

CHAPTER

23

COMMUNICATIONS



**737-600/700/800/900
FAULT ISOLATION MANUAL**

**CHAPTER 23
COMMUNICATIONS**

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1 thru 3	Oct 15/2023		206	Oct 15/2021		R 201	Oct 15/2023	
4	BLANK		207	Oct 15/2021		O 202	Oct 15/2023	
23-HOW TO USE THE FIM			208	Oct 15/2021		O 203	Oct 15/2023	
1	Oct 15/2021		209	Oct 15/2021		O 204	Oct 15/2023	
2	Oct 15/2021		210	Oct 15/2021		O 205	Oct 15/2023	
3	Oct 15/2021		211	Oct 15/2021		O 206	Oct 15/2023	
4	Oct 15/2021		212	Oct 15/2021		207	Oct 15/2021	
5	Oct 15/2021		213	Oct 15/2021		208	Oct 15/2021	
6	Oct 15/2021		214	Oct 15/2021		209	Oct 15/2021	
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101	Oct 15/2021		216	Oct 15/2021		211	Oct 15/2021	
102	Oct 15/2021		217	Oct 15/2021		212	Oct 15/2021	
103	Feb 15/2023		218	Oct 15/2021		213	Oct 15/2021	
104	Feb 15/2023		23-12 TASKS			214	Oct 15/2021	
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106	Feb 15/2023		202	Oct 15/2021		216	Oct 15/2021	
107	Feb 15/2023		203	Oct 15/2021		217	Oct 15/2021	
108	BLANK		204	Oct 15/2021		218	Oct 15/2021	
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101	Oct 15/2021		206	Oct 15/2021		220	Oct 15/2021	
102	Oct 15/2021		207	Oct 15/2021		221	Oct 15/2021	
103	Oct 15/2021		208	Oct 15/2021		222	Oct 15/2021	
104	Oct 15/2021		209	Oct 15/2021		223	Oct 15/2021	
105	Oct 15/2021		210	Oct 15/2021		224	Oct 15/2021	
106	Oct 15/2021		211	Oct 15/2021		225	Oct 15/2021	
107	Oct 15/2021		212	Oct 15/2021		226	Oct 15/2021	
108	Oct 15/2021		213	Oct 15/2021		227	Oct 15/2021	
109	Oct 15/2021		214	Oct 15/2021		228	Oct 15/2021	
110	Oct 15/2021		215	Oct 15/2021		229	Oct 15/2021	
111	Oct 15/2021		216	Oct 15/2021		230	Oct 15/2021	
112	Feb 15/2023		217	Oct 15/2021		231	Oct 15/2021	
23-11 TASKS			218	Oct 15/2021		232	Oct 15/2021	
201	Oct 15/2021		219	Oct 15/2021		233	Oct 15/2021	
202	Oct 15/2021		220	Oct 15/2021		234	Oct 15/2021	
203	Oct 15/2021		221	Oct 15/2021		235	Oct 15/2021	
204	Oct 15/2021		222	BLANK		236	Oct 15/2021	
205	Oct 15/2021							

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

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23-15 TASKS (cont)			23-27 TASKS (cont)			23-31 TASKS (cont)		
237	Oct 15/2021		208	Oct 15/2021		217	Oct 15/2022	
238	Oct 15/2021		209	Oct 15/2021		218	Oct 15/2022	
239	Oct 15/2021		210	Oct 15/2021		219	Oct 15/2022	
240	Oct 15/2021		211	Oct 15/2021		220	Oct 15/2022	
241	Oct 15/2021		212	Oct 15/2021		221	Oct 15/2022	
242	Oct 15/2021		213	Oct 15/2021		222	Oct 15/2022	
243	Oct 15/2021		214	Oct 15/2021		223	Oct 15/2022	
244	Oct 15/2021		215	Oct 15/2021		224	Oct 15/2022	
245	Oct 15/2021		216	Oct 15/2021		23-41 TASKS		
246	Oct 15/2021		217	Oct 15/2021		201	Feb 15/2022	
247	Oct 15/2021		218	Oct 15/2021		202	Feb 15/2022	
248	Oct 15/2021		23-28 TASKS			203	Feb 15/2022	
249	Oct 15/2021		201	Oct 15/2021		204	Feb 15/2022	
250	Oct 15/2021		202	Oct 15/2021		205	Feb 15/2022	
251	Oct 15/2021		203	Oct 15/2021		206	Feb 15/2022	
252	Oct 15/2021		204	Oct 15/2021		207	Feb 15/2022	
253	Oct 15/2021		205	Oct 15/2021		208	Oct 15/2022	
254	Oct 15/2021		206	Oct 15/2021		209	Oct 15/2022	
255	Oct 15/2021		207	Oct 15/2021		210	Oct 15/2022	
256	BLANK		208	Feb 15/2023		211	Feb 15/2022	
23-24 TASKS			23-31 TASKS			212	BLANK	
201	Oct 15/2021		201	Oct 15/2021		23-42 TASKS		
202	Oct 15/2021		202	Feb 15/2022		201	Oct 15/2021	
203	Oct 15/2021		203	Feb 15/2022		202	Oct 15/2021	
204	Oct 15/2021		204	Feb 15/2022		203	Oct 15/2021	
205	Oct 15/2021		205	Oct 15/2021		204	Oct 15/2021	
206	Feb 15/2023		206	Oct 15/2022		205	Oct 15/2021	
207	Oct 15/2021		207	Oct 15/2022		206	Oct 15/2021	
208	BLANK		208	Oct 15/2022		207	Oct 15/2021	
23-27 TASKS			209	Oct 15/2022		208	Oct 15/2021	
201	Oct 15/2021		210	Oct 15/2022		209	Jun 15/2022	
202	Oct 15/2021		211	Oct 15/2022		210	Jun 15/2022	
203	Oct 15/2021		212	Oct 15/2022		211	Jun 15/2022	
204	Oct 15/2021		213	Oct 15/2022		212	Jun 15/2022	
205	Oct 15/2021		214	Oct 15/2022		213	Jun 15/2022	
206	Oct 15/2021		215	Oct 15/2022		214	Jun 15/2022	
207	Oct 15/2021		216	Oct 15/2022		215	Jun 15/2022	

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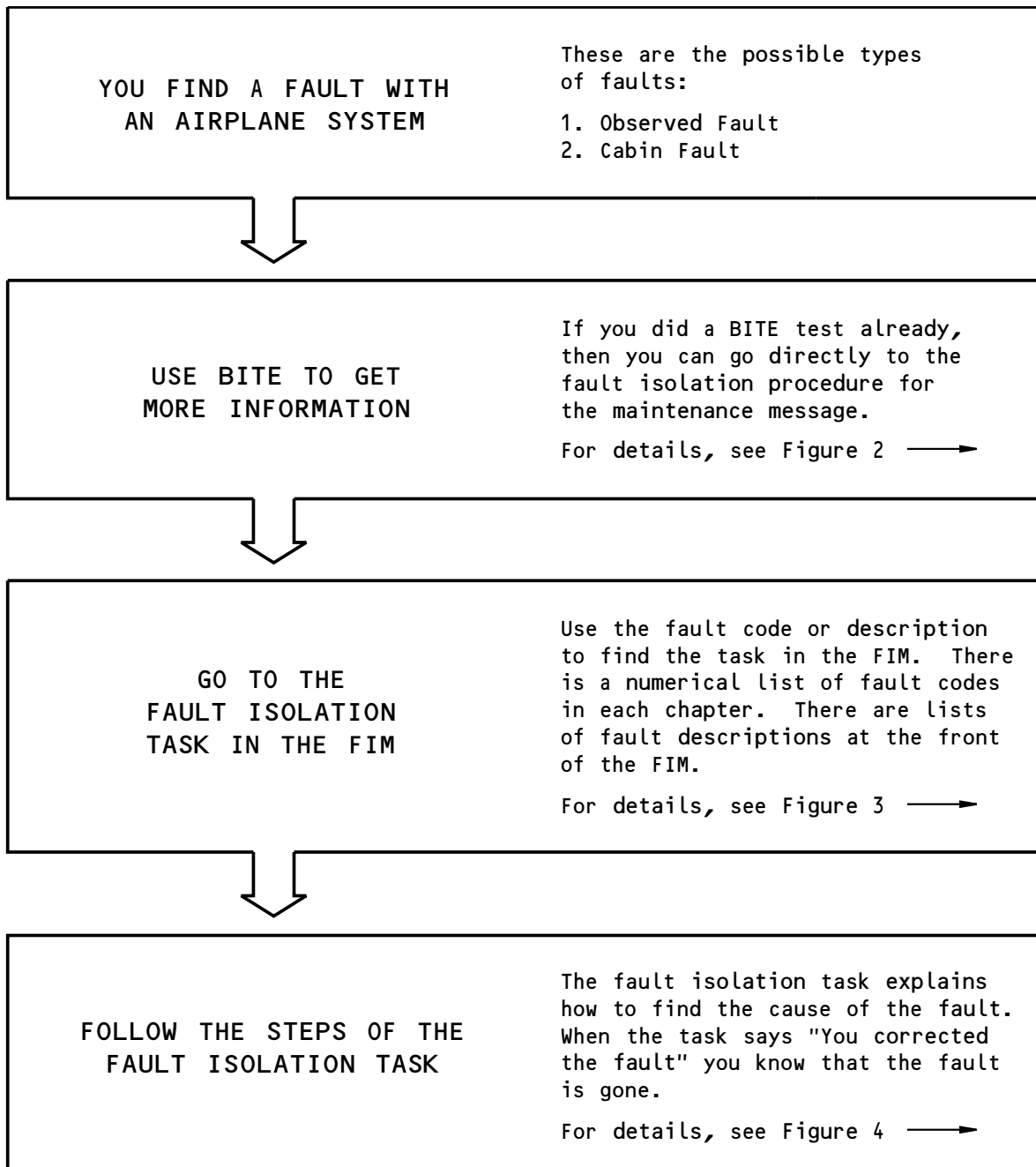
Subject/Page	Date	COC	Subject/Page	Date	COC	Subject/Page	Date	COC
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216	Jun 15/2022		207	Feb 15/2022		A 226	BLANK	
217	Jun 15/2022		208	Feb 15/2022		23-75 TASKS		
218	Jun 15/2022		209	Feb 15/2022		201	Oct 15/2021	
219	Jun 15/2022		210	Feb 15/2022		202	Oct 15/2021	
220	Jun 15/2022		211	Feb 15/2022		203	Oct 15/2021	
221	Jun 15/2022		212	Feb 15/2023		204	Oct 15/2021	
222	Jun 15/2022		213	Feb 15/2022		205	Oct 15/2021	
223	Jun 15/2022		214	Feb 15/2022		206	Oct 15/2021	
224	Jun 15/2022		215	Feb 15/2022		207	Oct 15/2022	
225	Jun 15/2022		216	Feb 15/2022		208	Oct 15/2022	
226	Jun 15/2022		23-71 TASKS			209	Oct 15/2022	
227	Jun 15/2022		201	Oct 15/2021		210	Oct 15/2022	
228	Jun 15/2022		202	Oct 15/2021		211	Oct 15/2022	
229	Jun 15/2022		R 203	Oct 15/2023		212	BLANK	
230	Jun 15/2022		R 204	Oct 15/2023		23-81 TASKS		
231	Jun 15/2022		O 205	Oct 15/2023		201	Oct 15/2021	
232	Jun 15/2022		R 206	Oct 15/2023		R 202	Oct 15/2023	
233	Jun 15/2022		R 207	Oct 15/2023		O 203	Oct 15/2023	
234	Jun 15/2022		R 208	Oct 15/2023		O 204	Oct 15/2023	
235	Jun 15/2022		R 209	Oct 15/2023		O 205	Oct 15/2023	
236	Jun 15/2022		R 210	Oct 15/2023		206	BLANK	
237	Jun 15/2022		O 211	Oct 15/2023		23-82 TASKS		
238	Jun 15/2022		O 212	Oct 15/2023		201	Feb 15/2022	
23-43 TASKS			O 213	Oct 15/2023		202	Oct 15/2021	
201	Oct 15/2022		O 214	Oct 15/2023				
202	Oct 15/2022		O 215	Oct 15/2023				
203	Oct 15/2022		O 216	Oct 15/2023				
204	Oct 15/2021		O 217	Oct 15/2023				
205	Oct 15/2021		O 218	Oct 15/2023				
206	Oct 15/2021		O 219	Oct 15/2023				
23-51 TASKS			O 220	Oct 15/2023				
201	Feb 15/2022		O 221	Oct 15/2023				
202	Feb 15/2022		O 222	Oct 15/2023				
203	Feb 15/2022		A 223	Oct 15/2023				
204	Feb 15/2022		A 224	Oct 15/2023				
205	Feb 15/2023		A 225	Oct 15/2023				
206	Feb 15/2023							

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G04902 S0000148576_V1

Basic Fault Isolation Process
Figure 1

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Some airplane systems have built-in test equipment (BITE). IF the system finds a fault when you do a BITE test, it will give you a maintenance message.

A maintenance message can be any of these:

- a code
- a text message
- a light
- an indication.

To find the fault isolation task for a maintenance message, go to the Maintenance Message Index in the chapter for the applicable system.

If you do not know which chapter is the correct one, look at the list at the front of any Maintenance Message Index. For each system or component (LRU) that has BITE, this list gives the chapter number where you can find the Index that you need.

Find the maintenance message for the applicable LRU or system in the Index. Then find the task number on the same line as the maintenance message. Go to the task in the FIM and do the steps of the task (see Figure 4).

G04950 S0000148578_V1

Getting Fault Information from BITE
Figure 2

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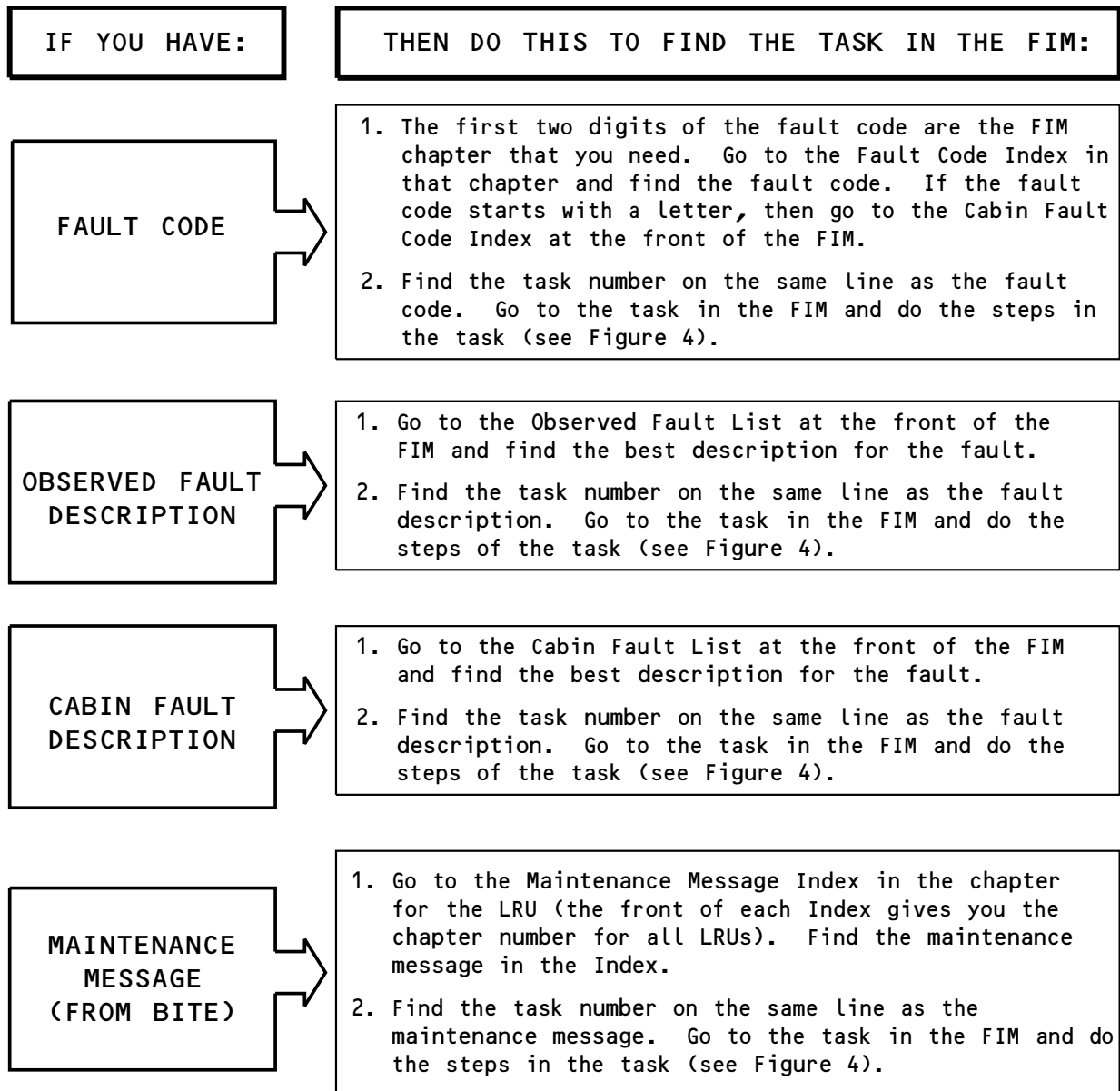
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G04979 S0000148579_V2

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

POSSIBLE CAUSES

- The list of possible causes has the most likely cause first and the least likely cause last.
- You can use the maintenance records of your airline to determine if the fault occurred before. Compare the list of possible causes to the past maintenance actions. This will help prevent repetition of the same maintenance actions.

INITIAL EVALUATION PARAGRAPH

- The primary purpose of the Initial Evaluation paragraph at the start of the task is to help you find out if 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 maintenance action to take. Then monitor the airplane to see if the fault happens again on subsequent flights.
- The Initial Evaluation paragraph can also help you find out which Fault Isolation Procedure to use to isolate and correct the fault.

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.

G05009 S0000148580_V3

Doing the Fault Isolation Task Figure 4

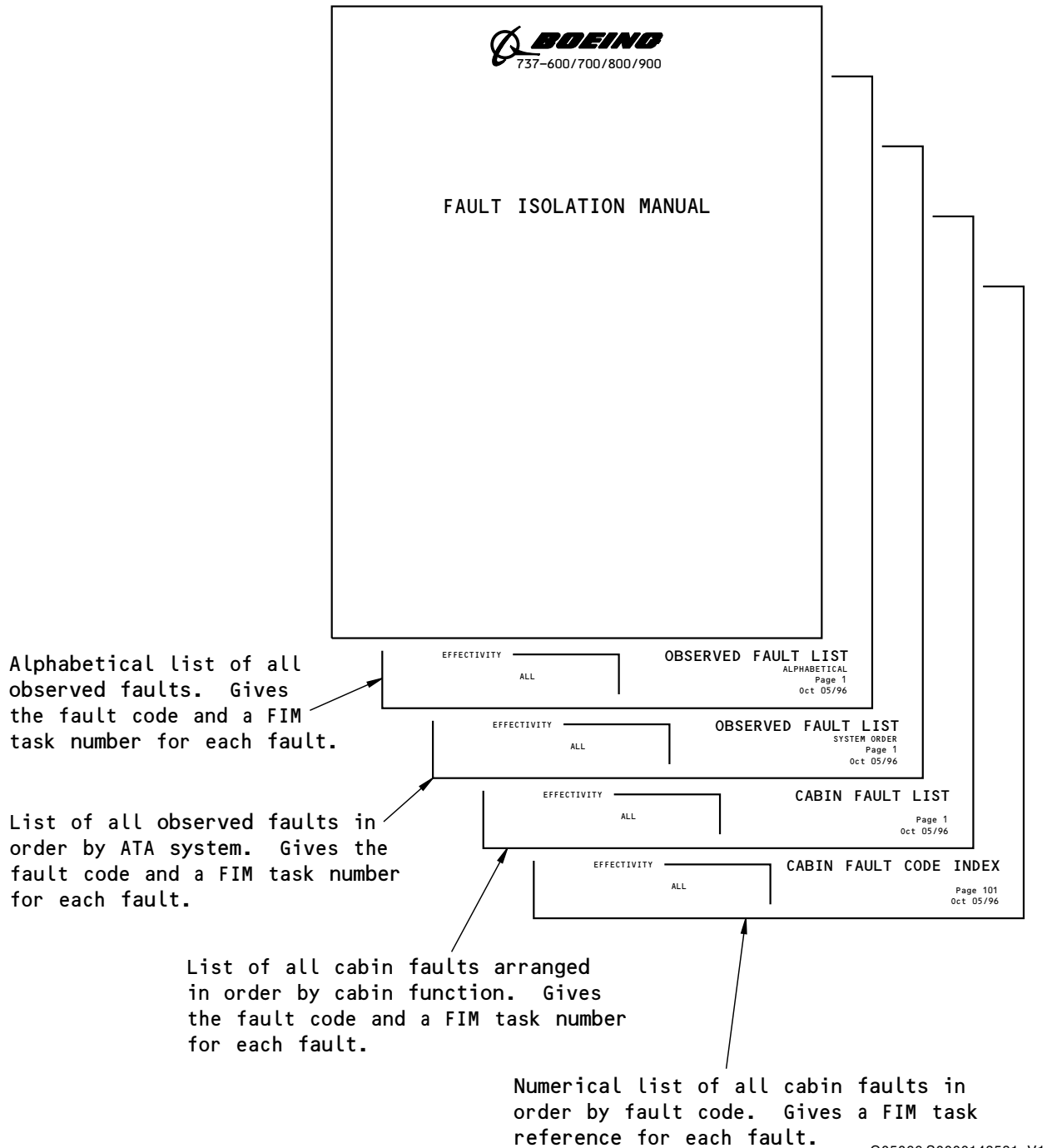
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Subjects at Front of FIM
Figure 5

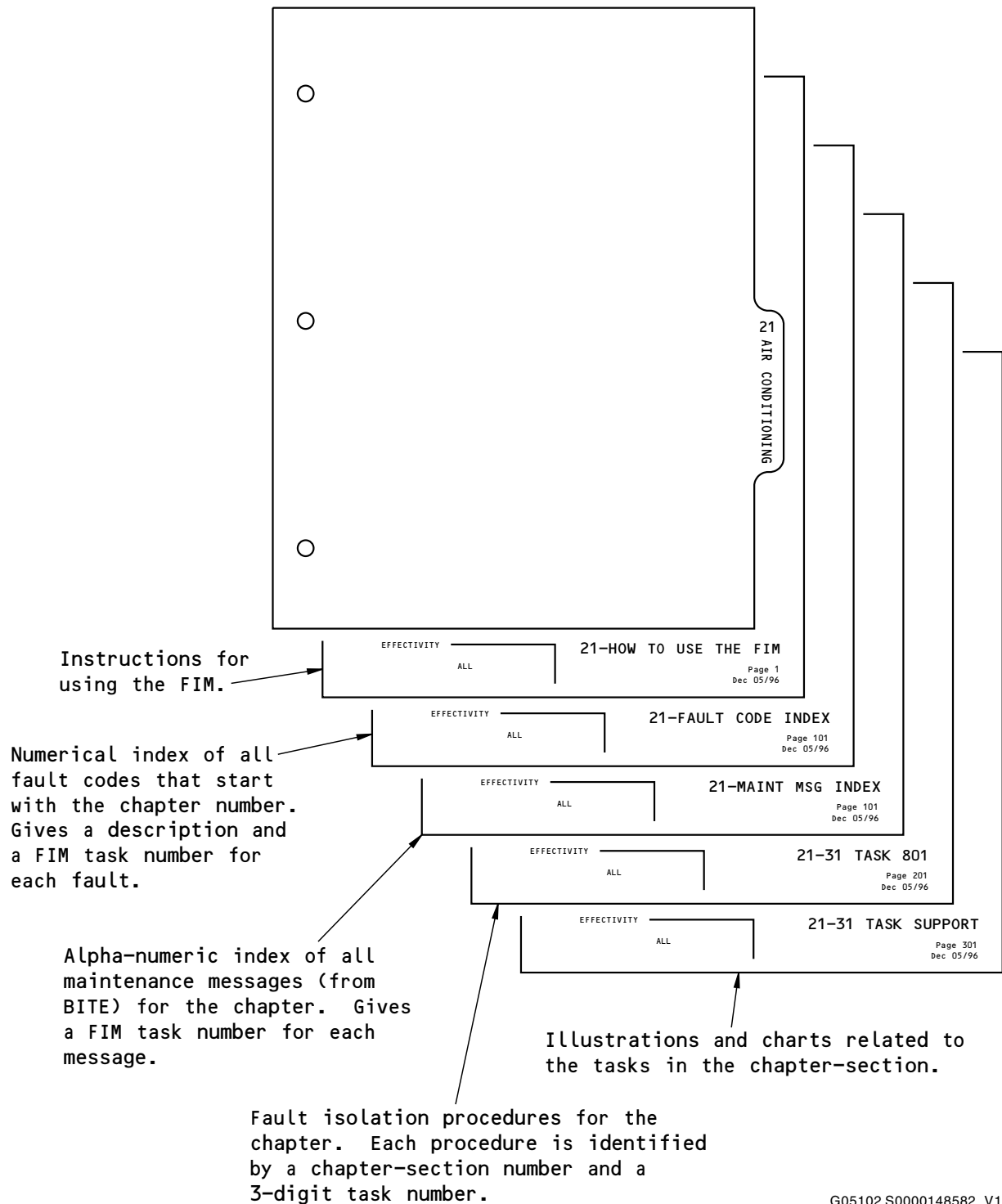
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G05102 S0000148582_V1

Subjects in Each FIM Chapter
Figure 6

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FAULT CODE	FAULT DESCRIPTION	GO TO FIM TASK
231 060 31	HF 1 radio: reception and transmission problem at one station - captain's.	23-11 TASK 806
231 060 32	HF 1 radio: reception and transmission problem at one station - first officer's.	23-11 TASK 806
231 060 33	HF 1 radio: reception and transmission problem at one station - first observer's.	23-11 TASK 806
231 060 48	HF 1 radio: reception and transmission problem at all stations.	23-11 TASK 806
231 070 31	HF 1 radio: reception problem at one station - captain's.	23-11 TASK 806
231 070 32	HF 1 radio: reception problem at one station - first officer's.	23-11 TASK 806
231 070 33	HF 1 radio: reception problem at one station - first observer's.	23-11 TASK 806
231 070 48	HF 1 radio: reception problem at all stations.	23-11 TASK 806
231 080 31	HF 1 radio: Transmission problem at one station - captain's.	23-11 TASK 806
231 080 32	HF 1 radio: Transmission problem at one station - first officer's.	23-11 TASK 806
231 080 33	HF 1 radio: Transmission problem at one station - first observer's.	23-11 TASK 806
231 080 48	HF 1 radio: Transmission problem at all stations.	23-11 TASK 806
231 180 31	HF 2 radio: reception and transmission problem at one station - captain's.	23-11 TASK 806
231 180 32	HF 2 radio: reception and transmission problem at one station - first officer's.	23-11 TASK 806
231 180 33	HF 2 radio: reception and transmission problem at one station - first observer's.	23-11 TASK 806
231 180 48	HF 2 radio: reception and transmission problem at all stations.	23-11 TASK 806
231 190 31	HF 2 radio: reception problem at one station - captain's.	23-11 TASK 806
231 190 32	HF 2 radio: reception problem at one station - first officer's.	23-11 TASK 806
231 190 33	HF 2 radio: reception problem at one station - first observer's.	23-11 TASK 806
231 190 48	HF 2 radio: reception problem at all stations.	23-11 TASK 806
231 200 31	HF 2 radio: Transmission problem at one station - captain's.	23-11 TASK 806
231 200 32	HF 2 radio: Transmission problem at one station - first officer's.	23-11 TASK 806
231 200 33	HF 2 radio: Transmission problem at one station - first observer's.	23-11 TASK 806
231 200 48	HF 2 radio: Transmission problem at all stations.	23-11 TASK 806
231 300 31	Radio tuning panel problem - captain's.	23-12 TASK 815
231 300 32	Radio tuning panel problem - first officer's.	23-12 TASK 815
231 300 33	Radio tuning panel problem - first observer's.	23-12 TASK 815
231 310 31	VHF 1 radio: reception and transmission problem at one station - captain's.	23-12 TASK 816

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FAULT CODE	FAULT DESCRIPTION	GO TO FIM TASK
231 310 32	VHF 1 radio: reception and transmission problem at one station - first officer's.	23-12 TASK 816
231 310 33	VHF 1 radio: reception and transmission problem at one station - first observer's.	23-12 TASK 816
231 310 48	VHF 1 radio: reception and transmission problem at all stations.	23-12 TASK 816
231 320 31	VHF 1 radio: reception problem at one station - captain's.	23-12 TASK 816
231 320 32	VHF 1 radio: reception problem at one station - first officer's.	23-12 TASK 816
231 320 33	VHF 1 radio: reception problem at one station - first observer's.	23-12 TASK 816
231 320 48	VHF 1 radio: reception problem at all stations.	23-12 TASK 816
231 330 31	VHF 1 radio: Transmission problem at one station - captain's.	23-12 TASK 816
231 330 32	VHF 1 radio: Transmission problem at one station - first officer's.	23-12 TASK 816
231 330 33	VHF 1 radio: Transmission problem at one station - first observer's.	23-12 TASK 816
231 330 48	VHF 1 radio: Transmission problem at all stations.	23-12 TASK 816
231 430 31	VHF 2 radio: reception and transmission problem at one station - captain's.	23-12 TASK 816
231 430 32	VHF 2 radio: reception and transmission problem at one station - first officer's.	23-12 TASK 816
231 430 33	VHF 2 radio: reception and transmission problem at one station - first observer's.	23-12 TASK 816
231 430 48	VHF 2 radio: reception and transmission problem at all stations.	23-12 TASK 816
231 440 31	VHF 2 radio: reception problem at one station - captain's.	23-12 TASK 816
231 440 32	VHF 2 radio: reception problem at one station - first officer's.	23-12 TASK 816
231 440 33	VHF 2 radio: reception problem at one station - first observer's.	23-12 TASK 816
231 440 48	VHF 2 radio: reception problem at all stations.	23-12 TASK 816
231 450 31	VHF 2 radio: Transmission problem at one station - captain's.	23-12 TASK 816
231 450 32	VHF 2 radio: Transmission problem at one station - first officer's.	23-12 TASK 816
231 450 33	VHF 2 radio: Transmission problem at one station - first observer's.	23-12 TASK 816
231 450 48	VHF 2 radio: Transmission problem at all stations.	23-12 TASK 816
231 550 31	VHF 3 radio: reception and transmission problem at one station - captain's.	23-12 TASK 816
231 550 32	VHF 3 radio: reception and transmission problem at one station - first officer's.	23-12 TASK 816
231 550 33	VHF 3 radio: reception and transmission problem at one station - first observer's.	23-12 TASK 816
231 550 48	VHF 3 radio: reception and transmission problem at all stations.	23-12 TASK 816
231 560 31	VHF 3 radio: reception problem at one station - captain's.	23-12 TASK 816

