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (5) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— END OF TASK —————

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814. APU Did Not Light Off During Start - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-07940.

B. Description

- (1) The APU EGT did not increase during an APU start attempt.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Look at the Extended Maintenance, Existing Faults display on the MAT.
 - (a) Look for maintenance messages related to these systems:
 - 1) Airplane fuel delivery system to the APU (ATA 28)
 - 2) APU inlet pressure sensor (ATA 49)
 - 3) APU inlet temperature sensor (ATA 49)
 - 4) APU fuel system (ATA 49)
 - 5) APU ignition system (ATA 49)
 - 6) APU exhaust gas temperature thermocouples (EGT sensors) (ATA 49)
 - 7) APU controller (ATA 49)
 - (b) If a maintenance message related to the systems above shows, then do these steps:
 - 1) Find the message in the applicable FIM Maintenance Message Index.
 - 2) Do the specified task for the maintenance message.
 - (c) If the task for the maintenance message did not fix the APU light off problem, then continue.
 - (d) If no maintenance messages related to the systems above show, then continue.
- (4) Make sure there is more than 650 pounds of fuel in the left main fuel tank.
- (5) Replace the ignition cluster, M49001M201.

These are the tasks:

Ignition Cluster Removal, AMM TASK 49-41-41-000-801,

Ignition Cluster Installation, AMM TASK 49-41-41-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Remove the fuel cluster, M49001M100. To remove it, do this task: Fuel Cluster Removal, AMM TASK 49-31-31-000-801.

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- (a) Remove the end cap from the electric starter motor.
- (b) Use a socket and a ratchet on the shaft for the electric starter motor to turn the APU.
- (c) Turn the socket counterclockwise, forward facing aft.
- (d) If the shaft for the lube cluster does not turn, then do these steps:
 - 1) Replace the lube cluster, M49001M300.
These are the tasks:
Lube Cluster Removal, AMM TASK 49-27-27-000-801,
Lube Cluster Installation, AMM TASK 49-27-27-400-801.
 - 2) Re-install the fuel cluster, M49001M100. To install it, do this task: Fuel Cluster Installation, AMM TASK 49-31-31-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (e) If the shaft for the lube cluster does turn, then do these steps:
 - 1) Replace the fuel cluster, M49001M100.
These are the tasks:
Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (7) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (b) If the APU wire harness does not have damage, then continue.
- (8) Examine the inlet pressure line for blockage:
 - (a) Look at the P2 pressure in the APU autosutdown report, if the P2 pressure was low, then do these steps:
 - 1) Do this task: Inlet Pressure Sensor Removal, AMM TASK 49-53-05-000-801

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- 2) Clean the inlet pressure line with compressed air.
 - 3) Do this task: Inlet Pressure Sensor Installation, AMM TASK 49-53-05-400-801
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (b) If the P2 pressure in the APU autosutdown report was normal, then continue.
- (9) Replace the inlet pressure sensor, M49001M006.
- These are the tasks:
- Inlet Pressure Sensor Removal, AMM TASK 49-53-05-000-801,
Inlet Pressure Sensor Installation, AMM TASK 49-53-05-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (10) Replace the inlet temperature sensor, M49001M007.
- These are the tasks:
- Inlet Temperature Sensor Removal, AMM TASK 49-61-03-000-801,
Inlet Temperature Sensor Installation, AMM TASK 49-61-03-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (11) Replace the APU controller, M49002.
- These are the tasks:
- APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (a) Do the Repair Confirmation (ATS) procedure at the end of this task.
- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (12) Replace the fuel nozzles. These are the tasks:
- Fuel Nozzle Removal, AMM TASK 49-31-03-000-801,
Fuel Nozzle Installation, AMM TASK 49-31-03-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

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- (13) Replace the APU, M49001.

These are the tasks:

Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or
Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,

Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or
Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.

- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

— END OF TASK —

815. APUC Ignition Unit Power Input Circuit Failed Off - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11790.

B. Description

- (1) The APUC ignition unit power input circuit is failed off.

C. Initial Evaluation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - (a) If the MAT shows ACTIVE or LATCHED for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the Mat shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (2) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

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APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Do this wiring check of the APU wire harness:
 - (a) Disconnect the D49004P connector from the firewall.
 - (b) Examine the electrical connector D49004P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Disconnect the D49008P connector from the ignition unit.
 - (d) Examine the electrical connector D49008P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (e) Do a wiring check between these pins of connector D49004P at the APU firewall and connector D49008P at the ignition unit.

D49008P	D49004P
pin 1	pin 4
pin 2	pin 5

- (f) If you find a problem with the wiring, then do these steps:
 - 1) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Reconnect the D49008P connector to the ignition unit.
 - 3) Reconnect the D49004P connector to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (g) If you do not find a problem with the wiring, then continue.
- (5) Do this wiring check of the airplane wire harness:
 - (a) Reconnect the D49008P connector to the ignition unit.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.

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- (c) Disconnect the D49004P connector from the APU firewall.
- (d) Do a wiring check between these pins of connector D49004P at the APU firewall and connector DM49002AB at the E7 shelf.

DM49002AB	D49004P
pin 114	pin 5
pin 115	pin 4

- (e) If you find a problem with the wiring, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Reconnect the D49004P connector to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.



DO NOT TOUCH THE IGNITION COMPONENTS UNTIL YOU DO THESE STEPS. THESE STEPS WILL RELEASE THE HIGH VOLTAGE FROM THE IGNITION UNIT. IF YOU DO NOT OBEY THIS PROCEDURE, INJURY TO PERSONS CAN OCCUR.

- (6) Do these steps to release the high voltage from the ignition unit:
 - (a) Make sure 5 minutes have gone by since the last APU start.
 - (b) One at a time, disconnect the ignition leads from the bosses on the APU.

NOTE: The ignition lead connections to the APU hold the igniter plugs. When the ignition leads are disconnected, the igniter plugs can come out.

 - 1) Ground the ignition leads to the APU. - (c) Connect the ignition leads to the bosses on the APU.
- (7) Replace the ignition unit, M49001M201.
- These are the tasks:
- Ignition Unit Removal, AMM TASK 49-41-03-000-801,
Ignition Unit Installation, AMM TASK 49-41-03-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

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816. APUC Electric Start Command Circuit is Failed On - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12031.

B. Description

- (1) The APUC electric start command circuit is failed ON.

C. Fault Isolation Procedure



MAKE SURE THAT THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION, AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT THE ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Do a check of the ELMS2 computing and communications unit, (CCU), M24510.

This is the task:

Computing and Communication Unit - Exchange Check, AMM TASK 24-09-00-700-802-002.

- (4) Do this wiring check of the airplane wire harness:
- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
- (b) Disconnect the electrical connector, DM24512C from the ELMS2 signal interface unit 1 (SIU1), M24512, at the P310 power management panel.
- (c) Do a wiring check between these pins of connector DM49002AB at the E7 shelf and connector DM24512C at the ELMS electronics unit (WDM 49-41-11).

DM49002AB

pin K10

DM24512C

pin 12

- (d) If you find a problem with the wiring, do these steps:
- 1) Repair the airplane wire harness.
- 2) 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
K	8	C24652	APU CRK CTRL

This circuit breaker is inoperative and should remain open:

Ground Service/Handling Power Panel, P320

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
L	12	C49400	APU OIL HTR ASSY (INOP)

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- 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- 4) Re-connect the electrical connector, DM24512C to the SIU1, M24512.
- 5) Do the Repair Confirmation procedure at the end of this task.
 - a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - b) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (e) If you do not find a problem with the wiring, then continue.
- (5) Replace the signal interface unit 2, (SIU2), M24513.

These are the tasks:

Signal Interface Unit - Removal, AMM TASK 24-09-00-000-814-002,
Signal Interface Unit - Installation, AMM TASK 24-09-00-400-810-002.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

D. Repair Confirmation

- (1) Start and operate the APU. To start and operate it, do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Shut down the APU. To shutdown the APU, do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

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801. ATSCV RVDT Secondary Coil Problems - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10880.

B. Description

- (1) The air turbine starter control valve (ATSCV) RVDT circuit has an open.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

- 2) Do the Repair Confirmation procedure at the end of this task.
- 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 4) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Do this check of the connector for the air turbine starter control valve (ATSCV):
 - (a) Disconnect the D49019P connector from the ATSCV, M49001V001.
 - (b) Examine the D49019P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).

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- 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable ATSCV, M49001V001, then do these steps:
 - (a) Connect the D49019P connector to the ATSCV.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the ATSCV.
These are the tasks:
Air Turbine Starter Control Valve (ATSCV) Removal, AMM TASK 49-43-03-000-801,
Air Turbine Starter Control Valve (ATSCV) Installation, AMM TASK 49-43-03-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable ATSCV, then do this wire check:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between these pairs of pins of the connector on the ATSCV, M49001V001 (WDM 49-41-11):
 - 1) Pin 1 and pin 2, specified resistance 10-100 ohms.
 - 2) Pin 2 and pin 3, specified resistance 10-100 ohms.
 - 3) Pin 4 and pin 5, specified resistance 10-100 ohms.
 - 4) Pin 1 and pin 9 (case ground), specified resistance >100K ohms.
 - 5) Pin 4 and pin 9 (case ground), specified resistance >100K ohms.
 - (c) If the resistance is not in the range specified for each pair of pins, then do the steps that follow:
 - 1) Replace the ATSCV, M49001V001.
These are the tasks:
Air Turbine Starter Control Valve (ATSCV) Removal, AMM TASK 49-43-03-000-801,
Air Turbine Starter Control Valve (ATSCV) Installation, AMM TASK 49-43-03-400-801.
 - 2) Re-connect the D49019P connector to the air turbine starter control valve (ATSCV).
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the resistance is in the range specified for each pair of pins, then continue.
- (7) Do the resistance check for the APU wire harness:

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- (a) Re-connect the D49019P connector to the air turbine starter control valve (ATSCV).
- (b) Disconnect the D49001P connector from the APU firewall.
- (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (d) Measure the resistance between these pairs of pins of connector D49001P at the APU firewall (WDM 49-41-11):
 - 1) Pin 35 and pin 36, specified resistance 10-100 ohms.
 - 2) Pin 36 and pin 37, specified resistance 10-100 ohms.
 - 3) Pin 33 and pin 34, specified resistance 10-100 ohms.
 - 4) Pin 35 and the connector backshell, specified resistance >100K ohms.
 - 5) Pin 33 and the connector backshell, specified resistance >100K ohms.
- (e) If the resistance is not in the range specified for each pair of pins, then do the steps that follow:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Connect the D49019P connector to the air turbine starter control valve (ATSCV).
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (f) If the resistance is within the range specified, then continue.
- (8) Do the resistance check for the airplane wire harness:
 - (a) Re-connect the D49001P connector to the APU firewall.
 - (b) Do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-41-11):
 - 1) Pin K10 and pin J9, specified resistance 10-100 ohms.
 - 2) Pin J9 and pin H10, specified resistance 10-100 ohms.
 - (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-41-11):
 - 1) Pin D4 and pin D5, specified resistance 10-100 ohms.
 - 2) Pin D4 and pin D6 (ground), specified resistance >100K ohms.
 - 3) Pin D5 and pin D6 (ground), specified resistance >100K ohms.
 - (e) If the resistance is not within the range specified, repair the airplane wire harness.
 - 1) Do the Repair Confirmation procedure at the end of this task.



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- 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 3) If the MAT shows ACTIVE for the maintenance message, then continue.
- (f) If the resistance is within the range specified, then continue.
- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

802. ATSCV RVDT Failed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance messages: 49-10810, 49-10820.

B. Description

- (1) The position sensor for the air turbine starter control valve (ATSCV) does not indicate actual position.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the air turbine starter control valve (ATSCV), M49001V001.

These are the tasks:

Air Turbine Starter Control Valve (ATSCV) Removal, AMM TASK 49-43-03-000-801,

Air Turbine Starter Control Valve (ATSCV) Installation, AMM TASK 49-43-03-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

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- (4) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Examine the APU wire harness:
- (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Do the resistance check for the APU wire harness:
- (a) Re-connect the D49019P connector to the air turbine starter control valve (ATSCV).
 - (b) Disconnect the D49001P connector from the APU firewall.
 - (c) Examine the D49001P connector for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of connector D49001P at the APU firewall (WDM 49-41-11):
 - 1) Pin 35 and pin 36, specified resistance 10-100 ohms.
 - 2) Pin 36 and pin 37, specified resistance 10-100 ohms.
 - 3) Pin 33 and pin 34, specified resistance 10-100 ohms.
 - 4) Pin 35 and the connector backshell, specified resistance >100K ohms.
 - 5) Pin 33 and the connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is not in the range specified for each pair of pins, then do the steps that follow:
 - 1) Replace the APU wire harness.
These are the tasks:

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- APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
- 2) Connect the electrical connector D49019P to the air turbine starter control valve (ATSCV).
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) If the resistance is within the range specified, then continue.
- (7) Do the resistance check for the airplane wire harness:
- (a) Re-connect the D49001P connector to the APU firewall.
 - (b) Do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-41-11):
 - 1) Pin K10 and pin J9, specified resistance 10-100 ohms.
 - 2) Pin J9 and pin H10, specified resistance 10-100 ohms.
 - 3) Pin K10 and pin J10 (ground), specified resistance >100K ohms.
 - (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-41-11):
 - 1) Pin D4 and pin D5, specified resistance 10-100 ohms.
 - 2) Pin D4 and D6 (ground), specified resistance >100K ohms.
 - (e) If the resistance is not within the range specified, repair the airplane wire harness.
 - 1) Do the Repair Confirmation procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Make sure the APU BLEED switch is in the AUTO position.
- (2) To supply pneumatic power with an external source, do this task: Pressurize the Pneumatic System, AMM TASK 36-00-00-860-802.
NOTE: You must supply pneumatic power for the APU to do an air turbine start attempt.
- (3) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
NOTE: The APU will do an air turbine start attempt.
- (4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (5) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

803. ATSCV Failed Open - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10830.

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B. Description

- (1) The position sensor for the air turbine starter control valve (ATSCV) indicates that the ATSCV is open. This fault is set when the APU turns before the APUC commands the ATSCV open.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the air turbine starter control valve (ATSCV), M49001V001.

These are the tasks:

Air Turbine Starter Control Valve (ATSCV) Removal, AMM TASK 49-43-03-000-801,

Air Turbine Starter Control Valve (ATSCV) Installation, AMM TASK 49-43-03-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:

- 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.

- 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,

APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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D. Repair Confirmation

- (1) Make sure the APU BLEED switch is in the AUTO position.
- (2) To supply pneumatic power with an external source, do this task: Pressurize the Pneumatic System, AMM TASK 36-00-00-860-802.
NOTE: You must supply pneumatic power for the APU to do an air turbine start attempt.
- (3) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
NOTE: The APU will do an air turbine start attempt.
- (4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (5) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— END OF TASK —————

804. ATSCV Failed Closed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10840.

B. Description

- (1) An air turbine start is commanded by the APUC. After the APU bleed valve opens and the air turbine starter control valve (ATSCV) is commanded open, the APU should accelerate. This fault is set when the ATSCV indicates that the valve is closed and the APU does not reach 7% speed in 20 seconds.

C. Initial Evaluation

- (1) To supply pneumatic power with an external source, do this task: Pressurize the Pneumatic System, AMM TASK 36-00-00-860-802.
NOTE: You must supply pneumatic power for the APU to do an air turbine start attempt.
- (2) Make sure the APU BLEED switch on the P5 overhead panel is in the AUTO position.
- (3) To look at the air synoptics page, do this task: Showing a System Synoptic Page, AMM TASK 31-61-00-800-816.
- (4) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
NOTE: The APU will do an air turbine start attempt.
 - (a) Make sure the synoptics page indicates that the air turbine starter receives air.
 - 1) If the APU does not receive air, there is a problem with the airplane pneumatic system or the ground air supply.
 - (b) Make sure the duct pressure is above 15 psig.
 - 1) If the duct pressure is below 15 psig, there is a problem with the airplane pneumatic system.
 - (c) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (d) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (5) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

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D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the air turbine starter control valve (ATSCV), M49001V001.

These are the tasks:

Air Turbine Starter Control Valve (ATSCV) Removal, AMM TASK 49-43-03-000-801,

Air Turbine Starter Control Valve (ATSCV) Installation, AMM TASK 49-43-03-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:

- 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.

- 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,

APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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E. Repair Confirmation

- (1) Make sure the APU BLEED switch is in the AUTO position.
- (2) To supply pneumatic power with an external source, do this task: Pressurize the Pneumatic System, AMM TASK 36-00-00-860-802.
NOTE: You must supply pneumatic power for the APU to do an air turbine start attempt.
- (3) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
NOTE: The APU will do an air turbine start attempt.
- (4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (5) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

805. ATS Failed To Turn APU - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10850.

B. Description

- (1) An air turbine start is commanded by the APUC. After the APU bleed valve opens and the air turbine starter control valve (ATSCV) is commanded open, the APU should accelerate. This fault is set if the APU does not reach 7% speed after 20 seconds.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the magnetic chip collector for the air turbine starter (ATS). To examine it, do this task: Air Turbine Starter Magnetic Chip Collector Inspection, AMM TASK 49-43-04-200-801.
 - (a) If the magnetic chip collector is OK, then continue.
- (4) Examine the magnetic chip collectors for the APU. To examine them, do this task: Magnetic Chip Collector Inspection, AMM TASK 49-27-04-200-801.
 - (a) If the magnetic chip collectors are OK, then continue.
- (5) Manually turn the APU:
 - (a) Remove the end cap from the electric starter motor.
 - (b) Use a socket and ratchet on the shaft for the electric starter motor to turn the APU.
 - 1) Turn the socket counterclockwise, forward facing aft.
 - (c) If the APU does not turn freely, then replace the APU.

These are the tasks:

Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or
Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,

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Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.

- (d) Re-install the end cap for the electric starter motor.
- (e) If the APU turns freely, then continue.
- (6) Examine the ATS:
 - (a) Remove the air turbine starter (ATS). To remove it, do this task: Air Turbine Starter (ATS) Removal, AMM TASK 49-43-01-000-801
 - (b) Examine the ATS for a sheared shaft and damaged teeth.
 - (c) If the ATS has damage, then replace it.

This is the task:
Air Turbine Starter (ATS) Installation, AMM TASK 49-43-01-400-801.

 - 1) Do the Repair Confirmation procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (d) Turn the ATS with your hand.
 - (e) If the ATS does not turn freely, then replace it.

This is the task:
Air Turbine Starter (ATS) Installation, AMM TASK 49-43-01-400-801.

 - 1) Do the Repair Confirmation procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (f) If the ATS is OK, then continue.
 - (g) If the ATS is OK, then re-install it. To install it, do this task: Air Turbine Starter (ATS) Installation, AMM TASK 49-43-01-400-801
- (7) Examine the ATS clutch:
 - (a) Turn the clutch with your hand.
 - (b) If the shaft of the clutch is sheared, the clutch will turn freely.
 - (c) If the clutch shaft is sheared, then replace the clutch.
 - 1) Replace the ATS clutch.

These are the tasks:
Air Turbine Starter (ATS) Clutch Removal, AMM TASK 49-43-02-000-801,
Air Turbine Starter (ATS) Clutch Installation, AMM TASK 49-43-02-400-801.
 - (d) If the clutch shaft is OK, then continue.
 - (e) Examine the pawls on the ATS clutch.

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- 1) If the pawls feel loose, the ATS clutch has a problem.
NOTE: The clutch pawls are spring loaded to engage the ATS shaft gears during the start. When the APU accelerates, the centrifugal force will cause the pawls to disengage.
- 2) Replace the ATS clutch.
These are the tasks:
Air Turbine Starter (ATS) Clutch Removal, AMM TASK 49-43-02-000-801,
Air Turbine Starter (ATS) Clutch Installation, AMM TASK 49-43-02-400-801.
- (f) Re-install the ATS. To install it, do this task: Air Turbine Starter (ATS) Installation, AMM TASK 49-43-01-400-801
 - 1) Do the Repair Confirmation procedure at the end of this task.
 - 2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 3) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (g) If the clutch is OK, then continue.
- (8) Replace the air turbine starter control valve (ATSCV), M49001V001.
These are the tasks:
Air Turbine Starter Control Valve (ATSCV) Removal, AMM TASK 49-43-03-000-801,
Air Turbine Starter Control Valve (ATSCV) Installation, AMM TASK 49-43-03-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (9) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (10) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

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- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Make sure the APU BLEED switch is in the AUTO position.
- (2) To supply pneumatic power with an external source, do this task: Pressurize the Pneumatic System, AMM TASK 36-00-00-860-802.

NOTE: You must supply pneumatic power for the APU to do an air turbine start attempt.

- (3) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.

NOTE: The APU will do an air turbine start attempt.

- (4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (5) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

———— END OF TASK ————

806. APUC Air Turbine Starter Solenoid Circuit - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11560.

B. Description

- (1) The APU controller ATSCV solenoid circuit is off.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.

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- 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Do the resistance check of the air turbine starter control valve (ATSCV).
- (a) Disconnect the electrical connector D49019P from the ATSCV.
 - (b) Examine the electrical connector D490019P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Measure the resistance between these pairs of pins of the connector on the ATSCV, M49001V001 (WDM 49-41-11):
 - 1) Pin 7 and pin 8, specified resistance 10-100 ohms.
 - 2) Pin 8 and pin 9 (case ground), specified resistance >100K ohms.
 - (d) If the resistance is not in the range specified for each pair of pins, do the steps that follow:
 - 1) Replace the ATSCV, M49001V001.
These are the tasks:
Air Turbine Starter Control Valve (ATSCV) Removal, AMM TASK 49-43-03-000-801,
Air Turbine Starter Control Valve (ATSCV) Installation, AMM TASK 49-43-03-400-801.
 - 2) Re-connect the electrical connector D49019P to the ATSCV.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (e) If the resistance is in the range specified, then continue.
- (6) Do the resistance check of the APU wire harness:
- (a) Re-connect the electrical connector D49019P to the ATSCV.
 - (b) Disconnect the electrical connector D49001P from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of the D49001P connector at the APU firewall (WDM 49-41-11):

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- 1) Pin 38 and pin 39, specified resistance 10-100 ohms.
- 2) Pin 38 and the connector backshell, specified resistance 100K ohms.
- (e) If the resistance is not in the range specified for each pair of pins, do the steps that follow:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the electrical connector D49001P to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (f) If the resistance is in the range specified, then continue.
- (7) Do a resistance check of the airplane wire harness:
 - (a) Re-connect the electrical connector D49001P to the firewall.
 - (b) Do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of the DM49002AB connector at the APU controller (WDM 49-41-11):
 - 1) Pin 118 and pin 116, specified resistance 10-100 ohms.
 - 2) Pin 118 and structure ground, specified resistance >100K ohms.
 - (d) If the resistance is not in the range specified for each pair of pins, then do the steps that follow:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.

D. Repair Confirmation

- (1) Make sure the APU BLEED switch is in the AUTO position.
- (2) To supply pneumatic power with an external source, do this task: Pressurize the Pneumatic System, AMM TASK 36-00-00-860-802.
NOTE: You must supply pneumatic power for the APU to do an air turbine start attempt.
- (3) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
NOTE: The APU will do an air turbine start attempt.
- (4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (5) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

807. Air Turbine Starter Solenoid Circuit Problems - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10860.

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B. Description

- (1) The solenoid circuit for the air turbine starter control valve (ATSCV) is shorted.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Do this check of the connector for the air turbine starter control valve (ATSCV):
 - (a) Disconnect the D49019P connector from the ATSCV, M49001V001.
 - (b) Examine the D49019P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable ATSCV, M49001V001, then do these steps:
 - (a) Connect the D49019P connector to the ATSCV.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the ATSCV.
These are the tasks:
Air Turbine Starter Control Valve (ATSCV) Removal, AMM TASK 49-43-03-000-801,
Air Turbine Starter Control Valve (ATSCV) Installation, AMM TASK 49-43-03-400-801.

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- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable ATSCV, then do this resistance check:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between these pairs of pins of the connector on the ATSCV, M49001V001 (WDM 49-41-11):
 - 1) Pin 7 and pin 8, specified resistance 10-100 ohms.
 - 2) Pin 8 and pin 9 (case ground), specified resistance >100K ohms.
 - (c) If the resistance is not in the range specified for each pair of pins, then do the steps that follow:
 - 1) Replace the ATSCV, M49001V001.
These are the tasks:
Air Turbine Starter Control Valve (ATSCV) Removal, AMM TASK 49-43-03-000-801,
Air Turbine Starter Control Valve (ATSCV) Installation, AMM
TASK 49-43-03-400-801.
 - 2) Re-connect the electrical connector D49001P to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (d) If the resistance is in the range specified, then continue.
- (7) Do the resistance check of the APU wire harness:
 - (a) Re-connect the electrical connector D49019P to the air turbine starter control valve (ATSCV).
 - (b) Disconnect the electrical connector D49001P from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of the D49001P connector at the APU firewall (WDM 49-41-11):
 - 1) Pin 38 and pin 39, specified resistance 10-100 ohms.
 - 2) Pin 38 and the connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is not in the range specified for each pair of pins, then do the steps that follow:
 - 1) Replace the APU wire harness.
These are the tasks:

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- APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
- 2) Re-connect the electrical connector D49001P to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) If the resistance is in the range specified, then continue.
- (8) Do a resistance check of the airplane wire harness:
- (a) Re-connect the electrical connector D49001P to the firewall.
 - (b) Do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of the DM49002AB connector at the APU controller (WDM 49-41-11):
 - 1) Pin 118 and pin 116, specified resistance 10-100 ohms.
 - 2) Pin 118 and structure ground, specified resistance >100K ohms.
 - (d) If the resistance is not in the range specified for each pair of pins, then do the steps that follow:
 - 1) Repair the airplane wire harness, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (e) If the resistance is in the range specified, then continue.
- (9) Replace the APU controller, M49002.
- These are the tasks:
- APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Make sure the APU BLEED switch is in the AUTO position.
- (2) To supply pneumatic power with an external source, do this task: Pressurize the Pneumatic System, AMM TASK 36-00-00-860-802.

NOTE: You must supply pneumatic power for the APU to do an air turbine start attempt.
- (3) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.

NOTE: The APU will do an air turbine start attempt.
- (4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- (5) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

— END OF TASK —

808. APUC ATSCV Solenoid Circuit Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11570.

B. Description

- (1) The air turbine starter control valve (ATSCV) solenoid circuit in the APUC is failed on.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE or LATCHED for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:

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- APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
- 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Do this check of the connector for the air turbine starter control valve (ATSCV):
- (a) Disconnect the D49019P connector from the ATSCV, M49001V001.
 - (b) Examine the D49019P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (6) If you have a new or serviceable ATSCV, M49001V001, then do these steps:
- (a) Connect the D49019P connector to the ATSCV.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the ATSCV.

These are the tasks:
Air Turbine Starter Control Valve (ATSCV) Removal, AMM TASK 49-43-03-000-801,
Air Turbine Starter Control Valve (ATSCV) Installation, AMM TASK 49-43-03-400-801.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (7) If you do not have a new or serviceable ATSCV, then do this resistance check:
- (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between these pairs of pins of the connector on the ATSCV, M49001V001 (WDM 49-41-11):
 - 1) Pin 7 and pin 8, specified resistance 10-100 ohms.
 - 2) Pin 8 and pin 9 (case ground), specified resistance >100K ohms.
 - (c) If the resistance is not in the range specified for each pair of pins, then do the steps that follow:
 - 1) Replace the ATSCV, M49001V001.

These are the tasks:
Air Turbine Starter Control Valve (ATSCV) Removal, AMM TASK 49-43-03-000-801,



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Air Turbine Starter Control Valve (ATSCV) Installation, AMM
TASK 49-43-03-400-801.

- 2) Re-connect the electrical connector D49001P to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (d) If the resistance is in the range specified, then continue.
- (8) Do the resistance check of the APU wire harness:
- (a) Re-connect the electrical connector D49019P to the air turbine starter control valve (ATSCV).
 - (b) Disconnect the electrical connector D49001P from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of the D49001P connector at the APU firewall (WDM 49-41-11):
 - 1) Pin 38 and pin 39, specified resistance 10-100 ohms.
 - 2) Pin 38 and the connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is not in the range specified for each pair of pins, then do the steps that follow:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the electrical connector D49001P to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is in the range specified, then continue.
- (9) Do a resistance check of the airplane wire harness:
- (a) Re-connect the electrical connector D49001P to the firewall.
 - (b) Do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of the DM49002AB at the APU controller (WDM 49-41-11):
 - 1) Pin 118 and pin 116, specified resistance 10-100 ohms.
 - 2) Pin 118 and structure ground, specified resistance >100K ohms.

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- (d) If the resistance is not in the range specified for each pair of pins, then do the steps that follow:
- 1) Repair the airplane wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

809. ATSCV RVDT Excitation Voltage Out Of Range - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11580.

B. Description

- (1) The APUC excitation voltage for the air turbine starter control valve (ATSCV) RVDT is out of range.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

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- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (5) Do this check of the connector for the air turbine starter control valve (ATSCV):
 - (a) Disconnect the D49019P connector from the ATSCV, M49001V001.
 - (b) Examine the D49019P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (6) If you have a new or serviceable ATSCV, M49001V001, then do these steps:
 - (a) Connect the D49019P connector to the ATSCV.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the ATSCV.
These are the tasks:
Air Turbine Starter Control Valve (ATSCV) Removal, AMM TASK 49-43-03-000-801,
Air Turbine Starter Control Valve (ATSCV) Installation, AMM TASK 49-43-03-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (7) If you do not have a new or serviceable ATSCV, then do this resistance check:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.

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- (b) Measure the resistance between these pairs of pins of the receptacle on the ATSCV, M49001V001 (WDM 49-41-11):
 - 1) Pin 4 and pin 5, specified resistance 10-100 ohms.
 - 2) Pin 5 and pin 9 (case ground), specified resistance >100K ohms.
- (c) If the resistance is not in the range specified for each pair of pins, then do the steps that follow:
 - 1) Replace the ATSCV, M49001V001.
These are the tasks:
Air Turbine Starter Control Valve (ATSCV) Removal, AMM TASK 49-43-03-000-801,
Air Turbine Starter Control Valve (ATSCV) Installation, AMM
TASK 49-43-03-400-801.
 - 2) Re-connect the electrical connector D49019P to the ATSCV.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the resistance is in the range specified, then continue.
- (8) Do a resistance check of the APU wire harness:
 - (a) Re-connect the electrical connector D49019P to the air turbine starter control valve (ATSCV).
 - (b) Disconnect the electrical connector D49001P from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of the D49001P connector at the APU firewall (WDM 49-41-11):
 - 1) Pin 33 and pin 34, specified resistance 10-100 ohms.
 - 2) Pin 33 and the connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is not in the range specified for each pair of pins, then do the steps that follow:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Connect the electrical connector D49001P to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is in the range specified, then continue.

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- (9) Do a resistance check of the airplane wire harness:
 - (a) Re-connect the electrical connector D49001P to the firewall.
 - (b) Do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of the DM49002AB at the APU controller (WDM 49-41-11):
 - 1) Pin D4 and pin D5, specified resistance 10-100 ohms.
 - 2) Pin D4 and pin D6 (ground), specified resistance >100K ohms.
 - (d) If the resistance is not in the range specified for each pair of pins, then do the steps that follow:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

810. ATSCV Solenoid Circuit Open - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10870.

B. Description

- (1) There is an open in the solenoid circuit for the air turbine starter control valve (ATSCV).

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

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D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Do this check of the connector for the air turbine starter control valve (ATSCV):
 - (a) Disconnect the D49019P connector from the ATSCV, M49001V001.
 - (b) Examine the D49019P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable ATSCV, M49001V001, then do these steps:
 - (a) Connect the D49019P connector to the ATSCV.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the ATSCV.
These are the tasks:
Air Turbine Starter Control Valve (ATSCV) Removal, AMM TASK 49-43-03-000-801,
Air Turbine Starter Control Valve (ATSCV) Installation, AMM TASK 49-43-03-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.

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- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable ATSCV, then do this resistance check:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between these pairs of pins of the connector on the ATSCV, M49001V001 (WDM 49-41-11):
 - 1) Pin 7 and pin 8, specified resistance 10-100 ohms.
 - 2) Pin 8 and pin 9 (case ground), specified resistance >100K ohms.
 - (c) If the resistance is not in the range specified for each pair of pins, then do the steps that follow:
 - 1) Replace the ATSCV, M49001V001.
These are the tasks:
Air Turbine Starter Control Valve (ATSCV) Removal, AMM TASK 49-43-03-000-801,
Air Turbine Starter Control Valve (ATSCV) Installation, AMM TASK 49-43-03-400-801.
 - 2) Re-connect the electrical connector D49019P to the ATSCV.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (d) If the resistance is in the range specified, then continue.
- (7) Do a wiring check of the APU wire harness:
 - (a) Re-connect the electrical connector D49019P to the air turbine starter control valve (ATSCV).
 - (b) Disconnect the electrical connector D49001P from the APU firewall.
 - (c) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of the D49001P connector at the APU firewall (WDM 49-41-11):
 - 1) Pin 38 and pin 39, specified resistance 10-100 ohms.
 - 2) Pin 38 and connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is not in the range specified for each pair of pins, then do the steps that follow:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,

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APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

- 2) Re-connect the electrical connector D49001P to the APU firewall.
- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) If the resistance is in the range specified, then continue.
- (8) Do a wiring check of the airplane wire harness:
 - (a) Re-connect the electrical connector D49001P to the firewall.
 - (b) Do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of the DM49002AB at the APU controller (WDM 49-41-11):
 - 1) Pin 118 and pin 116, specified resistance 10-100 ohms.
 - 2) Pin 118 and structure ground, specified resistance >100K ohms.
 - (d) If the resistance is not in the range specified for each pair of pins, then do the steps that follow:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is in the range specified, then continue.
- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— **END OF TASK** —————

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801. Inlet Guide Vane Linkage Problem - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10970.

B. Description

- (1) The linkage rod for the inlet guide vanes can be broken.
- (2) This fault is set when the total pressure is more than 35 psia for 10 seconds with the inlet guide vanes closed.

C. Fault Isolation Procedure

- (1) Do the 'IGV Rod End Hardware Inspection' (AMM TASK 49-21-00-200-801).



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (2) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (3) Make sure the APU selector is in the OFF position.
- (4) Replace the inlet guide vane actuator.

These are the tasks:

Inlet Guide Vane (IGV) Actuator Removal, AMM TASK 49-52-02-000-801,

Inlet Guide Vane (IGV) Actuator Installation, AMM TASK 49-52-02-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Replace the total pressure sensor.

These are the tasks:

Total Pressure Sensor Removal, AMM TASK 49-53-02-000-801,

Total Pressure Sensor Installation, AMM TASK 49-53-02-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Replace the surge control valve.

These are the tasks:

Surge Control Valve Removal, AMM TASK 49-53-01-000-801,

Surge Control Valve Installation, AMM TASK 49-53-01-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

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- (7) Replace the APU.

These are the tasks:

Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or
Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or
Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (8) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) Use the APU air to operate the left and right air conditioning packs. To operate the packs, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

802. IGVA LVDT Circuit is Failed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11810.

B. Description

- (1) The APUC excitation voltage for the inlet guide vane actuator (IGVA) LVDT is failed.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

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D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,

APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

- 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (5) Replace the inlet guide vane actuator.

These are the tasks:

Inlet Guide Vane (IGV) Actuator Removal, AMM TASK 49-52-02-000-801,

Inlet Guide Vane (IGV) Actuator Installation, AMM TASK 49-52-02-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Do a resistance check of the APU wire harness:
 - (a) Re-connect the electrical connector D49022P to the IGVA.
 - (b) Disconnect the electrical connector D49002P from the APU firewall.

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- (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of the D49002P connector at the APU firewall (WDM 49-51-11):
 - 1) Pin 3 and pin 4, specified resistance 10-100 ohms.
 - 2) Pin 4 and pin 5, specified resistance 10-100 ohms.
 - 3) Pin 6 and pin 7, specified resistance 50-500 ohms.
 - 4) Pin 5 and the connector backshell, specified resistance >100K ohms.
 - 5) Pin 6 and the connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is not in the range specified for each pair of pins, do the steps that follow:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Connect the electrical connector D49002P to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is in the range specified, then continue.
- (7) Do a resistance check of the airplane wire harness:
- (a) Re-connect the electrical connector D49002P to the firewall.
 - (b) Remove the APU Controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801
 - (c) Measure the resistance between these pairs of pins of the DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin K4 and pin J3, specified resistance 10-100 ohms.
 - 2) Pin J3 and pin H4, specified resistance 10-100 ohms.
 - 3) Pin G4 and pin G6 (ground), specified resistance >100K ohms.
 - (d) Measure the resistance between these pairs of pins of the DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin G4 and pin G5, specified resistance 50-500 ohms.
 - 2) Pin G4 and pin G6 (ground), specified resistance >100K ohms.
 - (e) If the resistance is not in the range specified for each pair of pins, do the steps that follow:
 - 1) Repair the airplane wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.



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- 2) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

— END OF TASK —

803. Inlet Guide Vane Actuator (IGVA) LVDT Failed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10980.

B. Description

- (1) The LVDT secondary coil circuit for the inlet guide vane actuator (IGVA) is failed.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, then do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

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These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

- 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Do this check of the connector for the inlet guide vane actuator (IGVA):
- (a) Disconnect the D49022P connector from the IGVA, M49001M005.
 - (b) Examine the D49022P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable IGVA, M49001M005, then do these steps:
- (a) Connect the D49022P connector to the IGVA.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the IGVA.

These are the tasks:

Inlet Guide Vane (IGV) Actuator Removal, AMM TASK 49-52-02-000-801,
Inlet Guide Vane (IGV) Actuator Installation, AMM TASK 49-52-02-400-801.

- 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable IGVA, then do this resistance check:
- (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between these pairs of pins of the connector receptacle on the IGVA, M4900M005 (WDM 49-51-11):
 - 1) Pin 3 and pin 4, specified resistance 10-100 ohms.
 - 2) Pin 4 and pin 5, specified resistance 10-100 ohms.
 - 3) Pin 6 and pin 7, specified resistance 50-500 ohms.
 - 4) Pin 3 and pin 8 (case ground), specified resistance >100K ohms.
 - 5) Pin 7 and pin 8 (case ground), specified resistance >100K ohms.
 - (c) If the resistance is not in the range specified for each pair of pins, then do these steps:
 - 1) Replace the IGVA.

These are the tasks:

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- Inlet Guide Vane (IGV) Actuator Removal, AMM TASK 49-52-02-000-801,
Inlet Guide Vane (IGV) Actuator Installation, AMM TASK 49-52-02-400-801.
- 2) Re-connect the D49022P connector to the IGVA.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the resistance is in the range specified for each pair of pins, then continue.
- (7) Do the resistance check for the APU wire harness:
- (a) Re-connect the D49022P connector to the IGVA.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 7 and pin 8, specified resistance 10-100 ohms.
 - 2) Pin 8 and pin 9, specified resistance 10-100 ohms.
 - 3) Pin 5 and pin 6, specified resistance 50-500 ohms.
 - 4) Pin 7 and structure ground, specified resistance >100K ohms.
 - 5) Pin 6 and structure ground, specified resistance >100K ohms.
 - (e) If the resistance is not in the range specified for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002 connector to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is within the range specified, then continue.
- (8) Do the resistance check for the airplane wire harness:
- (a) Re-connect the D49002P connector to the APU firewall.
 - (b) Remove the APU Controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801
 - (c) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin K4 and pin J3, specified resistance 10-100 ohms.

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- 2) Pin J3 and pin H4, specified resistance 10-100 ohms.
- 3) Pin K4 and pin J4 (ground), specified resistance >100K ohms.
- (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin G4 and pin G5, specified resistance 50-500 ohms.
 - 2) Pin G4 and pin G6 (ground), specified resistance >100K ohms.
- (e) If the resistance is not within the range specified, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Re-connect the D49002P connector to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (f) If the resistance is within the range specified, then continue.
- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

804. IGVA Position Does Not Follow Command - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10990.

B. Description

- (1) The inlet guide vane actuator (IGVA) position disagrees with the command by more than 10 degrees for 20 seconds while the APU is on speed.

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C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the inlet guide vane actuator.

These are the tasks:

Inlet Guide Vane (IGV) Actuator Removal, AMM TASK 49-52-02-000-801,

Inlet Guide Vane (IGV) Actuator Installation, AMM TASK 49-52-02-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.

- (4) Examine the APU wire harness:

- (a) Make sure the APU wire harness does not have damage.

- (b) If the APU wire harness has damage, then do the applicable step below:

- 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,

APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.

- (5) Replace the APU.

These are the tasks:

Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or

Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,

Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or

Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (6) Replace the APU controller, M49002.

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These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) Use the APU air to operate the left and right air conditioning packs. To operate the packs, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.
 - (a) Wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

805. APUC IGVA Torque Motor Circuit is Failed Off - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11820.

B. Description

- (1) The APUC torque motor circuit for the inlet guide vane actuator (IGVA) is failed off.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (4) Replace the inlet guide vane actuator.

These are the tasks:

Inlet Guide Vane (IGV) Actuator Removal, AMM TASK 49-52-02-000-801,

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Inlet Guide Vane (IGV) Actuator Installation, AMM TASK 49-52-02-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (5) Examine the APU wire harness:
- (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, then do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (6) Do this check of the APU wire harness:
- (a) Disconnect the D49002P connector from the APU firewall.
 - (b) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Measure the resistance between these pairs of pins of the D49002P connector at the APU firewall (WDM 49-51-11).
 - 1) Pin 3 and pin 4, specified resistance 5-100 ohms.
 - 2) Pin 3 and the connector backshell, specified resistance >100K ohms.
 - (d) If the resistance is not in the specified range, then do these steps:
 - 1) Replace the APU wire harness.These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.

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- (e) If the resistance is in the specified range, then continue.
- (7) Do this check of the airplane wire harness:
 - (a) Re-connect the D49002P connector to the APU firewall.
 - (b) Remove the APU Controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801
 - (c) Measure the resistance between these pairs of pins of the DM49002AB connector at the APU controller (WDM 49-51-11).
 - 1) Pin G4 and pin G5, specified resistance 5-100 ohms.
 - 2) Pin G4 and pin G6 (ground), specified resistance >100K ohms.
 - (d) If the resistance is not in the specified range, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

806. IGVA Torque Motor Circuit Open - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11000.

B. Description

- (1) The torque motor circuit for the inlet guide vane actuator (IGVA) circuit has an open.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE or LATCHED for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

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D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, then do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (4) Do this check of the connector for the inlet guide vane actuator (IGVA):
 - (a) Disconnect the D49022P connector from the IGVA, M49001M005.
 - (b) Examine the D49022P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable IGVA, M49001M005, then do these steps:
 - (a) Connect the D49022P connector to the IGVA.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the IGVA.
These are the tasks:
Inlet Guide Vane (IGV) Actuator Removal, AMM TASK 49-52-02-000-801,
Inlet Guide Vane (IGV) Actuator Installation, AMM TASK 49-52-02-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable IGVA, then do this resistance check:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between pin 1 and pin 2 of the connector receptacle on the IGVA, M49001M005 (WDM 49-51-11).
 - (c) If the resistance is >100 ohms, then do these steps:
 - 1) Replace the inlet guide vane actuator.
These are the tasks:
Inlet Guide Vane (IGV) Actuator Removal, AMM TASK 49-52-02-000-801,
Inlet Guide Vane (IGV) Actuator Installation, AMM TASK 49-52-02-400-801.
 - 2) Re-connect the D49022P connector to the IGVA.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (d) If the resistance is <100 ohms, then continue.
- (7) Do this resistance check of the APU wire harness:
 - (a) Re-connect the D49022P connector to the IGVA.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between pin 3 and pin 4 of connector D49002P at the APU firewall (WDM 49-51-11).
 - (e) If the resistance is >100 ohms, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is <100 ohms, then continue.
- (8) Do this resistance check of the airplane wire harness:

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- (a) Re-connect the D49002P connector to the APU firewall.
- (b) Remove the APU Controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801
- (c) Measure the resistance between pin E1 and pin E2 of connector DM49002AB at the APU controller (WDM 49-51-11).
- (d) If the resistance is >100 ohms, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (e) If the resistance is <100 ohms, then continue.
- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Set the APU maintenance switch on the P61 panel to NORM.

————— END OF TASK —————

807. IGVA Torque Motor Circuit Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11010.

B. Description

- (1) The torque motor circuit for the inlet guide vane actuator (IGVA) has a short.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE or LATCHED for the maintenance message, then do the Fault Isolation Procedure.

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- (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, then do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (4) Do this check of the connector for the inlet guide vane actuator (IGVA):
 - (a) Disconnect the D49022P connector from the IGVA, M49001M005.
 - (b) Examine the D49022P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable IGVA, M49001M005, then do these steps:
 - (a) Connect the D49022P connector to the IGVA.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the IGVA.
These are the tasks:
Inlet Guide Vane (IGV) Actuator Removal, AMM TASK 49-52-02-000-801,
Inlet Guide Vane (IGV) Actuator Installation, AMM TASK 49-52-02-400-801.

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- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable IGVA, then do this resistance check:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between these pairs of pins of the connector receptacle on the IGVA, M49001M005 (WDM 49-51-11):
 - 1) Pin 1 and pin 2, specified resistance >5 ohms.
 - 2) Pin 1 and pin 8 (case ground), specified resistance >100K ohms.
 - (c) If the resistance is not in the range specified for each pair of pins, then do these steps:
 - 1) Replace the IGVA.
These are the tasks:
Inlet Guide Vane (IGV) Actuator Removal, AMM TASK 49-52-02-000-801,
Inlet Guide Vane (IGV) Actuator Installation, AMM TASK 49-52-02-400-801.
 - 2) Re-connect the D49022P connector to the IGVA.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (d) If the resistance is in the range specified for each pair of pins, then continue.
- (7) Do this resistance check of the APU wire harness:
 - (a) Disconnect the D49022P connector from the IGVA.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 3 and pin 4, specified resistance >100K ohms.
 - 2) Pin 3 and the connector backshell, specified resistance >100K ohms.
 - 3) Pin 4 and the connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

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- 2) Re-connect the D49002P connector to the APU firewall.
- 3) Re-connect the D49022P connector to the IGVA.
- 4) Do the Repair Confirmation procedure at the end of this task.
- 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) If the resistance is >100K ohms, then continue.
- (8) Do this resistance check of the airplane wire harness:
 - (a) Re-connect the D49022P connector to the IGVA.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - (c) Remove the APU Controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801
 - (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin E1 and pin E2, specified resistance >100K ohms.
 - 2) Pin E1 and pin E3 (ground), specified resistance >100K ohms.
 - 3) Pin E2 and pin E3 (ground), specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Reconnect the D49002P connector to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is >100K ohms, then continue.
- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- (4) Set the APU maintenance switch to the NORM position.

————— **END OF TASK** —————

808. **APU Check Valve Failed Open - Fault Isolation**

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11290.

B. Description

- (1) The APU check valve is failed open. This fault is detected when the APU does an air turbine start attempt.

C. Initial Evaluation

- (1) To supply pneumatic power with an external source, do this task: Pressurize the Pneumatic System, AMM TASK 36-00-00-860-802.
NOTE: You must supply pneumatic power for the APU to do an air turbine start attempt.
- (2) Make sure the APU BLEED switch on the P5 overhead panel is in the AUTO position.
- (3) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the Mat shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (4) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.
- (5) Remove the pneumatic power if it is not necessary. To remove it, do this task: Depressurize the Pneumatic System, AMM TASK 36-00-00-860-801.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Look at the Extended Maintenance, Existing Faults display on the MAT.
 - (a) Look for maintenance messages related to the pressure sensors in the airplane bleed system (ATA 36).
 - (b) If a maintenance message related to the pressure sensors shows, then do these steps:
 - 1) Find the message in the Chapter 36 FIM Maintenance Message Index.
 - 2) Do the specified task for the maintenance message.
 - 3) If the task for the maintenance message did not fix this check valve problem, then continue.
 - (c) If no maintenance message related to the pressure sensors show, then continue.
- (4) Do these steps to examine the APU check valve:
 - (a) Remove the APU check valve. To remove it, do this task: APU Check Valve Removal, AMM TASK 49-52-03-000-801.

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- (b) Make sure the APU check valve can open and close freely.
- (c) If the APU check valve does not open freely, then do these steps:
 - 1) These are the tasks:
APU Check Valve Removal, AMM TASK 49-52-03-000-801,
APU Check Valve Installation, AMM TASK 49-52-03-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (d) If the APU check valve does open and close freely, then continue.
- (5) These are the tasks:
Total Pressure Sensor Removal, AMM TASK 49-53-02-000-801,
Total Pressure Sensor Installation, AMM TASK 49-53-02-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) These are the tasks:
Inlet Pressure Sensor Removal, AMM TASK 49-53-05-000-801,
Inlet Pressure Sensor Installation, AMM TASK 49-53-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (7) These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

E. Repair Confirmation

- (1) Make sure the APU BLEED switch is in the AUTO position.
- (2) To supply pneumatic power with an external source, do this task: Pressurize the Pneumatic System, AMM TASK 36-00-00-860-802.

NOTE: You must supply pneumatic power for the APU to do an air turbine start attempt.

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- (3) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.

NOTE: The APU will do an air turbine start attempt.

- (4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (5) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

———— **END OF TASK** ————

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801. APUC Inlet Pressure Sensor Circuit is Failed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11780.

B. Description

- (1) The inlet pressure sensor circuit in the APU controller is failed.
- (2) The inlet pressure sensor is attached to the pneumatic cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, then do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,

APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

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- 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (5) Do this resistance check for the APU wire harness:
- (a) Disconnect the D49023P connector from the inlet pressure sensor, M49001M006.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Install a jumper between pin 1 and pin 2.
 - (e) Install a jumper between pin 3 and pin 4.
 - (f) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 10 and pin 11, specified resistance <50 ohms.
 - 2) Pin 12 and pin 13, specified resistance <50 ohms.
 - 3) Pin 10 and the connector backshell, specified resistance >100K ohms.
 - 4) Pin 12 and the connector backshell, specified resistance >100K ohms.
 - (g) Remove the jumpers from the D49023P connector.
 - (h) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 10 and pin 11, specified resistance >100K ohms.
 - 2) Pin 12 and pin 13, specified resistance >100K ohms.
 - (i) If the resistance is not in the range specified for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the electrical connector D49023P to the inlet pressure sensor.
 - 3) Re-connect the electrical connector D49002P to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (j) If the resistance is within the range specified, then continue.
- (6) Do the resistance check for the airplane wire harness:
- (a) Re-connect the D49023P connector to the inlet pressure sensor.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - 1) Install a jumper between pin 10 and pin 11 on the DM49001B connector receptacle.

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- 2) Install a jumper between pin 12 and pin 13 on the DM49001B connector receptacle.
- (c) Remove the APU controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
- (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin A1 and pin A2, specified resistance <50 ohms.
 - 2) Pin A1 and pin A3 (ground), specified resistance >100K ohms.
- (e) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin A1 and pin C1, specified resistance <50 ohms.
 - 2) Pin A1 and pin B1 (ground), specified resistance >100K ohms.
- (f) Remove the jumpers from the DM49001B connector receptacle.
- (g) Measure the resistance between this pair of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin A1 and pin A2, specified resistance >100K ohms.
- (h) Measure the resistance between this pair of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin A1 and pin C1, specified resistance >100K ohms.
- (i) If the resistance is not within the range specified, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-connect the D49023P connector to the inlet pressure sensor.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (j) If the resistance is within the range specified, then continue.
- (7) Replace the inlet pressure sensor, M49001M006.

These are the tasks:

Inlet Pressure Sensor Removal, AMM TASK 49-53-05-000-801,
Inlet Pressure Sensor Installation, AMM TASK 49-53-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

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802. Inlet Pressure Sensor Signal Out of Range - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance messages: 49-11120, 49-11130.

B. Description

- (1) The signal for the inlet pressure sensor is out of range, or the circuit is failed.
- (2) The inlet pressure sensor is attached to the pneumatic cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the inlet pressure sensor, M49001M006.

These are the tasks:

Inlet Pressure Sensor Removal, AMM TASK 49-53-05-000-801,

Inlet Pressure Sensor Installation, AMM TASK 49-53-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, then do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,

APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

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- 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (5) Do this resistance check for the APU wire harness:
- (a) Disconnect the D49023P connector from the inlet pressure sensor, M49001M006.
 - (b) Examine the electrical connector D49023P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Disconnect the D49002P connector from the APU firewall.
 - (d) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (e) Install a jumper between pin 1 and pin 2.
 - (f) Install a jumper between pin 3 and pin 4.
 - (g) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 10 and pin 11, specified resistance <50 ohms.
 - 2) Pin 12 and pin 13, specified resistance <50 ohms.
 - 3) Pin 10 and the connector backshell, specified resistance >100K ohms.
 - 4) Pin 12 and the connector backshell, specified resistance >100K ohms.
 - (h) Remove the jumpers from the D49023P connector.
 - (i) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 10 and pin 11, specified resistance >100K ohms.
 - 2) Pin 12 and pin 13, specified resistance >100K ohms.
 - (j) If the resistance is not in the range specified for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the electrical connector D49023P to the inlet pressure sensor.
 - 3) Re-connect the electrical connector D49002P to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.

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- (k) If the resistance is within the range specified, then continue.
- (6) Do the resistance check for the airplane wire harness:
 - (a) Re-connect the D49023P connector to the inlet pressure sensor.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - 1) Install a jumper between pin 10 and pin 11 on the DM49001B connector receptacle.
 - 2) Install a jumper between pin 12 and pin 13 on the DM49001B connector receptacle.
 - (c) Remove the APU controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin A1 and pin A2, specified resistance <50 ohms.
 - 2) Pin A1 and pin A3 (ground), specified resistance >100K ohms.
 - (e) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin A1 and pin C1, specified resistance <50 ohms.
 - 2) Pin A1 and pin B1 (ground), specified resistance >100K ohms.
 - (f) Remove the jumpers from the DM49001B connector receptacle.
 - (g) Measure the resistance between this pair of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin A1 and pin A2, specified resistance >100K ohms.
 - (h) Measure the resistance between this pair of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin A1 and pin C1, specified resistance >100K ohms.
 - (i) If the resistance is not within the range specified, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-connect the D49023P connector to the inlet pressure sensor.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (j) If the resistance is within the range specified, then continue.
- (7) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— **END OF TASK** —————

803. Inlet Pressure Sensor Circuit Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11140.

B. Description

- (1) The inlet pressure sensor circuit has a short.
- (2) The inlet pressure sensor is attached to the pneumatic cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, then do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows ACTIVE for the maintenance message, then continue.

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- (4) Do this check of the connector for the inlet pressure sensor:
- (a) Disconnect the D49023P connector from the inlet pressure sensor, M49001M106.
 - (b) Examine the D49023P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable inlet pressure sensor, then do these steps:
- (a) Connect the D49023P connector to the new inlet pressure sensor.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the inlet pressure sensor.These are the tasks:
Inlet Pressure Sensor Removal, AMM TASK 49-53-05-000-801,
Inlet Pressure Sensor Installation, AMM TASK 49-53-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable inlet pressure sensor, then do this resistance check:
- (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Disconnect the D49023P connector from the inlet pressure sensor, M49001M006.
 - (c) Measure the resistance between these pairs of pins of the connector receptacle for the inlet pressure sensor (WDM 49-51-11):
 - 1) Pin 1 and pin 2, specified resistance >10 ohms.
 - 2) Pin 1 and pin 3, specified resistance >10 ohms.
 - 3) Pin 1 and pin 4, specified resistance >10 ohms.
 - 4) Pin 2 and pin 3, specified resistance >10 ohms.
 - 5) Pin 2 and pin 4, specified resistance >10 ohms.
 - 6) Pin 3 and pin 4, specified resistance >10 ohms.
 - 7) Pin 1 and pin 5 (case ground), specified resistance >100K ohms.
 - 8) Pin 2 and pin 5 (case ground), specified resistance >100K ohms.
 - 9) Pin 3 and pin 5 (case ground), specified resistance >100K ohms.
 - 10) Pin 4 and pin 5 (case ground), specified resistance >100K ohms.
 - (d) If the resistance is not in the specified range for each pair of pins, then do these steps:
 - 1) Replace the inlet pressure sensor.These are the tasks:
Inlet Pressure Sensor Removal, AMM TASK 49-53-05-000-801,

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Inlet Pressure Sensor Installation, AMM TASK 49-53-05-400-801.