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231 560 32	VHF 3 radio: reception problem at one station - first officer's.	23-12 TASK 816
231 560 33	VHF 3 radio: reception problem at one station - first observer's.	23-12 TASK 816
231 560 48	VHF 3 radio: reception problem at all stations.	23-12 TASK 816
231 570 31	VHF 3 radio: Transmission problem at one station - captain's.	23-12 TASK 816
231 570 32	VHF 3 radio: Transmission problem at one station - first officer's.	23-12 TASK 816
231 570 33	VHF 3 radio: Transmission problem at one station - first observer's.	23-12 TASK 816
231 570 48	VHF 3 radio: Transmission problem at all stations.	23-12 TASK 816
232 020 00	SELCAL: Call switch does not reset for HF 1, PTT reset OK.	23-28 TASK 801
232 030 00	SELCAL: Call switch does not reset for HF 2, PTT reset OK.	23-28 TASK 801
232 040 00	SELCAL: Call switch does not reset for VHF 1, PTT reset OK.	23-28 TASK 801
232 050 00	SELCAL: Call switch does not reset for VHF 2, PTT reset OK.	23-28 TASK 801
232 060 00	SELCAL: Call switch does not reset for VHF 3, PTT reset OK.	23-28 TASK 801
232 080 00	SELCAL: call light does not come on for calls on HF 1.	23-28 TASK 802
232 090 00	SELCAL: call light does not come on for calls on HF 2.	23-28 TASK 802
232 100 00	SELCAL: call light does not come on for calls on VHF 1.	23-28 TASK 802
232 110 00	SELCAL: call light does not come on for calls on VHF 2.	23-28 TASK 802
232 120 00	SELCAL: call light does not come on for calls on VHF 3.	23-28 TASK 802
232 140 00	SELCAL: Chime does not operate for calls on HF 1, SELCAL call light comes on.	23-28 TASK 803
232 150 00	SELCAL: Chime does not operate for calls on HF 2, SELCAL call light comes on.	23-28 TASK 803
232 160 00	SELCAL: Chime does not operate for calls on VHF 1, SELCAL call light comes on.	23-28 TASK 803
232 170 00	SELCAL: Chime does not operate for calls on VHF 2, SELCAL call light comes on.	23-28 TASK 803
232 180 00	SELCAL: Chime does not operate for calls on VHF 3, SELCAL call light comes on.	23-28 TASK 803
232 200 00	SELCAL: does not operate for HF 1.	23-28 TASK 804
232 210 00	SELCAL: does not operate for HF 2.	23-28 TASK 804
232 220 00	SELCAL: does not operate for VHF 1.	23-28 TASK 804
232 230 00	SELCAL: does not operate for VHF 2.	23-28 TASK 804
232 240 00	SELCAL: does not operate for VHF 3.	23-28 TASK 804
232 250 00	SELCAL: does not operate for any radio.	23-28 TASK 804
232 260 00	SELCAL: all call lights on.	23-28 TASK 805
232 310 00	ACARS: does not operate correctly.	23-27 TASK 801
232 315 00	ACARS: CDU scratchpad shows APM WARN.	23-27 TASK 825

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FAULT CODE	FAULT DESCRIPTION	GO TO FIM TASK
232 325 00	ACARS: communication problem.	23-27 TASK 814
232 326 00	ACARS: CDU interface problem.	23-27 TASK 815
232 327 00	ACARS: input problem.	23-27 TASK 816
232 329 00	ACARS: call annunciation problem.	23-27 TASK 820
232 401 00	Emergency Locator Transmitter (ELT): Self Test Fails.	23-24 TASK 801
232 402 00	Emergency Locator Transmitter (ELT): Transmission problem.	23-24 TASK 805
232 410 00	Emergency Locator Transmitter (ELT): no ELT signal on VHF when ELT switch set to ON during test.	23-24 TASK 801
232 411 00	Emergency Locator Transmitter (ELT): ELT light is on.	23-24 TASK 807
232 719 00	ACARS: CMU cannot print data to the Multi-function Printer.	23-27 TASK 812
232 720 00	ACARS: MU cannot print data to the Multi-function Printer.	23-27 TASK 812
233 010 00	Passenger address system - does not operate from flight compartment.	23-31 TASK 801
233 020 00	Passenger address system - distorted from flight compartment.	23-31 TASK 801
233 030 00	Passenger address system - intermittent from flight compartment.	23-31 TASK 801
233 040 00	Passenger address system - volume problem from flight compartment.	23-31 TASK 802
234 010 00	Service interphone: does not connect to flight interphone.	23-41 TASK 801
234 020 48	Service interphone: does not operate - all jacks.	23-41 TASK 801
234 030 48	Service interphone: distorted - all jacks.	23-41 TASK 803
234 040 48	Service interphone: intermittent - all jacks.	23-41 TASK 803
234 050 48	Service interphone: volume problem - all jacks.	23-41 TASK 803
234 060 00	Service interphone: does not operate - jack at EE rack.	23-41 TASK 802
234 070 00	Service interphone: distorted - jack at EE rack.	23-41 TASK 802
234 080 00	Service interphone: intermittent - jack at EE rack.	23-41 TASK 802
234 090 00	Service interphone: volume problem - jack at EE rack.	23-41 TASK 802
234 100 00	Service interphone: does not operate - jack adjacent to APU.	23-41 TASK 802
234 110 00	Service interphone: intermittent - jack adjacent to APU.	23-41 TASK 802
234 120 00	Service interphone: distorted - jack adjacent to APU.	23-41 TASK 802
234 130 00	Service interphone: volume problem - jack adjacent to APU.	23-41 TASK 802
234 140 00	Service interphone: does not operate - jack at aft entry light panel.	23-41 TASK 802
234 150 00	Service interphone: distorted - jack at aft entry light panel.	23-41 TASK 802
234 160 00	Service interphone: intermittent - jack at aft entry light panel.	23-41 TASK 802
234 170 00	Service interphone: volume problem - jack at aft entry light panel.	23-41 TASK 802

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FAULT CODE	FAULT DESCRIPTION	GO TO FIM TASK
234 180 00	Service interphone: does not operate - jack at external power receptacle panel.	23-41 TASK 802
234 190 00	Service interphone: distorted - jack at external power receptacle panel.	23-41 TASK 802
234 200 00	Service interphone: intermittent - jack at external power receptacle panel.	23-41 TASK 802
234 210 00	Service interphone: volume problem - jack at external power receptacle panel.	23-41 TASK 802
234 220 00	Service interphone: does not operate - jack at left wheel well.	23-41 TASK 802
234 230 00	Service interphone: distorted - jack at left wheel well.	23-41 TASK 802
234 240 00	Service interphone: intermittent - jack at left wheel well.	23-41 TASK 802
234 250 00	Service interphone: volume problem - jack at left wheel well.	23-41 TASK 802
234 260 00	Service interphone: does not operate - jack at right wheel well.	23-41 TASK 802
234 270 00	Service interphone: distorted - jack at right wheel well.	23-41 TASK 802
234 280 00	Service interphone: intermittent - jack at right wheel well.	23-41 TASK 802
234 290 00	Service interphone: volume problem - jack at right wheel well.	23-41 TASK 802
234 300 00	Service interphone: does not operate - jack at right wing refueling slat.	23-41 TASK 802
234 310 00	Service interphone: distorted - jack at right wing refueling slat.	23-41 TASK 802
234 320 00	Service interphone: intermittent - jack at right wing refueling slat.	23-41 TASK 802
234 330 00	Service interphone: volume problem - jack at right wing refueling slat.	23-41 TASK 802
234 340 00	Call horn: does not sound.	23-43 TASK 801
234 350 00	Call horn: operates continuously.	23-43 TASK 802
234 360 00	Call system: does not operate, ground crew to flight compartment.	23-43 TASK 803
234 370 00	Call system: call light does not come on, ground crew to flight compartment.	23-43 TASK 804
234 371 00	Call system: does not operate, attendant to flight compartment.	23-42 TASK 805
234 380 00	Call system: call light does not come on, attendant to flight compartment.	23-42 TASK 806
234 390 00	Call system: Chime does not sound in the flight compartment.	23-42 TASK 804
234 395 00	Call system: attendant call chime does not operate in passenger cabin.	23-42 TASK 803
234 400 00	Call system: does not operate, flight compartment to attendant.	23-42 TASK 802
234 410 00	Service interphone: does not operate - jack in the electronic equipment bay.	23-41 TASK 802
234 420 00	Service interphone: intermittent - jack in the electronic equipment bay.	23-41 TASK 802

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234 430 00	Service interphone: distorted - jack in the electronic equipment bay.	23-41 TASK 802
234 440 00	Service interphone: volume problem - jack in the electronic equipment bay.	23-41 TASK 802
234 811 00	Attendant control panel: amber light on ACP switch assembly does not come on during operational test.	23-42 TASK 841
235 010 31	Boom microphone/headset: does not operate - captain's.	23-51 TASK 801
235 010 32	Boom microphone/headset: does not operate - first officer's.	23-51 TASK 801
235 020 31	Boom microphone/headset: damaged - captain's.	23-51 TASK 802
235 020 32	Boom microphone/headset: damaged - first officer's.	23-51 TASK 802
235 030 31	Flight interphone: does not operate - captain's.	23-51 TASK 804
235 030 32	Flight interphone: does not operate - first officer's.	23-51 TASK 804
235 030 33	Flight interphone: does not operate - first observer's.	23-51 TASK 804
235 030 48	Flight interphone: does not operate - all stations.	23-51 TASK 803
235 040 31	Headphone: does not operate - captain's.	23-51 TASK 801
235 040 32	Headphone: does not operate - first officer's.	23-51 TASK 801
235 040 33	Headphone: does not operate - first observer's.	23-51 TASK 801
235 040 34	Headphone: does not operate - second observer's.	23-51 TASK 801
235 050 31	Hand microphone: does not operate - captain's.	23-51 TASK 801
235 050 32	Hand microphone: does not operate - first officer's.	23-51 TASK 801
235 050 33	Hand microphone: does not operate - first observer's.	23-51 TASK 801
235 060 31	Hand microphone: damaged - captain's.	23-51 TASK 802
235 060 32	Hand microphone: damaged - first officer's.	23-51 TASK 802
235 060 33	Hand microphone: damaged - first observer's.	23-51 TASK 802
235 070 31	Headphone: damaged - captain's.	23-51 TASK 802
235 070 32	Headphone: damaged - first officer's.	23-51 TASK 802
235 070 33	Headphone: damaged - first observer's.	23-51 TASK 802
235 070 34	Headphone: damaged - second observer's.	23-51 TASK 802
235 071 31	Oxygen mask: communication problem - captain's.	23-51 TASK 808
235 071 32	Oxygen mask: communication problem - first officer's.	23-51 TASK 808
235 071 33	Oxygen mask: communication problem - first observer's.	23-51 TASK 808
235 080 31	Speaker in the flight compartment: does not operate - captain's.	23-51 TASK 805
235 080 32	Speaker in the flight compartment: does not operate - first officer's.	23-51 TASK 806
235 101 31	Audio control panel indicator light problem - captain's.	23-51 TASK 807
235 101 32	Audio control panel indicator light problem - first officer's.	23-51 TASK 807
235 101 33	Audio control panel indicator light problem - first observer's.	23-51 TASK 807

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235 102 31	Audio control panel volume control problem - captain's.	23-51 TASK 807
235 102 32	Audio control panel volume control problem - first officer's.	23-51 TASK 807
235 102 33	Audio control panel volume control problem - first observer's.	23-51 TASK 807
235 103 31	Audio control panel selector switch problem - captain's.	23-51 TASK 807
235 103 32	Audio control panel selector switch problem - first officer's.	23-51 TASK 807
235 103 33	Audio control panel selector switch problem - first observer's.	23-51 TASK 807
237 010 00	Voice recorder: Signal problem at monitor jack.	23-71 TASK 801
237 015 00	Voice recorder: RIPS maintenance discrete check fails.	23-71 TASK 806
237 020 00	Voice recorder: STATUS light or TEST light does not come on when TEST switch is pushed.	23-71 TASK 804
237 050 00	Voice recorder: system operation problem (airplanes with AUTO/ON switch).	23-71 TASK 805
237 501 01	Video Surveillance System: no video for one camera - CAM 1.	23-75 TASK 807
237 501 02	Video Surveillance System: no video for one camera - CAM 2.	23-75 TASK 807
237 501 03	Video Surveillance System: no video for one camera - CAM 3.	23-75 TASK 807
237 503 00	Video Surveillance System: no video at all three cameras.	23-75 TASK 809
237 510 00	Video Surveillance System: Distorted video from one camera.	23-75 TASK 808
238 302 00	Flight Compartment: Outlet Unit Does Not Operate.	23-82 TASK 802

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<u>LRU/SYSTEM</u>	<u>SHORT NAME</u>	<u>CHAPTER</u>
Air Data Inertial Reference System	ADIRS	34
Air Traffic Controller Transponder - 1 (Left)	ATC XPDR - 1 (L)	34
Air Traffic Controller Transponder - 2 (Right)	ATC XPDR - 2 (R)	34
Airborne Vibration Monitor System Signal Conditioner	AVM SIG COND	77
Antiskid Control Unit	ANTISKID	32
Attendant Control Panel	ACP	23
Automatic Direction Finder Receiver - 1	ADF RECVR - 1	34
Automatic Direction Finder Receiver - 2	ADF RECVR - 2	34
Autothrottle Computer	A/T COMPUTER	22
Auxiliary Power Unit	APU	49
Auxiliary Power Unit Generator Control Unit	APU GCU	24
Bus Power Control Unit	BPCU	24
Cabin Pressure Controller	CAB PRESS CON	21
Cargo Electronic Unit - Lower Aft	CEU - LWR AFT	26
Cargo Electronic Unit - Lower Forward	CEU - LWR FWD	26
Cargo Electronic Unit - Main Aft	CEU - MAIN AFT	26
Cargo Fire Control Panel	CFCP	26
Common Display System	CDS	31
Compartment Overheat Detection Control Module	WING/BODY OHT	26
Digital Flight Control System	DFCS	22
Distance Measurement Equipment Interrogator	DME INTROGTR	34
Electrical Meters, Battery, and Galley Power Module	P5-13	24
Electronic Engine Controller - 1	ENGINE - 1	73
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Emergency Locator Transmitter	ELT	23
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Engine Accessory Unit/TR DEPLOY ENG 1	EAU/TR DPLOY-ENG 1	78
Engine Accessory Unit/TR DEPLOY ENG 2	EAU/TR DPLOY-ENG 2	78
Engine Accessory Unit/TR STOW ENG 1	EAU/TR STOW-ENG 1	78
Engine Accessory Unit/TR STOW ENG 2	EAU/TR STOW-ENG 2	78
Engine and Auxiliary Power Unit Fire Detection Control Module	ENG/APU FIRE	26
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Enhanced Digital Flight Control System	EDFCS	22
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Flight Management Computer System	FMCS	34
Fuel Quantity Indicating System	FQIS	28
Generator Control Unit - 1	GCU - 1	24
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Ground Proximity Computer	GROUND PROX	34
High Frequency Transceiver	HF XCVR	23
Multi-Mode Receiver	MMR	34
Nitrogen Generation System BITE Display Unit	NGS	47
Pack Flow Temperature Controller	PFTC	21
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Pack/Zone Temperature Controller - Right	PACK/ZN CON - R	21
Proximity Switch Electronics Unit	PSEU	32
Radio Altimeter Receiver/Transmitter	RADIO ALTIMTR	34
Satellite Communications System	SATCOM	23
Stall Management Yaw Damper Computer - 1	SMYD - 1	27
Stall Management Yaw Damper Computer - 2	SMYD - 2	27
Traffic Alert and Collision Avoidance System Computer	TCAS COMPUTER	34
VHF Omnidirectional Ranging Marker Beacon Receiver	VOR/MKR RCVR	34
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Weather Radar Receiver/Transmitter	WEATHER RADAR	34
Window Heat Control Unit - Left Forward	WHCU - L FWD	30
Window Heat Control Unit - Left Side	WHCU - L SIDE	30
Window Heat Control Unit - Right Forward	WHCU - R FWD	30
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Window Heat Control Unit 1 - Left Forward and Right Side	WHCU1 - L FWD/R SIDE	30
Window Heat Control Unit 2 - Right Forward and Left Side	WHCU2 - R FWD/L SIDE	30

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ACP	23-11001 INTERNAL ACP FAULT DETECTED IN <FORWARD AFT> ACP	23-42 TASK 807
ACP	23-11002 INTERNAL ACP FAULT DETECTED IN <FORWARD AFT> ACP	23-42 TASK 807
ACP	23-11003 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 807
ACP	23-11004 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 807
ACP	23-11005 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 808
ACP	23-11006 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 808
ACP	23-11007 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 808
ACP	23-11008 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 809
ACP	23-11010 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 807
ACP	23-11011 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 807
ACP	23-11012 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 807
ACP	23-11013 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 807
ACP	23-11014 INTERNAL ACP FAULT DETECTED IN FORWARD AND AFT ACPS	23-42 TASK 809
ACP	23-11015 <FORWARD | AFT> WORK LIGHT FAULT DETECTED	23-42 TASK 811
ACP	23-11016 <FORWARD | AFT> MDCD LIGHT FAULT DETECTED	23-42 TASK 812
ACP	23-11017 28 VDC POWER FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 814
ACP	23-11018 INTERNAL ACP FAULT DETECTED	23-42 TASK 808
ACP	23-11019 INTERNAL ACP FAULT DETECTED	23-42 TASK 808
ACP	23-11020 INTERNAL ACP FAULT DETECTED	23-42 TASK 808
ACP	23-11021 INTERNAL ACP FAULT DETECTED	23-42 TASK 808
ACP	23-11022 COMMUNICATION WITH AFT ACP LOST	23-42 TASK 815
ACP	23-11023 CABIN TEMPERATURE FAULT DETECTED	23-42 TASK 816
ACP	23-11024 <FORWARD AFT> THRESHOLD LIGHT FAULT DETECTED	23-42 TASK 813

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ACP	23-11025 INTERNAL ACP FAULT DETECTED	23-42 TASK 807
ACP	23-11026 LAVATORY INOPERATIVE	23-42 TASK 817
ACP	23-11027 CLEAN CHECK SENSORS	23-42 TASK 817
ACP	23-11028 LIGHT <COLUMN>-<ADDRESS> NO RESPONSE DURING ADDRESSING	23-42 TASK 810
ACP	23-11029 LIGHT <COLUMN>-<ADDRESS> OUT OF SEQUENCE RESPONSE DURING ADDRESSING	23-42 TASK 810
ACP	23-11030 LIGHT <COLUMN>-<ADDRESS> EXTRA RESPONSE DURING ADDRESSING	23-42 TASK 810
ACP	23-11031 LIGHT <COLUMN>-<ADDRESS> INCORRECT ZONE DETECTED	23-42 TASK 810
ACP	23-11032 LIGHT <COLUMN>-<ADDRESS> INCORRECT ZONE DETECTED	23-42 TASK 810
ACP	23-11033 LIGHT <COLUMN>-<ADDRESS> INCORRECT STANDARD SCENES DETECTED	23-42 TASK 810
ACP	23-11034 LIGHT <COLUMN>-<ADDRESS> INCORRECT CUSTOM SCENES DETECTED	23-42 TASK 810
ACP	23-11035 NO SYSTEM TEST LRU RESPONSES DETECTED ON COLUMN 1	23-42 TASK 819
ACP	23-11036 NO SYSTEM TEST LRU RESPONSES DETECTED ON COLUMN 2	23-42 TASK 819
ACP	23-11037 NO SYSTEM TEST LRU RESPONSES DETECTED ON COLUMN 3	23-42 TASK 819
ACP	23-11038 NO SYSTEM TEST LRU RESPONSES DETECTED ON COLUMN 4	23-42 TASK 819
ACP	23-11039 SYSTEM TEST RS-485 CABLE BREAK DETECTED AT LRU 1-<X>	23-42 TASK 818
ACP	23-11040 SYSTEM TEST RS-485 CABLE BREAK DETECTED AT LRU 2-<X>	23-42 TASK 818
ACP	23-11041 SYSTEM TEST RS-485 CABLE BREAK DETECTED AT LRU 3-<X>	23-42 TASK 818
ACP	23-11042 SYSTEM TEST RS-485 CABLE BREAK DETECTED AT LRU 4-<X>	23-42 TASK 818
ACP	23-11043 LIGHT <COLUMN>-<ADDRESS> NO RESPONSE DURING ADDRESSING	23-42 TASK 820
ACP	23-11044 LIGHT <COLUMN>-<ADDRESS> OUT OF SEQUENCE RESPONSE DURING ADDRESSING	23-42 TASK 820
ACP	23-11045 LIGHT <COLUMN>-<ADDRESS> EXTRA RESPONSE DURING ADDRESSING	23-42 TASK 821
ACP	23-11046 LIGHT <COLUMN>-<ADDRESS> INCORRECT LIGHT TYPE DETECTED	23-42 TASK 822

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ACP	23-11047 LIGHT <COLUMN>-<ADDRESS> NO RESPONSE DURING ZONING	23-42 TASK 823
ACP	23-11048 LIGHT <COLUMN>-<ADDRESS> OUT OF SEQUENCE RESPONSE DURING ZONING	23-42 TASK 823
ACP	23-11049 LIGHT <COLUMN>-<ADDRESS> INCORRECT ZONE DETECTED	23-42 TASK 824
ACP	23-11050 LIGHT <COLUMN>-<ADDRESS> NO RESPONSE DURING STANDARD SCENE DOWNLOAD	23-42 TASK 823
ACP	23-11051 LIGHT <COLUMN>-<ADDRESS> OUT OF SEQUENCE RESPONSE DURING STANDARD SCENE DOWNLOAD	23-42 TASK 823
ACP	23-11052 LIGHT <COLUMN>-<ADDRESS> FAILED STANDARD SCENE DOWNLOAD	23-42 TASK 823
ACP	23-11053 LIGHT <COLUMN>-<ADDRESS> NO RESPONSE DURING CUSTOM SCENE DOWNLOAD	23-42 TASK 823
ACP	23-11054 LIGHT <COLUMN>-<ADDRESS> OUT OF SEQUENCE RESPONSE DURING CUSTOM SCENE DOWNLOAD	23-42 TASK 823
ACP	23-11055 LIGHT <COLUMN>-<ADDRESS> FAILED CUSTOM SCENE DOWNLOAD	23-42 TASK 823
ACP	23-11056 NO DATA LOAD LRU RESPONSES DETECTED ON COLUMN 1	23-42 TASK 825
ACP	23-11057 NO DATA LOAD LRU RESPONSES DETECTED ON COLUMN 2	23-42 TASK 825
ACP	23-11058 NO DATA LOAD LRU RESPONSES DETECTED ON COLUMN 3	23-42 TASK 825
ACP	23-11059 NO DATA LOAD LRU RESPONSES DETECTED ON COLUMN 4	23-42 TASK 825
ACP	23-11060 DATA LOAD RS-485 CABLE BREAK DETECTED ON COLUMN 1	23-42 TASK 826
ACP	23-11061 DATA LOAD RS-485 CABLE BREAK DETECTED ON COLUMN 2	23-42 TASK 826
ACP	23-11062 DATA LOAD RS-485 CABLE BREAK DETECTED ON COLUMN 3	23-42 TASK 826
ACP	23-11063 DATA LOAD RS-485 CABLE BREAK DETECTED ON COLUMN 4	23-42 TASK 826
ACP	23-11064 INTERNAL ACP FAULT DETECTED	23-42 TASK 827
ACP	23-11065 INTERNAL ACP FAULT DETECTED	23-42 TASK 827
ACP	23-11066 INTERNAL ACP FAULT DETECTED	23-42 TASK 827
ACP	23-11067 INTERNAL ACP FAULT DETECTED	23-42 TASK 827
ACP	23-11068 COMMUNICATIONS WITH AFT ACP LOST	23-42 TASK 828

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ACP	23-11069 LSAP CONFIGURATION INVALID	23-42 TASK 829
ACP	23-11070 INTERNAL ACP FAULT DETECTED	23-42 TASK 830
ACP	23-11071 INTERNAL ACP FAULT DETECTED	23-42 TASK 830
ACP	23-11072 INTERNAL ACP FAULT DETECTED	23-42 TASK 830
ACP	23-11073 INTERNAL ACP FAULT DETECTED	23-42 TASK 830
ACP	23-11074 DISK FAULT DETECTED	23-42 TASK 831
ACP	23-11075 DISK FAULT DETECTED	23-42 TASK 831
ACP	23-11076 DISK FAULT DETECTED	23-42 TASK 831
ACP	23-11077 DISK FAULT DETECTED	23-42 TASK 831
ACP	23-11078 INCOMPATIBLE DISK DETECTED	23-42 TASK 832
ACP	23-11079 INCOMPATIBLE DISK DETECTED	23-42 TASK 832
ACP	23-11080 COMMUNICATIONS WITH ADL LOST	23-42 TASK 833
ACP	33-11001 Light <column>-<address> Component ID Error	33-20 TASK 817
ACP	33-11002 Light <column>-<address> Calibration Data CRC Error	33-20 TASK 817
ACP	33-11003 Light <column>-<address> Firmware Version Disagree Error	33-20 TASK 817
ACP	33-11004 Light <column>-<address> Power Supply Error	33-20 TASK 817
ACP	33-11005 Light <column>-<address> Temperature Sensor Error	33-20 TASK 817
ACP	33-11006 Light <column>-<address> RAM Check Error	33-20 TASK 817
ACP	33-11007 Light <column>-<address> Slave Token Error	33-20 TASK 817
ACP	33-11008 Light <column>-<address> Slave Communication Error	33-20 TASK 817
ACP	33-11009 Light <column>-<address> Slave Communication Error	33-20 TASK 817
ACP	33-11010 Light <column>-<address> Slave Communication Error	33-20 TASK 817
ACP	33-11011 Light <column>-<address> LED Wrap Data	33-20 TASK 817
ACP	33-11012 Light <column>-<address> Zone/Address Data CRC Error	33-20 TASK 818
ACP	33-11013 Light <column>-<address> Zone Address Disagree	33-20 TASK 818
ACP	33-11014 Light <column>-<address> Standard Scene CRC Error	33-20 TASK 818
ACP	33-11015 Light <column>-<address> Custom Scene CRC Error	33-20 TASK 818
ACP	33-11016 Light <column>-<address> Watchdog Timer Error	33-20 TASK 817

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ACP	33-11017 Light <column>-<address> Master Token Timeout Error	33-20 TASK 819
ACP	33-11018 Light <column>-<address> Master Token Release Error	33-20 TASK 819
ACP	33-11019 Light <column>-<address> Loss of communication	33-20 TASK 819
ELT	LED does not flash exactly three times	23-24 TASK 805
HF XCVR	CONTROL FAIL	23-11 TASK 802
HF XCVR	KEY INTERLOCK	23-11 TASK 804
HF XCVR	LRU FAIL	23-11 TASK 803
HF XCVR	LRU STATUS	23-11 TASK 803
SATCOM	ANTENNA	23-15 TASK 952
SATCOM	BSU-TOP PORT - ANT ARRAY FUNC FAIL	23-15 TASK 805
SATCOM	BSU-TOP PORT - BEAM STEER FUNCFAIL	23-15 TASK 805
SATCOM	BSU-TOP PORT - HGA/IGA FAILURE	23-15 TASK 805
SATCOM	BSU-TOP PORT - LBL 144 RATE FAIL	23-15 TASK 805
SATCOM	BSU-TOP PORT - LBL 350 RATE FAIL	23-15 TASK 805
SATCOM	BSU-TOP PORT - OVER TEMPERATURE FAIL	23-15 TASK 805
SATCOM	BSU-TOP PORT - PSU FUNCTION FAILURE	23-15 TASK 805
SATCOM	BSU-TOP PORT - RAM FAILURE	23-15 TASK 805
SATCOM	BSU-TOP PORT - ROM FAILURE	23-15 TASK 805
SATCOM	BSU-TOP PORT - SELF TEST FAIL	23-15 TASK 805
SATCOM	BSU-TOP PORT - WRONG SDI CODE	23-15 TASK 805
SATCOM	BSU-TOP PORT/SDU - BITE BUS INACTIVE	23-15 TASK 943
SATCOM	CMU1 - INCORRECT SSM	23-15 TASK 808
SATCOM	CMU1 - PROTOCOL ERROR	23-15 TASK 808
SATCOM	CMU1 - SELF DECLARED ERROR	23-15 TASK 808
SATCOM	CMU1 - TEST/LOOP FAILURE	23-15 TASK 808
SATCOM	CMU1 - TX DATA ERROR	23-15 TASK 808
SATCOM	CMU1/SDU - BUS INACTIVE	23-15 TASK 810
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SATCOM	EXT. DATA BUS	23-15 TASK 956
SATCOM	EXT. HPA	23-15 TASK 954
SATCOM	IRS-PRI - IRS I/F WARNING	23-15 TASK 813
SATCOM	IRS-PRI/IRS-SEC - ALTITUDE DATA FAIL	23-15 TASK 946
SATCOM	IRS-PRI/IRS-SEC - GND SPEED DATA FAIL	23-15 TASK 946

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SATCOM	IRS-PRI/IRS-SEC - HEADING DATA FAIL	23-15 TASK 946
SATCOM	IRS-PRI/IRS-SEC - TRCK ANG DATA FAIL	23-15 TASK 946
SATCOM	IRS-PRI/IRS-SEC/AES - POSN DATA FAIL	23-15 TASK 946
SATCOM	IRS-PRI/SDU - BUS INACTIVE	23-15 TASK 813
SATCOM	IRS-PRI/SDU - IRS I/F FAIL IN AIR	23-15 TASK 813
SATCOM	IRS-SEC - IRS I/F WARNING	23-15 TASK 944
SATCOM	IRS-SEC/SDU - BUS INACTIVE	23-15 TASK 944
SATCOM	IRS-SEC/SDU - IRS I/F FAIL IN AIR	23-15 TASK 944
SATCOM	IRS-SEC/SDU - IRS I/F FAIL ON GND	23-15 TASK 944
SATCOM	LNA-TOP PORT - DIPLEXER FAILURE	23-15 TASK 804
SATCOM	ORT/CONFIG.	23-15 TASK 957
SATCOM	SAT LINK #1	23-15 TASK 958
SATCOM	SAT LINK #2	23-15 TASK 959
SATCOM	SCM - ECM ACCESS FAILURE	23-15 TASK 940
SATCOM	SCM - TEMP ACCESS FAILURE	23-15 TASK 940
SATCOM	SCM/SDU - RS422 BUS INACTIVE	23-15 TASK 941
SATCOM	SCM	23-15 TASK 940
SATCOM	SDU - A429 LOOPBACK FAIL	23-15 TASK 802
SATCOM	SDU - A429 PUMA REG FAIL	23-15 TASK 802
SATCOM	SDU - A429 SRAM INTEG FAIL	23-15 TASK 802
SATCOM	SDU - A429 SRAM SEU FAIL	23-15 TASK 945
SATCOM	SDU - A429 SRAM TEST FAIL	23-15 TASK 802
SATCOM	SDU - ADDR LINE TEST FAIL	23-15 TASK 802
SATCOM	SDU - AIR FLW SENSOR 1 FAIL	23-15 TASK 802
SATCOM	SDU - AIR FLW SENSOR 2 FAIL	23-15 TASK 802
SATCOM	SDU - ATE REQ DSCRT MON FAIL	23-15 TASK 802
SATCOM	SDU - BGAN SW CORRUPT-FATAL	23-15 TASK 942
SATCOM	SDU - BGAN SW CORRUPT-MAJOR	23-15 TASK 942
SATCOM	SDU - BOOT INTEG FAIL	23-15 TASK 802
SATCOM	SDU - BUS ACCESS FAILURE	23-15 TASK 945
SATCOM	SDU - CCM OFFSET/CAL INVALID	23-15 TASK 802
SATCOM	SDU - CCM1 ETHERNET FAIL	23-15 TASK 945
SATCOM	SDU - CCM2 ETHERNET FAIL	23-15 TASK 945
SATCOM	SDU - CLAS SW CORRUPT-FATAL	23-15 TASK 942