- 2) Re-connect the D49023P connector to the inlet pressure sensor.
- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (e) If the resistance is in the specified range for each pair of pins, then continue.
- (7) Do this resistance check for the APU wire harness:
 - (a) Disconnect the D49023P connector from the inlet pressure sensor, M49001M006.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-94-11):
 - 1) Pin 10 and pin 11, specified resistance >100K ohms.
 - 2) Pin 10 and pin 12, specified resistance >100K ohms.
 - 3) Pin 10 and pin 13, specified resistance >100K ohms.
 - 4) Pin 11 and pin 12, specified resistance >100K ohms.
 - 5) Pin 11 and pin 13, specified resistance >100K ohms.
 - 6) Pin 12 and pin 13, specified resistance >100K ohms.
 - 7) Pin 10 and the connector backshell, specified resistance >100K ohms.
 - 8) Pin 11 and the connector backshell, specified resistance >100K ohms.
 - 9) Pin 12 and the connector backshell, specified resistance >100K ohms.
 - 10) Pin 13 and the connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-connect the D49023P connector to the inlet pressure sensor.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is >100K ohms for each pair of pins, then continue.
- (8) Do this resistance check for the airplane wire harness:

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- (a) Re-connect the D49023P connector to the inlet pressure sensor.
- (b) Disconnect the D49002P connector from the APU firewall.
- (c) Remove the APU controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
- (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin A1 and pin A2, specified resistance >100K ohms.
 - 2) Pin A1 and pin A3 (ground), specified resistance >100K ohms.
 - 3) Pin A2 and pin A3 (ground), specified resistance >100K ohms.
- (e) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin A1 and pin C1, specified resistance >100K ohms.
 - 2) Pin A1 and pin B1 (ground), specified resistance >100K ohms.
 - 3) Pin C1 and pin B1 (ground), specified resistance >100K ohms.
- (f) Measure the resistance between these pairs of pins of connectors DM49002AA and DM49002AB at the APU controller (WDM 49-51-11):

DM49002AA	DM49002AB	RESISTANCE
pin A1	pin A1	>100K ohms
pin C1	pin A1	>100K ohms
pin A1	pin A2	>100K ohms
pin C1	pin A2	>100K ohms

- (g) If the resistance is <100K ohms for each pair of pins, then do these steps.
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Re-connect the D49002P connector to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) If the resistance is >100K ohms for each pair of pins, then continue.
- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

END OF TASK

804. APU Controller Flow Sensing System Indicates Low Flow - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11110.

B. If the "APU" status message shows with the correlated maintenance message 49-11110, it may be a nuisance indication. Do these steps to make sure the condition is a nuisance indication.

- (1) Erase the "APU" status message.
- (2) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - (a) Let the APU operate for at least 2 minutes.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.
- (4) If the "APU" status message does not show again, the indication was a nuisance and no more maintenance is necessary.
- (5) If the "APU" status message does show again, do the fault isolation procedure.

C. Description

- (1) The APU Controller flow sensing system sensed low flow and caused an APU autosutdown.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Do these steps to replace the four packings from the static pressure tube on the differential pressure sensor and diffuser case:
 - (a) Loosen the bolt that holds the static pressure tube to the diffuser case.
 - (b) Turn the flange on the static pressure tube counterclockwise until the flange disengages the bolt.
 - (c) Loosen the nut that attaches the static pressure tube to the differential pressure sensor.
 - (d) Disconnect the static pressure tube from the diffuser case and differential pressure sensor.
 - (e) Remove and discard the four packings from the two ends of the static pressure tube.
 - (f) Lubricate and install four new packings on the two ends of the static pressure tube.
 - (g) Connect the static pressure tube to the diffuser case.
 - 1) Turn the flange until it engages the bolt.
 - 2) Tighten the bolt.

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- (h) Connect the static pressure tube to the differential pressure sensor.
 - 1) Tighten the nut.
- (i) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (4) Do these steps to examine the APU check valve:
 - (a) Remove the APU check valve. To remove it, do this task: APU Check Valve Removal, AMM TASK 49-52-03-000-801
 - (b) Make sure the APU check valve can open freely.
 - (c) If the APU check valve does not open freely, then do these steps:
 - 1) Replace the APU check valve.
These are the tasks:
APU Check Valve Removal, AMM TASK 49-52-03-000-801,
APU Check Valve Installation, AMM TASK 49-52-03-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - b) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
 - (d) If the APU check valve is OK, then do these steps:
 - 1) Re-install the APU check valve. To install it, do this task: APU Check Valve Installation, AMM TASK 49-52-03-400-801.
 - 2) Continue with the Fault Isolation procedure.
- (5) If you have not already done so in the steps above, replace the differential pressure sensor, M49001M401.
These are the tasks:
Differential Pressure Sensor Removal, AMM TASK 49-53-04-000-801,
Differential Pressure Sensor Installation, AMM TASK 49-53-04-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (6) Replace the total pressure sensor, M49001M400.
These are the tasks:
Total Pressure Sensor Removal, AMM TASK 49-53-02-000-801,
Total Pressure Sensor Installation, AMM TASK 49-53-02-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 2) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (7) Replace the surge control valve.
These are the tasks:
Surge Control Valve Removal, AMM TASK 49-53-01-000-801,
Surge Control Valve Installation, AMM TASK 49-53-01-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (8) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (9) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, then do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.

E. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) Use the APU air to operate the left and right air conditioning packs. To operate the packs, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— END OF TASK —————

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805. SCV LVDT Circuit is Failed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12050.

B. Description

- (1) The APUC circuit for the surge control valve (SCV) LVDT is failed.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, then do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.

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- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (5) Replace the SCV.
- These are the tasks:
- Surge Control Valve Removal, AMM TASK 49-53-01-000-801,
Surge Control Valve Installation, AMM TASK 49-53-01-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) Do a resistance check of the APU wire harness:
- (a) Disconnect the electrical connector D49002P from the APU firewall.
 - (b) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Measure the resistance between these pairs of pins of the D49002P connector at the APU firewall (WDM 49-51-11):
 - 1) Pin 24 and pin 25, specified resistance 10-200 ohms.
 - 2) Pin 26 and pin 27, specified resistance 10-200 ohms.
 - 3) Pin 27 and pin 28, specified resistance 10-200 ohms.
 - 4) Pin 24 and the connector backshell, specified resistance >100K ohms.
 - 5) Pin 26 and the connector backshell, specified resistance >100K ohms.
 - (d) If the resistance is not in the range specified for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Connect the electrical connector D49002P to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (e) If the resistance is in the range specified for each pair of pins, then continue.
- (7) Do this resistance check of the airplane wire harness:
- (a) Re-connect the electrical connector D49002P to the firewall.
 - (b) Remove the APU controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.

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- (c) Measure the resistance between these pairs of pins of the DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin H6 and pin J5, specified resistance 10-200 ohms.
 - 2) Pin J5 and pin K6, specified resistance 10-200 ohms.
 - 3) Pin H6 and pin J6 (ground), specified resistance >100K ohms.
- (d) Measure the resistance between these pairs of pins of the DM49002AB at the APU controller (WDM 49-41-11):
 - 1) Pin F4 and pin F5, specified resistance 10-200 ohms.
 - 2) Pin F4 and pin F6 (ground), specified resistance >100K ohms.
- (e) If the resistance is not in the range specified for each pair of pins, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

— END OF TASK —

806. Surge Control Valve (SCV) LVDT Circuit is Failed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11170.

B. Description

- (1) The LVDT circuit for the surge control valve (SCV) is failed.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

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D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, then do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Do the resistance check for the surge control valve (SCV):
 - (a) Disconnect the electrical connector D49026P from the surge control valve (SCV), M49001V400.
 - (b) Examine the electrical connector D49026P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Measure the resistance between these pairs of pins of the connector receptacle on the SCV, M4900V400 (WDM 49-51-11):
 - 1) Pin 3 and pin 4, specified resistance 10-200 ohms.
 - 2) Pin 4 and pin 5, specified resistance 10-200 ohms.
 - 3) Pin 6 and pin 8, specified resistance 10-200 ohms.
 - 4) Pin 3 and pin 7 (case ground), specified resistance >100K ohms.
 - 5) Pin 6 and pin 7 (case ground), specified resistance >100K ohms.
 - (d) If the resistance is not in the range specified for each pair of pins, then do these steps:
 - 1) Replace the SCV.
These are the tasks:
Surge Control Valve Removal, AMM TASK 49-53-01-000-801,
Surge Control Valve Installation, AMM TASK 49-53-01-400-801.

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- 2) Re-connect the D49026P connector to the SCV.
- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (e) If the resistance is in the range specified for each pair of pins, then continue.
- (5) Do the resistance check for the APU wire harness:
 - (a) Re-connect the D49026P connector to the SCV.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 27 and pin 28, specified resistance 10-200 ohms.
 - 2) Pin 27 and pin 26, specified resistance 10-200 ohms.
 - 3) Pin 24 and pin 25, specified resistance 10-200 ohms.
 - 4) Pin 27 and structure ground, specified resistance >100K ohms.
 - 5) Pin 24 and structure ground, specified resistance >100K ohms.
 - (e) If the resistance is not in the range specified for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49026P connector to the SCV.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is within the range specified, then continue.
- (6) Do the resistance check for the airplane wire harness:
 - (a) Re-connect the D49002P connector to the APU firewall.
 - (b) Remove the APU controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin H6 and pin J5, specified resistance 10-200 ohms.
 - 2) Pin J5 and pin K6, specified resistance 10-200 ohms.
 - 3) Pin K6 and pin J6 (ground), specified resistance >100K ohms.

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- (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin F5 and pin F4, specified resistance 10-200 ohms.
 - 2) Pin F4 and pin F6 (ground), specified resistance >100K ohms.
- (e) If the resistance is not within the range specified, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (f) If the resistance is within the range specified, then continue.
- (7) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— **END OF TASK** —————

807. SCV Position Does Not Follow Command - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance messages: 49-11175, 49-11180.

B. Description

- (1) The surge control valve (SCV) position disagrees with the command by more than 10 degrees for 20 seconds while the APU is on speed.

C. Fault Isolation Procedure

 CAUTION	MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.

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- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the surge control valve.

These are the tasks:

Surge Control Valve Removal, AMM TASK 49-53-01-000-801,
Surge Control Valve Installation, AMM TASK 49-53-01-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (4) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (5) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - (a) Use the APU air to operate the left and right air conditioning packs. To operate the packs, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

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808. APUC SCV Torque Motor Circuit is Failed Off - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12010.

B. Description

- (1) The APUC torque motor circuit for the surge control valve (SCV) is failed off.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (4) Replace the surge control valve.

These are the tasks:

Surge Control Valve Removal, AMM TASK 49-53-01-000-801,

Surge Control Valve Installation, AMM TASK 49-53-01-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (5) Examine the APU wire harness:

- (a) Make sure the APU wire harness does not have damage.
- (b) If the APU wire harness has damage, do the applicable step below:

- 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,

APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

- 3) Do the Repair Confirmation procedure at the end of this task.

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- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (6) Do this check of the APU wire harness:
 - (a) Disconnect the D49002P connector from the APU firewall.
 - (b) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Measure the resistance between these pairs of pins of the D49002P connector at the APU firewall (WDM 49-51-11):
 - 1) Pin 22 and pin 23, specified resistance 5-100 ohms.
 - 2) Pin 22 and the connector backshell, specified resistance >100K ohms.
 - 3) Pin 23 and the connector backshell, specified resistance >100K ohms.
 - (d) If the resistance is not in the specified range, then do these steps:
 - 1) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
 - (e) If the resistance is in the specified range, then continue.
- (7) Do this check of the airplane wire harness:
 - (a) Re-connect the D49002P connector to the APU firewall.
 - (b) Remove the APU controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of the DM49002AB connector at the APU controller (WDM 49-51-11):
 - 1) Pin F1 and pin F2, specified resistance 5-100 ohms.
 - 2) Pin F1 and pin F3 (ground), specified resistance >100K ohms.
 - 3) Pin F2 and pin F3 (ground), specified resistance >100K ohms.
 - (d) If the resistance is not in the specified range, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.

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- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

809. Differential Pressure Sensor Signal is Out of Range (APU On Speed) - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11190.

B. Description

- (1) The differential pressure sensor signal is out of range while the APU is on speed, or the circuit is failed.
- (2) The differential pressure sensor is attached to the pneumatic cluster.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Remove the differential pressure sensor, M49001M401. To remove it, do this task: Differential Pressure Sensor Removal, AMM TASK 49-53-04-000-801.
 - (a) Disconnect the pressure lines from the pneumatic cluster.
 - (b) Use dry compressed air to purge the pneumatic lines.
 - (c) Re-connect the pressure lines to the pneumatic cluster.
 - (d) Replace the differential pressure sensor, M49001M401.These are the tasks:
Differential Pressure Sensor Removal, AMM TASK 49-53-04-000-801,
Differential Pressure Sensor Installation, AMM TASK 49-53-04-400-801.
- (e) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.

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- (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Do this resistance check for the APU wire harness:
 - (a) Disconnect the D49025P connector from the differential pressure sensor, M49001M401.
 - (b) Examine the electrical connector D49025P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Disconnect the D49002P connector from the APU firewall.
 - (d) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (e) Install a jumper between pin 1 and pin 2.
 - (f) Install a jumper between pin 3 and pin 4.
 - (g) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 18 and pin 19, specified resistance <50 ohms.
 - 2) Pin 20 and pin 21, specified resistance <50 ohms.
 - 3) Pin 18 and the connector backshell, specified resistance >100K ohms.
 - 4) Pin 20 and the connector backshell, specified resistance >100K ohms.
 - (h) Remove the jumpers from the D49025P connector.
 - (i) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 18 and pin 19, specified resistance >100K ohms.
 - 2) Pin 20 and pin 21, specified resistance >100K ohms.
 - (j) If the resistance is not in the range specified for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:



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- APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
- 2) Re-connect the electrical connector D49025P to the differential pressure sensor.
 - 3) Re-connect the electrical connector D49002P to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (k) If the resistance is within the range specified, then continue.
- (6) Do the resistance check for the airplane wire harness:
- (a) Re-connect the D49025P connector to the differential pressure sensor.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - 1) Install a jumper between pin 18 and pin 19 on the DM49001B connector receptacle.
 - 2) Install a jumper between pin 20 and pin 21 on the DM49001B connector receptacle.
 - (c) Remove the APU controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin C1 and pin C2, specified resistance <50 ohms.
 - 2) Pin C1 and pin C3 (ground), specified resistance >100K ohms.
 - (e) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin J1 and pin K2, specified resistance <50 ohms.
 - 2) Pin J1 and pin K1 (ground), specified resistance >100K ohms.
 - (f) Remove the jumpers from the DM49001B connector receptacle.
 - (g) Measure the resistance between this pair of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin C1 and pin C2, specified resistance >100K ohms.
 - (h) Measure the resistance between this pair of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin J1 and pin K2, specified resistance >100K ohms.
 - (i) If the resistance is not within the range specified, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Re-connect the D49002P connector to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

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- (j) If the resistance is within the range specified, then continue.
- (7) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— END OF TASK —————

810. APUC Differential Pressure Sensor Circuit is Failed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11990.

B. Description

- (1) The differential pressure sensor circuit in the APU controller is failed.
- (2) The differential pressure sensor is attached to the pneumatic cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

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- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, then do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (5) Do this resistance check for the APU wire harness:
 - (a) Disconnect the D49025P connector from the differential pressure sensor, M49001M401.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Install a jumper between pin 1 and pin 2 on the D49025P connector.
 - (e) Install a jumper between pin 3 and pin 4 on the D49025 connector.
 - (f) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 18 and pin 19, specified resistance <50 ohms.
 - 2) Pin 20 and pin 21, specified resistance <50 ohms.
 - 3) Pin 18 and the connector backshell, specified resistance >100K ohms.
 - 4) Pin 19 and the connector backshell, specified resistance >100K ohms.
 - (g) Remove the jumpers from the D49025P connector.
 - (h) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 18 and pin 19, specified resistance >100K ohms.
 - 2) Pin 20 and pin 21, specified resistance >100K ohms.
 - (i) If the resistance is not in the range specified for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:



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- APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
- 2) Re-connect the electrical connector D49025P to the differential pressure sensor.
 - 3) Re-connect the electrical connector D49002P to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (j) If the resistance is within the range specified, then continue.
- (6) Do the resistance check for the airplane wire harness:
- (a) Re-connect the D49025P connector to the differential pressure sensor.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - 1) Install a jumper between pin 18 and pin 19 on the DM49001B connector receptacle.
 - 2) Install a jumper between pin 20 and pin 21 on the DM49001B connector receptacle.
 - (c) Remove the APU controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin C1 and pin C2, specified resistance <50 ohms.
 - 2) Pin C1 and pin C3 (ground), specified resistance >100K ohms.
 - (e) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin J1 and pin K2, specified resistance <50 ohms.
 - 2) Pin J1 and pin K1 (ground), specified resistance >100K ohms.
 - (f) Remove the jumpers from the DM49001B connector receptacle.
 - (g) Measure the resistance between this pair of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin C1 and pin C2, specified resistance >100K ohms.
 - (h) Measure the resistance between this pair of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin J1 and pin K2, specified resistance >100K ohms.
 - (i) If the resistance is not within the range specified, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-connect the D49025P connector to the differential pressure sensor.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (j) If the resistance is within the range specified, then continue.
- (7) Replace the differential pressure sensor, M49001M006.

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These are the tasks:

Differential Pressure Sensor Removal, AMM TASK 49-53-04-000-801,
Differential Pressure Sensor Installation, AMM TASK 49-53-04-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

811. Differential Pressure Sensor Signal Out of Range (APU Shutdown) - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance messages: 49-11200, 49-11210.

B. Description

- (1) The differential pressure sensor signal is out of range while the APU is shutdown, or the circuit is failed.
- (2) The differential pressure sensor is attached to the pneumatic cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure - Latched or Active Fault.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then do the Fault Isolation Procedure - Intermittent Fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure - Latched or Active Fault



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Remove the differential pressure sensor, M49001M401. To remove it, do this task: Differential Pressure Sensor Removal, AMM TASK 49-53-04-000-801.
 - (a) Disconnect the pressure lines from the pneumatic cluster.

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- (b) Use dry compressed air to purge the pneumatic lines.
- (c) Re-connect the pressure lines to the pneumatic cluster.
- (d) Replace the differential pressure sensor, M49001M401.

These are the tasks:

Differential Pressure Sensor Removal, AMM TASK 49-53-04-000-801,
Differential Pressure Sensor Installation, AMM TASK 49-53-04-400-801.

- (e) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, then do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Do this resistance check for the APU wire harness:
 - (a) Disconnect the D49025P connector from the differential pressure sensor, M49001M401.
 - (b) Examine the electrical connector D49025P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Install a jumper between pin 1 and pin 2 on the D49025P connector.
 - (d) Install a jumper between pin 3 and pin 4 on the D49025P connector.
 - (e) Disconnect the D49002P connector from the APU firewall.
 - (f) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (g) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):

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- 1) Pin 18 and pin 19, specified resistance <50 ohms.
 - 2) Pin 20 and pin 21, specified resistance <50 ohms.
 - 3) Pin 18 and the connector backshell, specified resistance >100K ohms.
 - 4) Pin 20 and the connector backshell, specified resistance >100K ohms.
- (h) Remove the jumpers from the D49025P connector.
- (i) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
- 1) Pin 18 and pin 19, specified resistance >100K ohms.
 - 2) Pin 20 and pin 21, specified resistance >100K ohms.
- (j) If the resistance is not in the range specified for each pair of pins, then do these steps:
- 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the electrical connector D49025P to the differential pressure sensor.
 - 3) Re-connect the electrical connector D49002P to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (k) If the resistance is within the range specified, then continue.
- (6) Do the resistance check for the airplane wire harness:
- (a) Re-connect the D49025P connector to the differential pressure sensor.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - 1) Install a jumper between pin 18 and pin 19 on the DM49001B connector receptacle.
 - 2) Install a jumper between pin 20 and pin 21 on the DM49001B connector receptacle.
 - (c) Remove the APU controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin C1 and pin C2, specified resistance <50 ohms.
 - 2) Pin C1 and pin C3 (ground), specified resistance >100K ohms.
 - (e) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin J1 and pin K2, specified resistance <50 ohms.
 - 2) Pin J1 and pin K1 (ground), specified resistance >100K ohms.
 - (f) Remove the jumpers from the DM49001B connector receptacle.
 - (g) Measure the resistance between this pair of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin C1 and pin C2, specified resistance >100K ohms.

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- (h) Measure the resistance between this pair of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin J1 and pin K2, specified resistance >100K ohms.
- (i) If the resistance is not within the range specified, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (j) If the resistance is within the range specified, then continue.
- (7) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Fault Isolation Procedure - Intermittent Fault



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Remove the differential pressure sensor, M49001M401. To remove it, do this task: Differential Pressure Sensor Removal, AMM TASK 49-53-04-000-801.
 - (a) Disconnect the pressure lines from the pneumatic cluster.
 - (b) Use dry compressed air to purge the pneumatic lines.
 - (c) Re-connect the pressure lines to the pneumatic cluster.
 - (d) Re-install the differential pressure sensor. To install it, do this task: Differential Pressure Sensor Installation, AMM TASK 49-53-04-400-801.
 - (e) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

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F. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

END OF TASK

812. Differential Pressure Sensor Circuit Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11220.

B. Description

- (1) The differential pressure sensor circuit has a short.
- (2) The differential pressure sensor is attached to the pneumatic cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, then do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
- 3) Do the Repair Confirmation procedure at the end of this task.

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- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Do this check of the connector for the differential pressure sensor:
 - (a) Disconnect the D49025P connector from the differential pressure sensor, M49001M401.
 - (b) Examine the D49025P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable differential pressure sensor, M49001M401, then do these steps:
 - (a) Connect the D49025P connector to the new differential pressure sensor.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the differential pressure sensor.
These are the tasks:
Differential Pressure Sensor Removal, AMM TASK 49-53-04-000-801,
Differential Pressure Sensor Installation, AMM TASK 49-53-04-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable differential pressure sensor, then do this resistance check:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Disconnect the D49025P connector from the differential pressure sensor, M49001M401.
 - (c) Measure the resistance between these pairs of pins of the connector receptacle for the differential pressure sensor (WDM 49-51-11):
 - 1) Pin 1 and pin 2, specified resistance >10 ohms.
 - 2) Pin 1 and pin 3, specified resistance >10 ohms.
 - 3) Pin 1 and pin 4, specified resistance >10 ohms.
 - 4) Pin 2 and pin 3, specified resistance >10 ohms.
 - 5) Pin 2 and pin 4, specified resistance >10 ohms.
 - 6) Pin 3 and pin 4, specified resistance >10 ohms.
 - 7) Pin 1 and pin 5 (case ground), specified resistance >100K ohms.
 - 8) Pin 2 and pin 5 (case ground), specified resistance >100K ohms.
 - 9) Pin 3 and pin 5 (case ground), specified resistance >100K ohms.
 - 10) Pin 4 and pin 5 (case ground), specified resistance >100K ohms.

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- (d) If the resistance is not in the specified range for each pair of pins, then do these steps:
 - 1) Replace the differential pressure sensor, M49001M401.
These are the tasks:
Differential Pressure Sensor Removal, AMM TASK 49-53-04-000-801,
Differential Pressure Sensor Installation, AMM TASK 49-53-04-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows ACTIVE for the maintenance message, then continue.
- (e) If the resistance is in the specified range for each pair of pins, then continue.
- (7) Do this resistance check for the APU wire harness:
 - (a) Disconnect the D49025P connector from the differential pressure sensor, M49001M401.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 18 and pin 19, specified resistance >100K ohms.
 - 2) Pin 18 and pin 20, specified resistance >100K ohms.
 - 3) Pin 18 and pin 21, specified resistance >100K ohms.
 - 4) Pin 19 and pin 20, specified resistance >100K ohms.
 - 5) Pin 19 and pin 21, specified resistance >100K ohms.
 - 6) Pin 20 and pin 21, specified resistance >100K ohms.
 - 7) Pin 18 and the connector backshell, specified resistance >100K ohms.
 - 8) Pin 19 and the connector backshell, specified resistance >100K ohms.
 - 9) Pin 20 and the connector backshell, specified resistance >100K ohms.
 - 10) Pin 21 and the connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-connect the D49025P connector to the differential pressure sensor.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (f) If the resistance is in the range specified for each pair of pins, then continue.
- (8) Do this resistance check for the airplane wire harness:
 - (a) Re-connect the D49025P connector to the differential pressure sensor.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - (c) Remove the APU controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin C1 and pin C2, specified resistance >100K ohms.
 - 2) Pin C1 and pin C3 (ground), specified resistance >100K ohms.
 - 3) Pin C2 and pin C3 (ground), specified resistance >100K ohms.
 - (e) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin J1 and pin K2, specified resistance >100K ohms.
 - 2) Pin J1 and pin K1 (ground), specified resistance >100K ohms.
 - 3) Pin K2 and pin K1 (ground), specified resistance >100K ohms.
 - (f) Measure the resistance between these pairs of pins of connectors DM49002AA and DM49002AB at the APU controller (WDM 49-51-11):

DM49002AA	DM49002AB	RESISTANCE
pin J1	pin C1	>100K ohms
pin K2	pin C2	>100K ohms
pin J1	pin C2	>100K ohms
pin K2	pin C1	>100K ohms

- (g) If the resistance is <100K ohms for each pair of pins, then do these steps.
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Re-connect the D49002P connector to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) If the resistance is >100K ohms for each pair of pins, then continue.
- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

END OF TASK

813. APUC Total Pressure Sensor Circuit is Failed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12000.

B. Description

- (1) The total pressure sensor circuit in the APU controller is failed.
- (2) The total pressure sensor is attached to the pneumatic cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.

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- (b) If the APU wire harness has damage, then do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (5) Do this resistance check for the APU wire harness:
 - (a) Disconnect the D49024P connector from the total pressure sensor, M49001M400.
 - (b) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Disconnect the D49002P connector from the APU firewall.
 - (d) Examine the electrical connector D49024P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (e) Install a jumper between pin 1 and pin 2 on the D49024P connector.
 - (f) Install a jumper between pin 3 and pin 4 on the D49024P connector.
 - (g) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 14 and pin 15, specified resistance <50 ohms.
 - 2) Pin 16 and pin 17, specified resistance <50 ohms.
 - 3) Pin 14 and the connector backshell, specified resistance >100K ohms.
 - 4) Pin 17 and the connector backshell, specified resistance >100K ohms.
 - (h) Remove the jumpers from the D49024P connector.
 - (i) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 14 and pin 15, specified resistance >100K ohms.
 - 2) Pin 16 and pin 17, specified resistance >100K ohms.
 - (j) If the resistance is not in the range specified for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,

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APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

- 2) Re-connect the electrical connector D49024P to the differential pressure sensor.
- 3) Re-connect the electrical connector D49002P to the APU firewall.
- 4) Do the Repair Confirmation procedure at the end of this task.
- 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (k) If the resistance is within the range specified, then continue.
- (6) Do the resistance check for the airplane wire harness:
 - (a) Re-connect the D49024P connector to the total pressure sensor.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - 1) Install a jumper between pin 14 and pin 15 on the DM49001B connector receptacle.
 - 2) Install a jumper between pin 16 and pin 17 on the DM49001B connector receptacle.
 - (c) Remove the APU controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin B1 and pin B2, specified resistance <50 ohms.
 - 2) Pin B1 and pin B3 (ground), specified resistance >100K ohms.
 - (e) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin G1 and pin E1, specified resistance <50 ohms.
 - 2) Pin G1 and pin F1 (ground), specified resistance >100K ohms.
 - (f) Remove the jumpers from the DM49001B connector receptacle.
 - (g) Measure the resistance between this pair of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin B1 and pin B2, specified resistance >100K ohms.
 - (h) Measure the resistance between this pair of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin G1 and pin E1, specified resistance >100K ohms.
 - (i) If the resistance is not within the range specified, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-connect the D49024P connector to the total pressure sensor.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (j) If the resistance is within the range specified, then continue.
- (7) Replace the total pressure sensor, M49001M400.

These are the tasks:

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Total Pressure Sensor Removal, AMM TASK 49-53-02-000-801,
Total Pressure Sensor Installation, AMM TASK 49-53-02-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

814. Total Pressure Sensor Signal Out of Range (APU On Speed) - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11230.

B. Description

- (1) The total pressure sensor signal is out of range while the APU is on speed, or the circuit is failed.
- (2) The total pressure sensor is attached to the pneumatic cluster.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the total pressure sensor, M49001M400.