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SATCOM	SDU - CLAS SW CORRUPT-MAJOR	23-15 TASK 942
SATCOM	SDU - CLASSIC CP-MAJOR FAIL	23-15 TASK 802
SATCOM	SDU - CLASSIC DIO-MAJOR FAIL	23-15 TASK 802
SATCOM	SDU - CONFIG STRAPS ERROR	23-15 TASK 816
SATCOM	SDU - CPU BUCKS MON FAIL	23-15 TASK 802
SATCOM	SDU - CSW INRAM INTEG FAIL	23-15 TASK 802
SATCOM	SDU - CSW INTEG/COMPAT FAIL	23-15 TASK 802
SATCOM	SDU - DECK 1 OVR PWR FAIL	23-15 TASK 802
SATCOM	SDU - DECK 2 OVR PWR FAIL	23-15 TASK 802
SATCOM	SDU - DL CODE INTEG FAIL	23-15 TASK 802
SATCOM	SDU - DMA TEST FAIL	23-15 TASK 945
SATCOM	SDU - DSI TEST FAILURE	23-15 TASK 802
SATCOM	SDU - DSO FAILSAFE STATE FAIL	23-15 TASK 802
SATCOM	SDU - DSO FEEDBACK FAIL	23-15 TASK 802
SATCOM	SDU - DSO READBACK FAIL	23-15 TASK 802
SATCOM	SDU - DSO STATUS FAILURE	23-15 TASK 802
SATCOM	SDU - EDC FAILURE	23-15 TASK 942
SATCOM	SDU - EEPROM FAILURE	23-15 TASK 802
SATCOM	SDU - EPICEA PARTITION FAIL	23-15 TASK 945
SATCOM	SDU - ETHERNET 1 FAILED	23-15 TASK 945
SATCOM	SDU - ETHERNET 2 FAILED	23-15 TASK 945
SATCOM	SDU - ETHERNET SFTY FAILED	23-15 TASK 802
SATCOM	SDU - EXT ISDN 1 FAILURE	23-15 TASK 945
SATCOM	SDU - EXT ISDN 2 FAILURE	23-15 TASK 945
SATCOM	SDU - FATAL TEMP SENS FAIL	23-15 TASK 802
SATCOM	SDU - FAULTY 5V	23-15 TASK 802
SATCOM	SDU - FAULTY CHECKSUM	23-15 TASK 802
SATCOM	SDU - GAIN COMP INCORRECT	23-15 TASK 802
SATCOM	SDU - HARDWARE FAILURE	23-15 TASK 802
SATCOM	SDU - I2C MON FAILURE	23-15 TASK 802
SATCOM	SDU - I2C TEST FAILURE	23-15 TASK 802
SATCOM	SDU - IN0 DSCRT MON FAIL	23-15 TASK 802
SATCOM	SDU - INCOMPAT SEC ORT	23-15 TASK 827
SATCOM	SDU - INCOMPAT USR ORT	23-15 TASK 828
SATCOM	SDU - INCORRECT HW INIT	23-15 TASK 802

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SATCOM	SDU - INITIALISATION FAILURE	23-15 TASK 802
SATCOM	SDU - INTRPT/EXPT CNTRL FAIL	23-15 TASK 945
SATCOM	SDU - INVALID CAL TABLE	23-15 TASK 802
SATCOM	SDU - ISDN 1 FAILURE	23-15 TASK 945
SATCOM	SDU - ISDN 2 FAILURE	23-15 TASK 945
SATCOM	SDU - LOAD REQ DSCRT MON FAIL	23-15 TASK 802
SATCOM	SDU - LOADS INTEG CHECK FAIL	23-15 TASK 942
SATCOM	SDU - LOW PWR MODE 2 FAIL	23-15 TASK 802
SATCOM	SDU - MODEM 1 FATAL FAIL	23-15 TASK 802
SATCOM	SDU - MODEM 2 FATAL FAIL	23-15 TASK 802
SATCOM	SDU - MSG ACK ERROR	23-15 TASK 802
SATCOM	SDU - NO RESPONSE TO RESET	23-15 TASK 802
SATCOM	SDU - NO RESPONSE	23-15 TASK 802
SATCOM	SDU - NVM FAILURE	23-15 TASK 802
SATCOM	SDU - NVM MON FAILURE	23-15 TASK 802
SATCOM	SDU - OVEN READY FAILURE	23-15 TASK 802
SATCOM	SDU - OVERCURRENT FAIL	23-15 TASK 802
SATCOM	SDU - OVR PWR TEST FAIL	23-15 TASK 802
SATCOM	SDU - PCI BUS I/O TEST FAIL	23-15 TASK 942
SATCOM	SDU - PPC750 SELF TEST FAIL	23-15 TASK 945
SATCOM	SDU - QUADRAX 1 FAILED	23-15 TASK 945
SATCOM	SDU - QUADRAX 2 FAILED	23-15 TASK 945
SATCOM	SDU - R/W REG CHECK FAILED	23-15 TASK 942
SATCOM	SDU - RAM BUFFER FULL	23-15 TASK 945
SATCOM	SDU - RAM CORRUPTION	23-15 TASK 945
SATCOM	SDU - RAM EDC TEST FAIL	23-15 TASK 802
SATCOM	SDU - RAM TEST FAILURE	23-15 TASK 802
SATCOM	SDU - READ ONLY CHK FAILED	23-15 TASK 942
SATCOM	SDU - RECOPY FAILED	23-15 TASK 802
SATCOM	SDU - RF1 FATAL FAILURE	23-15 TASK 802
SATCOM	SDU - RF2 FATAL FAILURE	23-15 TASK 802
SATCOM	SDU - SDRAM EDC FAILURE	23-15 TASK 802
SATCOM	SDU - SDRAM FAILURE	23-15 TASK 942
SATCOM	SDU - SECURITY FAILURE	23-15 TASK 802
SATCOM	SDU - SERIAL NUMBER INVALID	23-15 TASK 802

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SATCOM	SDU - SHOP DSCRT MON FAIL	23-15 TASK 802
SATCOM	SDU - SLRS INTEG/COMPAT FAIL	23-15 TASK 802
SATCOM	SDU - SW LOAD CMPAT FAIL	23-15 TASK 942
SATCOM	SDU - TAL1 FATAL FAIL	23-15 TASK 802
SATCOM	SDU - TAL2 FATAL FAIL	23-15 TASK 802
SATCOM	SDU - TEMP SENSOR 1 FAIL	23-15 TASK 802
SATCOM	SDU - TEMP SENSOR 2 FAIL	23-15 TASK 802
SATCOM	SDU - TEMP SENSOR FAIL	23-15 TASK 802
SATCOM	SDU - TEST ID 1605 FAILURE	23-15 TASK 802
SATCOM	SDU - TEST ID 1606 FAILURE	23-15 TASK 802
SATCOM	SDU - TEST ID 1607 FAILURE	23-15 TASK 802
SATCOM	SDU - TEST ID 1608 FAILURE	23-15 TASK 802
SATCOM	SDU - TEST ID 1609 FAILURE	23-15 TASK 802
SATCOM	SDU - TMP SENSOR 2 FAILURE	23-15 TASK 802
SATCOM	SDU - TRANSMIT MUTE FAIL	23-15 TASK 802
SATCOM	SDU - TYP1 ORT SYNC MJR FAIL	23-15 TASK 827
SATCOM	SDU - TYP1 ORT SYNC MNR FAIL	23-15 TASK 827
SATCOM	SDU - TYP2 ORT SYNC FAIL	23-15 TASK 827
SATCOM	SDU - TYP4 ORT SYNC MJR FAIL	23-15 TASK 828
SATCOM	SDU - TYP4 ORT SYNC MNR FAIL	23-15 TASK 828
SATCOM	SDU - TYP5 ORT SYNC FAIL	23-15 TASK 828
SATCOM	SDU - USIM1 ACCESS FAILED	23-15 TASK 940
SATCOM	SDU - USIM1 FAILURE	23-15 TASK 940
SATCOM	SDU - USIM2 ACCESS FAILED	23-15 TASK 940
SATCOM	SDU - USIM3 ACCESS FAILED	23-15 TASK 940
SATCOM	SDU - USIM3 FAILURE	23-15 TASK 940
SATCOM	SDU - USIM4 ACCESS FAILED	23-15 TASK 940
SATCOM	SDU - VP12 SEC VOLTAGE FAIL	23-15 TASK 802
SATCOM	SDU - VP40 SEC VOLTAGE FAIL	23-15 TASK 802
SATCOM	SDU - VPI MON FAILED	23-15 TASK 802
SATCOM	SDU - WATCHDOG FAILURE	23-15 TASK 945
SATCOM	SDU/BSU-TOP PORT - BUS INACTIVE	23-15 TASK 943
SATCOM	SDU	23-15 TASK 950
VHF XCVR	ANTENNA FAIL	23-12 TASK 813
VHF XCVR	CONTROL FAIL	23-12 TASK 812

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
VHF XCVR	LRU STATUS	23-12 TASK 818

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801. HF Communication System - BITE Procedure

A. General

- (1) You do the High Frequency (HF) Communication System BITE Procedure from the:
 - (a) Front Panel of the HF Transceiver.
- (2) No. 1 and No. 2 HF Transceivers are located in the Aft Cargo Compartment on the Electronic Equipment Rack, E6.
- (3) The HF Communication System BITE Test does a self check for existing Internal and External Faults.
 - (a) Results of the BITE Test are shown with Fault Lights on the HF Transceiver Front Panel.

SIA ALL; WITH DUAL COLLINS HF TRANSCEIVERS

B. BITE Procedure - COLLINS DUAL HF Transceivers

SIA ALL



WARNING

DO NOT OPERATE THE HF SYSTEM WHILE THE AIRPLANE IS REFUELED OR DEFUELED. THIS CAN CAUSE INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT.



WARNING

MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 6 FEET AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

- (1) Do these steps to do the BITE Procedure for the HF Communication System:
 - (a) Push and release the TEST Switch on the applicable HF Transceiver-1 (2) Front Panel.
 - (b) Make sure that these conditions occur:
 - 1) All three LEDs on the HF Transceiver Front Panel come ON Red for one to three seconds.
 - 2) The LRU STATUS LED comes ON Green and the KEY INTERLOCK and CONTROL FAIL LEDs stay Red for one to three seconds.
 - 3) All three LEDs go OFF for one to seven seconds.
 - 4) The LRU STATUS LED comes ON Green for about 30 seconds and the KEY INTERLOCK and CONTROL FAIL LEDs stay OFF.
 - (c) If the LRU STATUS LED comes ON Green for about 30 seconds and the KEY INTERLOCK and CONTROL FAIL LEDs stay OFF, then the BITE Test passed.
 - (d) If the Red LRU STATUS, KEY INTERLOCK, or CONTROL FAIL LED is ON, then refer to the table at the end of this task to find the applicable Fault Isolation Manual (FIM) Tasks for the maintenance messages that show.

NOTE: LRU STATUS is the same as LRU FAIL.

CONTROL FAIL is the same as CONTROL INPUT FAIL.

LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
HF XCVR	CONTROL FAIL	23-11 TASK 802
HF XCVR	KEY INTERLOCK	23-11 TASK 804

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
HF XCVR	LRU FAIL	23-11 TASK 803
HF XCVR	LRU STATUS	23-11 TASK 803

————— **END OF TASK** —————

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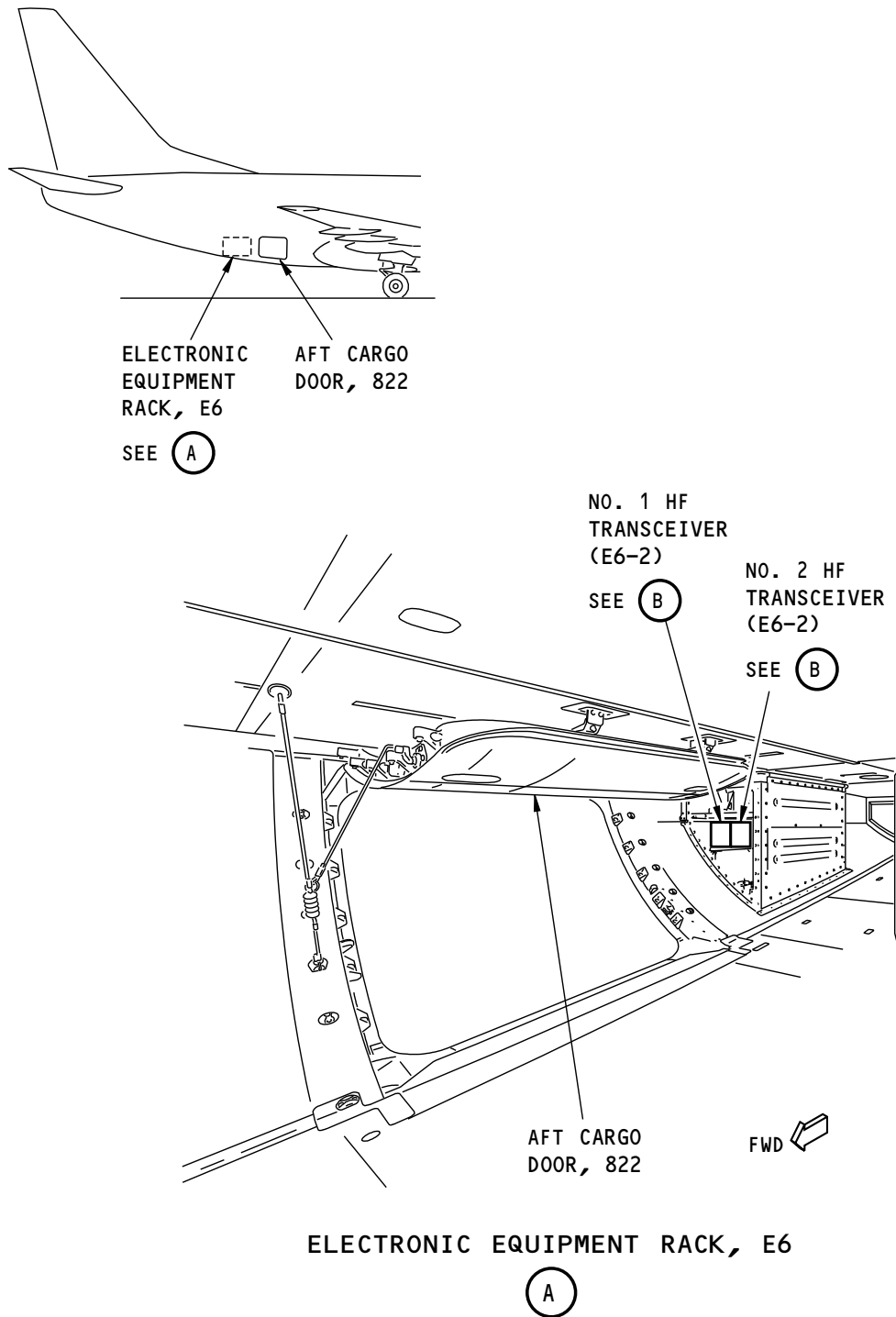
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H45424 S0000146849_V1

HF Transceiver - Component Location
Figure 201/23-11-00-990-827

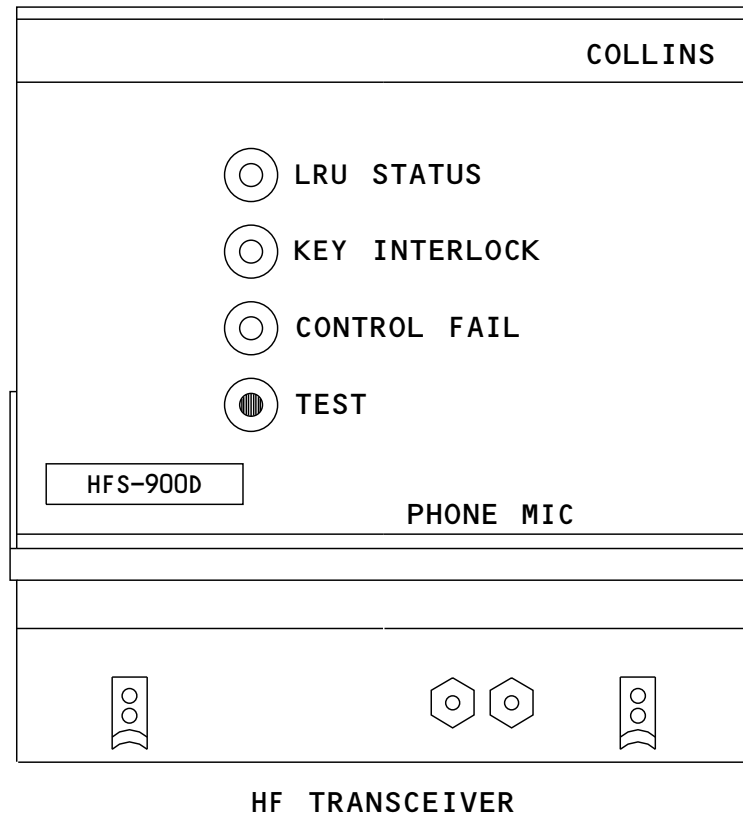
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L36671 S0000146937_V1

HF Transceiver Front Panel
Figure 202/23-11-00-990-820

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802. HF Transceiver CONTROL INPUT FAIL Problem - Fault Isolation

A. Description

- (1) This task is for these maintenance messages:
 - (a) CONTROL INPUT FAIL
- (2) The HF transceiver receives no input from the radio tuning panel.

B. Possible Causes

- (1) Radio tuning panel, P8-71 (RTP-1) or P8-72 (RTP-2).
- (2) Wiring problem.
- (3) HF transceiver, M226 (HF-1) or M439 (HF-2).

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00165	COMMUNICATIONS VHF 1
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	3	C00166	COMMUNICATIONS VHF 2
D	2	C00857	COMMUNICATIONS HF 2

D. Related Data

- (1) (SSM 23-11-11, 23-11-21)
- (2) (WDM 23-11-11, 23-11-21)

E. Initial Evaluation

- (1) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.
 - (a) If the maintenance message does not show on the front panel of the transceiver, then there was an intermittent fault.
 - (b) If the maintenance message shows on the front panel of the transceiver, then continue.
- (2) Do these steps at the radio tuning panel, P8-71 (RTP-1) or P8-72 (RTP-2), on the aft electronic panel, P8:
 - (a) Push the applicable HF switch light (HF 1 or HF 2).
 - 1) Make sure that the switch light comes on.
 - (b) Set the STANDBY frequency window to an approved test frequency.
 - (c) Push the display transfer switch.
 - (d) Make sure that the ACTIVE frequency display shows the set frequency.

F. Fault Isolation Procedure - Frequency Is Not Shown

- (1) Do this check for 28V DC at the radio tuning panel:
 - (a) Remove the radio tuning panel, P8-71 (RTP-1) or P8-72 (RTP-2). To remove it, do this task: Radio Tuning Panel (RTP) - Removal, AMM TASK 23-12-41-000-801.

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- (b) Close these circuit breakers:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00165	COMMUNICATIONS VHF 1

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	3	C00166	COMMUNICATIONS VHF 2

- (c) Do a check for 28V DC at pin 40 of connector D203 (RTP-1) or D209 (RTP-2), to structure ground.
- (d) Open these circuit breakers:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00165	COMMUNICATIONS VHF 1

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	3	C00166	COMMUNICATIONS VHF 2

- (e) If there was 28V DC at pin 40 of connector D203 (RTP-1) or D209 (RTP-2), then do these steps:
- 1) Install a new radio tuning panel, P8-71 (RTP-1) or P8-72 (RTP-2). To install it, do this task: Radio Tuning Panel (RTP) - Installation, AMM TASK 23-12-41-400-801.
 - 2) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.
 - a) If the maintenance message does not show on the front panel of the transceiver, then you corrected the fault.
- (f) If there was no 28V DC at pin 40 of connector D203 (RTP-1) or D209 (RTP-2), then continue.
- (2) Do this check for 28V DC at the circuit breaker:
- (a) Do a check for 28V DC between the load terminal of VHF-1 circuit breaker C165, or VHF-2 circuit breaker C166, and structure ground.
 - (b) If there is no 28V DC at the load terminal of VHF-1 circuit breaker C165, or VHF-2 circuit breaker C166, then do these steps:

- 1) Replace one of these circuit breakers:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00165	COMMUNICATIONS VHF 1

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	3	C00166	COMMUNICATIONS VHF 2

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- 2) Re-install the radio tuning panel, P8-71 (RTP-1) or P8-72 (RTP-2). To install it, do this task: Radio Tuning Panel (RTP) - Installation, AMM TASK 23-12-41-400-801.
- 3) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.
 - a) If the maintenance message does not show on the front panel of the transceiver, then you corrected the fault.
- (c) If there is 28V DC at the load terminal of VHF-1 circuit breaker C165, or VHF-2 circuit breaker C166, then do these steps:
 - 1) Repair the wiring between pin 40 of connector, D203 (RTP-1) or D209 (RTP-2), at the radio tuning panel, P8-71 (RTP-1) or P8-72 (RTP-2), and the load terminal of VHF-1 circuit breaker, C165, or VHF-2 circuit breaker, C166, at the circuit breaker panel, P18-2 (VHF-1) or P6-1 (VHF-2)
 - 2) Re-install the radio tuning panel, P8-71 (RTP-1) or P8-72 (RTP-2). To install it, do this task: Radio Tuning Panel (RTP) - Installation, AMM TASK 23-12-41-400-801
 - 3) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.
 - a) If the maintenance message does not show on the front panel of the transceiver, then you corrected the fault.

G. Fault Isolation Procedure - Frequency Is Shown

- (1) Replace the radio tuning panel, P8-71 (RTP-1) or P8-72 (RTP-2).

These are the tasks:

Radio Tuning Panel (RTP) - Removal, AMM TASK 23-12-41-000-801,
Radio Tuning Panel (RTP) - Installation, AMM TASK 23-12-41-400-801.
- (2) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.
 - (a) If the maintenance message does not show on the front panel of the transceiver, then you corrected the fault.
 - (b) If the maintenance message shows on the front panel of the transceiver, then continue.
- (3) Replace the HF transceiver, M226 (HF-1) or M439 (HF-2).

These are the tasks:

HF Transceiver - Removal, AMM TASK 23-11-21-000-801,
HF Transceiver - Installation, AMM TASK 23-11-21-400-801.

 - (a) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.
 - 1) If the maintenance message does not show on the front panel of the transceiver, then you corrected the fault.
 - 2) If the maintenance message shows on the front panel of the transceiver, then continue.
- (4) Do this check of the wiring:
 - (a) Remove the radio tuning panels, P8-71 (RTP-1) and P8-72 (RTP-2). To remove them, do this task: Radio Tuning Panel (RTP) - Removal, AMM TASK 23-12-41-000-801.
 - (b) Remove the HF transceiver, M226 (HF-1) or M439 (HF-2). To remove it, do this task: HF Transceiver - Removal, AMM TASK 23-11-21-000-801.
 - (c) Do a wiring check between these pins of connector, D203 (RTP-1) and D209 (RTP-2), at the aft electronic panel, P8, and these pins of transceiver tray connector, D345B (HF-1) or D623B (HF-2), at the electronic equipment shelf:

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RTP		
	RTP CONNECTOR	XCVR CONNECTOR
RTP-1 (P8-71)	D203	D345B
	pin 2	pin E3
	pin 3	pin F3
RTP		
	RTP CONNECTOR	XCVR CONNECTOR
RTP-2 (P8-72)	D209	D345B
	pin 2	pin G3
	pin 3	pin H3
RTP-1 (P8-71)	D203	D623B
	pin 2	pin G3
	pin 3	pin H3
RTP-2 (P8-72)	D209	D623B
	pin 2	pin E3
	pin 3	pin F3

- (d) Repair any airplane wiring problems you find.
- (e) Re-install the radio tuning panels, P8-71 (RTP-1) and P8-72 (RTP-2). To install them, do this task: Radio Tuning Panel (RTP) - Installation, AMM TASK 23-12-41-400-801.
- (f) Re-install the HF transceiver, M226 (HF-1) or M439 (HF-2). To install it, do this task: HF Transceiver - Installation, AMM TASK 23-11-21-400-801.
- (g) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.
- 1) If the maintenance message does not show on the front panel of the transceiver, then you corrected the fault.

————— END OF TASK —————

803. HF Transceiver LRU FAIL Problem - Fault Isolation

A. Description

- (1) This task is for this maintenance message:
- (a) LRU FAIL
- (2) The HF Transceiver has an internal fault.

B. Possible Causes

- (1) HF-1 (2) Transceiver, M226 (M439)

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	11	C00839	COMMUNICATIONS HF 1

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F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	2	C00857	COMMUNICATIONS HF 2

D. Related Data

- (1) WDM 23-11-11
- (2) WDM 23-11-21
- (3) SSM 23-11-11
- (4) SSM 23-11-21)

E. Initial Evaluation

- (1) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.
 - (a) If the maintenance message LRU FAIL does not show on the HF Transceiver Front Panel, then there was an intermittent fault.
 - (b) If the maintenance message LRU FAIL shows on the HF Transceiver Front Panel, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

- (1) Replace the applicable HF Transceiver-1 (2), M226 (M439). These are the tasks:
 - HF Transceiver - Removal, AMM TASK 23-11-21-000-801
 - HF Transceiver - Installation, AMM TASK 23-11-21-400-801
- (a) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.
 - 1) If the maintenance message LRU FAIL does not show on the HF Transceiver Front Panel, then you corrected the problem.

————— **END OF TASK** —————

804. KEY INTERLOCK or COUPLER FAIL Fault - Fault Isolation

A. Description

- (1) This task is for maintenance message:
 - (a) KEY INTERLOCK
- (2) The HF transceiver detects an antenna coupler failure.

B. Possible Causes

- (1) HF antenna coupler, M227 (HF-1) or M440 (HF-2).
- (2) HF transceiver, M226 (HF-1) or M439 (HF-2).
- (3) Wiring problem.
- (4) HF antenna, M228.

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00165	COMMUNICATIONS VHF 1
E	11	C00839	COMMUNICATIONS HF 1

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F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	3	C00166	COMMUNICATIONS VHF 2
D	2	C00857	COMMUNICATIONS HF 2

D. Related Data

- (1) (SSM 23-11-11, 23-11-21)
- (2) (WDM 23-11-11, 23-11-21)

E. Initial Evaluation

- (1) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.
 - (a) If the maintenance message does not show on the front panel of the transceiver, then there was an intermittent fault.
 - (b) If the maintenance message shows on the front panel of the transceiver, then continue.

F. Fault Isolation Procedure



DO NOT OPERATE THE HF SYSTEM WHILE THE AIRPLANE IS REFUELED OR DEFUELED. AN EXPLOSION CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO THE AIRPLANE.



MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 6 FEET AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

- (1) Do not operate the HF system while a fuel operation is done on the airplane.
- (2) Replace the HF antenna coupler, M227 (HF-1) or M440 (HF-2).

These are the tasks:

HF Antenna Coupler - Removal, AMM TASK 23-11-61-000-801,
HF Antenna Coupler - Installation, AMM TASK 23-11-61-400-801.

 - (a) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.
 - 1) If the maintenance message shows on the front panel of the transceiver, then continue.
- (3) Replace the HF transceiver, M226 (HF-1) or M439 (HF-2).

These are the tasks:

HF Transceiver - Removal, AMM TASK 23-11-21-000-801,
HF Transceiver - Installation, AMM TASK 23-11-21-400-801.

 - (a) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.
 - 1) If the maintenance message does not show on the front panel of the transceiver, then you corrected the fault.
 - 2) If the maintenance message shows on the front panel of the transceiver, then continue.
- (4) Do this check of the coaxial cable:

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- (a) Remove the HF transceiver, M226 (HF-1) or M439 (HF-2). To remove it, do this task: HF Transceiver - Removal, AMM TASK 23-11-21-000-801.

- (b) Remove the applicable access panels:

<u>Number</u>	<u>Name/Location</u>
322AL	Vertical Fin, Fixed Leading Edge
322AR	Vertical Fin, Fixed Leading Edge

NOTE: The HF-1 antenna coupler is installed on the left side of the vertical stabilizer.
The HF-2 antenna coupler is installed on the right side of the vertical stabilizer.

- (c) Disconnect the coaxial cable connector, D337 (HF-1) or D625 (HF-2), at the HF antenna coupler, M227 (HF-1) or M440 (HF-2).
- (d) Do a time domain reflectometry check of the coaxial cable between connector, D345B (HF-1) or D623B (HF-2), at the HF transceiver, M226 (HF-1) or M439 (HF-2), and connector, D337 (HF-1) or D625 (HF-2), at the HF antenna coupler, M227 (HF-1) or M440 (HF-2) (WDM 23-11-11, -21), do this task: Coaxial Cable Inspection, AMM TASK 20-10-72-210-801.
- (e) Repair any problems that you find.
- (f) Re-connect the coaxial cable connector, D337 (HF-1) or D625 (HF-2), at the HF antenna coupler, M227 (HF-1) or M440 (HF-2).

- (g) Install the applicable access panels:

<u>Number</u>	<u>Name/Location</u>
322AL	Vertical Fin, Fixed Leading Edge
322AR	Vertical Fin, Fixed Leading Edge

- (h) Re-install the HF transceiver, M226 (HF-1) or M439 (HF-2). To install it, do this task: HF Transceiver - Installation, AMM TASK 23-11-21-400-801.
- (i) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.
- 1) If the maintenance message shows on the front panel of the transceiver, then continue.
- (5) Do a check of the electrical bond of the HF antenna, do this task: HF Antenna - Electrical Bond Check, AMM TASK 23-11-51-760-801
- (a) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801
- 1) If the maintenance message does not show on the front panel of the transceiver, then you corrected the fault.

————— **END OF TASK** —————

806. HF Communication System Receive/Transmit Problem - Fault Isolation

A. Description

- (1) The HF communication system does not operate correctly.
- (a) Poor reception and/or poor transmission at any or all audio control panel (ACP) locations for the HF-1 or HF-2 communication system.
- (b) HF operation while the airplane is in flight is intermittent, but is satisfactory when the airplane is on the ground.

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B. Possible Causes

- (1) HF-1 transceiver, M226.
- (2) HF-2 transceiver, M4396.
- (3) HF-1 antenna coupler, M227.
- (4) HF-2 antenna coupler, M440.
- (5) HF antenna, M228.
- (6) Radio tuning panel, P8-71 (RTP-1)
- (7) Radio tuning panel, P8-72 (RTP-2)
- (8) Radio tuning panel, P8-72 (RTP-3)
- (9) Audio control panel, P8-6 (captain's)
- (10) Audio control panel, P8-7 (first officer's)
- (11) Audio control panel, P8-6 (first observer's)
- (12) Remote electronics unit, M1353 (REU).
- (13) Wiring.

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

D. Related Data

- (1) (SSM 23-11-11)
- (2) (SSM 23-11-21)
- (3) WDM 23-11-11
- (4) WDM 23-11-21

E. Initial Evaluation



WARNING

DO NOT OPERATE THE HF SYSTEM WHILE THE AIRPLANE IS REFUELED OR DEFUELED. AN EXPLOSION CAN CAUSE INJURIES TO PERSONNEL AND DAMAGE TO THE AIRPLANE.