These are the tasks:

Total Pressure Sensor Removal, AMM TASK 49-53-02-000-801,
Total Pressure Sensor Installation, AMM TASK 49-53-02-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, then do the applicable step below:

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- 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Do this resistance check for the APU wire harness:
- (a) Disconnect the D49024P connector from the total pressure sensor, M49001M400.
 - (b) Examine the electrical connector D49024P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Install a jumper between pin 1 and pin 2 on the D49024P connector.
 - (d) Install a jumper between pin 3 and pin 4 on the D49024P connector.
 - (e) Disconnect the D49002P connector from the APU firewall.
 - (f) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (g) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 14 and pin 15, specified resistance <50 ohms.
 - 2) Pin 16 and pin 17, specified resistance <50 ohms.
 - 3) Pin 14 and the connector backshell, specified resistance >100K ohms.
 - 4) Pin 16 and the connector backshell, specified resistance >100K ohms.
 - (h) Remove the jumpers from the D49024P connector.
 - (i) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 14 and pin 15, specified resistance >100K ohms.
 - 2) Pin 16 and pin 17, specified resistance >100K ohms.
 - (j) If the resistance is not in the range specified for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,

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APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

- 2) Re-connect the electrical connector D49024P to the total pressure sensor.
- 3) Re-connect the electrical connector D49002P to the APU firewall.
- 4) Do the Repair Confirmation procedure at the end of this task.
- 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (k) If the resistance is within the range specified, then continue.
- (6) Do the resistance check for the airplane wire harness:
 - (a) Re-connect the D49024P connector to the total pressure sensor.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - 1) Install a jumper between pin 14 and pin 15 on the DM49001B connector receptacle.
 - 2) Install a jumper between pin 16 and pin 17 on the DM49001B connector receptacle.
 - (c) Remove the APU controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin B1 and pin B2, specified resistance <50 ohms.
 - 2) Pin B1 and pin B3 (ground), specified resistance >100K ohms.
 - (e) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin G1 and pin E1, specified resistance <50 ohms.
 - 2) Pin G1 and pin F1 (ground), specified resistance >100K ohms.
 - (f) Remove the jumpers from the DM49001B connector receptacle.
 - (g) Measure the resistance between this pair of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin B1 and pin B2, specified resistance >100K ohms.
 - (h) Measure the resistance between this pair of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin G1 and pin E1, specified resistance >100K ohms.
 - (i) If the resistance is not within the range specified, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (j) If the resistance is within the range specified, then continue.
- (7) Replace the APU controller, M49002.

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These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— END OF TASK —————

815. Total Pressure Sensor Signal Out of Range (APU Shutdown) - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance messages: 49-11240, 49-11250.

B. Description

- (1) The total pressure sensor signal is out of range while the APU is shutdown, or the circuit is failed.
- (2) The total pressure sensor is attached to the pneumatic cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Remove the total pressure sensor, M49001M400. To remove it, do this task: Total Pressure Sensor Removal, AMM TASK 49-53-02-000-801.
 - (a) Disconnect the pressure lines from the pneumatic cluster.
 - (b) Use dry compressed air to purge the pneumatic lines.
 - (c) Re-connect the pressure lines to the pneumatic cluster.

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- (d) Replace the total pressure sensor, M49001M400.
These are the tasks:
Total Pressure Sensor Removal, AMM TASK 49-53-02-000-801,
Total Pressure Sensor Installation, AMM TASK 49-53-02-400-801.
- (e) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, then do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Do this resistance check for the APU wire harness:
 - (a) Disconnect the D49024P connector from the total pressure sensor, M49001M400.
 - (b) Examine the electrical connector D49024P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Install a jumper between pin 1 and pin 2 on the D49024P connector.
 - (d) Install a jumper between pin 3 and pin 4 on the D49024P connector.
 - (e) Disconnect the D49002P connector from the APU firewall.
 - (f) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (g) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 14 and pin 15, specified resistance <50 ohms.
 - 2) Pin 16 and pin 17, specified resistance <50 ohms.

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- 3) Pin 14 and the connector backshell, specified resistance >100K ohms.
- 4) Pin 16 and the connector backshell, specified resistance >100K ohms.
- (h) Remove the jumpers from the D49024P connector.
- (i) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 14 and pin 15, specified resistance >100K ohms.
 - 2) Pin 16 and pin 17, specified resistance >100K ohms.
- (j) If the resistance is not in the range specified for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the electrical connector D49024P to the total pressure sensor.
 - 3) Re-connect the electrical connector D49002P to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (k) If the resistance is within the range specified, then continue.
- (6) Do the resistance check for the airplane wire harness:
 - (a) Re-connect the D49024P connector to the total pressure sensor.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - 1) Install a jumper between pin 14 and pin 15 on the DM49001B connector receptacle.
 - 2) Install a jumper between pin 16 and pin 17 on the DM49001B connector receptacle.
 - (c) Remove the APU controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin B1 and pin B2, specified resistance <50 ohms.
 - 2) Pin B1 and pin B3 (ground), specified resistance >100K ohms.
 - (e) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin G1 and pin E1, specified resistance <50 ohms.
 - 2) Pin G1 and pin F1 (ground), specified resistance >100K ohms.
 - (f) Remove the jumpers from the DM49001B connector receptacle.
 - (g) Measure the resistance between this pair of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin B1 and pin B2, specified resistance >100K ohms.
 - (h) Measure the resistance between this pair of pins of connector DM49002AA at the APU controller (WDM 49-51-11):

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- 1) Pin G1 and pin E1, specified resistance >100K ohms.
- (i) If the resistance is not within the range specified, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (j) If the resistance is within the range specified, then continue.
- (7) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

816. Total Pressure Sensor Circuit Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11260.

B. Description

- (1) The total pressure sensor circuit has a short.
- (2) The total pressure sensor is attached to the pneumatic cluster.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

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D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Do this check of the connector for the total pressure sensor:
 - (a) Disconnect the D49024P connector from the total pressure sensor, M49001M400.
 - (b) Examine the D49024P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable total pressure sensor, M49001M400, then do these steps:
 - (a) Connect the D49024P connector to the new total pressure sensor.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the total pressure sensor.
These are the tasks:
Total Pressure Sensor Removal, AMM TASK 49-53-02-000-801,
Total Pressure Sensor Installation, AMM TASK 49-53-02-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable total pressure sensor, then do this resistance check:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Disconnect the D49024P connector from the total pressure sensor, M49001M401.
 - (c) Measure the resistance between these pairs of pins of the connector receptacle for the total sensor (WDM 49-51-11):
 - 1) Pin 1 and pin 2, specified resistance >10 ohms.
 - 2) Pin 1 and pin 3, specified resistance >10 ohms.
 - 3) Pin 1 and pin 4, specified resistance >10 ohms.
 - 4) Pin 2 and pin 3, specified resistance >10 ohms.
 - 5) Pin 2 and pin 4, specified resistance >10 ohms.
 - 6) Pin 3 and pin 4, specified resistance >10 ohms.
 - 7) Pin 1 and pin 5 (case ground), specified resistance >100K ohms.
 - 8) Pin 2 and pin 5 (case ground), specified resistance >100K ohms.
 - 9) Pin 3 and pin 5 (case ground), specified resistance >100K ohms.
 - 10) Pin 4 and pin 5 (case ground), specified resistance >100K ohms.
 - (d) If the resistance is not in the specified range for each pair of pins, then do these steps:
 - 1) Replace the total pressure sensor, M49001M400.
These are the tasks:
Total Pressure Sensor Removal, AMM TASK 49-53-02-000-801,
Total Pressure Sensor Installation, AMM TASK 49-53-02-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is in the specified range for each pair of pins, then continue.
- (7) Do this resistance check for the APU wire harness:
 - (a) Disconnect the D49024P connector from the total pressure sensor, M49001M400.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 14 and pin 15, specified resistance >100K ohms.
 - 2) Pin 14 and pin 16, specified resistance >100K ohms.
 - 3) Pin 14 and pin 17, specified resistance >100K ohms.

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- 4) Pin 15 and pin 16, specified resistance >100K ohms.
 - 5) Pin 15 and pin 17, specified resistance >100K ohms.
 - 6) Pin 16 and pin 17, specified resistance >100K ohms.
 - 7) Pin 14 and the connector backshell, specified resistance >100K ohms.
 - 8) Pin 15 and the connector backshell, specified resistance >100K ohms.
 - 9) Pin 16 and the connector backshell, specified resistance >100K ohms.
 - 10) Pin 17 and the connector backshell, specified resistance >100K ohms.
- (e) If the resistance is <100K ohms for each pair of pins, then do these steps:
- 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-connect the D49024P connector to the total pressure sensor.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (f) If the resistance is in the range specified for each pair of pins, then continue.
- (8) Do this resistance check for the airplane wire harness:
- (a) Re-connect the D49024P connector to the total pressure sensor.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - (c) Remove the APU controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin B1 and pin B2, specified resistance >100K ohms.
 - 2) Pin B1 and pin B3 (ground), specified resistance >100K ohms.
 - 3) Pin B2 and pin B3 (ground), specified resistance >100K ohms.
 - (e) Measure the resistance between these pairs of pins of connector DM49002AA at the APU controller (WDM 49-51-11):
 - 1) Pin G1 and pin E1, specified resistance >100K ohms.
 - 2) Pin G1 and pin F1 (ground), specified resistance >100K ohms.
 - 3) Pin E1 and pin F1 (ground), specified resistance >100K ohms.
 - (f) Measure the resistance between these pairs of pins of connectors DM49002AA and DM49002AB at the APU controller (WDM 49-51-11):



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DM49002AA	DM49002AB	RESISTANCE
pin G1	pin B1	>100K ohms
pin E1	pin B2	>100K ohms
pin E1	pin B1	>100K ohms
pin G1	pin B2	>100K ohms

- (g) If the resistance is <100K ohms for each pair of pins, then do these steps.
- 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Re-connect the D49002P connector to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) If the resistance is >100K ohms for each pair of pins, then continue.
- (9) Replace the APU controller, M49002.
- These are the tasks:
- APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

817. SCV Torque Motor Circuit Open - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11270.

B. Description

- (1) The torque motor circuit for the surge control valve (SCV) has an open.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE or LATCHED for the maintenance message, then do the Fault Isolation Procedure.

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- (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
- (4) Do this check of the connector for the surge control valve (SCV) torque motor:
 - (a) Disconnect the D49026P connector from the SCV, M49001V400.
 - (b) Examine the D49026P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable SCV, M49001V400, then do these steps:
 - (a) Connect the D49026P connector to the new SCV.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the SCV.
These are the tasks:
Surge Control Valve Removal, AMM TASK 49-53-01-000-801,
Surge Control Valve Installation, AMM TASK 49-53-01-400-801.

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- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable surge control valve (SCV), then do this resistance check of the surge control valve (SCV) torque motor:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between pin 1 and pin 2 of the D49026P connector receptacle on the SCV, M49001V400 (WDM 49-51-11):
 - (c) If the resistance is >100 ohms, then do these steps:
 - 1) Replace the SCV.
These are the tasks:
Surge Control Valve Removal, AMM TASK 49-53-01-000-801,
Surge Control Valve Installation, AMM TASK 49-53-01-400-801.
 - 2) Re-connect the D49026P connector to the SCV.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (d) If the resistance is <100 ohms, then continue.
- (7) Do this resistance check of the APU wire harness:
 - (a) Re-connect the D49026P connector to the SCV.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between pin 22 and pin 23 of connector D49002P at the APU firewall (WDM 49-51-11):
 - (e) If the resistance is >100 ohms, do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) If the resistance is <100 ohms, then continue.
- (8) Do this resistance check of the airplane wire harness:
 - (a) Re-connect the D49002P connector to the APU firewall.
 - (b) Remove the APU controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between pin F1 and pin F2 of connector DM49002AB at the APU controller (WDM 49-51-11):
 - (d) If the resistance is >100 ohms, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is <100 ohms, then continue.
- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Set the APU maintenance switch on the P61 panel to NORM.

————— END OF TASK —————

818. SCV Torque Motor Circuit Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11280.

B. Description

- (1) The torque motor circuit for the surge control valve (SCV) has a short.

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C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE or LATCHED for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, then do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (4) Do this check of the connector for the surge control valve (SCV) torque motor:
 - (a) Disconnect the D49026P connector from the SCV, M49001V400.
 - (b) Examine the D49026P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable SCV, M49001V400, then do these steps:
 - (a) Connect the D49026P connector to the new SCV.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.

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- (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the SCV.
These are the tasks:
Surge Control Valve Removal, AMM TASK 49-53-01-000-801,
Surge Control Valve Installation, AMM TASK 49-53-01-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable SCV, then do this resistance check:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between these pairs of pins of the connector receptacle on the SCV, M49001V400 (WDM 49-51-11):
 - 1) Pin 1 and pin 2, specified resistance >5 ohms.
 - 2) Pin 1 and pin 7 (case ground), specified resistance >100K ohms.
 - (c) If the resistance is not in the range specified, then do these steps:
 - 1) Replace the SCV.
These are the tasks:
Surge Control Valve Removal, AMM TASK 49-53-01-000-801,
Surge Control Valve Installation, AMM TASK 49-53-01-400-801.
 - 2) Re-connect the D49026P connector to the SCV.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (d) If the resistance is in the range specified, then continue.
- (7) Do this resistance check of the APU wire harness:
 - (a) Disconnect the D49026P connector from the SCV.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of connector D49002P at the APU firewall (WDM 49-51-11):
 - 1) Pin 22 and pin 23, specified resistance >100K ohms.
 - 2) Pin 22 and the connector backshell, specified resistance >100K ohms.

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- 3) Pin 23 and the connector backshell, specified resistance >100K ohms.
- (e) If the resistance is <100K ohms, then do these steps:
 - 1) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-connect the D49026P connector to the SCV.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) If the resistance is >100K ohms, then continue.
- (8) Do this resistance check of the airplane wire harness:
 - (a) Re-connect the D49026P connector to the SCV.
 - (b) Disconnect the D49002P connector from the APU firewall.
 - (c) Remove the APU controller. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between these pairs of pins of connector DM49002AB at the APU controller (WDM 49-51-11):
 - 1) Pin F1 and pin F2, specified resistance >100K ohms.
 - 2) Pin F1 and pin F3 (ground), specified resistance >100K ohms.
 - 3) Pin F2 and pin F3 (ground), specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Reconnect the D49002P connector to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is >100K ohms, then continue.
- (9) Replace the APU controller, M49002.

These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.



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- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Set the APU maintenance switch to the NORM position.

————— END OF TASK —————

819. APU Load Compressor Surge - Fault Isolation

A. Description

- (1) The APU had a surge that was heard by the flight crew or by the maintenance crew.

B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Look at the Extended Maintenance, Existing Faults display on the MAT.
 - (a) Look for maintenance messages related to these systems:
 - 1) APU ARINC 629 (ATA 49)
 - 2) APU Bleed System (ATA 49)
 - 3) APU Isolation Valve (ATA 36)
 - (b) If a maintenance message related to the systems above show, then do these steps:
 - 1) Find the message in the applicable FIM Maintenance Message Index.
 - 2) Do the specified task for the maintenance message.
 - 3) Continue with this Fault Isolation Procedure.
 - (c) If no maintenance messages related to the above systems show, then continue.
- (4) Do these steps to replace the packings on the differential pressure sensor static pressure tube.
 - (a) Loosen the bolt that holds the static pressure tube to the diffuser case.
 - (b) Turn the flange on the static pressure tube counterclockwise until the flange disengages the bolt.
 - (c) Remove the bolt that holds the static pressure tube to the differential pressure sensor.
 - (d) Disconnect the static pressure tube from the diffuser case and the differential pressure sensor.
 - (e) Remove and discard the packings from the two ends of the static pressure tube.
 - (f) Lubricate and install new packings on the two ends of the static pressure tube.

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- (g) Connect the static pressure tube to the diffuser case.
 - 1) Turn the flange until it engages the bolt.
- (h) Connect the static pressure tube to the differential pressure sensor.
 - 1) Install the bolt.
- (i) Tighten all bolts.
- (j) Do the Repair Confirmation procedure at the end of this task.
 - 1) If you do not hear the APU surge, then you corrected the fault.
 - 2) If you hear the APU surge, then continue.
- (5) Do these steps to examine the APU check valve:
 - (a) Remove the APU check valve. To remove it, do this task: APU Check Valve Removal, AMM TASK 49-52-03-000-801.
 - (b) Make sure the APU check valve can open freely.
 - (c) If the APU check valve does not open freely, then do these steps:
 - 1) Replace the APU check valve.
These are the tasks:
APU Check Valve Removal, AMM TASK 49-52-03-000-801,
APU Check Valve Installation, AMM TASK 49-52-03-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If you do not hear the APU surge, then you corrected the fault.
 - 4) If you hear the APU surge, then continue.
 - (d) If the APU check valve operates properly, then re-install the check valve. To install it, do this task: APU Check Valve Installation, AMM TASK 49-52-03-400-801.
- (6) Replace the inlet guide vane actuator.
These are the tasks:
Inlet Guide Vane (IGV) Actuator Removal, AMM TASK 49-52-02-000-801,
Inlet Guide Vane (IGV) Actuator Installation, AMM TASK 49-52-02-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If you do not hear the APU surge, then you corrected the fault.
 - 2) If you hear the APU surge, then continue.
- (7) Replace the pneumatic cluster.
These are the tasks:
Pneumatic Cluster Removal, AMM TASK 49-53-53-000-801,
Pneumatic Cluster Installation, AMM TASK 49-53-53-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If you do not hear the APU surge, then you corrected the fault.
 - 2) If you hear the APU surge, then continue.
- (8) Replace the APU.
These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or
Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,

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Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or
Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If you do not hear the APU surge, then you corrected the fault.

C. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) Make sure the left and the right air conditioning packs are off. To turn them off, do this task: Remove Conditioned Air Supplied by a Cooling Pack, AMM TASK 21-00-00-800-804.
- (3) Operate the left and the right air driven pumps. To operate them, do this task: Center Hydraulic System Pressurization with an Air-Driven Pump (ADP), AMM TASK 29-11-00-860-805.
- (4) Push the APU bleed switch to the OFF position.
 - (a) If you do not hear the APU surge and no maintenance message related to the APU bleed system or the APU isolation valve show, then you corrected the fault.
- (5) Push the APU bleed switch to the AUTO position.
- (6) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

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801. APU Controller Internal Fault - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance messages: 49-11460, 49-11470, 49-11710, 49-11720, 49-11850, 49-11900.

B. Fault Isolation Procedure

- (1) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (2) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (3) Set the APU maintenance switch on the overhead maintenance panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Set the APU maintenance switch on the overhead maintenance panel to NORM.

————— END OF TASK —————

802. APUC Fuel Shutoff Solenoid Software Problem - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance messages: 49-11480, 49-11890, 49-12020.

B. Description

- (1) The circuit for the fuel shutoff solenoid is failed. Most of the time this fault is in the APU controller.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the overhead maintenance panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.

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- (3) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

- (4) Examine the APU wire harness:

- (a) Make sure the APU wire harness does not have damage.
- (b) If the APU wire harness has damage, do the applicable step below:

- 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,

APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

- (5) Replace the fuel cluster, M49001M100.

These are the tasks:

Fuel Cluster Removal, AMM TASK 49-31-31-000-801,

Fuel Cluster Installation, AMM TASK 49-31-31-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to the TEST position. Then wait for 120 seconds.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

803. APUC Fuel Torque Motor Circuit Problems - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11490.

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B. Description

- (1) The circuit for the fuel torque motor is failed. Most of the time this fault will be in the APU controller.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch on the overhead maintenance panel to NORM.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,

APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

- 3) Do the Repair Confirmation procedure at the end of this task.
- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

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- (5) Replace the fuel cluster, M49001M100.
These are the tasks:
Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Move the APU maintenance switch to the NORM position.

— END OF TASK —

804. Inlet Temperature Sensor Circuit Is Shorted - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11150.

B. Description

- (1) The inlet temperature sensor (T2) circuit is shorted.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:

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- 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Do this check of the connector for the inlet temperature sensor:
- (a) Disconnect the D49029P connector from the inlet temperature sensor, M49001M007.
 - (b) Examine the D49029P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable inlet temperature sensor, then do these steps:
- (a) Connect the D49029P connector to the new inlet temperature sensor.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the inlet temperature sensor.
These are the tasks:
Inlet Temperature Sensor Removal, AMM TASK 49-61-03-000-801,
Inlet Temperature Sensor Installation, AMM TASK 49-61-03-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable inlet temperature sensor, then do this resistance check:
- (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between these pairs of pins of the receptacle for the inlet temperature sensor:
 - 1) Pin A and pin B, specified resistance 10-300 ohms.
 - 2) Pin A and structure ground, specified resistance >1000K ohms.
 - 3) Pin B and the shell of sensor, specified resistance >1000K ohms.
 - (c) If the resistance is not in the range specified, then do these steps:
 - 1) Replace the inlet temperature sensor, M49001M007.

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These are the tasks:

Inlet Temperature Sensor Removal, AMM TASK 49-61-03-000-801,
Inlet Temperature Sensor Installation, AMM TASK 49-61-03-400-801.

- 2) Do the Repair Confirmation procedure at the end of this task.
- 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 4) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the resistance is in the range specified, then continue.
- (7) Do a resistance check of the APU wire harness:
 - (a) Re-connect the D49029P connector to the APU firewall.
 - (b) Disconnect the electrical connector, D49002P from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of the connector D49002P at the APU firewall:
 - 1) Pin 39 and pin 40, specified resistance <100 ohms.
 - 2) Pin 39 and the connector backshell, specified resistance >100K ohms.
 - 3) Pin 40 and the connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is not in the specified range for each pair of pins, do the steps that follow:
 - 1) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is within the specified range, then continue.
- (8) Do the resistance check of the airplane wire harness:
 - (a) Re-connect the D49002P connector to the APU firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of the connector DM49002AA at the APU controller:
 - 1) Pin B2 and pin D2, specified resistance 10-300 ohms.
 - 2) Pin B2 and pin C2 (ground), specified resistance >100K ohms.

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- 3) Pin D2 and pin C2 (ground), specified resistance >100K ohms.
- (d) If the resistance is not in the specified range for each pair of pins, do the steps that follow:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (e) If the resistance is in the specified range, then continue.
- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to the TEST position. Then wait for 120 seconds.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

805. Inlet Temperature Sensor Signal Is Out Of Range - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11160.

B. Description

- (1) The inlet temperature sensor (T2) does not indicate a normal range.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

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D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the inlet temperature sensor, M49001M007.

These are the tasks:

Inlet Temperature Sensor Removal, AMM TASK 49-61-03-000-801,

Inlet Temperature Sensor Installation, AMM TASK 49-61-03-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (5) Do a resistance check of the APU wire harness:
 - (a) Disconnect the electrical connector, D49002P from the APU firewall.
 - (b) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Measure the resistance between these pairs of pins of the connector D49002P at the APU firewall:
 - 1) Pin 39 and pin 40, specified resistance <100 ohms.
 - 2) Pin 39 and the connector backshell, specified resistance >100K ohms.
 - 3) Pin 40 and the connector backshell, specified resistance >100K ohms.

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- (d) If the resistance is not in the specified range for each pair of pins, do the steps that follow:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (e) If the resistance is within the specified range, then continue.
- (6) Do the resistance check of the airplane wire harness:
 - (a) Re-connect the D49002P connector to the APU firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of the connector DM49002AA at the APU controller:
 - 1) Pin B2 and pin D2, specified resistance >100 ohms.
 - 2) Pin B2 and pin C2 (ground), specified resistance >100K ohms.
 - 3) Pin D2 and pin C2 (ground), specified resistance >100K ohms.
 - (d) If the resistance is not in the specified range for each pair of pins, do the steps that follow:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is in the specified range, then continue.
- (7) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to the TEST position. Then wait for 120 seconds.

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- (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Move the APU maintenance switch to the NORM position.

END OF TASK

806. Speed Sensor 1 Open Circuit - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11910.

B. Description

- (1) There is an open in the speed sensor 1 circuit.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:

NOTE: There are 2 speed sensors on the APU. Speed sensor 1 is located at the 5 o'clock position.

- (a) Make sure the APU wire harness does not have damage.
- (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.

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- (4) Do this check of the connector for speed sensor 1:
 - (a) Disconnect the D49027P connector from the speed sensor 1, M49001M008.
 - (b) Examine the D49027P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable speed sensor, then do these steps:
 - (a) Connect the D49027P connector to the new speed sensor 1.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace speed sensor 1.
These are the tasks:
Speed Sensor Removal, AMM TASK 49-61-02-000-801,
Speed Sensor Installation, AMM TASK 49-61-02-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new speed sensor, then do this resistance check:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between pin 1 and pin 2 of the connector receptacle for speed sensor 1.
 - (c) If the resistance is >20 ohms, then do these steps:
 - 1) Replace speed sensor 1, M49001M008.
These are the tasks:
Speed Sensor Removal, AMM TASK 49-61-02-000-801,
Speed Sensor Installation, AMM TASK 49-61-02-400-801.
 - 2) Re-connect the D49027P electrical connector to speed sensor 1.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the resistance is <20 ohms, then continue.
- (7) Do the resistance check of the APU wire harness:
 - (a) Re-connect the D49027P electrical connector to speed sensor 1.
 - (b) Disconnect the electrical connector D49002P from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:

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- 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
- 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (d) Measure the resistance between pin 34 and pin 35 of the connector D49002P at the APU firewall.
- (e) If the resistance is >1000 ohms, do the applicable step:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Connect the D49002P connector to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (f) If the resistance is <1000 ohms, then continue.
- (8) Do the resistance check of the airplane wire harness:
 - (a) Connect the D49002P connector to the APU firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between pin K5 and pin J5 of the connector DM49002AB at the APU controller.
 - (d) If the resistance is >1000 ohms, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is <1000 ohms, then continue.
- (9) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST and wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

807. Speed Sensor 2 Open Circuit - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11950.

B. Description

- (1) There is an open in the speed sensor 2 circuit.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:

NOTE: There are 2 speed sensors on the APU. Speed sensor 2 is located at the 9 o'clock position.

- (a) Make sure the APU wire harness does not have damage.
- (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.

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- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Do this check of the connector for speed sensor 2:
 - (a) Disconnect the D49028P connector from the speed sensor 2, M49001M009.
 - (b) Examine the D49028P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable speed sensor, then do these steps:
 - (a) Connect the D49028P connector to the new speed sensor 2.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace speed sensor 2.
These are the tasks:
Speed Sensor Removal, AMM TASK 49-61-02-000-801,
Speed Sensor Installation, AMM TASK 49-61-02-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable speed sensor, then do this resistance check:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between pin 1 and pin 2 of the receptacle for speed sensor 2.
 - (c) If the resistance is >20 ohms, then do these steps:
 - 1) Replace speed sensor 2, M49001M009.
These are the tasks:
Speed Sensor Removal, AMM TASK 49-61-02-000-801,
Speed Sensor Installation, AMM TASK 49-61-02-400-801.
 - 2) Re-connect the D49028P electrical connector to speed sensor 2.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the resistance is <20 ohms, then continue.
- (7) Do the resistance check of the APU wire harness:
 - (a) Re-connect the D49028P electrical connector to speed sensor 2.

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- (b) Disconnect the electrical connector D49002P from the APU firewall.
- (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (d) Measure the resistance between pin 37 and pin 38 of the connector D49002P at the APU firewall.
- (e) If the resistance is >1000 ohms, do the applicable step:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Connect the D49002P connector to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (f) If the resistance is <1000 ohms, then continue.
- (8) Do the resistance check of the airplane wire harness:
 - (a) Connect the D49002P connector to the APU firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between pin K6 and pin J6 of the connector DM49002AB at the APU controller.
 - (d) If the resistance is >1000 ohms, do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is <1000 ohms, then continue.
- (9) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST and wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

808. Speed Sensor 1 Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11920.

B. Description

- (1) There is a short in the speed sensor 1 circuit.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Do this check of the connector for speed sensor 1:
NOTE: There are 2 speed sensors on the APU. Speed sensor 1 is located at the 5 o'clock position.
 - (a) Disconnect the D49027P connector from the speed sensor 1, M49001M008.
 - (b) Examine the D49027P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) If you have a new or serviceable speed sensor, then do these steps:
 - (a) Connect the D49027P connector to the new speed sensor 1.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace speed sensor 1.
These are the tasks:
Speed Sensor Removal, AMM TASK 49-61-02-000-801,
Speed Sensor Installation, AMM TASK 49-61-02-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable speed sensor, then do this resistance check:
 - (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between these pairs of pins of the D49027P receptacle for speed sensor 1, M49001M008:
 - 1) Pin 1 and the sensor body, specified resistance >100K ohms.
 - 2) Pin 2 and the sensor body, specified resistance >100K ohms.
 - (c) If the resistance is <100K ohms for each pair of pins, do the steps that follow:
 - 1) Replace speed sensor 1, M49001M008.
These are the tasks:
Speed Sensor Removal, AMM TASK 49-61-02-000-801,
Speed Sensor Installation, AMM TASK 49-61-02-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the resistance is >100K ohms, then continue.
- (7) Do a resistance check of the APU wire harness:

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- (a) Make sure the D49027P connector is disconnected.
 - (b) Disconnect the electrical connector, D49002P from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of the connector D49002P at the APU firewall (WDM 49-71-11).
 - 1) Pin 34 and pin 35, specified resistance >100K ohms.
 - 2) Pin 34 and connector backshell, specified resistance >100K ohms.
 - 3) Pin 35 and connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms for each pair of pins, do the steps that follow:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-connect the D49027P connector to speed sensor 1.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is >100K ohms, then continue.
- (8) Do the resistance check of the airplane wire harness:
- (a) Make sure the D49002P connector is disconnected.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of the connector DM49002AB at the APU controller:
 - 1) Pin K5 and pin J5, specified resistance >100K ohms.
 - 2) Pin K5 and pin H5 (ground), specified resistance >100K ohms.
 - 3) Pin J5 and pin H5 (ground), specified resistance >100K ohms.
 - (d) If the resistance is <100K ohms for each pair of pins, do the steps that follow:
 - 1) Repair the airplane wire harness.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (e) If the resistance is >100K ohms, then continue.
- (9) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

————— END OF TASK —————

809. Speed Sensor 2 Short - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11960.

B. Description

- (1) There is a short in the speed sensor 2 circuit.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:

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- 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Do this check of the connector for speed sensor 2:
- NOTE:** There are 2 speed sensors on the APU. Speed sensor 2 is located at the 9 o'clock position.
- (a) Disconnect the D49028P connector from the speed sensor 2, M49001M009.
 - (b) Examine the D49028P connector for contamination:
 - 1) If the connector has contamination, clean the connector (SWPM 20-61-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (5) If you have a new or serviceable speed sensor, then do these steps:
 - (a) Connect the D49027P connector to the new speed sensor 2.
 - (b) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (c) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace speed sensor 2.
These are the tasks:
Speed Sensor Removal, AMM TASK 49-61-02-000-801,
Speed Sensor Installation, AMM TASK 49-61-02-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) If you do not have a new or serviceable speed sensor, then do this resistance check:
- (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Measure the resistance between these pairs of pins of the D49028P receptacle for speed sensor 2, M49001M009:
 - 1) Pin 1 and the sensor body, specified resistance >100K ohms.
 - 2) Pin 2 and the sensor body, specified resistance >100K ohms.
 - (c) If the resistance is <100K ohms for each pair of pins, do the steps that follow:
 - 1) Replace speed sensor 2, M49001M009.