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(WARNING PRECEDES)



WARNING

MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 6 FEET AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

- (1) Do not operate the HF system while a fuel operation is done on the airplane.
- (2) Do this reception/transmission test of the HF communication system:
NOTE: HF communication can be degraded while the airplane is on the ground due to external interference or signal blockage. Before you identify a HF communication system fault, make sure you try to transmit and receive at several frequencies across the HF frequency band. Make sure the airplane is not in or near any large metal structures. In some cases, you can move the airplane to correct the problem.
 - (a) Connect a headset/boom microphone, M428 (captain's), to the boom microphone jack, D6027 (captain's).
 - (b) Do these steps at the audio control panel, P8-6 (captain's ACP):
 - 1) Push and release the applicable HF-1 or HF-2 switch.
 - a) Make sure that the switch light comes on.
 - 2) Push and release the applicable HF-1 or HF-2 volume control.
 - a) Make sure that the volume control indicator light comes on.
 - 3) Set the volume control to the middle position.
 - 4) Set the MASK/BOOM switch (if installed) to the BOOM position.
 - (c) Do these steps at the radio tuning panel, P8-71 (RTP-1):
 - 1) Push the applicable HF switch light (HF 1 or HF 2).
 - a) Make sure that the switch light comes on.
 - 2) Push the AM switch light for AM or USB mode of operation.
 - a) Make sure the switch light is on for AM, or off for USB.
 - 3) Turn the SENS control clockwise to the maximum position.
 - 4) Set the STANDBY frequency window to an approved test frequency.
 - 5) Push the display transfer switch.
 - a) Make sure the STANDBY frequency moves to the ACTIVE frequency window.
 - (d) Push and release the captain's push-to-talk (PTT) switch.

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- 1) Make sure you hear a 1 kHz tune-in-progress tone in the headset.

NOTE: A continuous or pulsed tone indicates that the coupler is tuning to a new frequency. The coupler tune tone will sound no longer than 15 seconds. The average coupler tune time is approximately 2 to 4 seconds typical, 7 seconds maximum. A continuous tone indicates a failed HF coupler and as long as this failure exists, it will be annunciated on the front of the HF transceiver.

NOTE: Some coupler types are able to tune quickly when previously used frequencies are selected (about 1 second), in which case the tune tone may be only a momentary beep or may not be audible. But at the first tuning after a cold start, the tune tone is always audible regardless of whether this frequency is stored (average 2 to 4 seconds, 7 seconds maximum).

NOTE: Data for the last 100 tuned frequencies is stored in memory. When either HF antenna or HF transceiver is replaced, the frequency memory is reset.

- (e) Do these steps to do a voice communication test with a radio tower operator:

- 1) Push and hold the PTT switch while you speak.

NOTE: If no audio sidetone is heard, the HF transceiver has failed and as long as this failure exists, it will be annunciated on the front of the HF transceiver.

- a) Make sure you hear the sidetone in the headset while you speak.
- b) Make sure the HF transceiver blower fan operates when you transmit.
- c) Make sure the FAIL lights on the front panel of the HF transceiver are not on.

- 2) Release the PTT switch while you listen.

- a) Make sure the quality of the transmitted and received voice is satisfactory.
- b) Make sure the sound of the received voice decreases and increases when you turn the SENS control counterclockwise and clockwise on the RTP.
- c) Make sure the sound of the received voice changes when you turn the applicable HF-1 or HF-2 volume control on the ACP, P8-6 (captain's), with no change in voice quality.

- (f) If more than one mode of operation (AM and USB) is available at your location, do this step:

- 1) Push the AM switch light to the other mode of operation and make a voice transmission.

- (g) At each remaining ACP, set the applicable HF-1 or HF-2 switch and make a voice transmission.

- 1) Make sure the quality of the transmitted and received voice is satisfactory.
- 2) Make sure the sound of the received voice changes when you turn the applicable HF-1 or HF-2 volume control on the applicable ACP with no change in voice quality.

- (3) If the HF communication system operates satisfactorily, then there was an intermittent fault.
- (4) If the HF communication system does not operate satisfactorily at one location, then do the Fault Isolation Procedure - Problem At One Location below.
- (5) If the HF communication system does not operate satisfactorily at all locations, then do the Fault Isolation Procedure - Problem At All Locations below.
- (6) If the HF communication system does not operate satisfactorily or is intermittent while in flight, but operates satisfactorily on the ground, do the Fault Isolation Procedure - Intermittent Operation In Flight, Ground Operation OK below.

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F. Fault Isolation Procedure - Problem At One Location

- (1) Replace the audio control panel, P8-6 (captain's ACP), P8-7 (first officer's ACP) or P5-15 (first observer's ACP).

These are the tasks:

Audio Control Panel Removal, AMM TASK 23-51-02-000-801,

Audio Control Panel Installation, AMM TASK 23-51-02-400-801.

- (a) Do a voice communication test with a radio tower operator using the applicable ACP.
 - 1) Make sure the quality of the transmitted and received voice is satisfactory.
 - (b) If the HF communication system operates satisfactorily, then you corrected the fault.
 - (c) If the HF communication system does not operate satisfactorily, then continue.
- (2) Replace the remote electronics unit, M1353 (REU).

These are the tasks:

Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801,

Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

- (a) Do a voice communication test with a radio tower operator using the applicable ACP.
 - 1) Make sure the quality of the transmitted and received voice is satisfactory.
- (b) If the HF communication system operates satisfactorily, then you corrected the fault.

G. Fault Isolation Procedure - Problem At All Locations

- (1) Do this exchange check of the HF transceiver, M226 (HF-1) or M439 (HF-2):
 - (a) Put a tag that reads SUSPECT on the HF transceiver, M226 (HF-1) or M439 (HF-2), with poor reception or transmission.
 - (b) Put a tag that reads OK on the other HF transceiver, M226 (HF-1) or M439 (HF-2).
 - (c) Exchange the locations of the HF transceivers, M226 (HF-1) and M439 (HF-2).

These are the tasks:

HF Transceiver - Removal, AMM TASK 23-11-21-000-801,

HF Transceiver - Installation, AMM TASK 23-11-21-400-801.

- (d) Do a BITE test of the HF transceivers, M226 (HF-1) and M439 (HF-2). To do the BITE test, do this task: HF Communication System - BITE Procedure, 23-11 TASK 801
- (e) Do a voice communication test with a radio tower operator.
 - 1) Make sure the quality of the transmitted and received voice is satisfactory.
- (f) If the poor reception or transmission moves with the HF transceiver tagged SUSPECT, then do these steps:
 - 1) Replace the HF transceiver, M226 (HF-1) or M439 (HF-2), tagged SUSPECT.

These are the tasks:

HF Transceiver - Removal, AMM TASK 23-11-21-000-801,

HF Transceiver - Installation, AMM TASK 23-11-21-400-801.

NOTE: If it is your airlines' policy, you must install the HF transceiver with the OK tag in its initial location.
 - 2) Do a BITE test of the HF transceiver that replaced the HF transceiver tagged SUSPECT. To do the BITE test, do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.

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- a) Do a voice communication test with a radio tower operator.
- b) Make sure the quality of the transmitted and received voice is satisfactory.
- 3) If the HF communication system operates satisfactorily, then you corrected the fault.
- 4) Remove the tags from the HF transceivers, M226 (HF-1) and M439 (HF-2).
- (g) If the poor reception or transmission goes away after you exchange the HF transceivers, M226 (HF-1) and M439 (HF-2), then do these steps to complete the task:
NOTE: There was an intermittent fault in either the equipment rack connector, D345B (HF-1) or D623B (HF-2), or in the HF transceiver, M226 (HF-1) or M439 (HF-2), with the SUSPECT tag.
 - 1) If it is your airlines' policy, you must install the HF transceivers, M226 (HF-1) and M439 (HF-2), in their initial locations.
These are the tasks:
HF Transceiver - Removal, AMM TASK 23-11-21-000-801,
HF Transceiver - Installation, AMM TASK 23-11-21-400-801.
 - 2) Remove the tags from the HF transceivers, M226 (HF-1) and M439 (HF-2).
- (h) If the poor reception or transmission stays with the HF-1 or HF-2 communication system after you exchange the HF transceivers, M226 (HF-1) and M439 (HF-2), then do these steps and continue:
 - 1) If it is your airlines' policy, you must install the HF transceivers, M226 (HF-1) and M439 (HF-2), in their initial locations.
These are the tasks:
HF Transceiver - Removal, AMM TASK 23-11-21-000-801,
HF Transceiver - Installation, AMM TASK 23-11-21-400-801.
 - 2) Remove the tags from the HF transceivers, M226 (HF-1) and M439 (HF-2).
- (2) Replace the radio tuning panel, P8-71 (RTP-1) or P8-72 (RTP-2).
These are the tasks:
Radio Tuning Panel (RTP) - Removal, AMM TASK 23-12-41-000-801,
Radio Tuning Panel (RTP) - Installation, AMM TASK 23-12-41-400-801.
 - (a) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.
 - (b) Do a voice communication test with a radio tower operator.
 - 1) Make sure the quality of the transmitted and received voice is satisfactory.
 - (c) If the HF communication system operates satisfactorily, then you corrected the fault.
 - (d) If the HF communication system does not operate satisfactorily, then continue.
- (3) Replace the remote electronics unit, M1353 (REU).
These are the tasks:
Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801,
Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
 - (a) Do a voice communication test with a radio tower operator.
 - 1) Make sure the quality of the transmitted and received voice is satisfactory.
 - (b) If the HF communication system operates satisfactorily, then you corrected the fault.
 - (c) If the HF communication system does not operate satisfactorily, then continue.



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- (4) Replace the HF antenna coupler, M227 (HF-1) or M440 (HF-2).

These are the tasks:

HF Antenna Coupler - Removal, AMM TASK 23-11-61-000-801,

HF Antenna Coupler - Installation, AMM TASK 23-11-61-400-801.

- (a) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.
- (b) Do a voice communication test with a radio tower operator.
 - 1) Make sure the quality of the transmitted and received voice is satisfactory.
- (c) If the HF communication system operates satisfactorily, then you corrected the fault.
- (d) If the HF communication system does not operate satisfactorily, then continue.

- (5) Do this check of the coaxial cable:

- (a) Remove the HF transceiver, M226 (HF-1) or M439 (HF-2). To remove it, do this task: HF Transceiver - Removal, AMM TASK 23-11-21-000-801.

- (b) Remove the applicable access panel:

<u>Number</u>	<u>Name/Location</u>
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322AL	Vertical Fin, Fixed Leading Edge
-------	----------------------------------

or open this access panel:

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

322AR	Vertical Fin, Fixed Leading Edge
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NOTE: The HF-1 antenna coupler is installed on the left side of the vertical stabilizer.
The HF-2 antenna coupler is installed on the right side of the vertical stabilizer.

- (c) Disconnect the coaxial cable connector, D337 (HF-1) or D625 (HF-2), at the HF antenna coupler, M227 (HF-1) or M440 (HF-2).
- (d) Do a time domain reflectometry check of the coaxial cable between connector, D345B (HF-1) or D623B (HF-2), at the HF transceiver, M226 (HF-1) or M439 (HF-2), and connector, D337 (HF-1) or D625 (HF-2), at the HF antenna coupler, M227 (HF-1) or M440 (HF-2) (WDM 23-11-11, -21), do this task: Coaxial Cable Inspection, AMM TASK 20-10-72-210-801.
- (e) Repair any problems that you find.
- (f) Re-connect the coaxial cable connector, D337 (HF-1) or D625 (HF-2), at the HF antenna coupler, M227 (HF-1) or M440 (HF-2).

- (g) Install the applicable access panel:

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

322AL	Vertical Fin, Fixed Leading Edge
-------	----------------------------------

or close this access panel:

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

322AR	Vertical Fin, Fixed Leading Edge
-------	----------------------------------

- (h) Re-install the HF transceiver, M226 (HF-1) or M439 (HF-2). To install it, do this task: HF Transceiver - Installation, AMM TASK 23-11-21-400-801.

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

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00165	COMMUNICATIONS VHF 1
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	3	C00166	COMMUNICATIONS VHF 2
D	2	C00857	COMMUNICATIONS HF 2

- (j) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.
- (k) Do a voice communication test with a radio tower operator.
- 1) Make sure the quality of the transmitted and received voice is satisfactory.
- (l) If the HF communication system operates satisfactorily, then you corrected the fault.
- (m) If the HF communication system does not operate satisfactorily, then continue.
- (6) Do a check of the electrical bond of the HF antenna, do this task: HF Antenna - Electrical Bond Check, AMM TASK 23-11-51-760-801.
- (a) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.
- (b) Do a voice communication test with a radio tower operator.
- 1) Make sure the quality of the transmitted and received voice is satisfactory.
- (c) If the HF communication system operates satisfactorily, then you corrected the fault.

H. Fault Isolation Procedure - Intermittent Operation In Flight, Ground Operation OK below.

NOTE: This fault indicates that a HF antenna coupler has a pressurization leak. Make sure that the replacement HF coupler is fully pressurized with dry nitrogen in accordance with the applicable Component Maintenance Manual (CMM).

- (1) Replace the applicable HF antenna coupler, M227 (HF-1) or M440 (HF-2).

These are the tasks:

HF Antenna Coupler - Removal, AMM TASK 23-11-61-000-801,

HF Antenna Coupler - Installation, AMM TASK 23-11-61-400-801.

- (a) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.
- (b) Monitor HF system performance on subsequent flights.
- (c) If the HF communication system operates satisfactorily while in flight, then you corrected the fault.

———— **END OF TASK** ————

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801. VHF Communication Transceiver System - BITE Procedure

A. General

- (1) You do the very high frequency (VHF) communication system BITE test at the front panel of the VHF communication transceiver.
- (2) The No. 1 VHF communication transceiver is located on the E1-3 shelf and the No. 2 VHF communication transceiver is located on the E1-5 shelf in the main equipment center.
- (3) The No. 3 VHF communication transceiver is located on the E3-3 shelf in the main equipment center.
- (4) The VHF communication system BITE test does a self check for existing internal and external faults.
 - (a) Results of the BITE test are displayed by fault lights on the front panel of the VHF communication transceiver.

B. BITE Procedure

- (1) Do these steps to do the BITE procedure for the VHF communication system:
 - (a) Push and release the TEST switch on the front panel of the applicable VHF communication transceiver.
 - 1) Make sure these conditions occur:
 - a) All three LEDs on the VHF transceiver front panel turn red for about two seconds.
 - b) The LRU STATUS LED turns green and the CONTROL FAIL and ANTENNA FAIL LEDs remain red for about two seconds.
 - c) All three LEDs go off for about two seconds.
 - (b) If the LRU STATUS LED comes on green for about 30 seconds and the CONTROL FAIL and ANTENNA FAIL LEDs remain off, then the BITE test passed.
 - (c) If the red LRU STATUS, CONTROL FAIL, or ANTENNA FAIL LED is on, then refer to the table at the end of this task to find the fault isolation task for the applicable maintenance message.

LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
VHF XCVR	ANTENNA FAIL	23-12 TASK 813
VHF XCVR	CONTROL FAIL	23-12 TASK 812
VHF XCVR	LRU STATUS	23-12 TASK 818

————— **END OF TASK** —————

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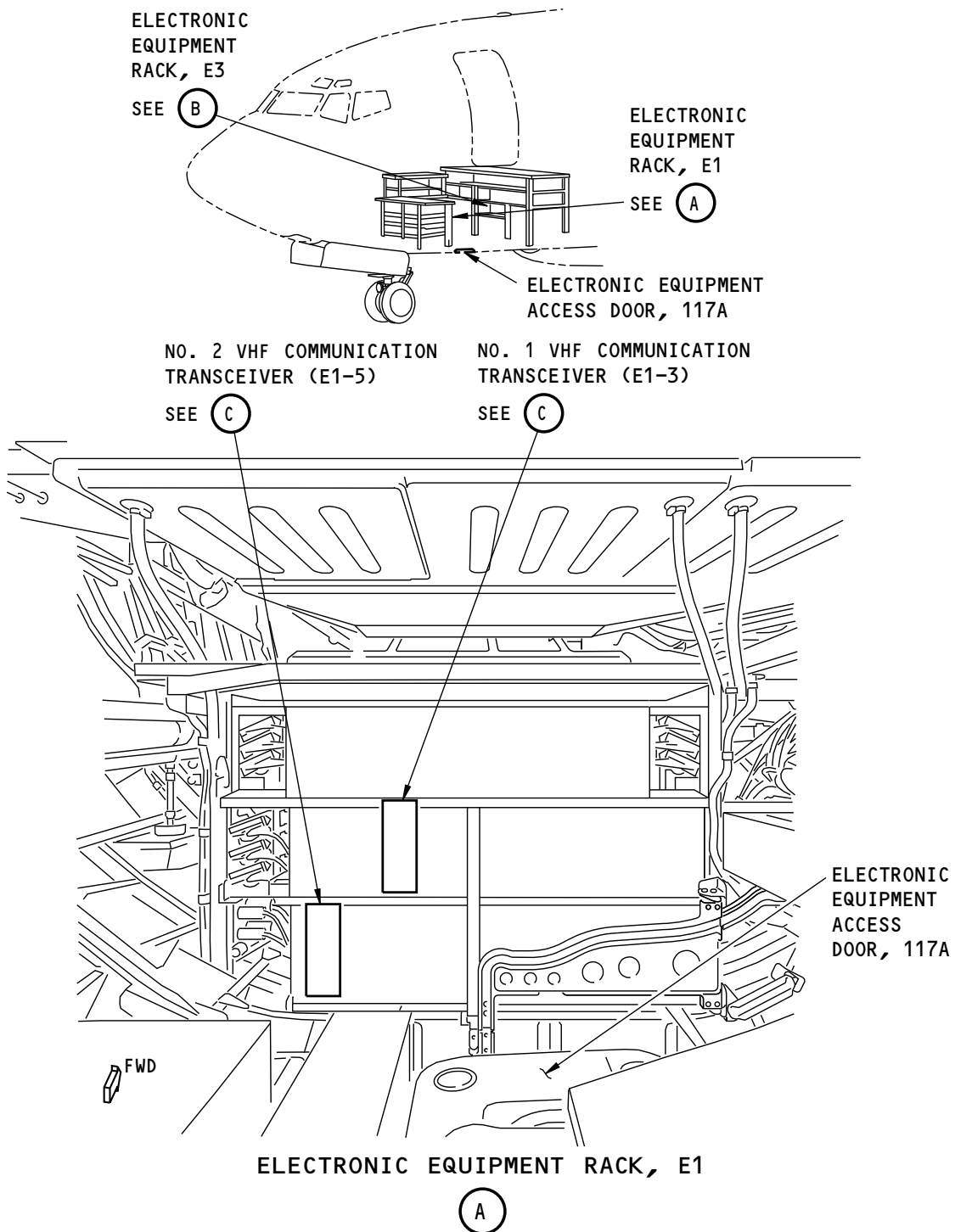
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ECCN 9E991 BOEING PROPRIETARY - See title page for details

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VHF Communication System Installation
Figure 201/23-12-00-990-803 (Sheet 1 of 2)

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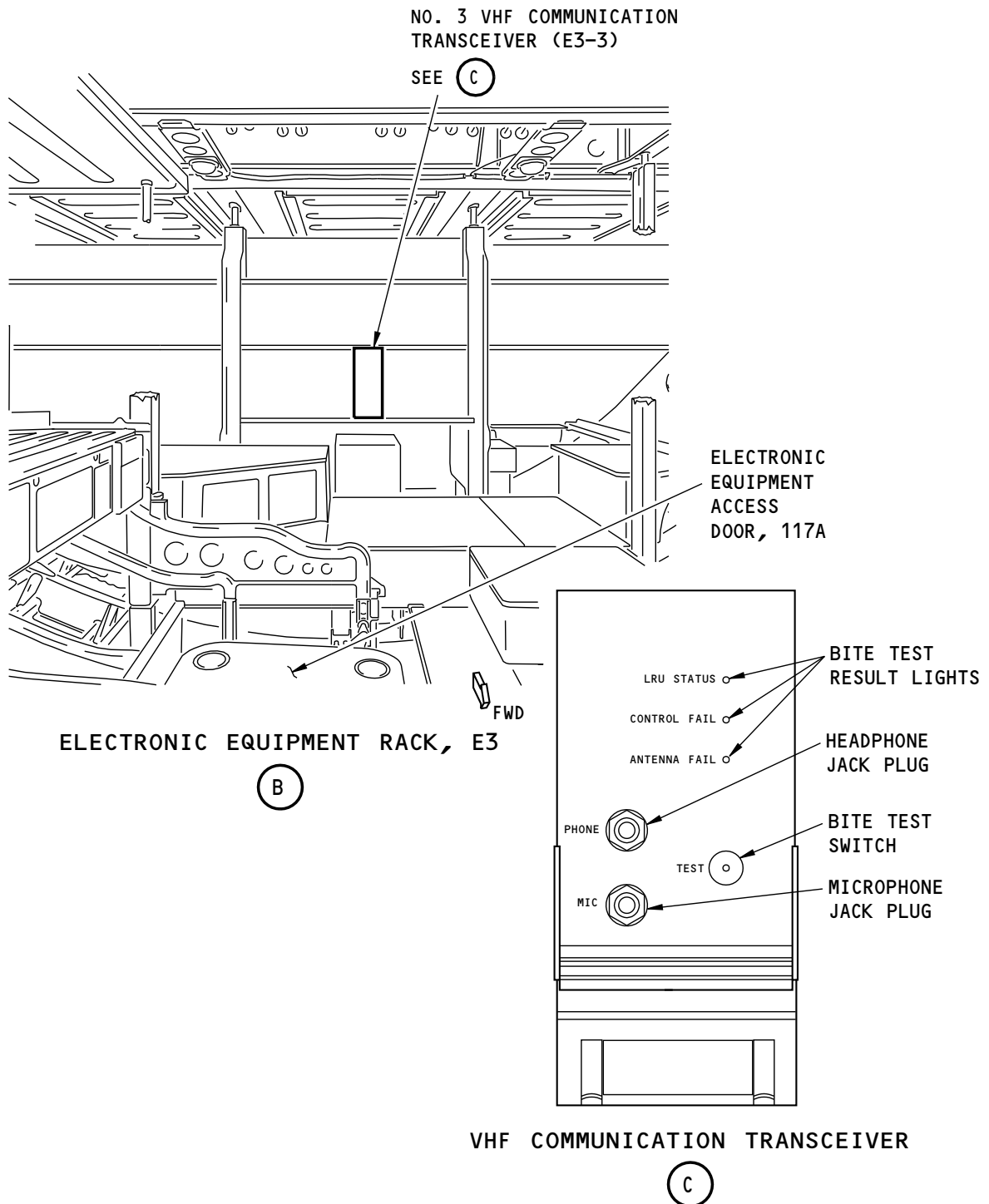
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H01995 S0000146944_V1

VHF Communication System Installation
Figure 201/23-12-00-990-803 (Sheet 2 of 2)

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812. VHF Transceiver CONTROL Problem or TUNING PORT B MISSING INPUT Problem - Fault Isolation

A. Description

- (1) This task is for these maintenance messages:
 - (a) CONTROL FAIL
- (2) The VHF communication transceiver receives no input from the radio tuning panel.

B. Possible Causes

- (1) Radio tuning panels (RTP): P8-71 (RTP-1), P8-72 (RTP-2), or P8-73 (RTP-3)
- (2) VHF communication transceiver, M149 (VHF-1), M150 (VHF-2), or M411 (VHF-3)
- (3) Wiring problem

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00165	COMMUNICATIONS VHF 1
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	3	C00166	COMMUNICATIONS VHF 2

D. Related Data

- (1) (SSM 23-12-11,-21, -31)
- (2) (WDM 23-12-11,-21,-31)

E. Initial Evaluation

- (1) Do this task: VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.
 - (a) If the maintenance message or fail light does not show on the transceiver, then there was an intermittent fault.
 - (b) If the maintenance message or fail light shows on the transceiver, then continue.
- (2) Set the radio tuning panels for the applicable VHF communication system.
 - (a) Set the STANDBY frequency to an approved test frequency.
 - (b) If the frequency is not shown, then do the Fault Isolation Procedure - Frequency Is Not Shown below.
 - (c) If the frequency is shown, then do the Fault Isolation Procedure - Frequency Is Shown below.

F. Fault Isolation Procedure - Frequency Is Not Shown

- (1) Replace the radio tuning panel (RTP), P8-71 (RTP-1), P8-72 (RTP-2), or P8-73 (RTP-3).

These are the tasks:

Radio Tuning Panel (RTP) - Removal, AMM TASK 23-12-41-000-801,

Radio Tuning Panel (RTP) - Installation, AMM TASK 23-12-41-400-801.

 - (a) Do this task: VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.

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- 1) If the maintenance message does not show on the transceiver, then you corrected the fault.
 - 2) If the maintenance message shows on the transceiver, then continue.
- (2) Do this check for 28 VDC at the RTP:
- (a) Remove the RTP, P8-71 (RTP-1), P8-72 (RTP-2), or P8-73 (RTP-3). To remove it, do this task: Radio Tuning Panel (RTP) - Removal, AMM TASK 23-12-41-000-801.
 - (b) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00165	COMMUNICATIONS VHF 1
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	3	C00166	COMMUNICATIONS VHF 2

- (c) Do a check for 28V DC at pin 40 of connector, D203 (RTP-1), D209 (RTP-2), or D549 (RTP-3) to structure ground.
 - 1) If there is not 28V DC at pin 40 of connector D203 (RTP-1), D209 (RTP-2), or D549 (RTP-3), then do this check for 28 VDC at the circuit breaker:
 - 2) Do a check for 28V DC from the load terminal of VHF 1 circuit breaker, C165, VHF 2 circuit breaker, C166, or VHF 3 circuit breaker, C471, to structure ground.
 - 3) If there is not 28V DC at the load terminal, then do these steps:
 - a) Replace the applicable circuit breaker, VHF 1, C165, VHF 2, C166, or VHF 3, C471.
 - b) Re-install the RTP. To install it, do this task: Radio Tuning Panel (RTP) - Installation, AMM TASK 23-12-41-400-801.
 - c) Do this task: VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.
 - d) If the maintenance message does not show on the transceiver, then you corrected the fault.

G. Fault Isolation Procedure - Frequency Is Shown

- (1) Replace the radio tuning panel (RTP), P8-71 (RTP-1) for VHF-1, P8-72 (RTP-2) for VHF-2, or P8-73 (RTP-3) for VHF-3.

These are the tasks:

Radio Tuning Panel (RTP) - Removal, AMM TASK 23-12-41-000-801,

Radio Tuning Panel (RTP) - Installation, AMM TASK 23-12-41-400-801.

- (a) Do this task: VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.
 - 1) If the maintenance message does not show on the transceiver, then you corrected the fault.
 - 2) If the maintenance message shows on the transceiver, then continue.
- (2) Replace the VHF communications transceiver, M149 (VHF-1), M-150 (VHF-2), or M411 (VHF-3).

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These are the tasks:

VHF Communication Transceiver - Removal, AMM TASK 23-12-21-020-801,

VHF Communication Transceiver - Installation, AMM TASK 23-12-21-420-801.

- (a) Do this task: VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.
 - 1) If the maintenance message does not show on the transceiver, then you corrected the fault.
 - 2) If the maintenance message shows on the transceiver, then continue.
- (3) Do this check of the wiring:
 - (a) Remove the applicable VHF communication transceiver, M149 (VHF-1), M150 (VHF-2), or M411 (VHF-3). To remove it, do this task: VHF Communication Transceiver - Removal, AMM TASK 23-12-21-020-801.
 - (b) Remove the applicable radio tuning panels (see table below): P8-71 (RTP-1), P8-72 (RTP-2), or P8-73 (RTP-3). To remove them, do this task: Radio Tuning Panel (RTP) - Removal, AMM TASK 23-12-41-000-801.
 - (c) Do a wiring check between these pins of the applicable VHF communication transceiver in the electronic equipment compartment, and the specified RTPs at the aft electronic panel, P8, (WDM 23-12-11,-21,-31):

VHF COMM TRANSCEIVER	TRANS CONNECTOR		RTP CONNECTOR	RTP
VHF-1 (M149)	D199B	----	D203	RTP-1 (P8-71)
	pin A11	----	pin 2	
	pin B11		pin 3	
	D199B	----	D209	RTP-2 (P8-72)
	pin A7	----	pin 2	
	pin B7		pin 3	
VHF-2 (M150)	D201B	----	D203	RTP-1 (P8-71)
	pin A7	----	pin 2	
	pin B7		pin 3	
	D201B	----	D209	RTP-2 (P8-72)
	pin A11	----	pin 2	
	pin B11		pin 3	
VHF-3 (M411)	D539B	----	D549	RTP-3 (P8-73)
	pin A7	----	pin 2	
	pin B7		pin 3	

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the VHF communication transceiver. To install it, do this task: VHF Communication Transceiver - Installation, AMM TASK 23-12-21-420-801.
 - 3) Re-install the RTPs. To install it, do this task: Radio Tuning Panel (RTP) - Installation, AMM TASK 23-12-41-400-801.
 - 4) Do this task: VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.

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- a) If the maintenance message does not show on the transceiver, then you corrected the fault.

END OF TASK

813. VHF Transceiver ANTENNA FAIL or RF FAULT Problem - Fault Isolation

A. Description

- (1) This task is for these maintenance messages:
- (a) ANTENNA FAIL
- (2) The VHF communication transceiver BITE detects an RF fault.

B. Possible Causes

- (1) VHF communication transceiver, M149 (VHF-1), M150 (VHF-2), or M411 (VHF-3).
- (2) VHF communication antenna, M57 (VHF-1), M58 (VHF-2), or M225 (VHF-3).
- (3) Coaxial cable problem.

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00165	COMMUNICATIONS VHF 1
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	3	C00166	COMMUNICATIONS VHF 2

D. Related Data

- (1) (SSM 23-12-11,-21, -31)
- (2) (WDM 23-12-11,-21,-31)

E. Initial Evaluation

- (1) Do this task: VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.
- (a) If the red ANTENNA FAIL LED is not on, on the front panel of the transceiver, then there was an intermittent fault.
- (b) If the red ANTENNA FAIL LED is on, on the front panel of the transceiver, then continue.

F. Fault Isolation Procedure

- (1) Replace the VHF communication transceiver, M149 (VHF-1), M150 (VHF-2), or M411 (VHF-3).
These are the tasks:
VHF Communication Transceiver - Removal, AMM TASK 23-12-21-020-801,
VHF Communication Transceiver - Installation, AMM TASK 23-12-21-420-801.
- (2) Do this task: VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.
- (a) If the red ANTENNA FAIL LED is not on, on the front panel of the transceiver, then you corrected the fault.
- (b) If the red ANTENNA FAIL LED is on, on the front panel of the transceiver, then continue.

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- (3) Do this check of the VHF communication antenna, M57 (VHF-1), M58 (VHF-2), or M225 (VHF-3), and the RF coaxial cable:
- (a) Remove the VHF communication transceiver, M149 (VHF-1), M150 (VHF-2), or M411 (VHF-3). To remove it, do this task: VHF Communication Transceiver - Removal, AMM TASK 23-12-21-020-801.
 - (b) Do a time domain reflectometry check of the coaxial cable from the VHF communication transceiver, M149 (VHF-1), M150 (VHF-2), or M411 (VHF-3), to the VHF communication antenna, M57 (VHF-1), M58 (VHF-2), or M225 (VHF-3) (WDM 23-12-11,-21,-31), do this task: Coaxial Cable Inspection, AMM TASK 20-10-72-210-801.
 - (c) If you find a problem with the coaxial cable, then do this step:
 - 1) Repair or replace the coaxial cable.
 - (d) If you find a problem with the VHF communication antenna, then do this step:
 - 1) Replace the VHF communication antenna, M57 (VHF-1), M58 (VHF-2), or M225 (VHF-3).
These are the tasks:
VHF Communication Antenna - Removal, AMM TASK 23-12-11-000-801,
VHF Communication Antenna - Installation, AMM TASK 23-12-11-400-801.
 - (e) Re-install the VHF communication transceiver, M149 (VHF-1), M150 (VHF-2), or M411 (VHF-3). To install it, do this task: VHF Communication Transceiver - Installation, AMM TASK 23-12-21-420-801.
- (4) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00165	COMMUNICATIONS VHF 1
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	3	C00166	COMMUNICATIONS VHF 2

- (a) Do this task: VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.
- 1) If the red ANTENNA FAIL LED is not on, on the front panel of the transceiver, then you corrected the fault.