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These are the tasks:

Speed Sensor Removal, AMM TASK 49-61-02-000-801,
Speed Sensor Installation, AMM TASK 49-61-02-400-801.

- 2) Do the Repair Confirmation procedure at the end of this task.
- 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 4) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) If the resistance is >100K ohms, then continue.
- (7) Do a resistance check of the APU wire harness:
 - (a) Make sure the D49028P connector is disconnected.
 - (b) Disconnect the electrical connector, D49002P from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of the connector D49002P at the APU firewall (WDM 49-71-11):
 - 1) Pin 37 and pin 38, specified resistance >100K ohms.
 - 2) Pin 37 and connector backshell, specified resistance >100K ohms.
 - 3) Pin 38 and connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms for each pair of pins, do the steps that follow:
 - 1) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-connect the D49028P connector to speed sensor 2.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is >100K ohms, then continue.
- (8) Do the resistance check of the airplane wire harness:
 - (a) Make sure the D49002P connector is disconnected.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of the connector DM49002AB at the APU controller:
 - 1) Pin K6 and pin J6, specified resistance >100K ohms.
 - 2) Pin K6 and pin H6 (ground), specified resistance >100K ohms.

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- 3) Pin J7 and pin H6 (ground), specified resistance >100K ohms.
- (d) If the resistance is <100K ohms for each pair of pins, do the steps that follow:
 - 1) Repair the airplane wire harness.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (e) If the resistance is >100K ohms, then continue.
- (9) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

————— END OF TASK —————

810. Speed Sensor 1 Output is Low - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11930.

B. Description

- (1) Speed sensor 1 output is low.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the electrical connector:
 - (a) Disconnect the electrical connector D49027P from speed sensor 1.

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- (b) Examine the electrical connector D49027P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (4) Replace speed sensor, M49001M008.

These are the tasks:

Speed Sensor Removal, AMM TASK 49-61-02-000-801,

Speed Sensor Installation, AMM TASK 49-61-02-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.
- (5) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) Do a resistance check of the APU wire harness:
 - (a) Make sure the D49027P connector is disconnected from speed sensor 1.
 - (b) Disconnect the electrical connector, D49002P from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of the connector D49002P at the APU firewall (WDM 49-71-11):
 - 1) Pin 34 and pin 35, specified resistance >100K ohms.
 - 2) Pin 34 and connector backshell, specified resistance >100K ohms.
 - 3) Pin 35 and connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms for each pair of pins, do the steps that follow:
 - 1) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,

APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-connect the D49027P connector to speed sensor 1.

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- 4) Do the Repair Confirmation procedure at the end of this task.
- 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (f) If the resistance is >100K ohms, then continue.
- (7) Do the resistance check of the airplane wire harness:
 - (a) Make sure the D49002P connector is disconnected.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of the connector DM49002AB at the APU controller:
 - 1) Pin K5 and pin J5, specified resistance >100K ohms.
 - 2) Pin K5 and pin H5 (ground), specified resistance >100K ohms.
 - 3) Pin J5 and pin H5 (ground), specified resistance >100K ohms.
 - (d) If the resistance is <100K ohms for each pair of pins, do the steps that follow:
 - 1) Repair the airplane wire harness.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

NOTE: The MAT will show ACTIVE for this fault if the fault is still there and the APU speed is >50%. If the APU speed is <50%, the MAT will show NOT ACTIVE.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

811. Speed Sensor 1 is Lower Than Speed Sensor 2 - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11940.

B. Description

- (1) Speed sensor 1 signal is lower than speed sensor 2 signal.

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C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Examine the electrical connector:
 - (a) Disconnect the electrical connector D49027P from speed sensor 1.
 - (b) Examine the electrical connector D49027P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) Replace speed sensor 1, M49001M008.
These are the tasks:
Speed Sensor Removal, AMM TASK 49-61-02-000-801,
Speed Sensor Installation, AMM TASK 49-61-02-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

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- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.
- (7) Do a resistance check of the APU wire harness:
 - (a) Make sure the D49027P connector is disconnected from speed sensor 1.
 - (b) Disconnect the electrical connector, D49002P from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of the connector D49002P at the APU firewall (WDM 49-71-11):
 - 1) Pin 34 and pin 35, specified resistance >100K ohms.
 - 2) Pin 34 and the connector backshell, specified resistance >100K ohms.
 - 3) Pin 35 and the connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms for each pair of pins, do the steps that follow:
 - 1) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-connect the D49027P connector to speed sensor 1.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is >100K ohms for each pair of pins, then continue.
- (8) Do the resistance check of the airplane wire harness:
 - (a) Make sure the D49002P connector is disconnected.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of the connector DM49002AA at the APU controller:
 - 1) Pin K5 and pin J5, specified resistance >100K ohms.
 - 2) Pin K5 and pin H5 (ground), specified resistance >100K ohms.
 - 3) Pin J5 and pin H5 (ground), specified resistance >100K ohms.
 - (d) If the resistance is not in the <100K ohms for each pair of pins, do the steps that follow:
 - 1) Repair the airplane wire harness.
 - 2) Re-connect the D49002P connector to the APU firewall.

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- 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- 4) Do the Repair Confirmation procedure at the end of this task.
- 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (e) If the resistance is within the specified range, then continue.
- (9) Replace speed sensor 2, M49001M009.
These are the tasks:
Speed Sensor Removal, AMM TASK 49-61-02-000-801,
Speed Sensor Installation, AMM TASK 49-61-02-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
NOTE: The MAT will show ACTIVE for this fault if the fault is still there and the APU speed is >50%. If the APU speed is <50%, the MAT will show NOT ACTIVE.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

812. Speed Sensor 2 Output is Low - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11970.

B. Description

- (1) Speed sensor 2 output is low.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.

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- 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Examine the electrical connector:
- (a) Disconnect the electrical connector D49028P from speed sensor 2.
 - (b) Examine the electrical connector D49027P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) Replace speed sensor 2, M49001M009.
These are the tasks:
Speed Sensor Removal, AMM TASK 49-61-02-000-801,
Speed Sensor Installation, AMM TASK 49-61-02-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.
- (7) Do a resistance check of the APU wire harness:
- (a) Make sure the D49028P connector is disconnected.
 - (b) Disconnect the electrical connector, D49002P from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of the connector D49002P at the APU firewall (WDM 49-71-11):

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- 1) Pin 37 and pin 38, specified resistance >100K ohms.
- 2) Pin 37 and connector backshell, specified resistance >100K ohms.
- 3) Pin 38 and connector backshell, specified resistance >100K ohms.
- (e) If the resistance is <100K ohms for each pair of pins, do the steps that follow:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-connect the D49028P connector to speed sensor 2.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (f) If the resistance is >100K ohms, then continue.
- (8) Do the resistance check of the airplane wire harness:
 - (a) Make sure the D49002P connector is disconnected.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of the connector DM49002AB at the APU controller:
 - 1) Pin K6 and pin J6, specified resistance >100K ohms.
 - 2) Pin K6 and pin H6 (ground), specified resistance >100K ohms.
 - 3) Pin J7 and pin H6 (ground), specified resistance >100K ohms.
 - (d) If the resistance is <100K ohms for each pair of pins, do the steps that follow:
 - 1) Repair the airplane wire harness.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

NOTE: The MAT will show ACTIVE for this fault if the fault is still there and the APU speed is >50%. If the APU speed is <50%, the MAT will show NOT ACTIVE.

- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

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813. Speed Sensor 2 is Lower Than Speed Sensor 1 - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11980.

B. Description

- (1) Speed sensor 2 signal is lower than speed sensor 1 signal.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) Examine the electrical connector:
 - (a) Disconnect the electrical connector D49028P from speed sensor 2.
 - (b) Examine the electrical connector D49027P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (5) Replace speed sensor 2, M49001M009.
These are the tasks:
Speed Sensor Removal, AMM TASK 49-61-02-000-801,
Speed Sensor Installation, AMM TASK 49-61-02-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 2) If the MAT shows ACTIVE for the maintenance message, then continue.
- (6) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.
- (7) Do a resistance check of the APU wire harness:
 - (a) Make sure the D49028P connector is disconnected.
 - (b) Disconnect the electrical connector, D49002P from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of the connector D49002P at the APU firewall (WDM 49-71-11):
 - 1) Pin 37 and pin 38, specified resistance >100K ohms.
 - 2) Pin 37 and connector backshell, specified resistance >100K ohms.
 - 3) Pin 38 and connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms for each pair of pins, do the steps that follow:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-connect the D49028P connector to speed sensor 2.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is >100K ohms, then continue.
- (8) Do the resistance check of the airplane wire harness:
 - (a) Make sure the D49002P connector is disconnected.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between these pairs of pins of the connector DM49002AB at the APU controller:
 - 1) Pin K6 and pin J6, specified resistance >100K ohms.

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- 2) Pin K6 and pin H6 (ground), specified resistance >100K ohms.
- 3) Pin J7 and pin H6 (ground), specified resistance >100K ohms.
- (d) If the resistance is <100K ohms for each pair of pins, do the steps that follow:
 - 1) Repair the airplane wire harness.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows ACTIVE for the maintenance message, then continue.
- (e) If the resistance is >100K ohms, then continue.
- (9) Replace speed sensor 1, M49001M008.

These are the tasks:

Speed Sensor Removal, AMM TASK 49-61-02-000-801,

Speed Sensor Installation, AMM TASK 49-61-02-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows ACTIVE for the maintenance message, then continue.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

NOTE: The MAT will show ACTIVE for this fault if the fault is still there and the APU speed is >50%. If the APU speed is <50%, the MAT will show NOT ACTIVE.

 - (a) Do this task: Erasing a EICAS Status Message Latched by AIMS, AMM TASK 31-61-00-800-802.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

815. High Inlet Temperature - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-13210.

B. Description

- (1) The APU inlet temperature is more than 177°C for 5 seconds while the APU is starting or on speed.

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C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Do the steps that follow to make sure there are no signs of an inlet fire:
 - (a) Open the access panel on the APU inlet plenum.
 - (b) Examine the inner side of the inlet plenum for fire damage.
 - (c) If there is no signs of fire damage, then continue.
- (4) Make sure the APU check valve is OK:
 - (a) Remove the APU check valve. To remove it, do this task: APU Check Valve Removal, AMM TASK 49-52-03-000-801.
 - (b) Make sure the APU check valve is not failed in the open position.
 - (c) Make sure the check valve moves freely.
 - (d) If the check valve has a problem, then replace it.

These are the tasks:

APU Check Valve Removal, AMM TASK 49-52-03-000-801,
APU Check Valve Installation, AMM TASK 49-52-03-400-801.

 - 1) Continue with the Fault Isolation Procedure.
 - (e) If the check valve is OK, then do these steps:
 - 1) Re-install the check valve. To install it, do this task: APU Check Valve Installation, AMM TASK 49-52-03-400-801.
 - 2) Continue with the Fault Isolation Procedure.
- (5) Look at the Extended Maintenance, Existing Faults display on the MAT.
 - (a) Look for maintenance messages related to these systems:
 - 1) Airplane pneumatic system (APU bleed air isolation valve) (ATA 36)
 - 2) APU inlet temperature sensor (ATA 49)
 - (b) If a maintenance message related to the systems above show, then do these steps:
 - 1) Find the message in the applicable FIM Maintenance Message Index.
 - 2) Do the specified task for the maintenance message.
 - (c) If no maintenance messages related to the systems above show, then continue.
- (6) Replace the inlet temperature sensor, M49001M007.

These are the tasks:

Inlet Temperature Sensor Removal, AMM TASK 49-61-03-000-801,
Inlet Temperature Sensor Installation, AMM TASK 49-61-03-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.

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- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (7) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (2) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— END OF TASK —————

816. APU Speed Droop - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-07950.

B. Description

- (1) The APU speed fell below the commanded speed for more than 10 seconds.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Look at the Extended Maintenance, Existing Faults display on the MAT.
 - (a) Look for maintenance messages related to these systems:
 - 1) APU generator (ATA 24)
 - 2) Airplane fuel delivery system to the APU (ATA 28)
 - 3) APU fuel system (ATA 49)
 - 4) APU controller (ATA 49).
 - (b) If a maintenance message related to the systems above show, then do these steps:
 - 1) Find the message in the applicable FIM Maintenance Message Index.

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- 2) Do the specified task for the maintenance message.
- (c) If no maintenance messages related to the systems above show, then continue.
- (4) Make sure there is at least 650 pounds of fuel in the left main fuel tank.
- (5) Do these steps to make sure the APU does not have internal damage:
 - (a) Do this task: Magnetic Chip Collector Inspection, AMM TASK 49-27-04-200-801.
 - (b) If the magnetic chip collectors indicate internal bearing damage, then do these steps:
 - 1) Replace the APU, M49001. These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (c) If the magnetic chip collectors are OK, then continue.
 - (d) Remove the end cap from the electric starter motor.
 - (e) Use a socket and ratchet on the shaft for the electric starter motor to turn the APU.
 - 1) Turn the socket counterclockwise, forward facing aft.
 - (f) If the APU does not turn freely, then do these steps:
 - 1) Replace the APU, M49001. These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (g) If the APU turns freely, then continue.
- (6) Do these steps to examine the inlet plenum for blockage:
 - (a) Remove the access panel on the side of the inlet plenum.
 - (b) Make sure the screen in the inlet plenum is free of blockage.
 - (c) If the screen in the inlet plenum has blockage, then do these steps:
 - 1) Remove the blockage.
 - 2) Re-install the access panel on the inlet plenum.

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- 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (d) Make sure there is no signs of foreign object damage (FOD).
- (e) If there is signs of foreign object damage (FOD), then do these steps.
- 1) Replace the APU, M49001. These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
NOTE: You can do the APU borescope procedure to verify that the APU has internal damage (AMM TASK 49-21-00-200-801).
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) If there is no signs of blockage or FOD, then continue.
- (7) Do these steps to check for proper fuel flow to the APU:
- (a) Disconnect the airplane fuel hose at the front of the APU where it connects to the fuel cluster, M49001M100.
 - (b) Put the end of the fuel hose into a 5-gallon (19-liter) fuel resistant container, STD-1054.



CAUTION

DO NOT LEAVE THE APU SELECTOR SWITCH IN THE ON POSITION FOR MORE THAN 15 SECONDS. NORMAL FUEL FLOW RATE IS HIGH AND WILL OVERFLOW THE CONTAINER IF THE APU SELECTOR IS LEFT IN THE ON POSITION TOO LONG.

- (c) Turn the APU selector switch to the ON position for no more than 15 seconds.
- NOTE:** At a normal flow rate, approximately 2 gallons of fuel will be in the container after 15 seconds.
- (d) Check the quantity of fuel in the container after 15 seconds.
- 1) If there is significantly less than 2 gallons of fuel in the container, examine the fuel line from the left forward boost pump to the APU for blockage.
 - a) Remove any blockage that you find.
 - b) Reconnect the fuel hose.
 - c) Do the Repair Confirmation procedure at the end of this task.
 - d) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- e) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- 2) If there is approximately 2 gallons of fuel in the container, then continue.
- (8) Replace the fuel cluster, M49001M100. These are the tasks:
 - Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
 - Fuel Cluster Installation, AMM TASK 49-31-31-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (9) Replace the inlet temperature sensor (T2), M49001M007. These are the tasks:
 - Inlet Temperature Sensor Removal, AMM TASK 49-61-03-000-801,
 - Inlet Temperature Sensor Installation, AMM TASK 49-61-03-400-801.
 - (a) Do the Repair Confirmation procedure at the end of the task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (10) Replace the APU controller, M49002. These are the tasks:
 - APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
 - APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (11) Replace the fuel nozzles. These are the tasks:
 - Fuel Nozzle Removal, AMM TASK 49-31-03-000-801,
 - Fuel Nozzle Installation, AMM TASK 49-31-03-400-801.
 - NOTE:** APUC software version 5 (Honeywell S/B 2118834-49-4080) provides a richer fuel mixture and more gradual speed changes during cooldown. This change will eliminate the requirement to replace the fuel nozzles.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (12) Replace the APU, M49001. These are the tasks:
 - Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or
 - Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,

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Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.

NOTE: You can do the APU borescope procedure to verify that the APU has internal damage (AMM TASK 49-21-00-200-801). The APU has degraded performance.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) Do this task: Supply APU Generator Power, AMM TASK 24-22-00-860-803.
- (3) Use the APU air to operate the left and right air conditioning packs. To operate the packs, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

———— END OF TASK ————

817. APU Overspeed Autosutdown - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11590.

B. Description

- (1) The APU had an autosutdown when the APU speed was more than 106%.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Look at the Extended Maintenance, Existing Faults display on the MAT.
 - (a) Look for maintenance messages related to these systems:
 - 1) APU fuel system
 - 2) APU controller
 - 3) APU speed sensors
 - (b) If a maintenance message related to the systems above show, then do these steps:
 - 1) Find the message in the applicable FIM Maintenance Message Index.
 - 2) Do the specified task for the maintenance message.
 - (c) If no maintenance messages related to the systems above show, then continue.
- (4) Replace the fuel cluster, M49001M100.

These are the tasks:

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Fuel Cluster Removal, AMM TASK 49-31-31-000-801,

Fuel Cluster Installation, AMM TASK 49-31-31-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (7) Replace speed sensor 1 and speed sensor 2.

These are the tasks:

Speed Sensor Removal, AMM TASK 49-61-02-000-801,
Speed Sensor Installation, AMM TASK 49-61-02-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (8) Replace the APU, M49001.

These are the tasks:

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Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801, Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.

NOTE: You can do the APU borescope procedure to verify that the APU has internal damage (AMM TASK 49-21-00-200-801). The APU has degraded performance.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - (a) Use the APU air to operate the left and right air conditioning packs. To operate the packs, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.
 - (b) Use the APU generator to operate the left and the right transfer bus. To supply electrical power, do this task: Supply Electrical Power, AMM TASK 24-22-00-860-805.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (2) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

818. APUC Has No Activity on Any Bus - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-18801.

B. Initial Evaluation

- (1) Make sure the BATTERY switch on the P5 Overhead Panel is ON.
- (2) Make sure the APU MAINT switch on the Overhead Maintenance Panel, P61, is in the NORM position.
- (3) Do this check for related maintenance messages:
 - (a) Set the APU MAINT switch on the Overhead Maintenance Panel to the TEST position. Then wait for 120 seconds.
 - (b) Look at the EXISTING FAULTS display on the MAT for these maintenance messages:
 - 1) 49-12060
 - 2) 49-12070
 - (c) If the MAT shows ACTIVE or LATCHED for one of the maintenance messages specified above, then do these steps:
 - 1) Find the maintenance message in the FIM 49 - MAINT MSG INDEX.
 - 2) Do the specified FIM TASK for the maintenance message that shows.
 - 3) If the specified FIM TASK does not correct the problem, then continue.
- (4) If the MAT shows ACTIVE for maintenance message 49-18801, then do the Fault Isolation Procedure.
- (5) If the MAT shows NOT ACTIVE for maintenance message 49-18801, then there was an intermittent problem.
- (6) Set the APU MAINT switch on the Overhead Maintenance Panel, P61, to NORM.

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C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Do this check of the APU Controller, M49002, connectors.
 - (a) Remove the APU Controller, M49002. This is the task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801
 - (b) Examine the APU Controller connectors (SWPM 20-60-01).
 - 1) If the connectors show signs of contamination/corrosion, clean them as necessary (SWPM 20-60-01).
 - a) Install the APU Controller, M49002. This is the task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801
 - b) Do the Repair Confirmation at the end of this task.
 - 2) If the connectors are damaged, replace the APU Controller, M49002. This is the task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801
 - a) Do the Repair Confirmation at the end of this task.
 - 3) If the APU Controller connectors are satisfactory, install the APU Controller, M49002. This is the task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801
 - a) Do the Repair Confirmation at the end of this task.
- (2) Replace the APU Controller, M49002. These are the tasks:
 - APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801
 - APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801
 - (a) Do the Repair Confirmation at the end of this task.

D. Repair Confirmation

- (1) Make sure that the APU MAINT switch on the Overhead Maintenance Panel, P61, is in the NORM position.
- (2) Set the APU MAINT switch on the Overhead Maintenance Panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the problem.
 - (b) If the MAT still shows ACTIVE for the maintenance message, then continue with the Fault Isolation Procedure at the subsequent step.

————— **END OF TASK** —————

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801. APUC to System 629 Bus-L Communication Problems - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance messages: 49-11520, 49-11540, 49-18840.

B. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (4) Replace the ARINC 629 coupler, B49101, in the P115 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-L.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (5) Do this check of the wiring from the APUC to the coupler:

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- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
- (b) Disconnect connector DB49101 from the coupler B49101.
- (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49101 at the P115 panel (WDM 49-61-11).

DB49101	DM49002AC
pin 1	pin 5TR
pin 2	pin 5T
pin 4	pin 2TR
pin 5	pin 2T

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49101.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) Set the APU maintenance switch to NORM.

————— **END OF TASK** —————

802. APUC to System 629 Bus-R Communication Problems - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance messages: 49-11530, 49-11550, 49-18860.

B. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

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These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (of if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (4) Replace the ARINC 629 coupler, B49201, in the P215 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-R.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (5) Do this check of the wiring from the APUC to the coupler:
- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49201 from the coupler B49201.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49201 at the P215 panel (WDM 49-61-11).

DB49201

DM49002AC

pin 1	.....	pin 4TR
pin 2	.....	pin 4T
pin 4	.....	pin 1TR
pin 5	.....	pin 1T

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49201.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) Set the APU maintenance switch to NORM.

————— **END OF TASK** —————

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803. APUC No Input from EDIU (R Eng, Ch A) on System 629 Bus-R - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61 is in the NORM position.
- (2) Set the right EEC maintenance switch on the overhead maintenance panel, P61, to TEST.
- (3) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (4) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (5) Set the APU maintenance switch to NORM.
- (6) Set the applicable EEC maintenance switch to NORM.

B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Set the right EEC maintenance switch on the P61 panel to TEST.
 - (b) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message (of if the message does not show), you corrected the fault.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) Set the APU maintenance switch to NORM.
 - (f) Set the right EEC maintenance switch to NORM.
- (4) Replace the right engine data interface unit (EDIU - right), M73203.

These are the tasks:

Engine Data Interface Unit (EDIU) Removal, AMM TASK 73-21-22-000-804-H00,
Engine Data Interface Unit (EDIU) Installation, AMM TASK 73-21-22-400-808-H00.

 - (a) Set the right EEC maintenance switch on the P61 panel to TEST.
 - (b) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message (of if the message does not show), you corrected the fault.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.

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- (e) Set the APU maintenance switch to NORM.
- (f) Set the right EEC maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49201, in the P215 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-R.

- (a) Set the right EEC maintenance switch on the P61 panel to TEST.
- (b) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (e) Set the APU maintenance switch to NORM.
- (f) Set the right EEC maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B73201, in the P211 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the EDIU (R Eng, ch A) to the System 629 Bus-R.

- (a) Set the right EEC maintenance switch on the P61 panel to TEST.
- (b) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (e) Set the APU maintenance switch to NORM.
- (f) Set the right EEC maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
 - (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49201 from the coupler B49201.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49201 at the P215 panel (WDM 49-61-11).

DB49201

pin 1	.....	pin 4TR
pin 2	.....	pin 4T
pin 4	.....	pin 1TR
pin 5	.....	pin 1T

DM49002AC

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49201.

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- 3) Re-install the APU controller controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (e) Set the right EEC maintenance switch on the P61 panel to TEST.
- (f) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (g) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (h) If the MAT shows ACTIVE for the maintenance message, then continue.
- (i) Set the APU maintenance switch to NORM.
- (j) Set the right EEC maintenance switch to NORM.
- (8) Do this check of the wiring from the right EDIU to the coupler:
 - (a) Remove the right EDIU, M49002. To remove it, do this task: Engine Data Interface Unit (EDIU) Removal, AMM TASK 73-21-22-000-804-H00.
 - (b) Disconnect connector DB73201 from the coupler B73201.
 - (c) Do a wiring check between these pins of connector DM73203AF at the E4-1 shelf and connector DB73201 at the P313 panel (WDM 73-21-23).

DB73201

pin 1	.....	pin 6TR
pin 2	.....	pin 6T
pin 4	.....	pin 4TR
pin 5	.....	pin 4T

DM73203AF

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB73201.
 - 3) Re-install the right EDIU, M73203. To install it, do this task: Engine Data Interface Unit (EDIU) Installation, AMM TASK 73-21-22-400-808-H00.
- (e) Set the right EEC maintenance switch on the P61 panel to TEST.
- (f) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (g) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (h) If the MAT shows ACTIVE for the maintenance message, then continue.
- (i) Set the APU maintenance switch to NORM.
- (j) Set the right EEC maintenance switch to NORM.

————— **END OF TASK** —————

804. APUC No Input from EDIU (R Eng, Ch B) on System 629 Bus-R - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61 is in the NORM position.
- (2) Set the right EEC maintenance switch on the overhead maintenance panel, P61, to TEST.
- (3) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (4) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (5) Set the APU maintenance switch to NORM.
- (6) Set the right EEC maintenance switch to NORM.

B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Set the right EEC maintenance switch on the P61 panel to TEST.
 - (b) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message (of if the message does not show), you corrected the fault.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) Set the APU maintenance switch to NORM.
 - (f) Set the right EEC maintenance switch to NORM.
- (4) Replace the right engine data interface unit (EDIU - right), M73203.

These are the tasks:

Engine Data Interface Unit (EDIU) Removal, AMM TASK 73-21-22-000-804-H00,
Engine Data Interface Unit (EDIU) Installation, AMM TASK 73-21-22-400-808-H00.

 - (a) Set the right EEC maintenance switch on the P61 panel to TEST.
 - (b) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message (of if the message does not show), you corrected the fault.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) Set the APU maintenance switch to NORM.
 - (f) Set the right EEC maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49201, in the P211 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,



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ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-R.

- (a) Set the right EEC maintenance switch on the P61 panel to TEST.
 - (b) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) Set the APU maintenance switch to NORM.
 - (f) Set the right EEC maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B73203, in the P211 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the EDIU (R Eng, ch B) to the System 629 Bus-R.

- (a) Set the right EEC maintenance switch on the P61 panel to TEST.
 - (b) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) Set the APU maintenance switch to NORM.
 - (f) Set the right EEC maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49201 from the coupler B49201.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49201 at the P215 panel (WDM 49-61-11).

DB49201

DM49002AC

pin 1	.....	pin 4TR
pin 2	.....	pin 4T
pin 4	.....	pin 1TR
pin 5	.....	pin 1T

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49201.
 - 3) Re-install the APU controller controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (e) Set the right EEC maintenance switch on the P61 panel to TEST.
- (f) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (g) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.

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- (h) If the MAT shows ACTIVE for the maintenance message, then continue.
- (i) Set the APU maintenance switch to NORM.
- (j) Set the right EEC maintenance switch to NORM.
- (8) Do this check of the wiring from the right EDIU to the coupler:
 - (a) Remove the right EDIU, M73203. To remove it, do this task: Engine Data Interface Unit (EDIU) Removal, AMM TASK 73-21-22-000-804-H00.
 - (b) Disconnect connector DB73203 from the coupler B73203.
 - (c) Do a wiring check between these pins of connector DM73203AC at the E4-1 shelf and connector DB73203 at the P211 panel (WDM 73-21-23).

DB73203		DM73203AC	
pin 1	.....	pin 5TR	
pin 2	.....	pin 5T	
pin 4	.....	pin 4TR	
pin 5	.....	pin 4T	

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB73203.
 - 3) Re-install the right EDIU, M73203. To install it, do this task: Engine Data Interface Unit (EDIU) Installation, AMM TASK 73-21-22-400-808-H00.
- (e) Set the right EEC maintenance switch on the P61 panel to TEST.
- (f) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (g) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (h) If the MAT shows ACTIVE for the maintenance message, then continue.
- (i) Set the APU maintenance switch to NORM.
- (j) Set the right EEC maintenance switch to NORM.

———— **END OF TASK** ————

805. APUC No Input from EDIU (L Eng, Ch A) on System 629 Bus-L - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the left EEC maintenance switch on the overhead maintenance panel, P61, to TEST.
- (3) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (4) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (5) Set the APU maintenance switch to NORM.
- (6) Set the left EEC maintenance switch to NORM.

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B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Set the left EEC maintenance switch on the P61 panel to TEST.
 - (b) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message (of if the message does not show), you corrected the fault.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) Set the APU maintenance switch to NORM.
 - (f) Set the left EEC maintenance switch to NORM.
- (4) Replace the left engine data interface unit (EDIU - left), M73103.

These are the tasks:

Engine Data Interface Unit (EDIU) Removal, AMM TASK 73-21-22-000-804-H00,

Engine Data Interface Unit (EDIU) Installation, AMM TASK 73-21-22-400-808-H00.

- (a) Set the left EEC maintenance switch on the P61 panel to TEST.
 - (b) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message (of if the message does not show), you corrected the fault.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) Set the APU maintenance switch to NORM.
 - (f) Set the left EEC maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49101, in the P115 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-L.

- (a) Set the left EEC maintenance switch on the P61 panel to TEST.
- (b) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.

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- (e) Set the APU maintenance switch to NORM.
- (f) Set the left EEC maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B73101, in the P111 panel.
These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
NOTE: This coupler connects the EDIU (L Eng, ch A) to the System 629 Bus-L.
 - (a) Set the left EEC maintenance switch on the P61 panel to TEST.
 - (b) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) Set the APU maintenance switch to NORM.
 - (f) Set the left EEC maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
 - (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49101 from the coupler B49101.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49101 at the P115 panel (WDM 49-61-11).

DB49101

DM49002AC

pin 1	.....	pin 5TR
pin 2	.....	pin 5T
pin 4	.....	pin 2TR
pin 5	.....	pin 2T

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49101.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (e) Set the left EEC maintenance switch on the P61 panel to TEST.
- (f) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (g) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (h) If the MAT shows ACTIVE for the maintenance message, then continue.
- (i) Set the APU maintenance switch to NORM.
- (j) Set the left EEC maintenance switch to NORM.
- (8) Do this check of the wiring from the left EDIU to the coupler:
 - (a) Remove the left EDIU, M73103. To remove it, do this task: Engine Data Interface Unit (EDIU) Removal, AMM TASK 73-21-22-000-804-H00.
 - (b) Disconnect connector DB73101 from the coupler B73101.

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- (c) Do a wiring check between these pins of connector DM73103AF at the E1-5 shelf and connector DB73101 at the P111 panel (WDM 73-21-13).

DB73101

pin 1
pin 2
pin 4
pin 5

DM73103AF

pin 6TR
pin 6T
pin 4TR
pin 4T

- (d) If you find a problem with the wiring, then do these steps:
- 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB73101.
 - 3) Re-install the left EDIU, M73103. To install it, do this task: Engine Data Interface Unit (EDIU) Installation, AMM TASK 73-21-22-400-808-H00.
- (e) Set the left EEC maintenance switch on the P61 panel to TEST.
- (f) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (g) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (h) If the MAT shows ACTIVE for the maintenance message, then continue.
- (i) Set the APU maintenance switch to NORM.
- (j) Set the left EEC maintenance switch to NORM.

————— **END OF TASK** —————

806. APUC No Input from EDIU (L Eng, Ch B) on System 629 Bus-L - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the left EEC maintenance switch on the overhead maintenance panel, P61, to TEST.
- (3) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (4) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (5) Set the APU maintenance switch to NORM.
- (6) Set the left EEC maintenance switch to NORM.

B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

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These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Set the left EEC maintenance switch on the P61 panel to TEST.
 - (b) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message (of if the message does not show), you corrected the fault.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) Set the APU maintenance switch to NORM.
 - (f) Set the left EEC maintenance switch to NORM.
- (4) Replace the left engine data interface unit (EDIU - left), M73103.

These are the tasks:

Engine Data Interface Unit (EDIU) Removal, AMM TASK 73-21-22-000-804-H00,

Engine Data Interface Unit (EDIU) Installation, AMM TASK 73-21-22-400-808-H00.

- (a) Set the left EEC maintenance switch on the P61 panel to TEST.
 - (b) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message (of if the message does not show), you corrected the fault.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) Set the APU maintenance switch to NORM.
 - (f) Set the left EEC maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49101, in the P115 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-L.

- (a) Set the left EEC maintenance switch on the P61 panel to TEST.
 - (b) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (d) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) Set the APU maintenance switch to NORM.
 - (f) Set the left EEC maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B73103, in the P111 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the EDIU (L Eng, ch B) to the System 629 Bus-L.

- (a) Set the left EEC maintenance switch on the P61 panel to TEST.
- (b) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (c) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (d) If the MAT shows ACTIVE for the maintenance message, then continue.
- (e) Set the APU maintenance switch to NORM.
- (f) Set the left EEC maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
 - (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49101 from the coupler B49101.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49101 at the P115 panel (WDM 49-61-11).

DB49101

DM49002AC

pin 1	.....	pin 5TR
pin 2	.....	pin 5T
pin 4	.....	pin 2TR
pin 5	.....	pin 2T

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49101.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (e) Set the left EEC maintenance switch on the P61 panel to TEST.
- (f) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (g) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (h) If the MAT shows ACTIVE for the maintenance message, then continue.
- (i) Set the APU maintenance switch to NORM.
- (j) Set the left EEC maintenance switch to NORM.
- (8) Do this check of the wiring from the left EDIU to the coupler:
 - (a) Remove the left EDIU, M73103. To remove it, do this task: Engine Data Interface Unit (EDIU) Removal, AMM TASK 73-21-22-000-804-H00.
 - (b) Disconnect connector DB73103 from the coupler B73103.
 - (c) Do a wiring check between these pins of connector DM73103AC at the E1-5 shelf and connector DB73103 at the P111 panel (WDM 73-21-13).

DB73103

DM73103AC

pin 1	.....	pin 5TR
pin 2	.....	pin 5T
pin 4	.....	pin 4TR
pin 5	.....	pin 4T

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).

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- 2) Re-connect connector DB73103.
- 3) Re-install the left EDIU, M73203. To install it, do this task: Engine Data Interface Unit (EDIU) Installation, AMM TASK 73-21-22-400-808-H00.
- (e) Set the left EEC maintenance switch on the P61 panel to TEST.
- (f) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (g) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (h) If the MAT shows ACTIVE for the maintenance message, then continue.
- (i) Set the APU maintenance switch to NORM.
- (j) Set the left EEC maintenance switch to NORM.

END OF TASK

807. APUC No Input from CTC (Left) on System 629 Bus-L - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) Set the APU maintenance switch to NORM.
- (4) Replace the left cabin temperature controller (CTC), M21631.

These are the tasks:

Cabin Temperature Controller (CTC) Removal, AMM TASK 21-61-01-000-801,

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Cabin Temperature Controller (CTC) Installation, AMM TASK 21-61-01-400-801.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49101, in the P115 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-L.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B21631, in the P111 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the left cabin temperature controller to the System 629 Bus-L.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49101 from the coupler B49101.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49101 at the P115 panel (WDM 49-61-11).

DB49101

pin 1	.....	pin 5TR
pin 2	.....	pin 5T
pin 4	.....	pin 2TR
pin 5	.....	pin 2T

DM49002AC

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49101.

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- 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from the left cabin temperature controller to the coupler:
 - (a) Remove the left cabin temperature controller, M21631. To remove it, do this task: Cabin Temperature Controller (CTC) Removal, AMM TASK 21-61-01-000-801.
 - (b) Disconnect connector DB21631 from the coupler B21631.
 - (c) Do a wiring check between these pins of connector DM21631AD at the E1-2 shelf and connector DB21631 at the P111 panel (WDM 21-61-11).

DB21631

pin 1	.....	pin 2TR
pin 2	.....	pin 2T
pin 4	.....	pin 1TR
pin 5	.....	pin 1T

DM21631AD

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB21631.
 - 3) Re-install the left cabin temperature controller, M21631. To install it, do this task: Cabin Temperature Controller (CTC) Installation, AMM TASK 21-61-01-400-801.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) Set the APU maintenance switch to NORM.

————— **END OF TASK** —————

808. APUC No Input from CTC (Left) on System 629 Bus-R - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

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B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (4) Replace the left cabin temperature controller (CTC), M21631.

These are the tasks:

Cabin Temperature Controller (CTC) Removal, AMM TASK 21-61-01-000-801,

Cabin Temperature Controller (CTC) Installation, AMM TASK 21-61-01-400-801.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49201, in the P215 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-R.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B21632, in the P211 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

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ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the left cabin temperature controller to the System 629 Bus-R.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49201 from the coupler B49201.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49201 at the P215 panel (WDM 49-61-11).

DB49201

pin 1	.....	pin 4TR
pin 2	.....	pin 4T
pin 4	.....	pin 1TR
pin 5	.....	pin 1T

DM49002AC

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49201.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (g) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from the left cabin temperature controller to the coupler:
- (a) Remove the left cabin temperature controller, M21631. To remove it, do this task: Cabin Temperature Controller (CTC) Removal, AMM TASK 21-61-01-000-801.
 - (b) Disconnect connector DB21632 from the coupler B21632.
 - (c) Do a wiring check between these pins of connector DM21631AA at the E1-2 shelf and connector DB21632 at the P211 panel (WDM 21-61-11).

DB21632

pin 1	.....	pin 1TR
pin 2	.....	pin 1T
pin 4	.....	pin 2TR
pin 5	.....	pin 2T

DM21631AA

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).

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- 2) Re-connect connector DB21632.
- 3) Re-install the left cabin temperature controller, M21631. To install it, do this task:
Cabin Temperature Controller (CTC) Installation, AMM TASK 21-61-01-400-801.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) Set the APU maintenance switch to NORM.

————— END OF TASK —————

809. APUC No Input from CTC (Right) on System 629 Bus-L - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (4) Replace the right cabin temperature controller (CTC), M21632.

These are the tasks:
Cabin Temperature Controller (CTC) Removal, AMM TASK 21-61-01-000-801,
Cabin Temperature Controller (CTC) Installation, AMM TASK 21-61-01-400-801.

 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49101, in the P115 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-L.

 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B21633, in the P111 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the right cabin temperature controller to the System 629 Bus-L.

 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
 - (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49101 from the coupler B49101.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49101 at the P115 panel (WDM 49-61-11).

DB49101	DM49002AC
pin 1	pin 5TR
pin 2	pin 5T
pin 4	pin 2TR
pin 5	pin 2T

 - (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49101.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (g) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from the right cabin temperature controller to the coupler:
- (a) Remove the right cabin temperature controller, M21632. To remove it, do this task: Cabin Temperature Controller (CTC) Removal, AMM TASK 21-61-01-000-801.
 - (b) Disconnect connector DB21633 from the coupler B21633.
 - (c) Do a wiring check between these pins of connector DM21632AA at the E2-2 shelf and connector DB21633 at the P111 panel (WDM 21-61-12).

DB21633

pin 1	.....	pin 1TR
pin 2	.....	pin 1T
pin 4	.....	pin 2TR
pin 5	.....	pin 2T

DM21632AA

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB21633.
 - 3) Re-install the right cabin temperature controller, M21632. To install it, do this task: Cabin Temperature Controller (CTC) Installation, AMM TASK 21-61-01-400-801.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) Set the APU maintenance switch to NORM.

— END OF TASK —

810. APUC No Input from CTC (Right) on System 629 Bus-R - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

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B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (4) Replace the right cabin temperature controller (CTC), M21632.
These are the tasks:
Cabin Temperature Controller (CTC) Removal, AMM TASK 21-61-01-000-801,
Cabin Temperature Controller (CTC) Installation, AMM TASK 21-61-01-400-801.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49201, in the P215 panel.
These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-R.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B21634, in the P211 panel.
These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

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ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the right cabin temperature controller to the System 629 Bus-R.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49201 from the coupler B49201.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49201 at the P215 panel (WDM 49-61-11).

DB49201		DM49002AC	
pin 1	.....	pin 4TR	
pin 2	.....	pin 4T	
pin 4	.....	pin 1TR	
pin 5	.....	pin 1T	

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49201.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (g) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from the right cabin temperature controller to the coupler:
- (a) Remove the right cabin temperature controller, M21632. To remove it, do this task: Cabin Temperature Controller (CTC) Removal, AMM TASK 21-61-01-000-801.
 - (b) Disconnect connector DB21634 from the coupler B21634.
 - (c) Do a wiring check between these pins of connector DM21632AD at the E2-2 shelf and connector DB21634 at the P211 panel (WDM 21-61-12).

DB21634		DM21632AD	
pin 1	.....	pin 2TR	
pin 2	.....	pin 2T	
pin 4	.....	pin 1TR	
pin 5	.....	pin 1T	

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).

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- 2) Re-connect connector DB21634.
- 3) Re-install the right cabin temperature controller, M21632. To install it, do this task:
Cabin Temperature Controller (CTC) Installation, AMM TASK 21-61-01-400-801.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) Set the APU maintenance switch to NORM.

————— END OF TASK —————

811. APUC No Input from ASCPC (Left) on System 629 Bus-L - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (4) Replace the left air supply and cabin pressure controller (ASCPC), M36111.

These are the tasks:
ASCPC Removal, AMM TASK 36-11-20-000-801,
ASCPC Installation, AMM TASK 36-11-20-400-801.

 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49101, in the P115 panel.
These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-L.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B36233, in the P111 panel.
These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
NOTE: This coupler connects the left ASCPC, to the System 629 Bus-L.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
 - (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49101 from the coupler B49101.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49101 at the P115 panel (WDM 49-61-11).

DB49101	DM49002AC
pin 1	pin 5TR
pin 2	pin 5T
pin 4	pin 2TR
pin 5	pin 2T
- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49101.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from the left ASCPC to the coupler:
 - (a) Remove the left ASCPC, M36111. To remove it, do this task: ASCPC Removal, AMM TASK 36-11-20-000-801.
 - (b) Disconnect connector DB36233 from the coupler B36233.
 - (c) Do a wiring check between these pins of connector DM36111AA at the E1-2 shelf and connector DB36233 at the P111 panel (WDM 36-21-11).

DB36233

pin 1	.....	pin 1TR
pin 2	.....	pin 1T
pin 4	.....	pin 2TR
pin 5	.....	pin 2T

DM36111AA

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB36233.
 - 3) Re-install the left ASCPC, M36111. To install it, do this task: ASCPC Installation, AMM TASK 36-11-20-400-801.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) Set the APU maintenance switch to NORM.

— END OF TASK —

812. APUC No Input from ASCPC (Left) on System 629 Bus-R - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

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B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (4) Replace the left air supply and cabin pressure controller (ASCPC), M36111.

These are the tasks:

ASCPC Removal, AMM TASK 36-11-20-000-801,

ASCPC Installation, AMM TASK 36-11-20-400-801.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49201, in the P215 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-R.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B36234, in the P211 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

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ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the left ASCPC, to the System 629 Bus-R.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49201 from the coupler B49201.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49201 at the P215 panel (WDM 49-61-11).

DB49201

pin 1	.....	pin 4TR
pin 2	.....	pin 4T
pin 4	.....	pin 1TR
pin 5	.....	pin 1T

DM49002AC

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49201.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (g) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from the left ASCPC to the coupler:
- (a) Remove the left ASCPC, M36111. To remove it, do this task: ASCPC Removal, AMM TASK 36-11-20-000-801.
 - (b) Disconnect connector DB36234 from the coupler B36234.
 - (c) Do a wiring check between these pins of connector DM36111AB at the E1-2 shelf and connector DB36234 at the P211 panel (WDM 36-21-11).

DB36234

pin 1	.....	pin 1TR
pin 2	.....	pin 1T
pin 4	.....	pin 2TR
pin 5	.....	pin 2T

DM36111AB

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).

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- 2) Re-connect connector DB36234.
- 3) Re-install the left ASCPC, M36111. To install it, do this task: ASCPC Installation, AMM TASK 36-11-20-400-801.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) Set the APU maintenance switch to NORM.

————— **END OF TASK** —————

813. APUC No Input from Right ASCPC on System 629 Bus-L - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (4) Replace the right air supply and cabin pressure controller (ASCPC), M36112.

These are the tasks:

ASCPC Removal, AMM TASK 36-11-20-000-801,
ASCPC Installation, AMM TASK 36-11-20-400-801.

 - (a) Set the APU maintenance switch on the P61 panel to TEST.

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- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49101, in the P115 panel.
- These are the tasks:
- ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
- NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-L.
- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B36232, in the P111 panel.
- These are the tasks:
- ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
- NOTE: This coupler connects the right ASCPC, to the System 629 Bus-L.
- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49101 from the coupler B49101.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49101 at the P115 panel (WDM 49-61-11).
- | DB49101 | DM49002AC |
|----------------|------------------|
| pin 1 | pin 5TR |
| pin 2 | pin 5T |
| pin 4 | pin 2TR |
| pin 5 | pin 2T |
- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49101.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from the right ASCPC to the coupler:
 - (a) Remove the right ASCPC, M36112. To remove it, do this task: ASCPC Removal, AMM TASK 36-11-20-000-801.
 - (b) Disconnect connector DB36232 from the coupler B36232.
 - (c) Do a wiring check between these pins of connector DM36111AA at the E1-2 shelf and connector DB36232 at the P111 panel (WDM 36-21-12).

DB36232

pin 1	.....	pin 1TR
pin 2	.....	pin 1T
pin 4	.....	pin 2TR
pin 5	.....	pin 2T

DM36112AA

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB36232.
 - 3) Re-install the right ASCPC, M36112. To install it, do this task: ASCPC Installation, AMM TASK 36-11-20-400-801.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) Set the APU maintenance switch to NORM.

— END OF TASK —

814. APUC No Input from Right ASCPC on System 629 Bus-R - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

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B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (4) Replace the right air supply and cabin pressure controller (ASCPC), M36111.
These are the tasks:
ASCPC Removal, AMM TASK 36-11-20-000-801,
ASCPC Installation, AMM TASK 36-11-20-400-801.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49201, in the P215 panel.
These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-R.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B36231, in the P211 panel.
These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

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ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the Right ASCPC, to the System 629 Bus-R.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49201 from the coupler B49201.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49201 at the P215 panel (WDM 49-61-11).

DB49201

pin 1	.....	pin 4TR
pin 2	.....	pin 4T
pin 4	.....	pin 1TR
pin 5	.....	pin 1T

DM49002AC

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49201.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (g) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from the right ASCPC to the coupler:
- (a) Remove the right ASCPC, M36112. To remove it, do this task: ASCPC Removal, AMM TASK 36-11-20-000-801.
 - (b) Disconnect connector DB36231 from the coupler B36231.
 - (c) Do a wiring check between these pins of connector DM36111AB at the E1-2 shelf and connector DB36231 at the P211 panel (WDM 36-21-12).

DB36231

pin 1	.....	pin 1TR
pin 2	.....	pin 1T
pin 4	.....	pin 2TR
pin 5	.....	pin 2T

DM36112AB

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).

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- 2) Re-connect connector DB36231.
- 3) Re-install the right ASCPC, M36112. To install it, do this task: ASCPC Installation, AMM TASK 36-11-20-400-801.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) Set the APU maintenance switch to NORM.

————— END OF TASK —————

815. APUC No Input from AGCU on System 629 Bus-L - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (4) Replace the APU generator control unit (AGCU), M24305.

These are the tasks:

Generator Control Unit Removal, AMM TASK 24-22-02-000-801,
Generator Control Unit Installation, AMM TASK 24-22-02-400-801.

 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49101, in the P115 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-L.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (c) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B24105, in the P111 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the AGCU, to the System 629 Bus-L.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (c) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
 - (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49101 from the coupler B49101.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49101 at the P115 panel (WDM 49-61-11).

DB49101

DM49002AC

pin 1	.....	pin 5TR
pin 2	.....	pin 5T
pin 4	.....	pin 2TR
pin 5	.....	pin 2T

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49101.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from the AGCU to the coupler:
 - (a) Remove the AGCU, M24305. To remove it, do this task: Generator Control Unit Removal, AMM TASK 24-22-02-000-801.
 - (b) Disconnect connector DB24105 from the coupler B24105.
 - (c) Do a wiring check between these pins of connector DM24305AC at the E2-3 shelf and connector DB24105 at the P111 panel (WDM 24-28-31).

DB24105

pin 1	.....	pin 3TR
pin 2	.....	pin 3T
pin 4	.....	pin 6TR
pin 5	.....	pin 6T

DM24305AC

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB24105.
 - 3) Re-install the AGCU, M24305. To install it, do this task: Generator Control Unit Installation, AMM TASK 24-22-02-400-801.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) Set the APU maintenance switch to NORM.

————— **END OF TASK** —————

816. APUC No Input from AGCU on System 629 Bus-R - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

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B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (4) Replace the APU generator control unit (AGCU), M24305.
These are the tasks:
Generator Control Unit Removal, AMM TASK 24-22-02-000-801,
Generator Control Unit Installation, AMM TASK 24-22-02-400-801.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49201, in the P215 panel.
These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-R.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B24205, in the P211 panel.
These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

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ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the AGCU to the System 629 Bus-R.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49201 from the coupler B49201.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49201 at the P215 panel (WDM 49-61-11).

DB49201

DM49002AC

pin 1	.....	pin 4TR
pin 2	.....	pin 4T
pin 4	.....	pin 1TR
pin 5	.....	pin 1T

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49201.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (g) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from the AGCU to the coupler:
- (a) Remove the AGCU, M24305. To remove it, do this task: Generator Control Unit Removal, AMM TASK 24-22-02-000-801.
 - (b) Disconnect connector DB24205 from the coupler B24205.
 - (c) Do a wiring check between these pins of connector DM24305AC at the E2-3 shelf and connector DB24205 at the P211 panel (WDM 24-28-31).

DB24205

DM24305AC

pin 1	.....	pin 2TR
pin 2	.....	pin 2T
pin 4	.....	pin 5TR
pin 5	.....	pin 5T

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).

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- 2) Re-connect connector DB24205.
- 3) Re-install the AGCU, M24305. To install it, do this task: Generator Control Unit Installation, AMM TASK 24-22-02-400-801.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) Set the APU maintenance switch to NORM.

END OF TASK

817. APUC No Input from BPCU on System 629 Bus-L - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) Set the APU maintenance switch to NORM.
- (4) Replace the APU bus power control unit (BPCU), M24002.

These are the tasks:

BPCU Removal, AMM TASK 24-41-05-000-801,

BPCU Installation, AMM TASK 24-41-05-400-801.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49101, in the P115 panel.
- These are the tasks:
- ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
- NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-L.
- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B24106, in the P111 panel.
- These are the tasks:
- ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
- NOTE: This coupler connects the BPCU to the System 629 Bus-L.
- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49101 from the coupler B49101.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49101 at the P115 panel (WDM 49-61-11).
- | DB49101 | DM49002AC |
|----------------|------------------|
| pin 1 | pin 5TR |
| pin 2 | pin 5T |
| pin 4 | pin 2TR |
| pin 5 | pin 2T |
- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49101.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from the right BPCU to the coupler:
 - (a) Remove the BPCU, M24002. To remove it, do this task: BPCU Removal, AMM TASK 24-41-05-000-801.
 - (b) Disconnect connector DB24106 from the coupler B24106.
 - (c) Do a wiring check between these pins of connector DM24002AC at the E1-1 shelf and connector DB24106 at the P111 panel (WDM 24-28-41).

DB24106

pin 1	.....	pin 3TR
pin 2	.....	pin 3T
pin 4	.....	pin 6TR
pin 5	.....	pin 6T

DM24002AC

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB24106.
 - 3) Re-install the BPCU, M24002. To install it, do this task: BPCU Installation, AMM TASK 24-41-05-400-801.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) Set the APU maintenance switch to NORM.

————— **END OF TASK** —————

818. APUC No Input from BPCU on System 629 Bus-R - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

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B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (4) Replace the APU bus power control unit (BPCU), M24002.
These are the tasks:
BPCU Removal, AMM TASK 24-41-05-000-801,
BPCU Installation, AMM TASK 24-41-05-400-801.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49201, in the P215 panel.
These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-R.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B24206, in the P211 panel.
These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

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ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the BPCU to the System 629 Bus-R.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49201 from the coupler B49201.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49201 at the P215 panel (WDM 49-61-11).

DB49201		DM49002AC	
pin 1	.....	pin 4TR	
pin 2	.....	pin 4T	
pin 4	.....	pin 1TR	
pin 5	.....	pin 1T	

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49201.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (g) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from the BPCU to the coupler:
- (a) Remove the BPCU, M24002. To remove it, do this task: BPCU Removal, AMM TASK 24-41-05-000-801.
 - (b) Disconnect connector DB24206 from the coupler B24206.
 - (c) Do a wiring check between these pins of connector DM24002AC at the E1-1 shelf and connector DB24206 at the P211 panel (WDM 24-28-41).

DB24206		DM24002AC	
pin 1	.....	pin 2TR	
pin 2	.....	pin 2T	
pin 4	.....	pin 5TR	
pin 5	.....	pin 5T	

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).

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- 2) Re-connect connector DB24206.
- 3) Re-install the BPCU, M24002. To install it, do this task: BPCU Installation, AMM TASK 24-41-05-400-801.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) Set the APU maintenance switch to NORM.

————— END OF TASK —————

819. APUC No Input from Left OPAS on System 629 Bus-L - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) Set the APU maintenance switch to NORM.
- (4) Replace the left overhead panel bus controller (OPBC), M23112.

These are the tasks:

Left Overhead Panel Bus Controller (OPBC) Removal, AMM TASK 23-93-01-000-801,

Right Overhead Panel Bus Controller (OPBC) Installation, AMM TASK 23-93-01-400-802.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49101, in the P115 panel.
- These are the tasks:
- ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
- NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-L.
- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B23126, in the P111 panel.
- These are the tasks:
- ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
- NOTE: This coupler connects the OPBC to the System 629 Bus-L.
- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49101 from the coupler B49101.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49101 at the P115 panel (WDM 49-61-11).
- | DB49101 | DM49002AC |
|----------------|------------------|
| pin 1 | pin 5TR |
| pin 2 | pin 5T |
| pin 4 | pin 2TR |
| pin 5 | pin 2T |
- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49101.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from the left OPBC to the coupler:
 - (a) Remove the left OPBC, M23112. To remove it, do this task: Left Overhead Panel Bus Controller (OPBC) Removal, AMM TASK 23-93-01-000-801.
 - (b) Disconnect connector DB23126 from the coupler B23126.
 - (c) Do a wiring check between these pins of connector DM23112B at the overhead panel and connector DB23126 at the P111 panel (WDM 23-93-11).

DB23126		DM23112B	
pin 1	.....	pin 1	
pin 2	.....	pin 2	
pin 4	.....	pin 4	
pin 5	.....	pin 5	

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB23126.
 - 3) Re-install the left OPBC, M23112. To install it, do this task: Right Overhead Panel Bus Controller (OPBC) Installation, AMM TASK 23-93-01-400-802.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) Set the APU maintenance switch to NORM.

————— **END OF TASK** —————

820. APUC No Input from Left OPAS on System 629 Bus-R - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

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B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (4) Replace the left overhead panel bus controller (OPBC), M23112.