————— END OF TASK —————

815. Radio Tuning Panel Problem - Fault Isolation

A. Description

- (1) The radio tuning panel (RTP) does not operate correctly.

NOTE: INOP can be manually set or removed from some RTP displays. For instructions to set or remove INOP, refer to this task: Radio Tuning Panel - INOP Display Toggle (AMM TASK 23-12-41-800-802).

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B. Possible Causes

- (1) Radio tuning panel (RTP), P8-71 (RTP-1), P8-72 (RTP-2), or P8-73 (RTP-3).
- (2) Wiring problem.

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00165	COMMUNICATIONS VHF 1
D	12	C00471	COMMUNICATIONS VHF 3
E	11	C00839	COMMUNICATIONS HF 1

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	3	C00166	COMMUNICATIONS VHF 2
D	2	C00857	COMMUNICATIONS HF 2

D. Related Data

- (1) (SSM 23-12-11,-21, -31)
- (2) (SSM 23-11-11,-21)
- (3) (WDM 23-12-11,-21,-31)
- (4) (WDM 23-11-11, -21)

E. Initial Evaluation

- (1) AIRPLANES WITH GABLES P/N G7404-XX RADIO TUNING PANELS;

Do these steps for a frequency lock-up problem:

- (a) Push the VHF-1 switch on all the RTPs.
- (b) Make sure that you can change the ACTIVE frequency for VHF-1 at each RTP.
 - 1) Make sure that the ACTIVE frequencies at the other RTP(s) also change to the new frequency.
- (c) If you can change the ACTIVE frequency at one RTP, but the other RTP(s) will not accept a frequency change, then do these steps:
 - 1) Push the OFF switch on the RTP that operates satisfactorily.
 - a) Make sure the RTP is in the off condition.
 - 2) Set the other RTP(s) to new ACTIVE frequencies to see if they will now accept a frequency change.
 - 3) If the RTP(s) with the frequency lock-up problem now operate satisfactorily, then do the Fault Isolation Procedure - RTP Frequency Lock-up Problem below.
- (2) Do this task: VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.
 - (a) If there is a maintenance message shown on the front panel of the transceiver, then do the fault isolation procedure for the maintenance message.
- (3) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.
 - (a) If there is a maintenance message shown on the front panel of the transceiver, then do the fault isolation procedure for the maintenance message.

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DO NOT OPERATE THE HF SYSTEM WHILE THE AIRPLANE IS REFUELED OR DEFUELED. THIS CAN CAUSE INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT.



MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 6 FEET AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

- (4) Do a VHF communication test (AMM TASK 23-12-00-730-801) and/or an HF communication test (AMM TASK 23-11-00-730-801) to confirm the problem.
 - (a) If the radio tuning panel (RTP) operates satisfactorily, then there was an intermittent fault.
 - (b) If the radio tuning panel (RTP) does not operate satisfactorily, then do the Fault Isolation Procedure - RTP Problem below.

F. Fault Isolation Procedure - RTP Problem

- (1) Replace the radio tuning panel (RTP), P8-71 (RTP-1), P8-72 (RTP-2), or P8-73 (RTP-3).

These are the tasks:

Radio Tuning Panel (RTP) - Removal, AMM TASK 23-12-41-000-801,

Radio Tuning Panel (RTP) - Installation, AMM TASK 23-12-41-400-801.

- (a) Do this task: VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.
- (b) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.



DO NOT OPERATE THE HF SYSTEM WHILE THE AIRPLANE IS REFUELED OR DEFUELED. THIS CAN CAUSE INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT.



MAKE SURE PERSONNEL STAY A MINIMUM OF 6 FEET AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

- (c) Do a VHF communication test and/or an HF communication test with a radio tower operator.
 - 1) Make sure the quality of the transmitted and received voice is satisfactory.
- (d) If the radio tuning panel (RTP) operates satisfactorily, then you corrected the fault.
- (e) If the radio tuning panel (RTP) does not operate satisfactorily, then continue.
- (2) Do this check of the wiring:
 - (a) Remove the applicable radio tuning panel (RTP) (see table below). To remove it, do this task: Radio Tuning Panel (RTP) - Removal, AMM TASK 23-12-41-000-801.
 - (b) Remove the applicable VHF or HF communication transceiver (see table below).
 - 1) To remove the VHF communication transceiver, do this task: VHF Communication Transceiver - Removal, AMM TASK 23-12-21-020-801.

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- 2) To remove the HF transceiver, do this task: HF Transceiver - Removal, AMM TASK 23-11-21-000-801.
- (c) Do a wiring check between these pins of the radio tuning panel (RTP) at the aft electronic panel, P8, and the applicable transceiver in the electronic equipment compartment (WDM 23-12-11,-21,-31) (WDM 23-11-11, -21):

Table 201/23-12-00-993-802

RADIO TUNING PANEL (RTP)	RTP CONNECTOR		XCVR CONNECTOR	TRANSCEIVER
RTP-1 (P8-71)	D203		D199B	VHF-1 (M149)
	pin 2	----	pin A11	
	pin 3	----	pin B11	
	pin 8	----	pin A7	
	pin 9	----	pin B7	
	D203		D345B	HF-1 (M226) (if installed)
	pin 2	----	pin E3	
	pin 3	----	pin F3	
	pin 8	----	pin G3	
	pin 9	----	pin H3	
	D203		D201B	VHF-2 (M150)
	pin 2	----	pin A7	
	pin 3	----	pin B7	
	pin 8	----	pin A11	
	pin 9	----	pin B11	
	D203		D623B	HF-2 (M439) (if installed)
	pin 2	----	pin G3	
	pin 3	----	pin H3	
	pin 8	----	pin E3	
	pin 9	----	pin F3	
	D203		D539B	VHF-3 (M411) (if installed)
	pin 5	----	pin A7	
	pin 6	----	pin B7	

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RADIO TUNING PANEL (RTP)	RTP CONNECTOR		XCVR CONNECTOR	TRANSCEIVER
RTP-2 (P8-72)	D209		D201B	VHF-2 (M150)
	pin 2	----	pin A11	
	pin 3	----	pin B11	
	pin 5	----	pin A7	
	pin 6	----	pin B7	
	D209		D623B	HF-2 (M439) (if installed)
	pin 2	----	pin E3	
	pin 3	----	pin F3	
	pin 5	----	pin G3	
	pin 6	----	pin H3	
	D209		D199B	VHF-1 (M149)
	pin 2	----	pin A7	
	pin 3	----	pin B7	
	pin 5	----	pin A11	
	pin 6	----	pin B11	
	D209		D345B	HF-1 (M226) (if installed)
	pin 2	----	pin G3	
	pin 3	----	pin H3	
	pin 5	----	pin E3	
	pin 6	----	pin F3	
	D209		D539B	VHF-3 (M411) (if installed)
	pin 8	----	pin A7	
	pin 9	----	pin B7	

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ECCN 9E991 BOEING PROPRIETARY - See title page for details

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Table 201/23-12-00-993-802 (Continued)

RADIO TUNING PANEL (RTP)	RTP CONNECTOR		XCVR CONNECTOR	TRANSCEIVER
RTP-3 (P8-73) (if installed)	D549		D539B	VHF-3 (M411) (if installed)
	pin 2	----	pin A7	
	pin 3	----	pin B7	
	D549		D623B	HF-2 (M439) (if installed)
	pin 5	----	pin E3	
	pin 6	----	pin F3	
	pin 8	----	pin G3	
	pin 9	----	pin H3	
	D549		D199B	VHF-1 (M149)
	pin 5	----	pin A7	
	pin 6	----	pin B7	
	pin 8	----	pin A11	
	pin 9	----	pin B11	
	D549		D345B	HF-1 (M226) (if installed)
	pin 5	----	pin G3	
	pin 6	----	pin H3	
	pin 8	----	pin E3	
	pin 9	----	pin F3	
	D549		D201B	VHF-2 (M150)
	pin 5	----	pin A11	
	pin 6	----	pin B11	
	pin 8	----	pin A7	
	pin 9	----	pin B7	

- (d) Repair any airplane wiring problems you find.
- (e) Re-install the applicable radio tuning panel (RTP). To install it, do this task: Radio Tuning Panel (RTP) - Installation, AMM TASK 23-12-41-400-801.
- (f) Re-install the applicable VHF or HF communication transceiver:
 - 1) To install the VHF communication transceiver, do this task: VHF Communication Transceiver - Installation, AMM TASK 23-12-21-420-801.
 - 2) To install the HF transceiver, do this task: HF Transceiver - Installation, AMM TASK 23-11-21-400-801.
- (g) Do this task: VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.
- (h) Do this task: HF Communication System - BITE Procedure, 23-11 TASK 801.

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WARNING

DO NOT OPERATE THE HF SYSTEM WHILE THE AIRPLANE IS REFUELED OR DEFUELED. THIS CAN CAUSE INJURY TO PERSONNEL AND DAMAGE TO EQUIPMENT.



WARNING

MAKE SURE THAT PERSONNEL STAY A MINIMUM OF 6 FEET AWAY FROM THE VERTICAL STABILIZER WHEN THE HF SYSTEM TRANSMITS. RF ENERGY FROM THE HF ANTENNA CAN CAUSE INJURIES TO PERSONNEL.

- (i) Do a VHF communication test and/or an HF communication test with a radio tower operator.
 - 1) Make sure the quality of the transmitted and received voice is satisfactory.
- (j) If the radio tuning panel (RTP) operates satisfactorily, then you corrected the fault.

G. Fault Isolation Procedure - RTP Frequency Lock-up Problem

- (1) Replace the radio tuning panel, P8-71 (RTP-1), P8-72 (RTP-2), or P8-73 (RTP-3), that you set to off in the Initial Evaluation.

NOTE: If an RTP has a cross-tuning failure, it may tune frequencies satisfactorily while it prevents other RTPs from tuning frequencies satisfactorily.

- (a) Set each RTP to a new ACTIVE frequency to make sure that each RTP will accept a frequency change.
 - 1) If the RTPs operate satisfactorily, then you corrected the fault.
 - 2) If the RTPs do not operate satisfactorily, then continue the procedure.
- (2) Do this check of the wiring:
 - (a) Remove the RTPs. To remove the RTPs, do this task: Radio Tuning Panel (RTP) - Removal, AMM TASK 23-12-41-000-801.
 - (b) Do a wiring check between these pins of RTP connectors D203, D209 and D549 at P8 (WDM 23-12-11,-21,-31 OR -41,):

D203 (RTP-1)

pin 2	.....	pin 5
pin 3	.....	pin 6
pin 5	.....	pin 8
pin 6	.....	pin 9
pin 8	.....	pin 2
pin 9	.....	pin 3

D209 (RTP-2)

D203 (RTP-1)

pin 2		pin 8
pin 3		pin 9
pin 5		pin 2
pin 6		pin 3
pin 8		pin 5
pin 9		pin 6

D549 (RTP-3)

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D209 (RTP-2)		D549 (RTP-3)	
pin 2		pin 5	
pin 3		pin 6	
pin 5		pin 8	
pin 6		pin 9	
pin 8		pin 2	
pin 9		pin 3	

- (c) If you find a problem with the wiring, then do these steps:
- 1) Repair the wiring.
- (d) Install the RTPs. To install the RTPs, do this task: Radio Tuning Panel (RTP) - Installation, AMM TASK 23-12-41-400-801.
- (e) Set each RTP to a new ACTIVE frequency to make sure that each RTP will accept a frequency change.
- 1) If the RTP operates satisfactorily, then you corrected the fault.

————— **END OF TASK** —————

816. VHF Communication System - Receive/Transmit Problem

A. Description

- (1) The VHF-1, VHF-2, or VHF-3 communication system does not operate correctly.
- (2) Poor reception and/or poor transmission at the audio control panel, P8-6 (captain), P8-7 (first officer) or P5-15 (first observer) on the VHF-1, VHF-2, or VHF-3 communication system.

B. Possible Causes

- (1) VHF communication transceiver, M149 (VHF-1), M150 (VHF-2), or M411 (VHF-3)
- (2) Radio tuning panels (RTP): P8-71 (RTP-1), P8-72 (RTP-2), or P8-73 (RTP-3)
- (3) Audio control panel, P8-6 (captain), P8-7 (first officer) or P5-15 (first observer)
- (4) A push-to-talk (PTT) switch is stuck in transmit
- (5) Remote electronics unit, M1353
- (6) VHF communication antenna, M57 (VHF-1), M58 (VHF-2), or M225 (VHF-3)
- (7) RF coaxial cable problem
- (8) Wiring problem

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00165	COMMUNICATIONS VHF 1
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	3	C00166	COMMUNICATIONS VHF 2

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F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

D. Related Data

- (1) (SSM 23-12-11,-21, -31)
- (2) (SSM 23-51-11,-21,-31)
- (3) (WDM 23-12-11,-21,-31)
- (4) (WDM 23-51-11,-21,-31)

E. Initial Evaluation

- (1) Make sure that none of the push-to-talk (PTT) switches are stuck in transmit (AMM TASK 23-51-00-710-801).

NOTE: A stuck PTT can be a cause of a temporary VHF transmit failure.

- (a) Do these steps to do a fast check for a PTT that is stuck in transmit:
 - 1) Set all the audio control panels to the Flight Interphone (or Interphone) transmit position.
 - 2) Without pushing a PTT switch, speak into the microphones at the different crew stations.
 - 3) If the station transmits, then it has a stuck PTT switch.
- (2) Do a BITE test of the VHF communication transceivers. To do the BITE test, do this task: VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.
 - (a) If the BITE test finds a fault, then do the fault isolation procedure for the maintenance message.
- (3) Do this reception/transmission test of the VHF communication system:

NOTE: VHF communications can be degraded while the airplane is on the ground due to external interference or signal blockage. Before you identify a VHF communication system fault, make sure you try to transmit and receive at several frequencies across the VHF frequency band. Make sure the airplane is not in or near any large metal structures. In some cases, you can move the airplane to correct the problem.

 - (a) Use a boom microphone/headphone to do the test.
 - (b) At the audio control panel, P8-6 (captain), P8-7 (first officer) or P5-15 (first observer), do these steps:
 - 1) Push and release the applicable microphone selector switch (VHF-1, VHF-2, or VHF-3).
 - a) Make sure the applicable switch light comes on.
 - 2) Adjust the applicable volume control switch to the middle position.
 - 3) Make sure the BOOM/MASKS switch is set to the BOOM position.

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- (c) Set the radio tuning panel for the applicable VHF communication system.
 - 1) Set the STANDBY frequency to an approved test frequency.
 - 2) Push the transfer switch.
 - 3) Make sure the STANDBY and ACTIVE frequencies are exchanged.
- (d) Do these steps to do a voice communication test with a radio operator:
 - 1) Push and hold a push-to-talk (PTT) switch while you speak into the microphone.
 - a) Make sure you hear the sidetone in the headset while you speak.
 - 2) Release the PTT switch while you listen.
 - a) Make sure the quality of the transmitted and received voice is satisfactory.
 - b) Make sure the volume of the received voice changes when you turn the volume control on the audio control panel, P8-6 (captain), P8-7 (first officer) or P5-15 (first observer) with no change in voice quality.
- (4) If the VHF communication system operates satisfactorily, then there was an intermittent fault.
- (5) If the VHF communication system does not operate satisfactorily, then do a reception/transmission test of the VHF communication system at each audio control panel.
 - (a) If the problem occurs at all audio control panels, then do Problem at All Audio Control Panels - Fault Isolation Procedure below.
 - (b) If the problem occurs at only one audio control panel, then do Problem at Only One Audio Control Panel - Fault Isolation Procedure below.

F. Problem at All Audio Control Panels - Fault Isolation Procedure

- (1) Do this exchange check of the VHF communication transceiver, M149 (VHF-1), M150 (VHF-2) or M411 (VHF-3):
 - (a) Put a tag that reads SUSPECT on the VHF communication transceiver with poor reception or transmission.
 - (b) Put a tag that reads OK on the other VHF communication transceiver.
 - (c) Exchange the locations of the two VHF communication transceivers.
- These are the tasks:
- VHF Communication Transceiver - Removal, AMM TASK 23-12-21-020-801,
VHF Communication Transceiver - Installation, AMM TASK 23-12-21-420-801.
- (d) Do a BITE test of each VHF communication transceiver. To do the BITE test, do this task:
VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.
 - (e) Speak with the radio operator on each VHF communication system.
 - 1) Make sure the transmitted and received voice signals are satisfactory.
 - (f) If the poor reception or transmission moves with the VHF communication transceiver tagged SUSPECT, then do these steps:
 - 1) Replace the VHF communication transceiver tagged SUSPECT.

These are the tasks:

VHF Communication Transceiver - Removal, AMM TASK 23-12-21-020-801,
VHF Communication Transceiver - Installation, AMM TASK 23-12-21-420-801.

NOTE: If it is your airlines' policy, you must install the VHF communication transceiver with the OK tag in its initial location.

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- 2) Do a BITE test of the applicable VHF communication transceiver. To do the BITE test, do this task: VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.
- 3) Speak with a radio operator on each VHF communication system.
 - a) Make sure the transmitted and received voice is satisfactory.
- 4) If the VHF communication system operates correctly, then you corrected the fault.
 - a) Remove the tags from the VHF communication transceivers.
- (g) If the poor reception or transmission goes away after you exchange the VHF communication transceivers, then do these steps to complete the task:

NOTE: There was an intermittent fault in either the equipment rack connector, or in the VHF transceiver with the SUSPECT tag.

- 1) If it is your airlines' policy, you must install the VHF communication transceivers in their initial locations.

These are the tasks:

VHF Communication Transceiver - Removal, AMM TASK 23-12-21-020-801,

VHF Communication Transceiver - Installation, AMM TASK 23-12-21-420-801.

- 2) Remove the tags from the VHF communication transceivers.

- (h) If the poor reception or transmission stays with the applicable communication system after you exchanged the VHF communication transceivers, then continue:

- 1) If it is your airlines' policy, you must install the VHF communication transceivers in their initial locations.

These are the tasks:

VHF Communication Transceiver - Removal, AMM TASK 23-12-21-020-801,

VHF Communication Transceiver - Installation, AMM TASK 23-12-21-420-801.

- 2) Remove the tags from the VHF communication transceivers.

- (2) Do this exchange check of the radio tuning panels, P8-71 (RTP-1), P8-72 (RTP-2), or P8-73 (RTP-3):

- (3) Do the following steps:

- (a) Put a tag that reads SUSPECT on the panel that has the reception or transmission problem.
- (b) Put a tag that reads OK on the other panel.
- (c) Exchange the locations of the radio tuning panels.

These are the tasks:

Radio Tuning Panel (RTP) - Removal, AMM TASK 23-12-41-000-801,

Radio Tuning Panel (RTP) - Installation, AMM TASK 23-12-41-400-801.

- (d) Do a BITE test of the VHF communication transceivers. To do the BITE test, do this task: VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.
- (e) Do a voice communication test with a radio operator on each VHF communication system.
 - 1) Make sure the transmitted and received voice signals are satisfactory.
- (f) If the fault moves with the panel tagged SUSPECT, then do these steps:
 - 1) Replace the radio tuning panel tagged SUSPECT.

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These are the tasks:

Radio Tuning Panel (RTP) - Removal, AMM TASK 23-12-41-000-801,

Radio Tuning Panel (RTP) - Installation, AMM TASK 23-12-41-400-801.

NOTE: If it is your airlines' policy, you must install the radio tuning panel with the OK tag in its initial location.

- 2) Do a BITE test of the applicable VHF communication transceiver. To do the BITE test, do this task: VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.
 - 3) Do a voice communication test on each VHF communication system.
 - a) Make sure the transmitted and received voice signals are satisfactory.
 - 4) If the VHF communication system operates correctly, then you corrected the fault.
 - a) Remove the tags from the panels.
- (g) If the fault goes away after you exchange the panels, then do these steps to complete the task:

NOTE: There was an intermittent fault in the panel connector, or in the panel tagged SUSPECT.

- 1) If it is your airlines' policy, you must install the radio tuning panels in their initial locations.

These are the tasks:

Radio Tuning Panel (RTP) - Removal, AMM TASK 23-12-41-000-801,

Radio Tuning Panel (RTP) - Installation, AMM TASK 23-12-41-400-801.

- 2) Remove the tags from the panels.
- (h) If the poor transmission or reception stays with the communication system after you exchange the panels, then continue the procedure.
- 1) If it is your airlines' policy, you must install the radio tuning panels in their initial locations.

These are the tasks:

Radio Tuning Panel (RTP) - Removal, AMM TASK 23-12-41-000-801,

Radio Tuning Panel (RTP) - Installation, AMM TASK 23-12-41-400-801.

- 2) Remove the tags from the panels.
- (4) Replace the remote electronics unit, M1353.

These are the tasks:

Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801,

Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

- (a) Do a radio check with the radio operator on the applicable VHF communication system.
 - 1) Make sure the transmitted and received voice is satisfactory.
 - (b) If the VHF communication system operates correctly, then you corrected the fault.
 - (c) If the VHF communication system does not operate correctly, then continue.
- (5) Do this check of the VHF communication antenna, VHF-1, VHF-2 or VHF-3 and the RF coaxial cable:

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- (a) Remove the VHF communication transceiver, M149 (VHF-1), M150 (VHF-2), or M411 (VHF-3). To remove the VHF communication transceiver, do this task: VHF Communication Transceiver - Removal, AMM TASK 23-12-21-020-801.
- (b) Do a check of the coaxial cable from the VHF communication transceiver, M149 (VHF-1), M150 (VHF-2), or M411 (VHF-3) to the VHF communication antenna, VHF-1, VHF-2, or VHF-3 (WDM 23-12-11,-21,-31). To do the TDR (time domain reflectometer) check, do this task: Coaxial Cable Inspection, AMM TASK 20-10-72-210-801.
- (c) If you find a problem with the coaxial cable, then do this step:
 - 1) Repair or replace the coaxial cable.
- (d) If you find a problem with the VHF communication antenna, then do this step:
 - 1) Replace the VHF communication antenna, VHF-1, VHF-2 or VHF-3.

These are the tasks:

VHF Communication Antenna - Removal, AMM TASK 23-12-11-000-801,
VHF Communication Antenna - Installation, AMM TASK 23-12-11-400-801.
- (e) Re-install the VHF communication transceiver. To install the transceiver, do this task: VHF Communication Transceiver - Installation, AMM TASK 23-12-21-420-801.
- (f) Do a BITE test of the VHF communication transceiver. To do the BITE test, do this task: VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.
- (g) Do a radio check with the radio operator on the applicable VHF communication system.
 - 1) Make sure the transmitted and received voice is satisfactory.
- (h) If the VHF communication system operates correctly, then you corrected the fault.

G. Problem at Only One Audio Control Panel - Fault Isolation Procedure

- (1) Replace the applicable audio control panel, P8-6 (captain), P8-7 (first officer) or P5-15 (first observer).

These are the tasks:

Audio Control Panel Removal, AMM TASK 23-51-02-000-801,
Audio Control Panel Installation, AMM TASK 23-51-02-400-801.

 - (a) Do a radio check with the radio operator on the applicable VHF communication system.
 - 1) Make sure the transmitted and received voice is satisfactory.
 - (b) If the VHF communication system operates correctly, then you corrected the fault.
 - (c) If the VHF communication system does not operate correctly, then continue.
- (2) Replace the remote electronics unit, M1353.

These are the tasks:

Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801,
Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

 - (a) Do a radio check with the radio operator on the applicable VHF communication system.
 - 1) Make sure the transmitted and received voice is satisfactory.
 - (b) If the VHF communication system operates correctly, then you corrected the fault.

————— **END OF TASK** —————

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818. VHF Transceiver Internal Fault Problem - Fault Isolation

A. Description

- (1) This task is for this maintenance message:
 - (a) LRU STATUS
- (2) The VHF communication transceiver has an internal fault.

B. Possible Causes

- (1) VHF communication transceiver, M149 (VHF-1), M150 (VHF-2), or M411 (VHF-3).

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00165	COMMUNICATIONS VHF 1
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	3	C00166	COMMUNICATIONS VHF 2

D. Related Data

- (1) (SSM 23-12-11,-21, -31)
- (2) (WDM 23-12-11,-21,-31)

E. Initial Evaluation

- (1) Do this task: VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.
 - (a) If the maintenance message does not show on the transceiver, then there was an intermittent fault.
 - (b) If the maintenance message shows on the transceiver, then continue.

F. Fault Isolation Procedure

- (1) Replace the VHF communication transceiver, M149 (VHF-1), M150 (VHF-2), or M411 (VHF-3).

These are the tasks:

VHF Communication Transceiver - Removal, AMM TASK 23-12-21-020-801,
VHF Communication Transceiver - Installation, AMM TASK 23-12-21-420-801.

 - (a) Do this task: VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801.
 - 1) If the maintenance message does not show on the transceiver, then you corrected the fault.

————— **END OF TASK** —————

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ECCN 9E991 BOEING PROPRIETARY - See title page for details

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801. SATCOM System - BITE Procedure

A. General

- (1) You initiate the Satellite Communications System (SATCOM) system BITE test at a Flight Management Computer (FMC) Control Display Unit (CDU), on the AFT Electronic Panel, P9, or at the Satellite Data Unit (SDU).
- (2) The SDU is located in the AFT Cargo Compartment, on electronic equipment rack E6-1.
- (3) The SATCOM system BITE test does a self check for internal and external faults. Results of the BITE test show as fault messages at the CDU, and at the front of the SDU.

B. Prepare Procedure

- (1) Supply the electrical power (AMM TASK 24-22-00-860-811).
- (2) Align the Air Data Inertial Reference Units ADIRU (AMM TASK 34-21-00-820-802 or AMM TASK 34-21-00-820-801).

C. BITE Procedure - BITE Test at the Flight Management Control Display Unit.

- (1) Do these steps at a Flight Management Computer (FMC) Control Display Unit (CDU) on the AFT Electronic Panel, P9, to do the BITE procedure for the SATCOM:
 - (a) Push the MENU key.
 - (b) Push the Line Select Key (LSK) adjacent to <SAT.
 - (c) Push the NEXT PAGE key to show page 2/2 of SAT-PHONE page.
 - (d) Push the LSK adjacent to MAINTENANCE>.
 - (e) Push the LSK adjacent to TEST>.
 - (f) When <INITIATE SELF TEST shows, push the LSK adjacent to it.
 - (g) Make sure that TEST IN PROGRESS 120S shows on SAT TEST page.
 - (h) At the end of the test, make sure that the test results show TEST OK.
 - 1) If the test fails, then make a list of the fault messages.
 - a) Find the fault message in the list of Corrective Actions for Fault Messages that follows.
 - b) Do the corrective action for the applicable fault message.
- (2) Refer to the table at the end of this task to find the fault isolation task for the applicable maintenance message.

D. BITE Procedure - BITE Test at the Satellite Data Unit

- (1) Do these steps at the SDU Front Panel in the AFT Cargo Compartment, E6:
 - (a) Push and release the TEST switch on the front panel of the SDU.
 - (b) Make sure that all LEDs go OFF.
 - (c) Monitor the LEDs while the SDU does its start up sequence:
 - 1) There are increasing number of LEDs flashing Green.
 - 2) At the end of the start up sequence, make sure this occurs:
 - a) LEDs 1 to 8 are flashing Green.
 - b) LEDs 9 and 10 come on steady Green.
- NOTE: The LEDs will flash for approximately 3 - 20 seconds. The time variations are depending on the ORT synchronization.
- (d) At the end of the BITE test, make sure that this occurs:

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- 1) The LEDs changed to steady Green.

NOTE: The “Ext HPA” and “Ext BSU” LEDs will go OFF at the end of the test. This is a usual condition, because the SATCOM configuration does not have these components installed.

- (2) Refer to the table at the end of this task to find the fault isolation task for the applicable maintenance message.

LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
SATCOM	ANTENNA	23-15 TASK 952
SATCOM	BSU-TOP PORT - ANT ARRAY FUNC FAIL	23-15 TASK 805
SATCOM	BSU-TOP PORT - BEAM STEER FUNCFAIL	23-15 TASK 805
SATCOM	BSU-TOP PORT - HGA/IGA FAILURE	23-15 TASK 805
SATCOM	BSU-TOP PORT - LBL 144 RATE FAIL	23-15 TASK 805
SATCOM	BSU-TOP PORT - LBL 350 RATE FAIL	23-15 TASK 805
SATCOM	BSU-TOP PORT - OVER TEMPERATURE FAIL	23-15 TASK 805
SATCOM	BSU-TOP PORT - PSU FUNCTION FAILURE	23-15 TASK 805
SATCOM	BSU-TOP PORT - RAM FAILURE	23-15 TASK 805
SATCOM	BSU-TOP PORT - ROM FAILURE	23-15 TASK 805
SATCOM	BSU-TOP PORT - SELF TEST FAIL	23-15 TASK 805
SATCOM	BSU-TOP PORT - WRONG SDI CODE	23-15 TASK 805
SATCOM	BSU-TOP PORT/SDU - BITE BUS INACTIVE	23-15 TASK 943
SATCOM	CMU1 - INCORRECT SSM	23-15 TASK 808
SATCOM	CMU1 - PROTOCOL ERROR	23-15 TASK 808
SATCOM	CMU1 - SELF DECLARED ERROR	23-15 TASK 808
SATCOM	CMU1 - TEST/LOOP FAILURE	23-15 TASK 808
SATCOM	CMU1 - TX DATA ERROR	23-15 TASK 808
SATCOM	CMU1/SDU - BUS INACTIVE	23-15 TASK 810
SATCOM	DLNA	23-15 TASK 953
SATCOM	EXT. BSU	23-15 TASK 955
SATCOM	EXT. DATA BUS	23-15 TASK 956
SATCOM	EXT. HPA	23-15 TASK 954
SATCOM	IRS-PRI - IRS I/F WARNING	23-15 TASK 813
SATCOM	IRS-PRI/IRS-SEC - ALTITUDE DATA FAIL	23-15 TASK 946
SATCOM	IRS-PRI/IRS-SEC - GND SPEED DATA FAIL	23-15 TASK 946
SATCOM	IRS-PRI/IRS-SEC - GNSS DATA FAIL	23-15 TASK 946
SATCOM	IRS-PRI/IRS-SEC - HEADING DATA FAIL	23-15 TASK 946
SATCOM	IRS-PRI/IRS-SEC - TRCK ANG DATA FAIL	23-15 TASK 946
SATCOM	IRS-PRI/IRS-SEC/AES - POSN DATA FAIL	23-15 TASK 946

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
SATCOM	IRS-PRI/SDU - BUS INACTIVE	23-15 TASK 813
SATCOM	IRS-PRI/SDU - IRS I/F FAIL IN AIR	23-15 TASK 813
SATCOM	IRS-SEC - IRS I/F WARNING	23-15 TASK 944
SATCOM	IRS-SEC/SDU - BUS INACTIVE	23-15 TASK 944
SATCOM	IRS-SEC/SDU - IRS I/F FAIL IN AIR	23-15 TASK 944
SATCOM	IRS-SEC/SDU - IRS I/F FAIL ON GND	23-15 TASK 944
SATCOM	LNA-TOP PORT - DIPLEXER FAILURE	23-15 TASK 804
SATCOM	ORT/CONFIG.	23-15 TASK 957
SATCOM	SAT LINK #1	23-15 TASK 958
SATCOM	SAT LINK #2	23-15 TASK 959
SATCOM	SCM - ECM ACCESS FAILURE	23-15 TASK 940
SATCOM	SCM - TEMP ACCESS FAILURE	23-15 TASK 940
SATCOM	SCM/SDU - RS422 BUS INACTIVE	23-15 TASK 941
SATCOM	SCM	23-15 TASK 940
SATCOM	SDU - A429 LOOPBACK FAIL	23-15 TASK 802
SATCOM	SDU - A429 PUMA REG FAIL	23-15 TASK 802
SATCOM	SDU - A429 SRAM INTEG FAIL	23-15 TASK 802
SATCOM	SDU - A429 SRAM SEU FAIL	23-15 TASK 945
SATCOM	SDU - A429 SRAM TEST FAIL	23-15 TASK 802
SATCOM	SDU - ADDR LINE TEST FAIL	23-15 TASK 802
SATCOM	SDU - AIR FLW SENSOR 1 FAIL	23-15 TASK 802
SATCOM	SDU - AIR FLW SENSOR 2 FAIL	23-15 TASK 802
SATCOM	SDU - ATE REQ DSCRT MON FAIL	23-15 TASK 802
SATCOM	SDU - BGAN SW CORRUPT-FATAL	23-15 TASK 942
SATCOM	SDU - BGAN SW CORRUPT-MAJOR	23-15 TASK 942
SATCOM	SDU - BOOT INTEG FAIL	23-15 TASK 802
SATCOM	SDU - BUS ACCESS FAILURE	23-15 TASK 945
SATCOM	SDU - CCM OFFSET/CAL INVALID	23-15 TASK 802
SATCOM	SDU - CCM1 ETHERNET FAIL	23-15 TASK 945
SATCOM	SDU - CCM2 ETHERNET FAIL	23-15 TASK 945
SATCOM	SDU - CLAS SW CORRUPT-FATAL	23-15 TASK 942
SATCOM	SDU - CLAS SW CORRUPT-MAJOR	23-15 TASK 942
SATCOM	SDU - CLASSIC CP-MAJOR FAIL	23-15 TASK 802
SATCOM	SDU - CLASSIC DIO-MAJOR FAIL	23-15 TASK 802
SATCOM	SDU - CONFIG STRAPS ERROR	23-15 TASK 816

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
SATCOM	SDU - CPU BUCKS MON FAIL	23-15 TASK 802
SATCOM	SDU - CSW INRAM INTEG FAIL	23-15 TASK 802
SATCOM	SDU - CSW INTEG/COMPAT FAIL	23-15 TASK 802
SATCOM	SDU - DECK 1 OVR PWR FAIL	23-15 TASK 802
SATCOM	SDU - DECK 2 OVR PWR FAIL	23-15 TASK 802
SATCOM	SDU - DL CODE INTEG FAIL	23-15 TASK 802
SATCOM	SDU - DMA TEST FAIL	23-15 TASK 945
SATCOM	SDU - DSI TEST FAILURE	23-15 TASK 802
SATCOM	SDU - DSO FAILSAFE STATE FAIL	23-15 TASK 802
SATCOM	SDU - DSO FEEDBACK FAIL	23-15 TASK 802
SATCOM	SDU - DSO READBACK FAIL	23-15 TASK 802
SATCOM	SDU - DSO STATUS FAILURE	23-15 TASK 802
SATCOM	SDU - EDC FAILURE	23-15 TASK 942
SATCOM	SDU - EEPROM FAILURE	23-15 TASK 802
SATCOM	SDU - EPICEA PARTITION FAIL	23-15 TASK 945
SATCOM	SDU - ETHERNET 1 FAILED	23-15 TASK 945
SATCOM	SDU - ETHERNET 2 FAILED	23-15 TASK 945
SATCOM	SDU - ETHERNET SFTY FAILED	23-15 TASK 802
SATCOM	SDU - EXT ISDN 1 FAILURE	23-15 TASK 945
SATCOM	SDU - EXT ISDN 2 FAILURE	23-15 TASK 945
SATCOM	SDU - FATAL TEMP SENS FAIL	23-15 TASK 802
SATCOM	SDU - FAULTY 5V	23-15 TASK 802
SATCOM	SDU - FAULTY CHECKSUM	23-15 TASK 802
SATCOM	SDU - GAIN COMP INCORRECT	23-15 TASK 802
SATCOM	SDU - HARDWARE FAILURE	23-15 TASK 802
SATCOM	SDU - I2C MON FAILURE	23-15 TASK 802
SATCOM	SDU - I2C TEST FAILURE	23-15 TASK 802
SATCOM	SDU - IN0 DSCRT MON FAIL	23-15 TASK 802
SATCOM	SDU - INCOMPAT SEC ORT	23-15 TASK 827
SATCOM	SDU - INCOMPAT USR ORT	23-15 TASK 828
SATCOM	SDU - INCORRECT HW INIT	23-15 TASK 802
SATCOM	SDU - INITIALISATION FAILURE	23-15 TASK 802
SATCOM	SDU - INTRPT/EXPT CNTRL FAIL	23-15 TASK 945
SATCOM	SDU - INVALID CAL TABLE	23-15 TASK 802
SATCOM	SDU - ISDN 1 FAILURE	23-15 TASK 945

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23-15 TASK 801

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
SATCOM	SDU - ISDN 2 FAILURE	23-15 TASK 945
SATCOM	SDU - LOAD REQ DSCRT MON FAIL	23-15 TASK 802
SATCOM	SDU - LOADS INTEG CHECK FAIL	23-15 TASK 942
SATCOM	SDU - LOW PWR MODE 2 FAIL	23-15 TASK 802
SATCOM	SDU - MODEM 1 FATAL FAIL	23-15 TASK 802
SATCOM	SDU - MODEM 2 FATAL FAIL	23-15 TASK 802
SATCOM	SDU - MSG ACK ERROR	23-15 TASK 802
SATCOM	SDU - NO RESPONSE TO RESET	23-15 TASK 802
SATCOM	SDU - NO RESPONSE	23-15 TASK 802
SATCOM	SDU - NVM FAILURE	23-15 TASK 802
SATCOM	SDU - NVM MON FAILURE	23-15 TASK 802
SATCOM	SDU - OVEN READY FAILURE	23-15 TASK 802
SATCOM	SDU - OVERCURRENT FAIL	23-15 TASK 802
SATCOM	SDU - OVR PWR TEST FAIL	23-15 TASK 802
SATCOM	SDU - PCI BUS I/O TEST FAIL	23-15 TASK 942
SATCOM	SDU - PPC750 SELF TEST FAIL	23-15 TASK 945
SATCOM	SDU - QUADRAX 1 FAILED	23-15 TASK 945
SATCOM	SDU - QUADRAX 2 FAILED	23-15 TASK 945
SATCOM	SDU - R/W REG CHECK FAILED	23-15 TASK 942
SATCOM	SDU - RAM BUFFER FULL	23-15 TASK 945
SATCOM	SDU - RAM CORRUPTION	23-15 TASK 945
SATCOM	SDU - RAM EDC TEST FAIL	23-15 TASK 802
SATCOM	SDU - RAM TEST FAILURE	23-15 TASK 802
SATCOM	SDU - READ ONLY CHK FAILED	23-15 TASK 942
SATCOM	SDU - RECOPY FAILED	23-15 TASK 802
SATCOM	SDU - RF1 FATAL FAILURE	23-15 TASK 802
SATCOM	SDU - RF2 FATAL FAILURE	23-15 TASK 802
SATCOM	SDU - SDRAM EDC FAILURE	23-15 TASK 802
SATCOM	SDU - SDRAM FAILURE	23-15 TASK 942
SATCOM	SDU - SECURITY FAILURE	23-15 TASK 802
SATCOM	SDU - SERIAL NUMBER INVALID	23-15 TASK 802
SATCOM	SDU - SHOP DSCRT MON FAIL	23-15 TASK 802
SATCOM	SDU - SLRS INTEG/COMPAT FAIL	23-15 TASK 802
SATCOM	SDU - SW LOAD CMPAT FAIL	23-15 TASK 942
SATCOM	SDU - TAL1 FATAL FAIL	23-15 TASK 802

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
SATCOM	SDU - TAL2 FATAL FAIL	23-15 TASK 802
SATCOM	SDU - TEMP SENSOR 1 FAIL	23-15 TASK 802
SATCOM	SDU - TEMP SENSOR 2 FAIL	23-15 TASK 802
SATCOM	SDU - TEMP SENSOR FAIL	23-15 TASK 802
SATCOM	SDU - TEST ID 1605 FAILURE	23-15 TASK 802
SATCOM	SDU - TEST ID 1606 FAILURE	23-15 TASK 802
SATCOM	SDU - TEST ID 1607 FAILURE	23-15 TASK 802
SATCOM	SDU - TEST ID 1608 FAILURE	23-15 TASK 802
SATCOM	SDU - TEST ID 1609 FAILURE	23-15 TASK 802
SATCOM	SDU - TMP SENSOR 2 FAILURE	23-15 TASK 802
SATCOM	SDU - TRANSMIT MUTE FAIL	23-15 TASK 802
SATCOM	SDU - TYP1 ORT SYNC MJR FAIL	23-15 TASK 827
SATCOM	SDU - TYP1 ORT SYNC MNR FAIL	23-15 TASK 827
SATCOM	SDU - TYP2 ORT SYNC FAIL	23-15 TASK 827
SATCOM	SDU - TYP4 ORT SYNC MJR FAIL	23-15 TASK 828
SATCOM	SDU - TYP4 ORT SYNC MNR FAIL	23-15 TASK 828
SATCOM	SDU - TYP5 ORT SYNC FAIL	23-15 TASK 828
SATCOM	SDU - USIM1 ACCESS FAILED	23-15 TASK 940
SATCOM	SDU - USIM1 FAILURE	23-15 TASK 940
SATCOM	SDU - USIM2 ACCESS FAILED	23-15 TASK 940
SATCOM	SDU - USIM3 ACCESS FAILED	23-15 TASK 940
SATCOM	SDU - USIM3 FAILURE	23-15 TASK 940
SATCOM	SDU - USIM4 ACCESS FAILED	23-15 TASK 940
SATCOM	SDU - VP12 SEC VOLTAGE FAIL	23-15 TASK 802
SATCOM	SDU - VP40 SEC VOLTAGE FAIL	23-15 TASK 802
SATCOM	SDU - VPI MON FAILED	23-15 TASK 802
SATCOM	SDU - WATCHDOG FAILURE	23-15 TASK 945
SATCOM	SDU/BSU-TOP PORT - BUS INACTIVE	23-15 TASK 943
SATCOM	SDU	23-15 TASK 950

————— **END OF TASK** —————

EFFECTIVITY
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ECCN 9E991 BOEING PROPRIETARY - See title page for details

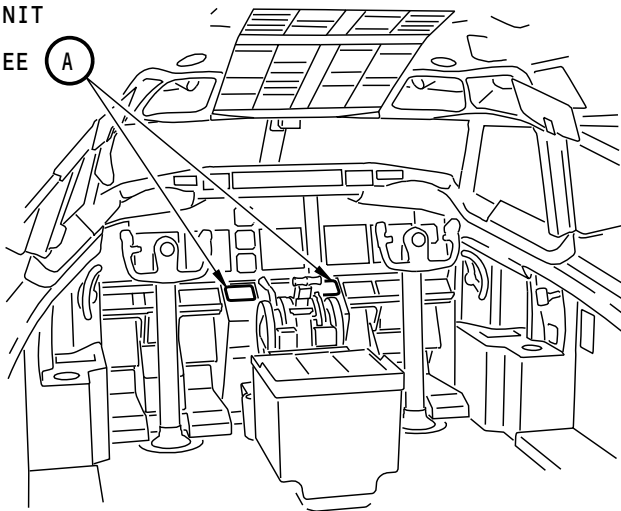
23-15 TASK 801

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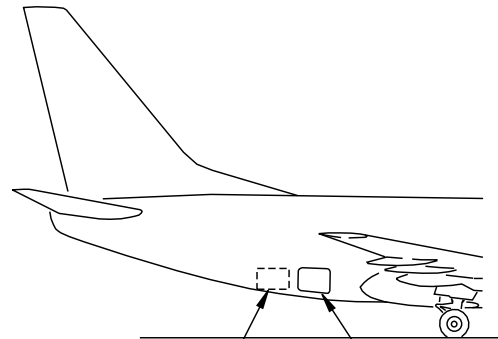
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CONTROL
 DISPLAY
 UNIT

SEE (A)



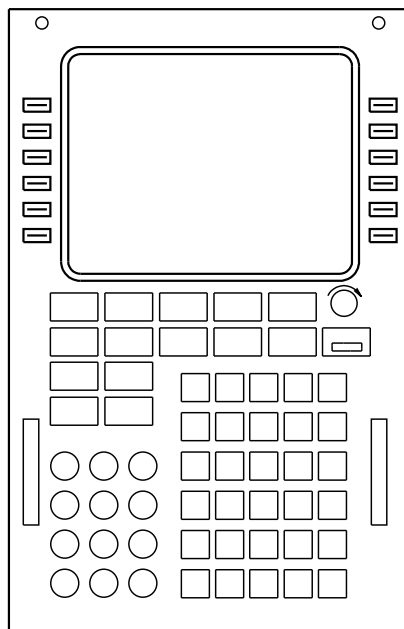
FLIGHT COMPARTMENT



ELECTRONIC
 EQUIPMENT
 RACK, E6

AFT CARGO
 DOOR, 822

SEE (B)



CONTROL DISPLAY UNIT (CDU)

(A)

L01297 S0000146956_V1

Satellite Data Unit Installation
Figure 201/23-15-00-990-803 (Sheet 1 of 2)

EFFECTIVITY
SIA ALL

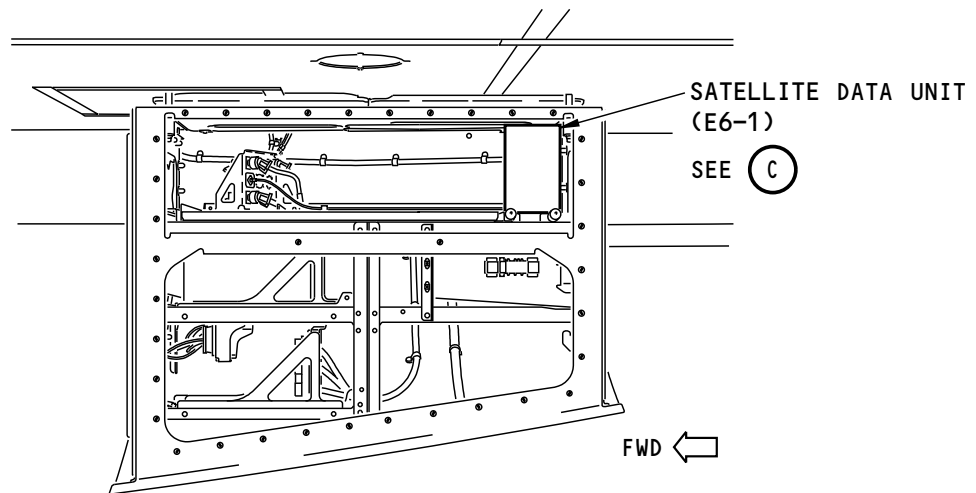
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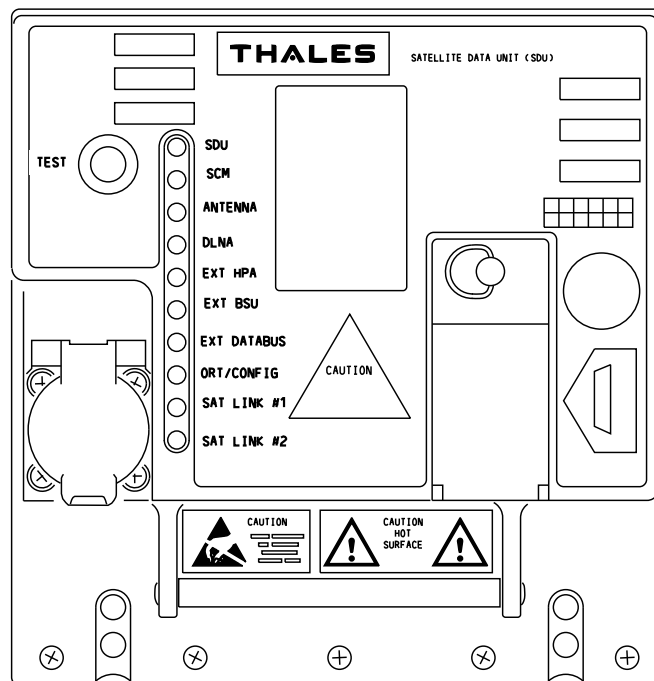
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**ELECTRONIC EQUIPMENT RACK, E6
 (ACCESS PANEL REMOVED)**

(B)



SATELLITE DATA UNIT

(C)

1966173 S0000376332_V1

**Satellite Data Unit Installation
 Figure 201/23-15-00-990-803 (Sheet 2 of 2)**

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802. SDU Problem - Fault Isolation

A. Description

- (1) This task is for these maintenance messages:
- (a) SDU – A429 LOOPBACK FAIL
 - (b) SDU – A429 PUMA REG FAIL
 - (c) SDU – A429 SRAM INTEG FAIL
 - (d) SDU – A429 SRAM TEST FAIL
 - (e) SDU – ADDR LINE TEST FAIL
 - (f) SDU – AIR FLW SENSOR 1 FAIL
 - (g) SDU – AIR FLW SENSOR 2 FAIL
 - (h) SDU – ATE REQ DSCRT MON FAIL
 - (i) SDU – BOOT INTEG FAIL
 - (j) SDU – CCM OFFSET/CAL INVALID
 - (k) SDU – CLASSIC CP-MAJOR FAIL
 - (l) SDU – CLASSIC DIO-MAJOR FAIL
 - (m) SDU – CPU BUCKS MON FAIL
 - (n) SDU – CSW INRAM INTEG FAIL
 - (o) SDU – CSW INTEG/COMPAT FAIL
 - (p) SDU – DECK 1 OVR PWR FAIL
 - (q) SDU – DECK 2 OVR PWR FAIL
 - (r) SDU – DL CODE INTEG FAIL
 - (s) SDU – DSI TEST FAILURE
 - (t) SDU – DSO FAILSAFE STATE FAIL
 - (u) SDU – DSO FEEDBACK FAIL
 - (v) SDU – DSO READBACK FAIL
 - (w) SDU – DSO STATUS FAILURE
 - (x) SDU – EEPROM FAILURE
 - (y) SDU – ETHERNET SFTY FAILED
 - (z) SDU – FATAL TEMP SENS FAIL
 - (aa) SDU – FAULTY 5V
 - (ab) SDU – FAULTY CHECKSUM
 - (ac) SDU – GAIN COMP INCORRECT
 - (ad) SDU – HARDWARE FAILURE
 - (ae) SDU – I2C MON FAILURE
 - (af) SDU – I2C TEST FAILURE
 - (ag) SDU – IN0 DSCRT MON FAIL
 - (ah) SDU – INCORRECT HW INIT
 - (ai) SDU – INITIALISATION FAILURE
 - (aj) SDU – INVALID CAL TABLE

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- (ak) SDU – LOAD REQ DSCRT MON FAIL
- (al) SDU – LOW PWR MODE 2 FAIL
- (am) SDU – MODEM 1 FATAL FAIL
- (an) SDU – MODEM 2 FATAL FAIL
- (ao) SDU – MSG ACK ERROR
- (ap) SDU – NO RESPONSE
- (aq) SDU – NO RESPONSE TO RESET
- (ar) SDU – NVM FAILURE
- (as) SDU – NVM MON FAILURE
- (at) SDU – OVEN READY FAILURE
- (au) SDU – OVERCURRENT FAIL
- (av) SDU – OVR PWR TEST FAIL
- (aw) SDU – RAM EDC TEST FAIL
- (ax) SDU – RAM TEST FAILURE
- (ay) SDU – RECOPY FAILED
- (az) SDU – RF1 FATAL FAILURE
- (ba) SDU – RF2 FATAL FAILURE
- (bb) SDU – SDRAM EDC FAILURE
- (bc) SDU – SECURITY FAILURE
- (bd) SDU – SERIAL NUMBER INVALID
- (be) SDU – SHOP DSCRT MON FAIL
- (bf) SDU – SLRS INTEG/COMPAT FAIL
- (bg) SDU – TAL1 FATAL FAIL
- (bh) SDU – TAL2 FATAL FAIL
- (bi) SDU – TEMP SENSOR 1 FAIL
- (bj) SDU – TEMP SENSOR 2 FAIL
- (bk) SDU – TEMP SENSOR FAIL
- (bl) SDU – TEST ID 1605 FAILURE
- (bm) SDU – TEST ID 1606 FAILURE
- (bn) SDU – TEST ID 1607 FAILURE
- (bo) SDU – TEST ID 1608 FAILURE
- (bp) SDU – TEST ID 1609 FAILURE
- (bq) SDU – TMP SENSOR 2 FAILURE
- (br) SDU – TRANSMIT MUTE FAIL
- (bs) SDU – VP12 SEC VOLTAGE FAIL
- (bt) SDU – VP40 SEC VOLTAGE FAIL
- (bu) SDU – VPI MON FAILED

- (2) The satellite data unit (SDU) has an internal fault.

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FAULT ISOLATION MANUAL**

B. Possible Causes

- (1) Satellite data unit, M2761.

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

D. Related Data

- (WDM 23-15-11)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If the maintenance message does not show, then there was an intermittent fault.
 - (b) If the maintenance message shows, then do the Fault Isolation Procedure.

F. Fault Isolation Procedure

- (1) Replace the satellite data unit, M2761.

These are the tasks:

Satellite Data Unit Removal, AMM TASK 23-15-10-000-801,
Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.
- (2) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If the maintenance message does not show, then you have corrected the fault.

———— **END OF TASK** ————

804. DLNA-(TOP/L) Problem - Fault Isolation

A. Description

- (1) This task is for this maintenance message:
 - (a) LNA-TOP PORT – DIPLEXER FAILURE
- (2) The low noise amplifier/diplexer has an internal fault.

B. Possible Causes

- (1) Low noise amplifier/diplexer, M2257.
- (2) High gain antenna, M2691.
- (3) Wiring problem.

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

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D. Related Data

- (1) (SSM 23-15-11)
- (2) (WDM 23-15-11)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If the maintenance message does not show, then there was an intermittent fault.
 - (b) If the maintenance message shows, then do the Fault Isolation Procedure.

F. Fault Isolation Procedure

- (1) Replace the low noise amplifier/diplexer, M2257.

These are the tasks:

Low Noise Amplifier/Diplexer Removal, AMM TASK 23-15-27-000-801,

Low Noise Amplifier/Diplexer Installation, AMM TASK 23-15-27-400-801.

- (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the maintenance message does not show, then you have corrected the fault.
 - 2) If the maintenance message shows, then continue.
- (2) Replace the high gain antenna, M2691.

These are the tasks:

High Gain Antenna Removal, AMM TASK 23-15-30-000-801,

High Gain Antenna Installation, AMM TASK 23-15-30-400-801.

- (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the maintenance message does not show, then you have corrected the fault.
 - 2) If the maintenance message shows, then continue.
- (3) Do this check for 115V AC at the low noise amplifier/diplexer:
 - (a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH

- (b) Remove connector D12661 from the low noise amplifier/diplexer, M2257.
- (c) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH

- (d) Do a check for 115V AC at pin F of connector D12661, to structure ground.
- (4) If there is 115V AC at pin F of connector D12661, then, do the wiring check that follows:
 - (a) Remove connector D12437 from the high gain antenna, M2691. To remove it, do this task: Low Noise Amplifier/Diplexer Removal, AMM TASK 23-15-27-000-801.

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- (b) Do a wiring check between these pins of connector D12661 at the low noise amplifier, M2257 and connector D12437 at the high gain antenna, M2691 (WDM 23-15-13):

DLNA (TOP)

D12661

pin B
pin H
pin J

HGA (TOP)

D12437

pin 11
pin 9
pin 10

- (c) Repair the problems that you find.
- (d) Re-install connector D12661 on the low noise amplifier/diplexer, M2257. To install it, do this task: Low Noise Amplifier/Diplexer Installation, AMM TASK 23-15-27-400-801
- (e) Re-install connector D12437 on the high gain antenna, M2691. To install it, do this task: High Gain Antenna Installation, AMM TASK 23-15-30-400-801.
- (f) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
- 1) If the maintenance message does not show, then you have corrected the fault.
- (5) If there is not 115V AC at pin F of connector D12661, then do this check for 115V AC at the circuit breaker:
- (a) Do a check for 115V AC between the load terminal of SATCOM HI circuit breaker, C1421, and structure ground.
- (b) If there is not 115V AC at the load terminal of SATCOM HI circuit breaker, C1421, then do these steps:
- 1) Replace the circuit breaker, SATCOM HI circuit breaker, C1421 (WDM 23-15-11).
- 2) Re-install connector D12661 on low noise amplifier/diplexer, M2257.
- 3) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
- a) If the maintenance message does not show, then you have corrected the fault.
- (c) If there is 115V AC at the load terminal of SATCOM HI circuit breaker, C1421, then do these steps:
- 1) Repair the wiring between pin F of connector D12661, at the low noise amplifier/diplexer, and the load terminal of SATCOM HI circuit breaker, C1421.
- 2) Re-install connector D12661 on low noise amplifier/diplexer, M2257.
- 3) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
- a) If the maintenance message does not show, then you have corrected the fault.

————— END OF TASK —————

805. HI GAIN ANT-(TOP/L) Problem - Fault Isolation

A. Description

- (1) This task is for these maintenance messages:
- (a) BSU-TOP PORT – ANT ARRAY FUNC FAIL
- (b) BSU-TOP PORT – BEAM STEER FUNC FAIL
- (c) BSU-TOP PORT – HGA/IGA FAILURE
- (d) BSU-TOP PORT – LBL 144 RATE FAIL
- (e) BSU-TOP PORT – LBL 350 RATE FAIL

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- (f) BSU-TOP PORT – OVER TEMPERATURE FAIL
- (g) BSU-TOP PORT – PSU FUNCTION FAILURE
- (h) BSU-TOP PORT – RAM FAILURE
- (i) BSU-TOP PORT – ROM FAILURE
- (j) BSU-TOP PORT – SELF TEST FAIL
- (k) BSU-TOP PORT/SDU – WRONG SDI CODE

(2) The high gain antenna has an internal fault.

B. Possible Causes

- (1) High gain antenna, M2691.
- (2) Wiring problem.

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH

D. Related Data

- (1) (SSM 23-15-11)
- (2) (SSM 23-15-12)
- (3) (WDM 23-15-11)
- (4) (WDM 23-15-12)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If the maintenance message does not show, then there was an intermittent fault.
 - (b) If the maintenance message shows, then do the Fault Isolation Procedure.

F. Fault Isolation Procedure

- (1) Replace the high gain antenna, M2691.

These are the tasks:
High Gain Antenna Removal, AMM TASK 23-15-30-000-801,
High Gain Antenna Installation, AMM TASK 23-15-30-400-801.

 - (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the maintenance message does not show, then you have corrected the fault.
 - 2) If the maintenance message shows, then continue.
- (2) Do this check of the wiring:
 - (a) Remove the high gain antenna, M2691. To remove it, do this task: High Gain Antenna Removal, AMM TASK 23-15-30-000-801.

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23-15 TASK 805

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

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH

- (c) Do a check for 115V AC between pin 18 of connector D12437 of the high gain antenna, M2691, and structure ground (WDM 23-15-12).
- (d) If there is not 115V AC between pin 18 of connector D12437 of the high gain antenna, M2691, and structure ground, then do these steps (WDM 23-15-12):
- 1) Do a check for 115V AC between the load terminal of the SATCOM HI circuit breaker, C1421, and structure ground (WDM 23-15-11).
 - 2) If there is not 115V AC between the load terminal of the SATCOM SDU circuit breaker, C1421, and structure ground, then do these steps: (WDM 23-15-11)
 - a) Replace the circuit breaker, C1421.
 - b) Re-install the high gain antenna, M2691. To install it, do this task: High Gain Antenna Installation, AMM TASK 23-15-30-400-801.
 - c) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - d) If the maintenance message does not show, then you have corrected the fault.
 - 3) If there is 115V AC between the load terminal of the SATCOM HI circuit breaker, C1421, and structure ground, then do these steps (WDM 23-15-11):
 - a) Repair the wiring between pin 18 of connector D12437 and circuit breaker C1421, SATCOM HI(WDM 23-15-11, 23-15-12).
 - b) Re-install the high gain antenna, M2691.
To install it, do this task:
High Gain Antenna Installation, AMM TASK 23-15-30-400-801.
 - c) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
<1> If the maintenance message does not show, then you have corrected the fault.

———— **END OF TASK** ————

808. (ACARS MU/CMU)1 Problem - Fault Isolation

A. Description

- (1) This task is for these maintenance messages:
- (a) CMU1 – INCORRECT SSM
 - (b) CMU1 – PROTOCOL ERROR
 - (c) CMU1 – SELF DECLARED ERROR
 - (d) CMU1 – TEST/LOOP FAILURE
 - (e) CMU1 – TX DATA ERROR
- (2) The aircraft communications addressing and reporting system (ACARS) communications management unit (CMU) has an internal fault.

B. Possible Causes

- (1) ACARS communications management unit, M2127.

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C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	8	C01483	CMU-1 AC

D. Related Data

- (1) (SSM 23-15-12)
- (2) (WDM 23-15-12)
- (3) (WDM 23-27-36)
- (4) (WDM 23-27-37)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If the maintenance message does not show, then there was an intermittent fault.
 - (b) If the maintenance message shows, then do the Fault Isolation Procedure.

F. Fault Isolation Procedure

- (1) Replace the ACARS communications management unit, M2127.

These are the tasks:

ACARS Communications Management Unit (CMU) Removal, AMM TASK 23-27-33-020-801,

ACARS Communications Management Unit (CMU) Installation, AMM TASK 23-27-33-420-801.

- (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the maintenance message does not show, then you have corrected the fault.

————— **END OF TASK** —————

810. (ACARS MU/CMU)1/SDU Problem - Fault Isolation

A. Description

- (1) This task is for this maintenance message:
 - (a) CMU1/SDU – BUS INACTIVE
- (2) There is a problem with the output bus from the ACARS communications management unit.

B. Possible Causes

- (1) ACARS communications management unit (CMU-1), M2127.
- (2) Satellite Data Unit, M2761.
- (3) Wiring problem.

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C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	8	C01483	CMU-1 AC

D. Related Data

- (1) (SSM 23-15-12)
- (2) (WDM 23-15-12)
- (3) (WDM 23-27-36)
- (4) (WDM 23-27-37)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If the maintenance message does not show, then there was an intermittent fault.
 - (b) If the maintenance message shows, then do the Fault Isolation Procedure.

F. Fault Isolation Procedure

- (1) Replace the ACARS communications management unit (CMU-1), M2127.

These are the tasks:

ACARS Communications Management Unit (CMU) Removal, AMM TASK 23-27-33-020-801,

ACARS Communications Management Unit (CMU) Installation, AMM TASK 23-27-33-420-801.

- (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.

- 1) If the maintenance message does not show, then you have corrected the fault.
 - 2) If the maintenance message shows, then continue.

- (2) Replace the satellite data unit, M2761.

These are the tasks:

Satellite Data Unit Removal, AMM TASK 23-15-10-000-801,

Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.