These are the tasks:

Left Overhead Panel Bus Controller (OPBC) Removal, AMM TASK 23-93-01-000-801,

Right Overhead Panel Bus Controller (OPBC) Installation, AMM TASK 23-93-01-400-802.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49201, in the P215 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-R.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B23226, in the P211 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

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ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the OPBC to the System 629 Bus-R.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49201 from the coupler B49201.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49201 at the P215 panel (WDM 49-61-11).

DB49201		DM49002AC	
pin 1	.....	pin 4TR	
pin 2	.....	pin 4T	
pin 4	.....	pin 1TR	
pin 5	.....	pin 1T	

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49201.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (g) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from the left OPBC to the coupler:
- (a) Remove the left OPBC, M23112. To remove it, do this task: Left Overhead Panel Bus Controller (OPBC) Removal, AMM TASK 23-93-01-000-801.
 - (b) Disconnect connector DB23226 from the coupler B23226.
 - (c) Do a wiring check between these pins of connector DM23112C at the overhead panel and connector DB23226 at the P211 panel (WDM 23-93-11).

DB23226		DM23112C	
pin 1	.....	pin 1	
pin 2	.....	pin 2	
pin 4	.....	pin 4	
pin 5	.....	pin 5	

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).

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- 2) Re-connect connector DB23226.
- 3) Re-install the left OPBC, M23112. To install it, do this task: Right Overhead Panel Bus Controller (OPBC) Installation, AMM TASK 23-93-01-400-802.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) Set the APU maintenance switch to NORM.

————— END OF TASK —————

821. APUC No Input from Right OPAS on System 629 Bus-L - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) Set the APU maintenance switch to NORM.
- (4) Replace the right overhead panel bus controller (OPBC), M23212.

These are the tasks:

Left Overhead Panel Bus Controller (OPBC) Removal, AMM TASK 23-93-01-000-801,

Right Overhead Panel Bus Controller (OPBC) Installation, AMM TASK 23-93-01-400-802.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49101, in the P115 panel.
- These are the tasks:
- ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
- NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-L.
- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B23127, in the P111 panel.
- These are the tasks:
- ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
- NOTE: This coupler connects the OPBC to the System 629 Bus-L.
- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49101 from the coupler B49101.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49101 at the P115 panel (WDM 49-61-11).
- | DB49101 | DM49002AC |
|----------------|------------------|
| pin 1 | pin 5TR |
| pin 2 | pin 5T |
| pin 4 | pin 2TR |
| pin 5 | pin 2T |
- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49101.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from the right OPBC to the coupler:
 - (a) Remove the right OPBC, M23212. To remove it, do this task: Left Overhead Panel Bus Controller (OPBC) Removal, AMM TASK 23-93-01-000-801.
 - (b) Disconnect connector DB23127 from the coupler B23127.
 - (c) Do a wiring check between these pins of connector DM23212B at the overhead panel and connector DB23127 at the P111 panel (WDM 23-93-21).

DB23127		DM23212B	
pin 1	.....	pin 1	
pin 2	.....	pin 2	
pin 4	.....	pin 4	
pin 5	.....	pin 5	

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB23127.
 - 3) Re-install the right OPBC, M23212. To install it, do this task: Right Overhead Panel Bus Controller (OPBC) Installation, AMM TASK 23-93-01-400-802.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) Set the APU maintenance switch to NORM.

————— **END OF TASK** —————

822. APUC No Input from Right OPAS on System 629 Bus-R - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

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B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (4) Replace the right overhead panel bus controller (OPBC), M23212.
These are the tasks:
Left Overhead Panel Bus Controller (OPBC) Removal, AMM TASK 23-93-01-000-801,
Right Overhead Panel Bus Controller (OPBC) Installation, AMM TASK 23-93-01-400-802.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49201, in the P215 panel.
These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-R.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B23227, in the P211 panel.
These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

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ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the OPBC to the System 629 Bus-R.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49201 from the coupler B49201.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49201 at the P215 panel (WDM 49-61-11).

DB49201		DM49002AC	
pin 1	.....	pin 4TR	
pin 2	.....	pin 4T	
pin 4	.....	pin 1TR	
pin 5	.....	pin 1T	

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49201.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (g) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from the right OPBC to the coupler:
- (a) Remove the right OPBC, M23212. To remove it, do this task: Left Overhead Panel Bus Controller (OPBC) Removal, AMM TASK 23-93-01-000-801.
 - (b) Disconnect connector DB23227 from the coupler B23227.
 - (c) Do a wiring check between these pins of connector DM23212C at the overhead panel and connector DB23227 at the P211 panel (WDM 23-93-21).

DB23227		DM23212C	
pin 1	.....	pin 1	
pin 2	.....	pin 2	
pin 4	.....	pin 4	
pin 5	.....	pin 5	

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).

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- 2) Re-connect connector DB23227.
- 3) Re-install the right oPBC, M23212. To install it, do this task: Right Overhead Panel Bus Controller (OPBC) Installation, AMM TASK 23-93-01-400-802.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) Set the APU maintenance switch to NORM.

END OF TASK

823. APUC No Input from LSCF on System 629 Bus-L - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

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MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) Set the APU maintenance switch to NORM.
- (4) Replace the A12 card in the left system card file (LSCF).

These are the tasks:

ARINC Signal Gateway (ASG) Card Removal, AMM TASK 31-09-02-000-801,

ARINC Signal Gateway (ASG) Card Installation, AMM TASK 31-09-02-400-802.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49101, in the P115 panel.
These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-L.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B31101, in the P111 panel.
These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
NOTE: This coupler connects the LSCF to the System 629 Bus-L.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
 - (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49101 from the coupler B49101.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49101 at the P115 panel (WDM 49-61-11).

DB49101	DM49002AC
pin 1	pin 5TR
pin 2	pin 5T
pin 4	pin 2TR
pin 5	pin 2T

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49101.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from card A12 in the LSCF to the coupler:
 - (a) Remove card A12 from the LSCF. To remove it, do this task: ARINC Signal Gateway (ASG) Card Removal, AMM TASK 31-09-02-000-801.
 - (b) Disconnect connector DB31101 from the coupler B31101.
 - (c) Do a wiring check between these pins of the connector DP8504 at the P85A12 shelf and connector DB31101 at the P111 panel (WDM 31-09-22).

DB31101	DP8504
pin 1	pin TB6
pin 2	pin TA9
pin 4	pin RB7
pin 5	pin RA10

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-install card A12. To install it, do this task: ARINC Signal Gateway (ASG) Card Installation, AMM TASK 31-09-02-400-802.
 - 3) Re-connect connector DB31101.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) Set the APU maintenance switch to NORM.

————— END OF TASK —————

824. APUC No Input from LSCF on System 629 Bus-R - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

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B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (4) Replace the A15 card in the left system card file (LSCF).
These are the tasks:
ARINC Signal Gateway (ASG) Card Removal, AMM TASK 31-09-02-000-801,
ARINC Signal Gateway (ASG) Card Installation, AMM TASK 31-09-02-400-802.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49201, in the P215 panel.
These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-R.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B31102, in the P211 panel.
These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

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ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the LSCF to the System 629 Bus-R.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49201 from the coupler B49201.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49201 at the P215 panel (WDM 49-61-11).

DB49201		DM49002AC	
pin 1	.....	pin 4TR	
pin 2	.....	pin 4T	
pin 4	.....	pin 1TR	
pin 5	.....	pin 1T	

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49201.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (g) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from card A15 in the LSCF to the coupler:
- (a) Remove card A15 from the LSCF. To remove it, do this task: ARINC Signal Gateway (ASG) Card Removal, AMM TASK 31-09-02-000-801.
 - (b) Disconnect connector DB31102 from the coupler B31102.
 - (c) Do a wiring check between these pins of the connector DP8506 at the P85A15 shelf and connector DB31102 at the P211 panel (WDM 31-09-22).

DB31102		DP8506	
pin 1	.....	pin TB6	
pin 2	.....	pin TA9	
pin 4	.....	pin RB7	
pin 5	.....	pin RA10	

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).

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- 2) Re-install card A15. To install it, do this task: ARINC Signal Gateway (ASG) Card Installation, AMM TASK 31-09-02-400-802.
- 3) Re-connect connector DB31102.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) Set the APU maintenance switch to NORM.

END OF TASK

825. APUC No Input from RSCF on System 629 Bus-L - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) Set the APU maintenance switch to NORM.
- (4) Replace the A12 card in the right system card file (RSCF).

These are the tasks:

ARINC Signal Gateway (ASG) Card Removal, AMM TASK 31-09-02-000-801,

ARINC Signal Gateway (ASG) Card Installation, AMM TASK 31-09-02-400-802.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (c) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49101, in the P115 panel.

These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-L.

 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B31201, in the P111 panel.

These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the RSCF to the System 629 Bus-L.

 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
 - (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49101 from the coupler B49101.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49101 at the P115 panel (WDM 49-61-11).

DB49101	DM49002AC
pin 1	pin 5TR
pin 2	pin 5T
pin 4	pin 2TR
pin 5	pin 2T

 - (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49101.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) If the MAT shows ACTIVE for the maintenance message, then continue.
- (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from card A12 in the RSCF to the coupler:
 - (a) Remove card A12 from the RSCF. To remove it, do this task: ARINC Signal Gateway (ASG) Card Removal, AMM TASK 31-09-02-000-801.
 - (b) Disconnect connector DB31201 from the coupler B31201.
 - (c) Do a wiring check between these pins of the connector DP8404 at the P84A12 shelf and connector DB31201 at the P111 panel (WDM 31-09-22).

DB31202

pin 1	.....	pin TB6
pin 2	.....	pin TA9
pin 4	.....	pin RB7
pin 5	.....	pin RA10

DP8404

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-install card A12. To install it, do this task: ARINC Signal Gateway (ASG) Card Installation, AMM TASK 31-09-02-400-802.
 - 3) Re-connect connector DB31201.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) Set the APU maintenance switch to NORM.

————— **END OF TASK** —————

826. APUC No Input from RSCF on System 629 Bus-R - Fault Isolation

A. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

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B. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (4) Replace the A15 card in the right system card file (RSCF).
These are the tasks:
ARINC Signal Gateway (ASG) Card Removal, AMM TASK 31-09-02-000-801,
ARINC Signal Gateway (ASG) Card Installation, AMM TASK 31-09-02-400-802.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (5) Replace the ARINC 629 coupler, B49201, in the P215 panel.
These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
NOTE: This coupler connects the APU controller (APUC) to the System 629 Bus-R.
 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B31202, in the P211 panel.
These are the tasks:
ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

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ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the RSCF to the System 629 Bus-R.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the APUC to the coupler:
- (a) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (b) Disconnect connector DB49201 from the coupler B49201.
 - (c) Do a wiring check between these pins of connector DM49002AC at the E7 shelf and connector DB49201 at the P215 panel (WDM 49-61-11).

DB49201

pin 1	.....	pin 4TR
pin 2	.....	pin 4T
pin 4	.....	pin 1TR
pin 5	.....	pin 1T

DM49002AC

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB49201.
 - 3) Re-install the APU controller, M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (g) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (h) Set the APU maintenance switch to NORM.
- (8) Do this check of the wiring from the RSCF to the coupler:
- (a) Remove card A15 from the RSCF. To remove it, do this task: ARINC Signal Gateway (ASG) Card Removal, AMM TASK 31-09-02-000-801.
 - (b) Disconnect connector DB31202 from the coupler B31202.
 - (c) Do a wiring check between these pins of connector DP8506 at the P84A15 shelf and connector DB31202 at the P211 panel (WDM 31-09-22).

DB31202

pin 1	.....	pin TB6
pin 2	.....	pin TA9
pin 4	.....	pin RB7
pin 5	.....	pin RA10

DP8406

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).

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- 2) Re-connect connector DB31202.
- 3) Re-install card A15 in the RSCF. To install it, do this task: ARINC Signal Gateway (ASG) Card Installation, AMM TASK 31-09-02-400-802.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) Set the APU maintenance switch to NORM.

————— END OF TASK —————

827. APUC No Input from ELMS Electronics Unit on System 629 Bus-L - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-19414.

B. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (4) Do a check of the ELMS2 computing and communications unit, (CCU), M24510.

This is the task:

Computing and Communication Unit - Exchange Check, AMM TASK 24-09-00-700-802-002.
- (5) Replace the ARINC 629 coupler, B49101, in the P115 panel.

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These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the APU controller (APUC), M49002 to the ARINC 629 Bus-L.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B24109, in the P111 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the CCU, M24510 to the ARINC 629 Bus-L.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the ELMS2 computing and communications unit (CCU), M24510 to the coupler, B24109:
- (a) Disconnect connector DM24510A from the CCU, M24510.
 - (b) Disconnect connector DB24109 from the coupler, B24109.
 - (c) Do a wiring check between these pins of connector DM24510A at the CCU and connector DB24109 at the P111 panel (WDM 24-09-26).

DB24109		DM24510A
pin 1	.....	pin 6
pin 2	.....	pin 5
pin 4	.....	pin 3
pin 5	.....	pin 2

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Replace the ARINC 629 wiring (SWPM 20-13-00).
 - 2) Re-connect connector DB24109.
 - 3) Re-connect connector DM24510A.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) Set the APU maintenance switch to NORM.

————— **END OF TASK** —————

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828. APUC No Input from ELMS Electronics Unit on System 629 Bus-R - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance messages: 49-19613, 49-19614.

B. Initial Evaluation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (3) Set the APU maintenance switch to NORM.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Replace the APU controller (APUC), M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (d) Set the APU maintenance switch to NORM.
- (4) Do a check of the ELMS2 computing and communications unit, (CCU), M24510.

This is the task:

Computing and Communication Unit - Exchange Check, AMM TASK 24-09-00-700-802-002.

- (5) Replace the ARINC 629 coupler, B49201, in the P215 panel.

These are the tasks:

ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,

ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.

NOTE: This coupler connects the APU controller (APUC), M49002 to the ARINC 629 Bus-R.

- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (c) If the MAT shows ACTIVE for the maintenance message, then continue.

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- (d) Set the APU maintenance switch to NORM.
- (6) Replace the ARINC 629 coupler, B24209, in the P211 panel.
- These are the tasks:
- ARINC 629 Current-Mode Coupler Removal, AMM TASK 23-91-01-000-801,
ARINC 629 Current-Mode Coupler Installation, AMM TASK 23-91-01-400-801.
- NOTE:** This coupler connects the ELMS2 computing and communications unit (CCU), M24510 to the ARINC 629 Bus-R.
- (a) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (c) If the MAT shows ACTIVE for the maintenance message, then continue.
- (d) Set the APU maintenance switch to NORM.
- (7) Do this check of the wiring from the ELMS2 computing and communications unit (CCU), M24510 to the coupler, B24209:
- (a) Disconnect connector DM24510A from the CCU, M24510.
- (b) Disconnect connector DB24209 from the coupler, B24209.
- (c) Do a wiring check between these pins of connector DM24510A at the CCU and connector DB24209 at the P211 panel (WDM 24-09-26).

DB24209	DM24510A
pin 1	pin 127
pin 2	pin 126
pin 4	pin 124
pin 5	pin 123

- (d) If you find a problem with the wiring, then do these steps:
- 1) Replace the ARINC 629 wiring (SWPM 20-11-11).
 - 2) Re-connect connector DB24209.
 - 3) Re-connect connector DM24510A.
- (e) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (f) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), then you corrected the fault.
- (g) Set the APU maintenance switch to NORM.

————— **END OF TASK** —————

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801. Data Memory Module Problems - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12810.

B. Description

- (1) The power supply circuit for the data memory module (DMM) has a short.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE or LATCHED for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
 - (c) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.



DO NOT REMOVE THE DATA MEMORY MODULE AND THE APU CONTROLLER AT THE SAME TIME. IF YOU REMOVE BOTH THE DATA MEMORY MODULE AND THE APU CONTROLLER AT THE SAME TIME, YOU WILL LOSE THE DATA FOR THE APU.

- (3) Replace the data memory module.

These are the tasks:
Data Memory Module Removal, AMM TASK 49-72-00-000-801,
Data Memory Module Installation, AMM TASK 49-72-00-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

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These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

- 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Do this resistance check of the APU wire harness:
- (a) Disconnect the electrical connector D49012P from the DMM, M49001M002.
 - (b) Examine the electrical connector D49012P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Disconnect the electrical connector D49001P from the APU firewall.
 - (d) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (e) Measure the resistance between pin 21 and pin 22 of the connector D49001P at the APU firewall (WDM 49-71-11).
 - (f) If the resistance is <100K ohms, then do these steps:
 - 1) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Re-connect the D49012P connector to the DMM.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (g) If the resistance is >100K ohms, then continue.
- (6) Do this resistance check of the airplane wire harness:
- (a) Re-connect the electrical connector D49012P to the DMM, M49001M002.
 - (b) Disconnect the D49001P connector from the APU firewall.
 - (c) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.

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- (d) Measure the resistance between pin K8 and pin J8 of the connector DM49002AB at the APU controller (WDM 49-71-11).
- (e) If the resistance is <100K ohms, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) If the resistance is >100K ohms, then continue.
- (7) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

E. Repair Confirmation

- (1) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (2) Set the APU maintenance switch to the NORM position.

————— END OF TASK —————

802. Data Memory Module Open in Power Supply Circuit - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12820.

B. Description

- (1) The power supply circuit for the data memory module (DMM) has an open.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
 - (c) Set the APU maintenance switch on the P61 panel to NORM.

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D. Fault Isolation Procedure



MAKE SURE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.



DO NOT REMOVE THE DATA MEMORY MODULE AND THE APU CONTROLLER AT THE SAME TIME. IF YOU REMOVE BOTH THE DATA MEMORY MODULE AND THE APU CONTROLLER AT THE SAME TIME, YOU WILL LOSE THE DATA FOR THE APU.

- (3) Replace the data memory module.
These are the tasks:
Data Memory Module Removal, AMM TASK 49-72-00-000-801,
Data Memory Module Installation, AMM TASK 49-72-00-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Do this resistance check of the APU wire harness:
 - (a) Disconnect the electrical connector D49012P from the DMM, M49001M002.
 - (b) Examine the electrical connector D49012P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.

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- (c) Install a jumper between pin 2 and pin 3 of the D49012P connector.
- (d) Disconnect the electrical connector D49001P from the APU firewall.
- (e) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (f) Measure the resistance between pin 21 and pin 22 of the connector D49001P at the APU firewall (WDM 49-71-11).
- (g) If the resistance is >50 ohms, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Remove the jumper from the D49012P connector.
 - 4) Re-connect the D49012P connector to the DMM.
 - 5) Do the Repair Confirmation procedure at the end of this task.
 - 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 7) If the MAT shows LATCHED ACTIVE for the maintenance message, then continue.
- (h) If the resistance is <50 ohms, then continue.
- (6) Do this resistance check of the airplane wire harness:
 - (a) Remove the jumper from the D49012P connector.
 - (b) Re-connect the D49012P connector to the DMM.
 - (c) Disconnect the D49001P connector from the APU firewall.
 - (d) Install a jumper between pin 21 and pin 22 on the DM49001A at the APU firewall.
 - (e) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (f) Measure the resistance between pin K8 and pin J8 of the connector DM49002AB at the APU controller (WDM 49-71-11).
 - (g) If the resistance is >50 ohms, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Remove the jumper from the DM49001A connector.
 - 3) Re-connect the D49001P connector to the DMM.
 - 4) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 5) Do the Repair Confirmation procedure at the end of this task.
 - 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 7) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (h) If the resistance is <50 ohms, then continue.
- (7) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

E. Repair Confirmation

- (1) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (2) Set the APU maintenance switch to the NORM position.

————— END OF TASK —————

803. APUC Data Memory Module Power Supply Circuit Failed On - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11610.

B. Description

- (1) The APUC power supply circuit to the data memory module (DMM) is failed on.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
 - (c) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.

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DO NOT REMOVE THE DATA MEMORY MODULE AND THE APU CONTROLLER AT THE SAME TIME. IF YOU REMOVE BOTH THE DATA MEMORY MODULE AND THE APU CONTROLLER AT THE SAME TIME, YOU WILL LOSE THE DATA FOR THE APU.

- (3) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Replace the data memory module.

These are the tasks:

Data Memory Module Removal, AMM TASK 49-72-00-000-801,

Data Memory Module Installation, AMM TASK 49-72-00-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Examine the APU wire harness:
- (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Do this check of the APU wire harness:
- (a) Disconnect the D49001P connector from the APU firewall.
 - (b) Disconnect the D49012P connector from the DMM.
 - (c) Do a check for 5 VDC from pin 2 to pin 3 of the D49012P connector (WDM 49-71-11).
 - (d) If there is >5 VDC at pin 2 of D49012P connector, then do these steps:
 - 1) Replace the APU wire harness.



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These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.

- 2) Reconnect the D49012P connector to the DMM.
 - 3) Reconnect the D49001P connector to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (e) If there is <5 VDC at pin 2, then continue.
- (7) Do this check of the airplane wire harness:
- (a) Disconnect the D49001P connector from the APU firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Do a check for 5 VDC from pin 21 to pin 22 of the DM49001A connector (WDM 49-71-11).
 - (d) If there is 5 VDC at pin 21 of DM49001A, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Reconnect the D49001P connector to the APU firewall.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (2) Set the APU maintenance switch to the NORM position.

————— END OF TASK —————

804. APUC Data Memory Module Open in Power Supply Circuit - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11600.

B. Description

- (1) The APUC power supply to the data memory module (DMM) is failed off.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.

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- (a) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
- (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
- (c) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.



DO NOT REMOVE THE DATA MEMORY MODULE AND THE APU CONTROLLER AT THE SAME TIME. IF YOU REMOVE BOTH THE DATA MEMORY MODULE AND THE APU CONTROLLER AT THE SAME TIME, YOU WILL LOSE THE DATA FOR THE APU.

- (3) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Replace the data memory module.
These are the tasks:
Data Memory Module Removal, AMM TASK 49-72-00-000-801,
Data Memory Module Installation, AMM TASK 49-72-00-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:

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- APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
- 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Do this resistance check of the APU wire harness:
- (a) Disconnect the electrical connector D49012P from the DMM, M49001M002.
 - (b) Examine the electrical connector D49012P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Install a jumper between pin 2 and pin 3 of the D49012P connector.
 - (d) Disconnect the electrical connector D49001P from the APU firewall.
 - (e) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (f) Measure the resistance between pin 21 and pin 22 of the connector D49001P at the APU firewall (WDM 49-71-11).
 - (g) If the resistance is >50 ohms, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Remove the jumper from the D49012P connector.
 - 4) Re-connect the D49012P connector to the DMM.
 - 5) Do the Repair Confirmation procedure at the end of this task.
 - 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 7) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (h) If the resistance is <50 ohms, then continue.
- (7) Do this resistance check of the airplane wire harness:
- (a) Remove the jumper from the D49012P connector.
 - (b) Re-connect the D49012P connector to the DMM.
 - (c) Disconnect the D49001P connector from the APU firewall.

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- (d) Install a jumper between pin 21 and pin 22 on the DM49001A at the APU firewall.
- (e) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
- (f) Measure the resistance between pin K8 and pin J8 of the connector DM49002AB at the APU controller (WDM 49-71-11).
- (g) If the resistance is >50 ohms, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Remove the jumper from the DM49001A connector.
 - 3) Re-connect the D49001P connector to the DMM.
 - 4) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 5) Do the Repair Confirmation procedure at the end of this task.
 - 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (2) Set the APU maintenance switch to the NORM position.

————— **END OF TASK** —————

805. Data Memory Module is Failed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-12830.

B. Description

- (1) The data memory module (DMM) circuit is failed.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
 - (c) Set the APU maintenance switch on the P61 panel to NORM.

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D. Fault Isolation Procedure



CAUTION

MAKE SURE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.



CAUTION

DO NOT REMOVE THE DATA MEMORY MODULE AND THE APU CONTROLLER AT THE SAME TIME. IF YOU REMOVE BOTH THE DATA MEMORY MODULE AND THE APU CONTROLLER AT THE SAME TIME, YOU WILL LOSE THE DATA FOR THE APU.

- (3) Replace the data memory module.
These are the tasks:
Data Memory Module Removal, AMM TASK 49-72-00-000-801,
Data Memory Module Installation, AMM TASK 49-72-00-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Reinstall the data memory module that you removed in the steps above.
- (5) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Examine the APU wire harness:
 - (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.

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- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (7) Do this resistance check of the APU wire harness:
- (a) Disconnect the electrical connector D49012P from the DMM, M49001M002.
 - (b) Examine the electrical connector D49012P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Install a jumper between pin 6 and pin 7 of the D49012P connector.
 - (d) Install a jumper between pin 8 and pin 9 of the D49012P connector.
 - (e) Install a jumper between pin 10 and pin 11 of the D49012P connector.
 - (f) Disconnect the electrical connector D49001P from the APU firewall.
 - (g) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (h) Measure the resistance between these pairs of pins of the D49001P connector at the APU firewall (WDM 49-71-11)
 - 1) Pin 6 and pin 7, specified resistance <50 ohms.
 - 2) Pin 8 and pin 9, specified resistance <50 ohms.
 - 3) Pin 10 and pin 11, specified resistance <50 ohms.
 - (i) Remove the jumpers from the D49012P connector.
 - (j) Measure the resistance between these pairs of pins of the D49001P connector at the APU firewall (WDM 49-71-11).
 - 1) Pin 6 and pin 7, specified resistance >100K ohms.
 - 2) Pin 8 and pin 9, specified resistance >100K ohms.
 - 3) Pin 10 and pin 11, specified resistance >100K ohms.
 - (k) If the resistance is in the range specified for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Re-connect the D49012P connector to the DMM.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- l) If the resistance is not in the range specified for each pair of pins, then continue.
- (8) Do this resistance check of the airplane wire harness:
 - (a) Remove the jumpers from the D49012P connector.
 - (b) Re-connect the D49012P connector to the DMM.
 - (c) Disconnect the D49001P connector from the APU firewall.
 - (d) Install a jumper between pin 15 and pin 16 on the DM49001A at the APU firewall.
 - (e) Install a jumper between pin 17 and pin 18 on the DM49001A at the APU firewall.
 - (f) Install a jumper between pin 19 and pin 20 on the DM49001A at the APU firewall.
 - (g) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (h) Measure the resistance between these pairs of pins of the DM49002AB connector at the APU controller (WDM 49-71-11):
 - 1) Pin A11 and pin B11, specified resistance <50 ohms.
 - 2) Pin D10 and pin D9, specified resistance <50 ohms.
 - 3) Pin A10 and pin B10, specified resistance <50 ohms.
 - (i) Remove the jumpers from the D49001P connector.
 - (j) Measure the resistance between these pairs of pins of the DM49002AB connector at the APU controller (WDM 49-71-11):
 - 1) Pin A11 and pin B11, specified resistance >100K ohms.
 - 2) Pin D10 and pin D9, specified resistance >100K ohms.
 - 3) Pin A10 and pin B10, specified resistance >100K ohms.
 - (k) If the resistance is not in the range specified for each pair of pins, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Remove the jumpers from the DM49001A connector.
 - 3) Re-connect the D49001P connector to the DMM.
 - 4) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 5) Do the Repair Confirmation procedure at the end of this task.
 - 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (2) Set the APU maintenance switch to the NORM position.

————— **END OF TASK** —————

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806. APUC Data Memory Module Circuit is Failed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11620.

B. Description

- (1) The data memory module (DMM) circuit is failed.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows LATCHED or ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.
 - (c) Set the APU maintenance switch on the P61 panel to NORM.

D. Fault Isolation Procedure



MAKE SURE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.



DO NOT REMOVE THE DATA MEMORY MODULE AND THE APU CONTROLLER AT THE SAME TIME. IF YOU REMOVE BOTH THE DATA MEMORY MODULE AND THE APU CONTROLLER AT THE SAME TIME, YOU WILL LOSE THE DATA FOR THE APU.

- (3) Replace the APU controller, M49002.

These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - (c) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (4) Replace the data memory module.

These are the tasks:
Data Memory Module Removal, AMM TASK 49-72-00-000-801,
Data Memory Module Installation, AMM TASK 49-72-00-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.

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- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Examine the APU wire harness:
- (a) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (6) Do this resistance check of the APU wire harness:
- (a) Disconnect the electrical connector D49012P from the DMM, M49001M002.
 - (b) Examine the electrical connector D49012P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (c) Install a jumper between pin 6 and pin 7 of the D49012P connector.
 - (d) Install a jumper between pin 8 and pin 9 of the D49012P connector.
 - (e) Install a jumper between pin 10 and pin 11 of the D49012P connector.
 - (f) Disconnect the electrical connector D49001P from the APU firewall.
 - (g) Examine the electrical connector D49001P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (h) Measure the resistance between these pairs of pins of the D49001P connector at the APU firewall (WDM 49-71-11):
 - 1) Pin 6 and pin 7, specified resistance <50 ohms.
 - 2) Pin 8 and pin 9, specified resistance <50 ohms.
 - 3) Pin 10 and pin 11, specified resistance <50 ohms.
 - (i) Remove the jumpers from the D49012P connector.
 - (j) Measure the resistance between these pairs of pins of the D49001P connector at the APU firewall (WDM 49-71-11):
 - 1) Pin 6 and pin 7, specified resistance >100K ohms.

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- 2) Pin 8 and pin 9, specified resistance >100K ohms.
- 3) Pin 10 and pin 11, specified resistance >100K ohms.
- (k) If the resistance is in the range specified for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49001P connector to the APU firewall.
 - 3) Re-connect the D49012P connector to the DMM.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (l) If the resistance is not in the range specified for each pair of pins, then continue.
- (7) Do this resistance check of the airplane wire harness:
 - (a) Remove the jumpers from the D49012P connector.
 - (b) Re-connect the D49012P connector to the DMM.
 - (c) Disconnect the D49001P connector from the APU firewall.
 - (d) Install a jumper between pin 15 and pin 16 on the DM49001A at the APU firewall.
 - (e) Install a jumper between pin 17 and pin 18 on the DM49001A at the APU firewall.
 - (f) Install a jumper between pin 19 and pin 20 on the DM49001A at the APU firewall.
 - (g) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (h) Measure the resistance between these pairs of pins of the DM49002AB connector at the APU controller (WDM 49-71-11):
 - 1) Pin A10 and pin B11, specified resistance <50 ohms.
 - 2) Pin D10 and pin D9, specified resistance <50 ohms.
 - 3) Pin A10 and pin B10, specified resistance <50 ohms.
 - (i) Remove the jumpers from the D49001P connector.
 - (j) Measure the resistance between these pairs of pins of the DM49002AB connector at the APU controller (WDM 49-71-11):
 - 1) Pin A11 and pin B11, specified resistance >100K ohms.
 - 2) Pin D10 and pin D9, specified resistance >100K ohms.
 - 3) Pin A10 and pin B10, specified resistance >100K ohms.
 - (k) If the resistance is not in the range specified for each pair of pins, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Remove the jumpers from the DM49001A connector.
 - 3) Re-connect the D49001P connector to the DMM.
 - 4) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

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- 5) Do the Repair Confirmation procedure at the end of this task.
- 6) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (2) Set the APU maintenance switch to the NORM position.

———— **END OF TASK** ————

807. Exhaust Gas Temperature 1 Open Circuit - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11640.

B. Description

- (1) There is an open in the EGT 1 circuit.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure



MAKE SURE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:

NOTE: There are 2 thermocouple probes for the EGT 1. The thermocouple probes for EGT 1 are located at the 2 o'clock and 4 o'clock positions.

 - (a) Make sure the APU wire harness is correctly attached to the terminals on the EGT probes.
 - (b) Make sure there is no contamination on the terminals for the thermocouple probes.
 - (c) Make sure the APU wire harness does not have damage.
 - (d) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.

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- 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) If you have new or serviceable EGT probes, M49001M003, then do these steps:
- (a) Disconnect the APU wire harness from the terminals on the EGT probes for EGT 1 rake.
 - (b) Connect two new or serviceable EGT probes to EGT 1 rake.
 - (c) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (d) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the two EGT probes.
These are the tasks:
Exhaust Gas Temperature (EGT) Thermocouple Removal, AMM TASK 49-71-01-000-801,
Exhaust Gas Temperature (EGT) Thermocouple Installation, AMM TASK 49-71-01-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) If the MAT shows ACTIVE for the maintenance message, then continue.
- (5) If you do not have new or serviceable EGT probes, then do this resistance check:
- (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Disconnect the APU wire harness from the terminals on the EGT probes for EGT 1 rake.
 - (c) For each EGT probe, measure the resistance across the terminals.
 - (d) If the resistance is >20 ohms, replace the applicable EGT probe. To replace it,
These are the tasks:
Exhaust Gas Temperature (EGT) Thermocouple Removal, AMM TASK 49-71-01-000-801,
Exhaust Gas Temperature (EGT) Thermocouple Installation, AMM TASK 49-71-01-400-801.
 - 1) Re-connect the APU wire harness to the terminals for the EGT probes.
 - 2) Tighten the nuts to a torque value of 35-40 pound-inches.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.

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- (e) If the resistance is <20 ohms, then continue.
- (6) Do the resistance check of the APU wire harness:
 - (a) Re-connect the APU wire harness to the terminals for the EGT probes:
 - 1) Tighten the nuts to a torque value of 35-40 pound-inches.
 - (b) Disconnect the electrical connector D49002P from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between pin 30 and pin 31 of the connector D49002P at the APU firewall.
 - (e) If the resistance is >100 ohms, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Connect the D49002P connector to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is <100 ohms, then continue.
- (7) Do the resistance check of the airplane wire harness:
 - (a) Connect the D49002P connector to the APU firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between pin A4 and pin A5 of the connector DM49002AA at the APU controller.
 - (d) If the resistance is >100 ohms, do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is <100 ohms, then continue.
- (8) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

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APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

— END OF TASK —

808. Exhaust Gas Temperature 2 Open Circuit - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11660.

B. Description

- (1) There is an open in the EGT 2 circuit.

C. Initial Evaluation

- (1) Make sure the APU maintenance switch on the overhead maintenance panel, P61, is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
 - (a) If the MAT shows ACTIVE for the maintenance message, then do the Fault Isolation Procedure.
 - (b) If the MAT shows NOT ACTIVE for the maintenance message, then there was an intermittent fault.

D. Fault Isolation Procedure



MAKE SURE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness.

NOTE: There are 2 thermocouple probes for the EGT 2. The thermocouple probes for EGT 2 are located at the 7 o'clock and 10 o'clock positions.

- (a) Make sure the APU wire harness is correctly attached to the terminals on the EGT probes.
- (b) Make sure there is no contamination on the terminals for the thermocouple probes.
- (c) Make sure the APU wire harness does not have damage.
- (d) If the APU wire harness has damage, do the applicable step below:

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- 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (4) If you have new or serviceable EGT probes, M49001M004, then do these steps:
- (a) Disconnect the APU wire harness from the terminals on the EGT probes for EGT 2 rake.
 - (b) Connect two new or serviceable EGT probes to EGT 2 rake.
 - (c) Move the APU MAINT switch on the P61 overhead panel to the TEST position.
 - (d) If the MAT shows NOT ACTIVE, then do these steps:
 - 1) Move the APU MAINT switch to the NORM position.
 - 2) Replace the two EGT probes.
These are the tasks:
Exhaust Gas Temperature (EGT) Thermocouple Removal, AMM TASK 49-71-01-000-801,
Exhaust Gas Temperature (EGT) Thermocouple Installation, AMM TASK 49-71-01-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (e) If the MAT shows ACTIVE for the maintenance message, then continue.
- (5) If you do not have new or serviceable EGT probes, then do this resistance check:
- (a) Make sure the APU MAINT switch on the P61 panel is in the NORM position.
 - (b) Disconnect the APU wire harness from the terminals on the EGT probes for EGT 2 rake.
 - (c) For each EGT probe, measure the resistance across the terminals.
 - (d) If the resistance is >20 ohms, then do these steps:
 - 1) Replace the applicable EGT probe.
These are the tasks:
Exhaust Gas Temperature (EGT) Thermocouple Removal, AMM TASK 49-71-01-000-801,
Exhaust Gas Temperature (EGT) Thermocouple Installation, AMM TASK 49-71-01-400-801.
 - 2) Re-connect the APU wire harness to the EGT probes:
 - a) Tighten the nuts to a torque value of 35-40 pound-inches.
 - 3) Do the Repair Confirmation procedure at the end of this task.

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- 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 5) If the MAT shows ACTIVE for the maintenance message, then continue.
- (e) If the resistance is <20 ohms, then continue.
- (6) Do the resistance check of the APU wire harness:
 - (a) Re-connect the APU wire harness to the terminals for the EGT probes:
 - 1) Tighten the nuts to a torque value of 35-40 pound-inches.
 - (b) Disconnect the electrical connector D49002P from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between pin 32 and pin 33 of the connector D49002P at the APU firewall.
 - (e) If the resistance is >100 ohms, do the applicable step:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is <100 ohms, then continue.
- (7) Do the resistance check of the airplane wire harness:
 - (a) Re-connect the D49002P connector to the APU firewall.
 - (b) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (c) Measure the resistance between pin A6 and pin A7 of the connector DM49002AA at the APU controller.
 - (d) If the resistance is >100 ohms, then do these steps:
 - 1) Repair the airplane wire harness.
 - 2) Re-install the APU controller M49002. To install it, do this task: APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows ACTIVE for the maintenance message, then continue.
 - (e) If the resistance is <100 ohms, then continue.

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- (8) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.
- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

E. Repair Confirmation

- (1) Make sure the APU maintenance switch on the P61 panel is in the NORM position.
- (2) Set the APU maintenance switch on the P61 panel to TEST. Then wait for 120 seconds.
- (3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (4) Move the APU maintenance switch to the NORM position.

————— END OF TASK —————

809. EGT 1 Is Lower Than EGT 2 - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11630.

B. Description

- (1) EGT 1 reads 66°C lower than EGT 2.

C. Fault Isolation Procedure



MAKE SURE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Do these steps to find out if there is a problem with the EGT thermocouples or the APU:
- (a) Remove and tag the two left EGT thermocouples and two right EGT thermocouples. To remove them, do this task: Exhaust Gas Temperature (EGT) Thermocouple Removal, AMM TASK 49-71-01-000-801.
- (b) Install the two left EGT thermocouples in the same location as the two right EGT thermocouples. To install them, do this task: Exhaust Gas Temperature (EGT) Thermocouple Installation, AMM TASK 49-71-01-400-801.
- (c) Install the two right EGT thermocouples in the same location as the two left EGT thermocouples. To install them, do this task: Exhaust Gas Temperature (EGT) Thermocouple Installation, AMM TASK 49-71-01-400-801.

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- (d) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.

NOTE: During the APU operation, do a check for a high EGT indication from the two left and two right EGT thermocouples. If the two EGT thermocouples show a high EGT indication from the left and right side of the APU, then the two EGT thermocouples must be replaced. If the four EGT thermocouples do not show a high EGT indication on the left and right side of the APU, then you must borescope the APU for internal damage.

- (e) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

- (f) If you find that the two EGT thermocouples show a high EGT indication from the left and right side of the APU, replace these two EGT thermocouples.

These are the tasks:

Exhaust Gas Temperature (EGT) Thermocouple Removal, AMM TASK 49-71-01-000-801,

Exhaust Gas Temperature (EGT) Thermocouple Installation, AMM TASK 49-71-01-400-801.

- (g) If you did not find that the four EGT thermocouples show a high EGT indication from the left and right side of the APU, do the borescope procedure of the combustion chamber, first stage stator vane assembly and first stage turbine section. To do the borescope procedure, do this task: APU Engine Inspection, AMM TASK 49-21-00-200-801.

NOTE: You can do the APU borescope procedure to verify that the APU has internal damage. A replacement of the APU is necessary if there is internal damage.

- (h) Do the Repair Confirmation procedure at the end of this task.

- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

- (4) Examine the APU wire harness:

NOTE: There are 2 thermocouple probes for EGT 1. The thermocouple probes for EGT 1 are located at the 2 o'clock and 4 o'clock positions.

- (a) Make sure the APU wire harness is correctly attached to the terminals for the thermocouple probes.
- (b) Make sure there is no contamination on the terminals for the thermocouple probes.
- (c) Make sure the APU wire harness does not have damage.
- (d) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:

APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.



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- 5) If the MAT shows ACTIVE or LATCHED for the maintenance message, then continue.
- (5) Replace the thermocouple probes for EGT 1.
These are the tasks:
Exhaust Gas Temperature (EGT) Thermocouple Removal, AMM TASK 49-71-01-000-801,
Exhaust Gas Temperature (EGT) Thermocouple Installation, AMM TASK 49-71-01-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (6) Do a resistance check of the APU wire harness:
 - (a) Disconnect the APU wire harness from both thermocouple probes for EGT 1.
 - (b) Disconnect the electrical connector, D49002P from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).
 - 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - (d) Measure the resistance between these pairs of pins of the connector D49002P at the APU firewall:
 - 1) Pin 30 and pin 31, specified resistance >100K ohms.
 - 2) Pin 30 and the connector backshell, specified resistance >100K ohms.
 - 3) Pin 31 and the connector backshell, specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms for each pair of pins, then do these steps:
 - 1) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-connect the wire harness to the thermocouple probes:
 - a) Tighten the nuts to a torque value of 35-40 pound-inches.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (f) If the resistance is >100K ohms, then continue.
 - (7) Do the resistance check of the airplane wire harness:
 - (a) Make sure the D49002P connector is disconnected from the APU firewall.
 - (b) Re-connect the wire harness to the thermocouple probes.

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- 1) Tighten the nuts to a torque value of 35-40 pound-inches.
- (c) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
- (d) Measure the resistance between these pairs of pins on the electrical connector DM49002AA at the APU controller:
 - 1) Pin A4 and pin A5, specified resistance >100K ohms.
 - 2) Pin A4 and pin B5 (ground), specified resistance >100K ohms.
 - 3) Pin A5 and pin B5 (ground), specified resistance >100K ohms.
- (e) Install a jumper between pin 31 and structural ground (connector case) on the electrical receptacle DM49001B at the APU firewall.
- (f) Measure the resistance between pin A4 and pin B5 (structural ground) on the electrical connector DM49002AA at the APU controller.
 - 1) The resistance must be less than 10 ohms.
- (g) Remove the jumper.
- (h) Install a jumper between pin 30 and structural ground (connector case) on the electrical receptacle DM49001B at the APU firewall.
- (i) Measure the resistance between pin A5 and pin B5 (structural ground) on the electrical connector DM49002AA at the APU controller.
 - 1) The resistance must be less than 10 ohms.
- (j) Remove the jumper.
- (k) If the resistance is more than 10 ohms on the electrical connector DM49002AA, then do these steps to find the open circuit:
 - 1) Disconnect the electrical connector D7856P at the bulkhead station 2100.
 - 2) Install a jumper between pin 31 and structural ground (connector case) on the electrical receptacle D7856J at the bulkhead station 2100.
 - 3) Measure the resistance between pin A4 and pin B5 (structural ground) on the electrical connector DM49002AA at the APU controller.
 - a) The resistance must be less than 10 ohms.
 - 4) Remove the jumper.
 - 5) Install a jumper between pin 30 and structural ground (connector case) on the electrical receptacle D7856J at the bulkhead station 2100.
 - 6) Measure the resistance between pin A5 and pin B5 (structural ground) on the electrical connector DM49002AA at the APU controller.
 - a) The resistance must be less than 10 ohms.
 - 7) Remove the jumper.
 - 8) If the resistance is more than 10 ohms on the electrical connector DM49002AA and electrical receptacle D7856J, repair the airplane wire harness (WDM 49-71-11).
 - 9) If the resistance is more than 10 ohms on the electrical connector D7856P and electrical receptacle DM49001B, repair the airplane wire harness (WDM 49-71-11).
 - 10) Re-connect the electrical connector D7856P.
- (l) If the resistance is <100K ohms for each pair of pins at the electrical connector DM49002AA at the APU controller, then do these steps:
 - 1) Repair the airplane wire harness.

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- 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (m) If the resistance is >100K ohms, then continue.
- (8) Replace the APU controller, M49002.
- These are the tasks:
- APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (9) Replace the thermocouple probes for EGT 2.
- These are the tasks:
- Exhaust Gas Temperature (EGT) Thermocouple Removal, AMM TASK 49-71-01-000-801,
Exhaust Gas Temperature (EGT) Thermocouple Installation, AMM TASK 49-71-01-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) If the MAT show NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— END OF TASK —————

810. EGT 2 Is Lower Than EGT 1 - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-11650.

B. Description

- (1) EGT 2 reads 66°C lower than EGT 1 for more than 10 seconds.

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C. Fault Isolation Procedure



MAKE SURE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Examine the APU wire harness:
NOTE: There are 2 thermocouple probes for the EGT 2. The thermocouple probes for EGT 2 are located at the 7 o'clock and 10 o'clock positions.
 - (a) Make sure the APU wire harness is correctly attached to the terminals on the EGT probes.
 - (b) Make sure there is no contamination on the terminals for the thermocouple probes.
 - (c) Make sure the APU wire harness does not have damage.
 - (d) If the APU wire harness has damage, do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
- (4) Replace the EGT thermocouple probes for the EGT 2.
These are the tasks:
Exhaust Gas Temperature (EGT) Thermocouple Removal, AMM TASK 49-71-01-000-801,
Exhaust Gas Temperature (EGT) Thermocouple Installation, AMM TASK 49-71-01-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Do a resistance check of the APU wire harness:
 - (a) Disconnect the APU wire harness from both EGT probes for the EGT 2.
 - (b) Disconnect the electrical connector, D49002P from the APU firewall.
 - (c) Examine the electrical connector D49002P for contamination and damage:
 - 1) If the connector has contamination, then clean the connector (SWPM 20-60-01).

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- 2) If the connector has a loose backshell, bent or pushed pins, then repair the connector. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
- (d) Measure the resistance between these pairs of pins of the connector D49002P at the APU firewall:
 - 1) Pin 32 and pin 33, specified resistance >100K ohms.
 - 2) Pin 32 and the connector backshell, specified resistance >100K ohms.
 - 3) Pin 33 and the connector backshell, specified resistance >100K ohms.
- (e) If the resistance is <100K ohms for each pair of pins, do the steps that follow:
 - 1) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-connect the wire harness to the thermocouple probes:
 - a) Tighten the nuts to a torque value of 35-40 pound-inches.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) If the resistance is >100K ohms, then continue.
- (6) Do the resistance check of the airplane wire harness:
 - (a) Make sure the D49002P connector is disconnected from the APU firewall.
 - (b) Re-connect the wire harness to the thermocouple probes.
 - (c) Remove the APU controller, M49002. To remove it, do this task: APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801.
 - (d) Measure the resistance between these pairs of pins of the connector DM49002AA at the APU controller:
 - 1) Pin A6 and pin A7, specified resistance >100K ohms.
 - 2) Pin A6 and pin B6 (ground), specified resistance >100K ohms.
 - 3) Pin A7 and pin B6 (ground), specified resistance >100K ohms.
 - (e) If the resistance is <100K ohms for each pair of pins, do the steps that follow:
 - 1) Repair the airplane wire harness.
 - 2) Re-connect the D49002P connector to the APU firewall.
 - 3) Re-connect the wire harness to the thermocouple probes:
 - a) Tighten the nuts to a torque value of 35-40 pound-inches.
 - 4) Do the Repair Confirmation procedure at the end of this task.
 - 5) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.



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- 6) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) If the resistance is >100K ohms, then continue.
- (7) Replace the 14 fuel nozzles.
These are the tasks:
Fuel Nozzle Removal, AMM TASK 49-31-03-000-801,
Fuel Nozzle Installation, AMM TASK 49-31-03-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (8) Do the borescope procedure of the combustion chamber and first stage turbine section for signs of a combustor structural problem adjacent to the fuel nozzles. To do the borescope procedure, do this task: APU Engine Inspection, AMM TASK 49-21-00-200-801.
NOTE: You can do the APU borescope procedure to verify that the APU has internal damage. A replacement of the APU is necessary if there is internal damage.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (9) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (10) Replace the EGT thermocouple probes for the EGT 1.
These are the tasks:
Exhaust Gas Temperature (EGT) Thermocouple Removal, AMM TASK 49-71-01-000-801,
Exhaust Gas Temperature (EGT) Thermocouple Installation, AMM TASK 49-71-01-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.



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- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

811. Overtemperature On Speed - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10960.

B. Description

- (1) The exhaust gas temperature exceeded the limit while the APU was on speed.

C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Look at the Extended Maintenance, Existing Faults display on the MAT.
 - (a) Look for maintenance messages related to these systems:
 - 1) APU inlet guide vane actuator
 - 2) APU fuel system
 - 3) APU exhaust gas temperature thermocouples (EGT sensors)
 - 4) APU controller
 - 5) APU air inlet door
 - (b) If a maintenance message related to the systems above show, then do these steps:
 - 1) Find the message in the applicable FIM Maintenance Message Index.
 - 2) Do the specified task for the maintenance message.
 - (c) If no maintenance messages related to the systems above show, then continue.
- (4) Do these steps to examine the inlet plenum for blockage:
 - (a) Remove the access panel on the side of the inlet plenum.
 - (b) Make sure the screen in the inlet plenum is free of blockage.
 - (c) If the screen in the inlet plenum has blockage, then do these steps:
 - 1) Remove the blockage.
 - 2) Re-install the access panel on the inlet plenum.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (d) Make sure there is no signs of foreign object damage (FOD).
- (e) If there is signs of foreign object damage (FOD), then do these steps.
 - 1) Replace the APU.

These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,

Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.

NOTE: You can do the APU borescope procedure to verify that the APU has internal damage (AMM TASK 49-21-00-200-801).
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (f) If there is no signs of blockage or FOD, then continue.
- (5) Do these steps to make sure the APU does not have internal damage:
 - (a) Do this task: Magnetic Chip Collector Inspection, AMM TASK 49-27-04-200-801.
 - (b) If the magnetic chip collectors indicate internal bearing damage, then do these steps:
 - 1) Replace the APU.

These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,

Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
 - 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
 - (c) If the magnetic chip collectors are OK, then continue.
 - (d) Remove the end cap from the electric starter motor.
 - (e) Use a socket and ratchet on the shaft for the electric starter motor to turn the APU.
 - 1) Turn the socket counterclockwise, forward facing aft.
 - (f) If the APU does not turn freely, then do these steps:
 - 1) Replace the APU.

These are the tasks:

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Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,

Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.

- 2) Do the Repair Confirmation procedure at the end of this task.
 - 3) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 4) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (g) If the APU turns freely, then continue.
- (6) Replace the fuel cluster, M49001M100.
- These are the tasks:
- Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (7) Replace the inlet guide vane actuator, M49001M005.
- These are the tasks:
- Inlet Guide Vane (IGV) Actuator Removal, AMM TASK 49-52-02-000-801,
Inlet Guide Vane (IGV) Actuator Installation, AMM TASK 49-52-02-400-801.
- (a) Do the Repair Confirmation procedure at the end of this task.
- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (8) Examine the APU wire harness:
- (a) Make sure the APU wire harness does not have damage.
- (b) If the APU wire harness has damage, do the applicable step below:
- 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.
- These are the tasks:
- APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
- 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

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- 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (9) Replace the APU controller, M49002.
These are the tasks:
APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,
APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (10) Replace the APU.
These are the tasks:
Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or
Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,
Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or
Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.
NOTE: You can do the APU borescope procedure to verify that the APU has internal damage (AMM TASK 49-21-00-200-801). The APU has degraded performance.
 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
 - (a) Use the APU air to operate the left and right air conditioning packs. To operate the packs, do this task: Supply Conditioned Air with a Cooling Pack, AMM TASK 21-00-00-800-803.
 - (b) Use the APU generator to operate the left and the right transfer bus. To supply electrical power, do this task: Supply Electrical Power, AMM TASK 24-22-00-860-805.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— END OF TASK —————

812. Overtemperature On Start - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance message: 49-10650.

B. Description

- (1) The exhaust gas temperature exceeded the limit during an APU start.

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C. Fault Isolation Procedure



MAKE SURE THE APU MAINTENANCE SWITCH IS IN THE NORM POSITION AND THE APU SELECTOR IS OFF BEFORE YOU DISCONNECT ELECTRICAL CONNECTORS. IF YOU DO NOT OBEY THIS INSTRUCTION, DAMAGE TO THE APUC CAN OCCUR.

- (1) Make sure the APU maintenance switch on the overhead maintenance panel is in the NORM position.
- (2) Make sure the APU selector is in the OFF position.
- (3) Look at the Extended Maintenance, Existing Faults display on the MAT.
 - (a) Look for maintenance messages related to these systems:
 - 1) APU fuel system
 - 2) APU exhaust gas temperature thermocouples (EGT sensors)
 - 3) APU controller
 - (b) If a maintenance message related to the systems above show, then do these steps:
 - 1) Find the message in the applicable FIM Maintenance Message Index.
 - 2) Do the specified task for the maintenance message.
 - (c) If no maintenance messages related to the systems above show, then continue.
- (4) Replace the fuel cluster, M49001M100.

These are the tasks:
Fuel Cluster Removal, AMM TASK 49-31-31-000-801,
Fuel Cluster Installation, AMM TASK 49-31-31-400-801.

 - (a) Do the Repair Confirmation procedure at the end of this task.
 - 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.
- (5) Examine the APU wire harness:
 - (a) Make sure the APU wire harness does not have damage.
 - (b) If the APU wire harness has damage, then do the applicable step below:
 - 1) Repair the APU wire harness. To repair it, do this task: Wire Harness Terminal Replacement, AMM TASK 49-14-00-960-802.
 - 2) Replace the APU wire harness.

These are the tasks:
APU Wire Harness Removal, AMM TASK 49-14-00-000-801,
APU Wire Harness Installation, AMM TASK 49-14-00-400-801.
 - 3) Do the Repair Confirmation procedure at the end of this task.
 - 4) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
 - 5) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

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- (6) Replace the APU controller, M49002.

These are the tasks:

APU Controller (APUC) Removal, AMM TASK 49-61-05-000-801,

APU Controller (APUC) Installation, AMM TASK 49-61-05-400-801.

- (a) Do the Repair Confirmation procedure at the end of this task.

- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- 2) If the MAT shows LATCHED or ACTIVE for the maintenance message, then continue.

- (7) Replace the APU.

These are the tasks:

Auxiliary Power Unit Removal (Fishpole Hoist Method), AMM TASK 49-11-01-000-805 or
Auxiliary Power Unit Removal (Hydraulic Jack Method), AMM TASK 49-11-01-000-801,

Auxiliary Power Unit Installation (Fishpole Hoist Procedure), AMM TASK 49-11-01-400-805 or
Auxiliary Power Unit Installation (Hydraulic Jack Method), AMM TASK 49-11-01-400-801.

NOTE: You can do the APU borescope procedure to verify that the APU has internal damage (AMM TASK 49-21-00-200-801). The APU has degraded performance.

- (a) Do the Repair Confirmation procedure at the end of this task.

- 1) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.

D. Repair Confirmation

- (1) Do this task: APU Starting and Operation, AMM TASK 49-11-00-860-804.
- (2) If the MAT shows NOT ACTIVE for the maintenance message (or if the message does not show), you corrected the fault.
- (3) Do this task: APU Usual Shutdown, AMM TASK 49-11-00-860-805.

————— **END OF TASK** —————

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777-200/300 FAULT ISOLATION MANUAL

801. Procedure To Be Determined - Fault Isolation

A. Maintenance Messages

- (1) This task is for maintenance messages: 49-15000, 49-15010, 49-15020, 49-15030.

B. Fault Isolation Procedure

- (1) At this time the FIM does not have a procedure for this fault. The FIM will contain a procedure for this fault in the future.

————— END OF TASK —————

802. Observed Fault with Correlated Maintenance Messages - Fault Isolation

A. Initial Evaluation

- (1) Find the fault code to the right of the fault description in the Observed Faults List (at the front of the FIM).
 - (a) The first two digits of the fault code are the FIM chapter that you need. Go to the Fault Code Index in that chapter and find the fault code.
 - (b) Find the maintenance message to the right of the fault code.
 - (c) Find the task number on the same line as the maintenance message number.
 - (d) Go to the task in the FIM and do the steps in the task.

————— END OF TASK —————

803. EICAS Message Latched by AIMS - Fault Isolation

A. Initial Evaluation

NOTE: AIMS can latch this EICAS message when it occurs. After you find the cause of the fault and correct it, it is possible that the EICAS message will continue to show.

- (1) Do not erase the EICAS message until you complete the task for the correlated maintenance message.
- (2) When this EICAS message occurs, do these steps:
 - (a) Make sure that you have the correlated maintenance message number that shows on the MAT with the EICAS message.
 - (b) Go back to the FIM Fault Code Index and find the fault code for the EICAS message.
 - (c) Find the correlated maintenance message number and the task number to the right of the fault code.
 - (d) Go to the specified task in the FIM and do the steps in the task.
 - (e) After you do the actions in the task to correct the fault, do these steps:
 - 1) Look at the MAT for the EICAS message.
 - 2) If the MAT shows LATCHED for the EICAS message, then you must erase it from the EICAS status display. To erase it, do this task: Erasing a EICAS Status Message Latched by AIMS, AMM TASK 31-61-00-800-802.

————— END OF TASK —————

EFFECTIVITY
ARO ALL

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