- (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.

- 1) If the maintenance message does not show, then you have corrected the fault.
 - 2) If the maintenance message shows, then continue.

- (3) Do this check of the wiring:

- (a) Remove the CMU-1, M2127. To remove it, do this task: ACARS Communications Management Unit (CMU) Removal, AMM TASK 23-27-33-020-801.

- (b) Remove the satellite data unit, M2761. To remove it, do this task: Satellite Data Unit Removal, AMM TASK 23-15-10-000-801.

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- (c) Do a wiring check between these pins of connector D10727B at the CMU and connector D12803B at the satellite data unit (WDM 23-15-12, 23-27-36):

D10727B	D12803B
pin A12	pin A3
pin B12	pin B3

- (d) Repair the problems that you find.
- (e) Re-install the CMU-1, M2127. To install it, do this task: ACARS Communications Management Unit (CMU) Installation, AMM TASK 23-27-33-420-801.
- (f) Re-install the satellite data unit, M2761. To install it, do this task: Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.
- (g) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
- 1) If the maintenance message does not show, then you have corrected the fault.

————— **END OF TASK** —————

813. IRS-PRI/SDU Problem - Fault Isolation

A. Description

- (1) This task is for these maintenance messages:
- (a) IRS-PRI – IRS I/F WARNING
- (b) IRS-PRI/SDU - BUS INACTIVE
- (c) IRS-PRI/SDU – IRS I/F FAIL IN AIR
- (2) There is a problem with the output bus from the air data inertial reference unit to the satellite data unit.

B. Possible Causes

- (1) Air data inertial reference unit, M1749.
- (2) Satellite data unit, M2761.
- (3) Wiring problem

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH

D. Related Data

- (1) (SSM 23-15-15)
- (2) (WDM 34-21-13)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.

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- (a) If the maintenance message does not show, then there was an intermittent fault.
- (b) If the maintenance message shows, then do the Fault Isolation Procedure.

F. Fault Isolation Procedure

- (1) Replace the air data inertial reference unit, left (ADIRU-L), M1749.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,

Air Data Inertial Reference Unit - Installation, AMM TASK 34-21-01-400-801.

- (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.

- 1) If the maintenance message does not show, then you have corrected the fault.
- 2) If the maintenance message shows, then continue.

- (2) Replace the satellite data unit, M2761.

These are the tasks:

Satellite Data Unit Removal, AMM TASK 23-15-10-000-801,

Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.

- (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.

- 1) If the maintenance message does not show, then you have corrected the fault.
- 2) If the maintenance message shows, then continue.

- (3) Do this check of the wiring:

- (a) Remove the air data inertial reference unit, left (ADIRU-L), M1749. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801
- (b) Remove the satellite data unit, M2761. To remove it, do this task: Satellite Data Unit Removal, AMM TASK 23-15-10-000-801.
- (c) Do a wiring check between these pins of connector D3687B at the air data inertial reference unit, left (ADIRU-L), M1749, and connector D12803B at the satellite data unit (SDU), M2761: (WDM 34-21-13).

ADIRU-L	SDU
D3687B	D12803B
pin C10	pin A2
pin C11	pin B2

- (d) Repair the problems that you find.
- (e) Re-install the air data inertial reference unit, left (ADIRU-L), M1749. To install it, do this task: Air Data Inertial Reference Unit - Installation, AMM TASK 34-21-01-400-801.
- (f) Re-install the satellite data unit (SDU), M2761. To install it, do this task: Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.
- (g) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the maintenance message does not show, then you have corrected the fault.

———— **END OF TASK** ————

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816. WRG STRAPS/SDU Problem - Fault Isolation

A. Description

- (1) This task is for this maintenance message:
 - (a) SDU - CONFIG STRAPS ERROR
- (2) There is a wiring problem with the configuration pins.

B. Possible Causes

- (1) Wiring problem.
- (2) Satellite data unit, M2761.

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

D. Related Data

- (1) (SSM 23-15-15)
- (2) (WDM 23-15-15)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If the maintenance message does not show, then there was an intermittent fault.
 - (b) If the maintenance message shows, then do the Fault Isolation Procedure.

F. Fault Isolation Procedure

- (1) Do these steps to do a wiring check of the configuration program pins:
 - (a) Remove the satellite data unit, M2761. To remove it, do this task: Satellite Data Unit Removal, AMM TASK 23-15-10-000-801.
 - (b) Do a wiring check of these pins at connector D12803A for the satellite data unit, M2761 (WDM 23-15-15).

SDU	SDU
D12803A	D12803A
pin D3	pin E3

- (c) Repair the problems that you find.
 - (d) Re-install the satellite data unit, M2761. To install it, do this task: Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.
 - (e) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the maintenance message does not show, then you have corrected the fault.
 - 2) If the maintenance message shows, then continue.
 - (2) Replace the satellite data unit, M2761.

These are the tasks:

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Satellite Data Unit Removal, AMM TASK 23-15-10-000-801

Satellite Data Unit Installation, AMM TASK 23-15-10-400-803

(a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.

1) If the maintenance message does not show, then you have corrected the fault.

———— **END OF TASK** ————

827. SDU OWNER REQS-SECD Problem - Fault Isolation

A. Description

(1) This task is for these maintenance messages:

(a) SDU – INCOMPAT SEC ORT

(b) SDU – TYP1 ORT SYNC MJR FAIL

(c) SDU – TYP1 ORT SYNC MNR FAIL

(d) SDU – TYP2 ORT SYNC FAIL

(2) There is an error in the secured owner requirements table (ORT) partition.

B. Possible Causes

(1) The ORT is not installed correctly.

(2) Satellite data unit, M2761.

C. Circuit Breakers

(1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

D. Initial Evaluation

(1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.

(a) If the maintenance message does not show, then there was an intermittent fault.

(b) If the maintenance message shows, then do the Fault Isolation Procedure.

E. Fault Isolation Procedure

(1) Install the owner requirements table - secured. To install it, do this task: Satellite Data Unit (SDU) Software Installation with a Portable Data Loader, AMM TASK 23-15-10-470-801.

(a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.

1) If the maintenance message does not show, then you have corrected the fault.

2) If the maintenance message shows, then continue.

(2) Replace the satellite data unit, M2761.

These are the tasks:

Satellite Data Unit Removal, AMM TASK 23-15-10-000-801,

Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.

(a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.

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- 1) If the maintenance message does not show, then you have corrected the fault.

————— **END OF TASK** —————

828. **SDU OWNER REQS-USER Problem - Fault Isolation**

A. Description

- (1) This task is for these maintenance messages:
 - (a) SDU – INCOMPAT USR ORT
 - (b) SDU – TYP4 ORT SYNC MJR FAIL
 - (c) SDU – TYP4 ORT SYNC MNR FAIL
 - (d) SDU – TYP5 ORT SYNC FAIL
- (2) There is an error in the user owner requirements table (ORT) partition.

B. Possible Causes

- (1) The owner requirements table software is not installed correctly.
- (2) Satellite data unit, M2761.

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

D. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If the maintenance message does not show, then there was an intermittent fault.
 - (b) If the maintenance message shows, then do the Fault Isolation Procedure.

E. Fault Isolation Procedure

- (1) Install the owner requirements table - user. To install it, do this task: Satellite Data Unit (SDU) Software Installation with a Portable Data Loader, AMM TASK 23-15-10-470-801.
 - (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the maintenance message does not show, then you have corrected the fault.
 - 2) If the maintenance message shows, then continue.
- (2) Replace the satellite data unit, M2761.

These are the tasks:

Satellite Data Unit Removal, AMM TASK 23-15-10-000-801,

Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.

 - (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the maintenance message does not show, then you have corrected the fault.

————— **END OF TASK** —————

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940. SCM Problem - Fault Isolation

A. Description

- (1) This task is for the maintenance messages show on the MCDU:
 - (a) SCM – ECM ACCESS FAILURE
 - (b) SCM – TEMP ACCESS FAILURE
 - (c) SDU – USIM1 ACCESS FAILED
 - (d) SDU – USIM1 FAILURE
 - (e) SDU – USIM2 ACCESS FAILED
 - (f) SDU – USIM3 ACCESS FAILED
 - (g) SDU – USIM3 FAILURE
 - (h) SDU – USIM4 ACCESS FAILED
- (2) This task is also for the maintenance status LED shows on the front panel of the SDU:
 - (a) SCM LED indicates Red, Amber or Off
- (3) The SDU configuration module (SCM) has an internal fault.

B. Possible Causes

- SDU configuration module, M2762

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU

D. Related Data

- (WDM 23-15-11, 23-15-15)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If you do the BITE Test at the Satellite Data Unit, then continue this task: SCM LED indicates Red, Amber or Off - Fault Isolation, 23-15 TASK 951.
 - (b) If you do the BITE Test at the Flight Management Control Display Unit, then do the steps that follow:
 - 1) If the maintenance message does not show, then there was an intermittent fault.
 - 2) If the maintenance message shows, then do the Fault Isolation Procedure.

F. Fault Isolation Procedure

- (1) Replace the SDU configuration module (SCM), M2762.

These are the tasks:

SDU Configuration Module Removal, AMM TASK 23-15-13-000-801.

SDU Configuration Module Installation, AMM TASK 23-15-13-400-801.

 - (a) If the maintenance message does not show, then you have corrected the fault.

———— **END OF TASK** ————

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941. SCM/SDU Problem - Fault Isolation

A. Description

- (1) This task is for this maintenance message:
 - (a) SCM/SDU – RS422 BUS INACTIVE

B. Possible Causes

- (1) Satellite data unit (SDU), M2761
- (2) SDU configuration module (SCM), M2762
- (3) Wiring problem

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU

D. Related Data

- (1) (SSM 23-15-11, 23-15-15)
- (2) (WDM 23-15-11, 23-15-15)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If the maintenance message does not show, then there was an intermittent fault.
 - (b) If the maintenance message shows, then do the Fault Isolation Procedure.

F. Fault Isolation Procedure

- (1) Replace the satellite data unit (SDU), M2761.
These are the tasks:
Satellite Data Unit Removal, AMM TASK 23-15-10-000-801.
Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.
 - (a) If the maintenance message does not show, then you have corrected the fault.
 - (b) If the maintenance message shows, then continue.
- (2) Replace the SDU configuration module (SCM), M2762.
These are the tasks:
SDU Configuration Module Removal, AMM TASK 23-15-13-000-801.
SDU Configuration Module Installation, AMM TASK 23-15-13-400-801.
 - (a) If the maintenance message does not show, then you have corrected the fault.
 - (b) If the maintenance message shows, then continue.
- (3) Do this check of the wiring:
 - (a) Remove the satellite data unit, M2761. To remove it, do this task: Satellite Data Unit Removal, AMM TASK 23-15-10-000-801.
 - (b) Disconnect the connector D12805 from the SCM, M2762 (AMM TASK 23-15-13-000-801).

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- (c) Do a wiring check between these pins of connector D12805 at the SCM and connector D12803B at the satellite data unit (WDM 23-15-15):

SCM	SDU
D12805	D12803B
pin 1	pin D5
pin 2	pin D6
pin 3	pin D3
pin 4	pin D4

- (d) Repair the problems that you find.
- (e) Connect the connector D12805 to the SCM, M2762 (AMM TASK 23-15-13-400-801).
- (f) Install the satellite data unit, M2761. To install it, do this task: Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.
- 1) If the maintenance message does not show, then you have corrected the fault.

END OF TASK

942. SDU has Software Problem - Fault Isolation

A. Description

- (1) This task is for these maintenance messages:

- (a) SDU – BGAN SW CORRUPT-FATAL
- (b) SDU – BGAN SW CORRUPT-MAJOR
- (c) SDU – CLAS SW CORRUPT-FATAL
- (d) SDU – CLAS SW CORRUPT-MAJOR
- (e) SDU – EDC FAILURE
- (f) SDU – LOADS INTEG CHECK FAIL
- (g) SDU – PCI BUS I/O TEST FAIL
- (h) SDU – R/W REG CHECK FAILED
- (i) SDU – READ ONLY CHK FAILED
- (j) SDU – SDRAM FAILURE
- (k) SDU – SW LOAD CMPAT FAIL

- (2) The OPS software in the SDU is not serviceable.

NOTE: Airlines need to contact the equipment supplier for technical support on reloading the OPS software into the SDU.

B. Possible Causes

- (1) Satellite data unit (SDU), M2761

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C01420	SATCOM SDU
E	15	C01422	SATCOM AURAL WARN

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D. Related Data

- (1) (SSM 23-15-11)
- (2) (WDM 23-15-11)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If the maintenance message does not show, then there was an intermittent fault.
 - (b) If the maintenance message shows, then do the Fault Isolation Procedure.

F. Fault Isolation Procedure

- (1) Replace the satellite data unit (SDU), M2761.

These are the tasks:

Satellite Data Unit Removal, AMM TASK 23-15-10-000-801.

Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.

- (a) If the maintenance message does not show, then you have corrected the fault.

————— **END OF TASK** —————

943. SDU/High Gain Antenna Problem - Fault Isolation

A. Description

- (1) This task is for these maintenance messages:
 - (a) SDU/BSU-TOP PORT – BUS INACTIVE
 - (b) BSU-TOP PORT/SDU – BITE BUS INACTIVE

B. Possible Causes

- (1) Satellite data unit (SDU), M2761
- (2) Wiring problem
- (3) High gain antenna, M2691

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH

D. Related Data

- (1) (SSM 23-15-12)
- (2) (WDM 23-15-12)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If the maintenance message does not show, then there was an intermittent fault.
 - (b) If the maintenance message shows, then do the Fault Isolation Procedure.

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F. Fault Isolation Procedure

- (1) Replace the satellite data unit (SDU), M2761.

These are the tasks:

Satellite Data Unit Removal, AMM TASK 23-15-10-000-801.

Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.

- (a) If the maintenance message does not show, then you have corrected the fault.
- (b) If the maintenance message shows, then continue.
- (2) Do this check of the wiring:
- (a) Remove the satellite data unit, M2761. To remove it, do this task: Satellite Data Unit Removal, AMM TASK 23-15-10-000-801.
- (b) Disconnect the connector D12437 from the HGA, M2691 (AMM TASK 23-15-30-000-801).
- (c) Do a wiring check between these pins of connector D12803B at the SDU and connector D12437 at the HGA (WDM 23-15-12):

SDU	HGA (Top)
D12803B	D12437
pin C8	pin 3
pin D8	pin 5
pin E1	pin 6
pin F1	pin 8

- (d) Repair the problems that you find.
- (e) Connect the connector D12437 to the HGA, M2691 (AMM TASK 23-15-30-400-801).
- (f) Install the satellite data unit, M2761. To install it, do this task: Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.
- 1) If the maintenance message does not show, then you have corrected the fault.
- 2) If the maintenance message shows, then continue.
- (3) Replace the high gain antenna, M2691.

These are the tasks:

High Gain Antenna Removal, AMM TASK 23-15-30-000-801.

High Gain Antenna Installation, AMM TASK 23-15-30-400-801.

- (a) If the maintenance message does not show, then you have corrected the fault.

————— **END OF TASK** —————

944. IRS-SEC/SDU Problem - Fault Isolation

A. Description

- (1) This task is for these maintenance messages:
- (a) IRS-SEC – IRS I/F WARNING
- (b) IRS-SEC/SDU - BUS INACTIVE
- (c) IRS-SEC/SDU – IRS I/F FAIL IN AIR
- (d) IRS-SEC/SDU – IRS I/F FAIL ON GND

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- (2) There is a problem with the output bus from the air data inertial reference unit to the satellite data unit.

B. Possible Causes

- (1) Air data inertial reference unit, M1752.
- (2) Satellite data unit, M2761.
- (3) Wiring problem

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	14	C01008	ADIRU RIGHT AC

D. Related Data

- (1) (SSM 23-15-15)
- (2) (WDM 34-21-23)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If the maintenance message does not show, then there was an intermittent fault.
 - (b) If the maintenance message shows, then do the Fault Isolation Procedure.

F. Fault Isolation Procedure

- (1) Replace the air data inertial reference unit, right (ADIRU-R), M1752.

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,
Air Data Inertial Reference Unit - Installation, AMM TASK 34-21-01-400-801.

 - (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the maintenance message does not show, then you have corrected the fault.
 - 2) If the maintenance message shows, then continue.
- (2) Replace the satellite data unit, M2761.

These are the tasks:

Satellite Data Unit Removal, AMM TASK 23-15-10-000-801,
Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.

 - (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the maintenance message does not show, then you have corrected the fault.
 - 2) If the maintenance message shows, then continue.
- (3) Do this check of the wiring:

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- (a) Remove the air data inertial reference unit, right (ADIRU-R), M1752. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801
- (b) Remove the satellite data unit, M2761. To remove it, do this task: Satellite Data Unit Removal, AMM TASK 23-15-10-000-801.
- (c) Do a wiring check between these pins of connector D3693B at the air data inertial reference unit, right (ADIRU-R), M1752, and connector D12803B at the satellite data unit (SDU), M2761: (WDM 34-21-23).

ADIRU-R	SDU
D3693B	D12803B
pin J2	pin J2
pin J3	pin K2

- (d) Repair the problems that you find.
- (e) Re-install the air data inertial reference unit, right (ADIRU-R), M1752. To install it, do this task: Air Data Inertial Reference Unit - Installation, AMM TASK 34-21-01-400-801.
- (f) Re-install the satellite data unit (SDU), M2761. To install it, do this task: Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.
- (g) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the maintenance message does not show, then you have corrected the fault.

————— **END OF TASK** —————

945. SDU Internal Problem - Fault Isolation

A. Description

- (1) This task is for these maintenance messages:
 - (a) SDU – A429 SRAM SEU FAIL
 - (b) SDU – BUS ACCESS FAILURE
 - (c) SDU – CCM1 ETHERNET FAIL
 - (d) SDU – CCM2 ETHERNET FAIL
 - (e) SDU – DMA TEST FAIL
 - (f) SDU – EPICEA PARTITION FAIL
 - (g) SDU – ETHERNET 1 FAILED
 - (h) SDU – ETHERNET 2 FAILED
 - (i) SDU – EXT ISDN 1 FAILURE
 - (j) SDU – EXT ISDN 2 FAILURE
 - (k) SDU – INTRPT/EXPT CNTRL FAIL
 - (l) SDU – ISDN 1 FAILURE
 - (m) SDU – ISDN 2 FAILURE
 - (n) SDU – PPC750 SELF TEST FAIL
 - (o) SDU – QUADRAX 1 FAILED
 - (p) SDU – QUADRAX 2 FAILED
 - (q) SDU – RAM BUFFER FULL
 - (r) SDU – RAM CORRUPTION

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- (s) SDU – WATCHDOG FAILURE
- (2) The SDU has stopped operation. It is necessary to do a power reset for the SDU.

B. Possible Causes

- (1) Satellite data unit, M2761.

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

D. Related Data

- (1) (SSM 23-15-11)
- (2) (WDM 23-15-11)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If the maintenance message does not show, then there was an intermittent fault.
 - (b) If the maintenance message shows, then do the Fault Isolation Procedure.

F. Fault Isolation Procedure

- (1) Do these steps to do a power reset for the satellite data unit, M2761:
 - (a) Open and close this circuit breaker:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU

- (b) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the maintenance message does not show, then there was an intermittent fault.
 - 2) If the maintenance message shows, then do the Fault Isolation Procedure.
- (2) Replace the satellite data unit, M2761.

These are the tasks:

Satellite Data Unit Removal, AMM TASK 23-15-10-000-801,

Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.

- (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the maintenance message does not show, then you have corrected the fault.

————— **END OF TASK** —————

946. IRS (PRI and SEC) Input Problem - Fault Isolation

A. Description

- (1) This task is for these maintenance messages:
 - (a) IRS-PRI/IRS-SEC – ALTITUDE DATA FAIL

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- (b) IRS-PRI/IRS-SEC – GND SPEED DATA FAIL
- (c) IRS-PRI/IRS-SEC – GNSS DATA FAIL
- (d) IRS-PRI/IRS-SEC – HEADING DATA FAIL
- (e) IRS-PRI/IRS-SEC – TRCK ANG DATA FAIL
- (f) IRS-PRI/IRS-SEC/AES – POSN DATA FAIL
- (2) These maintenance messages show when the SDU does not receive data from the air data inertial reference system (ADIRS).

B. Possible Causes

- (1) Satellite data unit, M2761.
- (2) Wiring problem
- (3) ADIRU (left), M1749.
- (4) ADIRU (right), M1752.

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

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<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	8	C00425	ADIRU LEFT EXC
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

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<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

D. Related Data

- (1) (SSM 23-15-15, 34-21-13, 34-21-23)
- (2) (WDM 23-15-15, 34-21-13, 34-21-23)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If the maintenance message does not show, then there was an intermittent fault.
 - (b) If the maintenance message shows, then do the Fault Isolation Procedure.

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F. Fault Isolation Procedure

- (1) Do this task : ADIRS BITE Procedure, 34-21 TASK 801 to make sure that the ADIRS is serviceable.
 - (a) If you find a problem with the ADIRS, then do the fault isolation procedure related to that maintenance message.
 - (b) If the ADIRS operates correctly, then continue.
- (2) Replace the satellite data unit, M2761.

These are the tasks:

Satellite Data Unit Removal, AMM TASK 23-15-10-000-801,

Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.

- (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the maintenance message does not show, then you have corrected the fault.
 - 2) If the maintenance message shows, then continue.
- (3) Do this check of the wiring:
 - (a) Remove the air data inertial reference unit, left (ADIRU-L), M1749. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.
 - (b) Remove the air data inertial reference unit, right (ADIRU-R), M1752. To remove it, do this task: Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.
 - (c) Remove the satellite data unit, M2761. To remove it, do this task: Satellite Data Unit Removal, AMM TASK 23-15-10-000-801.
 - (d) Do a wiring check between these pins of connector D3687B at the air data inertial reference unit, left (ADIRU-L), M1749, and connector D12803B at the satellite data unit (SDU), M2761: (WDM 34-21-13).

ADIRU-L	SDU
D3687B	D12803B
pin C10	pin A2
pin C11	pin B2

- (e) Do a wiring check between these pins of connector D3693B at the air data inertial reference unit, right (ADIRU-R), M1752, and connector D12803B at the satellite data unit (SDU), M2761: (WDM 34-21-23).

ADIRU-R	SDU
D3693B	D12803B
pin J2	pin J2
pin J3	pin K2

- (f) Repair the problems that you find.
- (g) Re-install the air data inertial reference unit, left (ADIRU-L), M1749. To install it, do this task: Air Data Inertial Reference Unit - Installation, AMM TASK 34-21-01-400-801.
- (h) Re-install the air data inertial reference unit, right (ADIRU-R), M1752. To install it, do this task: Air Data Inertial Reference Unit - Installation, AMM TASK 34-21-01-400-801.
- (i) Re-install the satellite data unit (SDU), M2761. To install it, do this task: Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.
- (j) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.

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- 1) If the maintenance message does not show, then you have corrected the fault.
 - 2) If the maintenance message shows, then continue.
- (4) Replace the air data inertial reference unit, left (ADIRU-L), M1749.
- These are the tasks:
- Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,
Air Data Inertial Reference Unit - Installation, AMM TASK 34-21-01-400-801.
- (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
- 1) If the maintenance message does not show, then you have corrected the fault.
 - 2) If the maintenance message shows, then continue.
- (5) Replace the air data inertial reference unit, right (ADIRU-R), M1752.
- These are the tasks:
- Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801,
Air Data Inertial Reference Unit - Installation, AMM TASK 34-21-01-400-801.
- (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
- 1) If the maintenance message does not show, then you have corrected the fault.

————— **END OF TASK** —————

950. SDU LED Indicates Red, Amber or Off - Fault Isolation

A. Description

- (1) This task is for this maintenance message:
 - (a) SDU
- (2) The satellite data unit (SDU) has an internal fault.
- (3) The satellite data unit cannot communicate with one of these systems because of an unserviceable bus:
 - (a) Flight management system (FMS).
 - (b) Air data inertial reference system (ADIRS).
 - (c) Aircraft Communications Addressing and Reporting System (ACARS).
 - (d) Air traffic control system (ATC).
 - (e) Instrument landing system (ILS).
- (4) The multicolored LED in the front panel of the SDU shows the BITE results. See table below:

SDU FRONT PANEL BITE INDICATIONS

LED	FLASHING GREEN	STEADY GREEN	RED	AMBER	OFF
SDU	SDU in Self-Test.	SDU OK.	SDU failed.	Partial failure or ARINC 429/AFDX/RS-422 bus.	SDU not powered.

B. Possible Causes

- (1) Satellite data unit, M2761.
- (2) Wiring problem.

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C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

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<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH

D. Related Data

- (1) (SSM 23-15-11)
- (2) (WDM 23-15-11)
- (3) (WDM 23-15-12)
- (4) (WDM 23-15-15)
- (5) (WDM 34-21-13)
- (6) (WDM 34-21-23)
- (7) (WDM 23-27-36)
- (8) (WDM 23-27-37)
- (9) (WDM 34-53-11)
- (10) (WDM 34-58-11)
- (11) (WDM 34-61-23)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If the SDU LED shows steady green, then there was an intermittent fault.
 - (b) If the SDU LED does not show steady green, then do the applicable fault isolation procedure below.

F. SDU LED shows RED color - Fault Isolation Procedure

- (1) Replace the satellite data unit, M2761.

These are the tasks:

Satellite Data Unit Removal, AMM TASK 23-15-10-000-801,
Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.

 - (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the SDU LED shows steady green, then you have corrected the fault.

G. SDU LED shows AMBER color - Fault Isolation Procedure

- (1) Make sure these systems are serviceable:
 - (a) Do this task: Air Data Inertial Reference System - Operational Test, AMM TASK 34-21-00-710-801.
 - (b) Do this task: Flight Management Computer System - Operational Test, AMM TASK 34-61-00-710-801.
 - (c) Do this task: ACARS - Operational Test, AMM TASK 23-27-00-740-816-010.
 - (d) Do this task: Air Traffic Control System - Operational Test, AMM TASK 34-53-00-710-801.
 - (e) Do this task: Instrument Landing System - Operational Test, AMM TASK 34-31-00-710-801.

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- (f) Repair the problems that you find.
- (g) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the SDU LED shows steady green, then you have corrected the fault.
 - 2) If the SDU LED does not show steady green, then continue.
- (2) Examine the Ext Data Bus LED on the front panel of the SDU, M2761.
 - (a) If the Ext Data Bus LED does not show steady GREEN, then do the fault isolation procedure in this task: Ext. DATA BUS LED indicates Red, Amber or Off - Fault Isolation, 23-15 TASK 956.
 - (b) If the Ext Data Bus LED shows steady GREEN, then do these steps:
 - 1) Do a software configuration check (Satellite Communications (SATCOM) System - System Test, AMM TASK 23-15-00-710-802).
 - 2) Repair the problems that you find.
 - 3) Do this task: Satellite Communications (SATCOM) System - Operational Test, AMM TASK 23-15-00-710-801.
 - a) If the SDU LED shows steady green, then you have corrected the fault.
 - b) If the SDU LED does not show steady green, then continue.
- (3) Replace the satellite data unit, M2761.

These are the tasks:
Satellite Data Unit Removal, AMM TASK 23-15-10-000-801,
Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.

 - (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the SDU LED shows steady green, then you have corrected the fault.

H. SDU LED shows OFF - Fault Isolation Procedure

- (1) Do these steps to make sure the SATCOM system has power:
 - (a) Open and close these circuit breakers:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN
 - (b) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the SDU LED shows steady green, then you have corrected the fault.
 - 2) If the SDU LED does not show steady green, then continue.
- (2) Do a check for 115V AC supplies to the SDU, M2761:
 - (a) Remove the SDU, M2761 (Satellite Data Unit Removal, AMM TASK 23-15-10-000-801).
 - (b) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
 - (c) Do a check for 115V AC between pin 5 and pin 1 of D12803C (WDM 23-15-11).

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- 1) If there is 115V AC, then, do these steps:
 - a) Replace the SDU, M2761.
These are the tasks:
Satellite Data Unit Removal, AMM TASK 23-15-10-000-801
Satellite Data Unit Installation, AMM TASK 23-15-10-400-803
 - b) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
<1> If the SDU LED shows steady green, then you have corrected the fault.
- 2) If there is not 115V AC, then, do these steps:
 - a) Repair the problem of wiring between the SATCOM SDU (C1420) circuit breaker and pin 5 of connector D12803C for SDU, M2761 (WDM 23-15-11).
 - b) Repair the ground wire that connects to pin 1 of connector D12803C for SDU, M2761 (WDM 23-15-11).
 - c) Replace the SATCOM SDU (C1420) circuit breaker if necessary.
 - d) Install the SDU, M2761 (Satellite Data Unit Installation, AMM TASK 23-15-10-400-803).
 - e) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
<1> If the SDU LED shows steady green, then you have corrected the fault.

END OF TASK

951. SCM LED indicates Red, Amber or Off - Fault Isolation

A. Description

- (1) This task is for this maintenance message:
 - (a) SCM
- (2) The SDU Configuration Module has an internal fault.
- (3) The SDU cannot communicate with SDU Configuration Module.
- (4) The multicolored LED in the front panel of the SDU shows the BITE results. See table below:

SDU FRONT PANEL BITE INDICATIONS

LED	FLASHING GREEN	STEADY GREEN	RED	AMBER	OFF
SCM	SDU in Self-Test.	SCM/USIM OK.	USIM read/write fail. No attempt at SSB registration.	SCM memory fail or RS-422 bus failure.	SCM not installed or SDU not powered.

B. Possible Causes

- (1) SDU Configuration Module, M2762.
- (2) Wiring problem.

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C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

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<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH

D. Related Data

- (1) (WDM 23-15-11)
(2) (WDM 23-15-15)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
(a) If the SCM LED shows steady green, then there was an intermittent fault.
(b) If the SCM LED does not show steady green, then do the applicable fault isolation procedure below.

F. SCM LED shows RED color - Fault Isolation Procedure

- (1) Replace the SDU configuration module, M2762.
These are the tasks:
SDU Configuration Module Removal, AMM TASK 23-15-13-000-801,
SDU Configuration Module Installation, AMM TASK 23-15-13-400-801.
(2) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
(a) If the SCM LED shows steady green, then you have corrected the fault.

G. SCM LED shows AMBER color - Fault Isolation Procedure

- (1) Examine the Ext Data Bus LED on the front panel of the SDU.
(2) If the Ext Data Bus LED shows steady GREEN, then do these steps:
(a) Do a software configuration check (Satellite Communications (SATCOM) System - System Test, AMM TASK 23-15-00-710-802).
(b) Repair the problems that you find.
(c) Do this task: Satellite Communications (SATCOM) System - Operational Test, AMM TASK 23-15-00-710-801.
1) If the SCM LED shows steady green, then you have corrected the fault.
(3) If the Ext Data Bus LED does not show steady GREEN, then do this check of the wiring:
(a) Remove the SDU, M2761 (AMM TASK 23-15-10-000-801).
(b) Disconnect the connector D12805 from the SCM, M2762 (AMM TASK 23-15-13-000-801).
(c) Do a check of wiring between these pins of connector D12803B for the SDU, M2761 and connector D12805 for the SCM, M2762 (WDM 23-15-15):

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D12803B	D12805
pin D3	pin 3
pin D4	pin 4
pin D5	pin 1
pin D6	pin 2

- (d) Repair the problems that you find.
- (e) Connect the connector D12805 to the SCM, M2762 (AMM TASK 23-15-13-400-801).
- (f) Install the SDU, M2761 (AMM TASK 23-15-10-400-803).
- (g) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801
 - 1) If the SCM LED shows steady green, then you have corrected the fault.
 - 2) If the SCM LED does not show steady green, then continue.
- (4) Replace the SDU Configuration Module, M2762.

These are the tasks:

SDU Configuration Module Removal, AMM TASK 23-15-13-000-801,
SDU Configuration Module Installation, AMM TASK 23-15-13-400-801.

 - (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the SCM LED shows steady green, then you have corrected the fault.

H. SCM LED shows OFF - Fault Isolation Procedure

- (1) Do these steps to make sure the SATCOM system has power:
 - (a) Open and close these circuit breakers:

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Row	Col	Number	Name
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN
 - (b) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the SCM LED shows steady green, then you have corrected the fault.
 - 2) If the SCM LED does not show steady green, then continue.
- (2) Examine the connector installation to the SCM, M2762:
 - (a) Disconnect the connector D12805 from the SCM (AMM TASK 23-15-13-000-801).
 - (b) Examine the connectors on the cable and the SCM.
 - 1) Make sure that there are no broken or bent pins, dirt and damage.
 - (c) Repair the problems that you find.
 - (d) Connect the connector D12805 to the SCM (AMM TASK 23-15-13-400-801).
 - (e) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the SCM LED shows steady green, then you have corrected the fault.
 - 2) If the SCM LED does not show steady green, then continue.
- (3) Replace the SDU Configuration Module, M2762.

These are the tasks:

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SDU Configuration Module Removal, AMM TASK 23-15-13-000-801,
SDU Configuration Module Installation, AMM TASK 23-15-13-400-801.

- (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
1) If the SCM LED shows steady green, then you have corrected the fault.

———— **END OF TASK** ————

952. Antenna LED indicates Red, Amber or Off - Fault Isolation

A. Description

- (1) This task is for this maintenance message:
(a) Antenna
(2) The high gain antenna (HGA) has an internal fault.
(3) The satellite data unit (SDU) cannot communicate with the HGA.
(4) The multicolored LED in the front panel of the SDU shows the BITE results. See table below:

SDU FRONT PANEL BITE INDICATIONS

LED	FLASHING GREEN	STEADY GREEN	RED	AMBER	OFF
Antenna	SDU in Self-Test.	Antenna OK.	Antenna failed.	Partial failure or ARINC 429 bus failure.	SDU not powered.

B. Possible Causes

- (1) High gain antenna, M2691.
(2) Wiring problem.

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

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<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

D. Related Data

- (1) (WDM 23-15-11)
(2) (WDM 23-15-12)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
(a) If the Antenna LED shows steady green, then there was an intermittent fault.
(b) If the Antenna LED does not show steady green, then do the applicable fault isolation procedure below.

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F. Antenna LED shows RED color - Fault Isolation Procedure

- (1) Replace the high gain antenna, M2691:

These are the tasks:

High Gain Antenna Removal, AMM TASK 23-15-30-000-801.

High Gain Antenna Installation, AMM TASK 23-15-30-400-801.

- (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.

1) If the Antenna LED shows steady green, then you have corrected the fault.

G. Antenna LED shows AMBER color - Fault Isolation Procedure

- (1) Examine the Ext Data Bus LED status on the front panel of the SDU, M2761.

- (a) If the Ext Data Bus LED does not show steady GREEN, then do the fault isolation procedure in this task: Ext. DATA BUS LED indicates Red, Amber or Off - Fault Isolation, 23-15 TASK 956.

- (b) If the Ext Data Bus LED shows steady GREEN, then continue.

- (2) Do a check for 115V AC supplies to the high gain antenna (HGA):

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

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

- (b) Disconnect the connector D12437 from HGA, M2691 (AMM TASK 23-15-30-000-801).

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

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	14	C01421	SATCOM HIGH

- (d) Do a check for 115V AC between pin 18 and pin 19 on connector D12437 for HGA, M2691 (WDM 23-15-11).

- (e) Repair the problems that you find.

- (f) Connect the connector D12437 to HGA, M2691 (AMM TASK 23-15-30-400-801).

- (g) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.

1) If the Antenna LED shows steady green, then you have corrected the fault.

2) If the Antenna LED does not show steady green, then continue.

- (3) Do a check of the coaxial cables:

- (a) Remove the satellite data unit, M2761 (Satellite Data Unit Removal, AMM TASK 23-15-10-000-801).

- (b) Disconnect the coax connectors D12663, D12665 and D12667 at DLNA, M2257.

- (c) Disconnect the coax connector D12439 at HGA, M2691.

- (d) Use a time domain reflectometer (TDR) to check the coaxial cables between the SDU, M2761 and the DLNA, M2257 (WDM 23-15-12, WDM 23-15-13, Coaxial Cable Inspection, AMM TASK 20-10-72-210-801):



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SDU	DLNA
D12803A	D12663
pin 71	pin A1
pin C71	pin C1

D12803C	D12667
pin 7	pin A1
pin C7	pin C1

- (e) Use a time domain reflectometer, COM-5187 (TDR) to check the coaxial cables between the HGA, M2691 and the DLNA, M2257 (WDM 23-15-12, Coaxial Cable Inspection, AMM TASK 20-10-72-210-801):

HGA	DLNA
D12439	D12665
pin A1	pin A1
pin C1	pin C1

- (f) If you find a problem with the coaxial cable, then do these steps:
- 1) Repair the problems that you find.
 - 2) Connect the coax connectors D12663, D12665 and D12667 at DLNA, M2257.
 - 3) Connect the coax connector D12439 at HGA, M2691.
 - 4) Install the SDU, M2761 (Satellite Data Unit Installation, AMM TASK 23-15-10-400-803).
 - 5) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - a) If the Antenna LED shows steady green, then you have corrected the fault.

H. Antenna LED shows OFF - Fault Isolation Procedure

- (1) Do these steps to make sure the SATCOM system has power:
- (a) Open and close these circuit breakers:

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<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

- (b) Do this task: Satellite Communications (SATCOM) System - BITE Test at the Satellite Data Unit, AMM TASK 23-15-00-740-802.
- 1) If the Antenna LED shows steady green, then you have corrected the fault.

————— **END OF TASK** —————

953. DLNA LED Indicates Red or Off - Fault Isolation

A. Description

- (1) This task is for this maintenance message:
- (a) DLNA
- (2) The diplexer low noise amplifier (DLNA) has an internal fault.

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- (3) The multicolored LED in the front panel of the SDU shows the BITE results. See table below:

SDU FRONT PANEL BITE INDICATIONS

LED	FLASHING GREEN	STEADY GREEN	RED	AMBER	OFF
DLNA	SDU in Self-Test.	DLNA OK.	DLNA failed.	Not applicable.	SDU not powered.

B. Possible Causes

- (1) Diplexer low noise amplifier, M2257.
- (2) Wiring problem.

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

D. Related Data

- (1) (WDM 23-15-11)
- (2) (WDM 23-15-12)
- (3) (WDM 23-15-13)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If the DLNA LED shows steady green, then there was an intermittent fault.
 - (b) If the DLNA LED does not show steady green, then do the applicable fault isolation procedure below.

F. DLNA LED shows RED color - Fault Isolation Procedure

- (1) Replace the diplexer low noise amplifier, M2257.

These are the tasks:

Low Noise Amplifier/Diplexer Removal, AMM TASK 23-15-27-000-801,

Low Noise Amplifier/Diplexer Installation, AMM TASK 23-15-27-400-801.

 - (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the DLNA LED shows steady green, then you have corrected the fault.
 - 2) If the DLNA LED does not show steady green, then continue.
- (2) Do this check for 115V AC to the diplexer low noise amplifier (DLNA):
 - (a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

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- (b) Disconnect the connector D12661 from DLNA, M2257.
- (c) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	14	C01421	SATCOM HIGH

- (d) Do a check for 115V AC between pins F and E of connector D12661 (WDM 23-15-11).
- (e) Repair the problems that you find.
- (f) Connect the connector D12661 from DLNA, M2257 (AMM TASK 23-15-27-400-801).
- (g) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the Antenna LED shows steady green, then you have corrected the fault.

G. DLNA LED shows OFF - Fault Isolation Procedure

- (1) Do these steps to make sure the SATCOM system has power:
 - (a) Open and close these circuit breakers:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

- (b) Do this task: Satellite Communications (SATCOM) System - BITE Test at the Satellite Data Unit, AMM TASK 23-15-00-740-802.
 - 1) If the DLNA LED shows steady green, then you have corrected the fault.

————— **END OF TASK** —————

954. Ext. HPA LED Indicates Off - Fault Isolation

A. Description

- (1) This task is for this maintenance message:
 - (a) Ext. HPA
- (2) The multicolored LED in the front panel of the SDU shows the BITE results. See table below:

SDU FRONT PANEL BITE INDICATIONS

LED	FLASHING GREEN	STEADY GREEN	RED	AMBER	OFF
Ext. HPA	SDU in Self-Test.	Ext. HPA OK (If Ext HPA installed).	Ext HPA failed (If Ext HPA installed).	Partial failure (If Ext HPA installed).	SDU not powered or Ext HPA not installed.

B. Ext. HPA LED shows OFF - Fault Isolation Procedure

- (1) No maintenance action is necessary. The SATCOM system does not have the external high power amplifier installed (WDM 23-15-11).

————— **END OF TASK** —————

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955. Ext. BSU LED Indicates Off - Fault Isolation

A. Description

- (1) This task is for this maintenance message:
 - (a) Ext. BSU
- (2) The multicolored LED in the front panel of the SDU shows the BITE results. See table below:

SDU FRONT PANEL BITE INDICATIONS

LED	FLASHING GREEN	STEADY GREEN	RED	AMBER	OFF
Ext. BSU	SDU in Self-Test.	Not applicable.	Not applicable.	Not applicable.	SDU not powered or Ext BSU not installed.

B. Ext. BSU LED shows OFF - Fault Isolation Procedure

- (1) No maintenance action is necessary. The SATCOM system does not have the external beam steering unit installed (WDM 23-15-11).

————— **END OF TASK** —————

956. Ext. DATA BUS LED indicates Red, Amber or Off - Fault Isolation

A. Description

- (1) This task is for this maintenance message:
 - (a) Ext Data Bus
- (2) The satellite data unit cannot communicate with one of these systems because of an unserviceable bus :
 - (a) Flight management system (FMS).
 - (b) Air data inertial reference system (ADIRS).
 - (c) Aircraft Communications Addressing and Reporting System (ACARS).
 - (d) Air traffic control system (ATC).
 - (e) Instrument landing system (ILS).
- (3) The multicolored LED in the front panel of the SDU shows the BITE results. See table below:

SDU FRONT PANEL BITE INDICATIONS

LED	FLASHING GREEN	STEADY GREEN	RED	AMBER	OFF
Ext Data Bus	SDU in Self-Test.	All data buses (ARINC 429) OK.	Bus failed (ARINC 429/AFDX/RS-422).	Nav data not available. ARINC 429 bus from IRS inactive or IRS data invalid.	SDU not powered.

B. Possible Causes

- (1) Wiring problem.

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C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

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<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH

D. Related Data

- (1) (WDM 23-15-11)
- (2) (WDM 23-15-12)
- (3) (WDM 23-15-15)
- (4) (WDM 34-21-13)
- (5) (WDM 34-21-23)
- (6) (WDM 23-27-36)
- (7) (WDM 23-27-37)
- (8) (WDM 34-53-11)
- (9) (WDM 34-58-11)
- (10) (WDM 34-61-23)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If the Ext Data Bus LED shows steady green, then there was an intermittent fault.
 - (b) If the Ext Data Bus LED does not show steady green, then do the applicable fault isolation procedure below.

F. Ext Data Bus LED shows RED color - Fault Isolation Procedure

- (1) Make sure these systems are serviceable:
 - (a) Do this task: Air Data Inertial Reference System - Operational Test, AMM TASK 34-21-00-710-801.
 - (b) Do this task: Flight Management Computer System - Operational Test, AMM TASK 34-61-00-710-801.
 - (c) Do this task: ACARS - Operational Test, AMM TASK 23-27-00-740-816-010.
 - (d) Do this task: Air Traffic Control System - Operational Test, AMM TASK 34-53-00-710-801.
 - (e) Do this task: Instrument Landing System - Operational Test, AMM TASK 34-31-00-710-801.
 - (f) Repair the problems that you find.
 - (g) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the Ext Data Bus LED shows steady green, then you have corrected the fault.
 - 2) If the Ext Data Bus LED does not show steady green, then continue.
- (2) Examine the wires between the SDU and the MCDU:
 - (a) Remove the SDU, M2761 (AMM TASK 23-15-10-000-801).
 - (b) Remove the MCDU-1, P9-65 (AMM TASK 34-61-01-000-802).
 - (c) Remove the MCDU-2, P9-66 (AMM TASK 34-61-01-000-802).

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- (d) Do a check of wiring between these pins of connector D12803B for the SDU, M2761 and connectors D2181 for the MCDU-1, P9-65 / D2221 for the MCDU-2, P9-66 (WDM 23-15-15, WDM 34-61-23):

SDU	MCDU-1
D12803B	D2181
pin A1	pin 16
pin B1	pin 17
pin J10	pin 20
pin K10	pin 24

SDU	MCDU-2
D12803B	D2221
pin J1	pin 16
pin K1	pin 17
pin J10	pin 20
pin K10	pin 24

- (e) Repair the problems that you find.
- (f) Install the MCDU-1, P9-65 (AMM TASK 34-61-01-400-802).
- (g) Install the MCDU-2, P9-66 (AMM TASK 34-61-01-400-802).
- (h) Install the SDU, M2761 (AMM TASK 23-15-10-400-803).
- (i) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
- 1) If the Ext Data Bus LED shows steady green, then you have corrected the fault.
- 2) If the Ext Data Bus LED does not show steady green, then continue.
- (3) Examine the wires between the SDU and the ADIRU:
- (a) Remove the SDU, M2761 (AMM TASK 23-15-10-000-801).
- (b) Remove the ADIRU-L, M1749 (AMM TASK 34-21-01-000-801).
- (c) Remove the ADIRU-R, M1752 (AMM TASK 34-21-01-000-801).
- (d) Do a check of wiring between these pins of connector D12803B for the SDU, M2761 and connectors D3687B for the ADIRU-L, M2749 / D3693B for the ADIRU-R, M2752 (WDM 23-15-15, WDM 34-21-13, WDM 34-21-23):

SDU	ADIRU-L
D12803B	D3687B
pin A2	pin C10
pin B2	pin C11

SDU	ADIRU-R
D12803B	D3693B
pin J2	pin J2
pin K2	pin J3

- (e) Repair the problems that you find.
- (f) Install the ADIRU-L, M1749 (AMM TASK 34-21-01-400-801).
- (g) Install the ADIRU-R, M1752 (AMM TASK 34-21-01-400-801)

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- (h) Install the SDU, M2761 (Satellite Data Unit Installation, AMM TASK 23-15-10-400-803).
- (i) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the Ext Data Bus LED shows steady green, then you have corrected the fault.
 - 2) If the Ext Data Bus LED does not show steady green, then continue.
- (4) Examine the wires between the SDU and the CMU:
 - (a) Remove the SDU, M2761 (AMM TASK 23-15-10-000-801).
 - (b) Remove the CMU-1, M2127 (AMM TASK 23-27-33-020-801).
 - (c) Do a check of wiring between these pins of connector D12803B for the SDU, M2761 and connector D10727B for the CMU-1, M2127 (WDM 23-15-12, WDM 23-15-15, WDM 23-27-36, WDM 23-27-37):

SDU	CMU-1
D12803B	D10727A
pin J7	pin H6
pin K7	pin J6

D12803B	D10727B
pin A3	pin A12
pin B3	pin B12

- (d) Repair the problems that you find.
- (e) Install the CMU-1, M2127 (AMM TASK 23-27-33-420-801).
- (f) Install the SDU, M2761 (AMM TASK 23-15-10-400-803).
- (g) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the Ext Data Bus LED shows steady green, then you have corrected the fault.
 - 2) If the Ext Data Bus LED does not show steady green, then continue.
- (5) Examine the wires between the SDU and the ATC Transponder:
 - (a) Remove the SDU, M2761 (AMM TASK 23-15-10-000-801).
 - (b) Remove the ATC Transponder, M163 (ATC Transponder Removal, AMM TASK 34-53-02-020-801).
 - (c) Do a check of wiring between these pins of connector D12803B for the SDU, M 2761 and connector D149A for the ATC Transponder, M163 (WDM 23-15-15, WDM 34-53-11):

SDU	ATC Transponder
D12803B	D149A
pin A7	pin E2
pin B7	pin F2

- (d) Repair the problems that you find.
- (e) Install the ATC Transponder, M163 (AMM TASK 34-53-02-400-801).
- (f) Install the SDU, M2761 (AMM TASK 23-15-10-400-803).
- (g) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the Ext Data Bus LED shows steady green, then you have corrected the fault.
 - 2) If the Ext Data Bus LED does not show steady green, then continue.

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- (6) Examine the wires between the SDU and the MMR-1:
- (a) Remove the SDU, M2761 (AMM TASK 23-15-10-000-801).
 - (b) Remove the MMR-1, M2104 (AMM TASK 34-31-42-000-801).
 - (c) Do a check of wiring between these pins of connector D12803B for the SDU, M2761 and connector D10719B for the MMR-1, M2104 (WDM 23-15-15, WDM 34-58-11):

SDU	MMR-1
D12803B	D10719B
pin J6	pin E9
pin K6	pin F9

- (d) Repair the problems that you find.
- (e) Install the MMR-1, M2104 (AMM TASK 34-31-42-400-801).
- (f) Install the SDU, M2761 (AMM TASK 23-15-10-400-803).
- (g) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the Ext Data Bus LED shows steady green, then you have corrected the fault.
 - 2) If the Ext Data Bus LED does not show steady green, then continue.

- (7) Examine the wires between the SDU and the SCM:
- (a) Remove the SDU, M2761 (AMM TASK 23-15-10-000-801).
 - (b) Disconnect the connector D12805 from the SCM, M2762 (AMM TASK 23-15-13-000-801).
 - (c) Do a check of wiring between these pins of connector D12803B for the SDU and connector D12805 for the SCM (WDM 23-15-15):

SDU	SCM
D12803B	D12805
pin D3	pin 3
pin D4	pin 4
pin D5	pin 1
pin D6	pin 2

- (d) Repair the problems that you find.
- (e) Connect the connector D12805 to the SCM (AMM TASK 23-15-13-400-801).
- (f) Install the SDU, M2761 (AMM TASK 23-15-10-400-803).
- (g) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the Ext Data Bus LED shows steady green, then you have corrected the fault.
 - 2) If the Ext Data Bus LED does not show steady green, then continue.

- (8) Examine the wires between the SDU and the high gain antenna:
- (a) Remove the SDU, M2761 (AMM TASK 23-15-10-000-801).
 - (b) Disconnect the connector D12437 from the high gain antenna, M2691 (AMM TASK 23-15-30-000-801).
 - (c) Do a check of wiring between these pins of connector D12803B for the SDU and connector D12437 for the high gain antenna (WDM 23-15-12):

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SDU	High Gain Antenna
D12803B	D12437
pin C8	pin 3
pin D8	pin 5
pin E1	pin 6
pin F1	pin 8

- (d) Repair the problems that you find.
- (e) Connect the connector D12437 to the high gain antenna (AMM TASK 23-15-30-400-801).
- (f) Install the SDU, M2761 (AMM TASK 23-15-10-400-803).
- (g) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the Ext Data Bus LED shows steady green, then you have corrected the fault.
 - 2) If the Ext Data Bus LED does not show steady green, then continue.
- (9) Replace the satellite data unit, M2761.

These are the tasks:

Satellite Data Unit Removal, AMM TASK 23-15-10-000-801,

Satellite Data Unit Installation, AMM TASK 23-15-10-400-803.

- (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the Ext Data Bus LED shows steady green, then you have corrected the fault.

G. Ext Data Bus LED shows AMBER color - Fault Isolation Procedure

- (1) Do these steps to make sure that the air data inertial reference system (ADIRS) is serviceable:
 - (a) Make sure that these circuit breakers are closed:

CAPT Electrical System Panel, P18-1

Row	Col	Number	Name
E	5	C01009	ADIRU LEFT DC
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	8	C00425	ADIRU LEFT EXC

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	14	C01008	ADIRU RIGHT AC
C	15	C00426	ADIRU RIGHT EXC
C	17	C01010	ADIRU RIGHT DC

- (b) Do this task: Air Data Inertial Reference System - Alignment from the ISDU, AMM TASK 34-21-00-820-802 or Air Data Inertial Reference System - Alignment from the FMC CDU, AMM TASK 34-21-00-820-801.
- (c) Do this task: Air Data Inertial Reference System - Operational Test, AMM TASK 34-21-00-710-801
- (d) Repair the problems that you find.

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- (e) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the Ext Data Bus LED shows steady green, then you have corrected the fault.
 - 2) If the Ext Data Bus LED does not show steady green, then continue.
- (2) Examine the wires between the SDU and the ADIRUs:
 - (a) Remove the SDU, M2761 (AMM TASK 23-15-10-000-801).
 - (b) Remove the ADIRU-L, M1749 (AMM TASK 34-21-01-000-801).
 - (c) Remove the ADIRU-R, M1752 (AMM TASK 34-21-01-000-801).
 - (d) Do a check of wiring between these pins of connector D12803B for the SDU, M2761 and connectors D3687B for the ADIRU-L, M2749 / D3693B for the ADIRU-R, M1752 (WDM 23-15-15, WDM 34-21-13, WDM 34-21-23):

SDU	ADIRU-L
D12803B	D3687B
pin A2	pin C10
pin B2	pin C11

SDU	ADIRU-R
D12803B	D3693B
pin J2	pin J2
pin K2	pin J3

- (e) Repair the problems that you find.
- (f) Install the ADIRU-L, M1749 (AMM TASK 34-21-01-400-801).
- (g) Install the ADIRU-R, M1752 (AMM TASK 34-21-01-400-801)
- (h) Install the SDU, M2761 (Satellite Data Unit Installation, AMM TASK 23-15-10-400-803).
- (i) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the Ext Data Bus LED shows steady green, then you have corrected the fault.
 - 2) If the Ext Data Bus LED does not show steady green, then continue.
- (3) Replace the ADIRU that gives a fault (M1749 for ADIRU-L or M1752 for ADIRU-R):

These are the tasks:

Air Data Inertial Reference Unit Removal, AMM TASK 34-21-01-000-801.

Air Data Inertial Reference Unit - Installation, AMM TASK 34-21-01-400-801.

- (a) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the Ext Data Bus LED shows steady green, then you have corrected the fault.

H. Ext Data Bus LED shows OFF - Fault Isolation Procedure

- (1) Do these steps to make sure the SATCOM system has power:
 - (a) Open and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

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- (b) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
- 1) If the Ext Data Bus LED shows steady green, then you have corrected the fault.

END OF TASK

957. ORT/Config. LED Indicates Red, Amber or Off - Fault Isolation

A. Description

- (1) This task is for this maintenance message:
- (a) ORT/Config.
- (2) The ORT/Config. LED comes on RED in one of these conditions:
- (a) Secure ORT synchronization major failure:
- 1) The Secure ORT in the SCM and the "local copy" in SDU are not valid.
- (b) Hardware straps parity has a fault.
- (3) The ORT/Configuration LED comes on AMBER in these conditions:
- (a) Secure ORT synchronization minor failure:
- 1) The Secure ORT in the SCM is not valid, but the "local copy" in the SDU is valid.
- (b) User ORT synchronization minor failure:
- 1) The User ORT in the SCM is not valid, but the "local copy" in the SDU is valid.
- (4) The multicolored LED in the front panel of the SDU shows the BITE results. See table below:

SDU FRONT PANEL BITE INDICATIONS

LED	FLASHING GREEN	STEADY GREEN	RED	AMBER	OFF
ORT/Config.	SDU in Self-Test.	ORT / Hardware configuration straps OK.	ORT major failure or hardware configuration straps parity failure.	ORT minor failure.	SDU not powered.

B. Possible Causes

- (1) Software problem.
- (2) Wiring problem.

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

D. Related Data

- (1) (WDM 23-15-11)
- (2) (WDM 23-15-15)

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E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If the ORT/Config. LED shows steady green, then there was an intermittent fault.
 - (b) If the ORT/Config. LED does not show steady green, then do the applicable fault isolation procedure below.

F. ORT/Config. LED shows RED color - Fault Isolation Procedure

- (1) Install the Secure ORT that is applicable to the SDU and the SCM.

This is the task:

Satellite Data Unit (SDU) Software Installation with a Portable Data Loader, AMM TASK 23-15-10-470-801.

 - (a) If the ORT/Config. LED shows steady green, then you have corrected the fault.
 - (b) If the ORT/Config. LED does not show steady green, then continue.
- (2) Examine the wire for hardware straps parity at the connector D12803A for SDU, M2761:
 - (a) Remove the SDU, M2761 (AMM TASK 23-15-10-000-801).
 - (b) Do a check of wiring between these pins on connector D12803A for SDU, M2761 (SSM 23-15-15):

SDU	SDU
D12803A	D12803A
pin D3	pin E3

- (c) Repair the problems that you find.
- (d) Install the SDU, M2761 (AMM TASK 23-15-10-400-803).
- (e) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801
 - 1) If the ORT/Config. LED shows steady green, then you have corrected the fault.

G. ORT/Config. LED shows AMBER color - Fault Isolation Procedure

- (1) Install the Secure ORT and User ORT that are applicable to the SDU and the SCM.

This is the task:

Satellite Data Unit (SDU) Software Installation with a Portable Data Loader, AMM TASK 23-15-10-470-801.

 - (a) If the ORT/Config. LED shows steady green, then you have corrected the fault.

H. ORT/Config. LED shows OFF - Fault Isolation Procedure

- (1) Do these steps to make sure the SATCOM system has power:
 - (a) Open and close these circuit breakers:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN
- (b) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - 1) If the ORT/Config. LED shows steady green, then you have corrected the fault.

————— **END OF TASK** —————

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958. SAT Link #1 LED Indicates Amber or Off - Fault Isolation

A. Description

- (1) This task is for this maintenance message:
 - (a) Sat. Link #1
- (2) The multicolored LED in the front panel of the SDU shows the BITE results. See table below:

SDU FRONT PANEL BITE INDICATIONS

LED	FLASHING GREEN	STEADY GREEN	RED	AMBER	OFF
Sat. Link #1	SDU in Self-Test.	Channel #1 service available. (Logged-On or registered)	Not applicable.	Channel #1 attempting Log-On or registration.	SDU not powered or Channel #1 not attempting Log-On or registration.

B. Possible Causes

- (1) SATCOM services.

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

D. Related Data

- (1) (WDM 23-15-11)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
 - (a) If the Sat. Link #1 LED shows steady green, then there was an intermittent fault.
 - (b) If the Sat. Link #1 LED does not show steady green, then do the applicable fault isolation procedure below.

F. Sat. Link #1 LED shows AMBER color - Fault Isolation Procedure

- (1) Open and close this circuit breaker:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU

- (2) Do this task: Satellite Communications (SATCOM) System - Operational Test, AMM TASK 23-15-00-710-801.

- (a) If the Sat. Link #1 LED shows steady green, then you have corrected the fault.

G. Sat. Link #1 LED shows OFF - Fault Isolation Procedure

- (1) Do these steps to make sure the SATCOM system has power:

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- (a) Open and close these circuit breakers:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

- (b) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.

- 1) If the Sat. Link #1 LED shows steady green, then you have corrected the fault.

———— **END OF TASK** ————

959. SAT Link #2 LED Indicates Amber or Off - Fault Isolation

A. Description

- (1) This task is for this maintenance message:
(a) Sat. Link #2
(2) The multicolored LED in the front panel of the SDU shows the BITE results. See table below:

SDU FRONT PANEL BITE INDICATIONS

LED	FLASHING GREEN	STEADY GREEN	RED	AMBER	OFF
Sat. Link #2	SDU in Self-Test.	Channel #2 service available. (Logged-On or registered)	Not applicable.	Channel #2 attempting Log-On or registration.	SDU not powered or Channel #2 not attempting Log-On or registration.

B. Possible Causes

- (1) SATCOM services.

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

D. Related Data

- (1) (WDM 23-15-11)

E. Initial Evaluation

- (1) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.
(a) If the Sat. Link #2 LED shows steady green, then there was an intermittent fault.
(b) If the Sat. Link #2 LED does not show steady green, then do the applicable fault isolation procedure below.

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F. Sat. Link #2 LED shows AMBER color - Fault Isolation Procedure

- (1) Open and close this circuit breaker:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU

- (2) Do this task: Satellite Communications (SATCOM) System - Operational Test, AMM TASK 23-15-00-710-801.

- (a) If the Sat. Link #2 LED shows steady green, then you have corrected the fault.

G. Sat. Link #2 LED shows OFF - Fault Isolation Procedure

- (1) Do these steps to make sure the SATCOM system has power:

- (a) Open and close these circuit breakers:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	13	C01420	SATCOM SDU
E	14	C01421	SATCOM HIGH
E	15	C01422	SATCOM AURAL WARN

- (b) Do this task: SATCOM System - BITE Procedure, 23-15 TASK 801.

- 1) If the Sat. Link #2 LED shows steady green, then you have corrected the fault.

———— **END OF TASK** ————

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ECCN 9E991 BOEING PROPRIETARY - See title page for details

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801. Emergency Locator Transmitter (ELT) BITE Procedure

A. General

- (1) You do the Emergency Locator Transmitter (ELT) BITE Procedure from the front panel of the ELT. The ELT is above an access panel in the AFT Passenger Cabin Ceiling.
- (2) The ELT BITE Test does an operational check of the ELT System.
 - (a) If the BITE Test is good, the Light Emitting Diode (LED) on the ELT front panel comes ON and goes OFF three times.
- (3) Make sure that the airplane has electrical power.
 - (a) If it is necessary, do this task: Supply Electrical Power, AMM TASK 24-22-00-860-811.
- (4) Make sure that you do the ELT Test in the first five minutes of the hour (UTC).

NOTE: The ELT will transmit the 121.5/243.0 emergency signals during the ELT Test.

 - (a) If you do the ELT Test outside of the first five minutes of the hour (UTC), then do this:
 - 1) Speak to the applicable emergency authority (Air Traffic Control Tower or Flight Service Station) to tell them that there will be an ELT Test Transmission on the Emergency Frequency.
- (5) Open the access panel to get access to the ELT Unit if applicable (Lowered Ceiling Removal, AMM TASK 25-21-71-000-815).

B. BITE Procedure

- (1) Do the BITE Procedure for the ELT(Figure 201):
 - (a) Do this task: ELT System - System Test, AMM TASK 23-24-00-730-802-002.
 - (b) Make sure that the LED on the ELT Unit comes ON and then goes OFF exactly three times.

NOTE: There should be a delay of approximately 3-4 seconds from the time when the switch is set to "ARMED" and the blinking of the LED on the ELT front panel.

 - 1) Refer to the table at the end of this task to find the applicable Fault Isolation Manual (FIM) Tasks for the maintenance messages that show.
 - (c) If you do not hear the ELT signal on VHF COMM 2, then, do this task: ELT BITE or Transmission Problem - Fault Isolation, 23-24 TASK 805.
- (2) Speak to the applicable emergency authority to tell them that the ELT Test is completed if applicable.
- (3) CLOSE the access panel for the ELT Unit if applicable (Lowered Ceiling Installation, AMM TASK 25-21-71-400-815).
- (4) If the electrical power is not necessary, do this task: Remove Electrical Power, AMM TASK 24-22-00-860-812.

LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
ELT	LED does not flash exactly three times	23-24 TASK 805

————— **END OF TASK** —————

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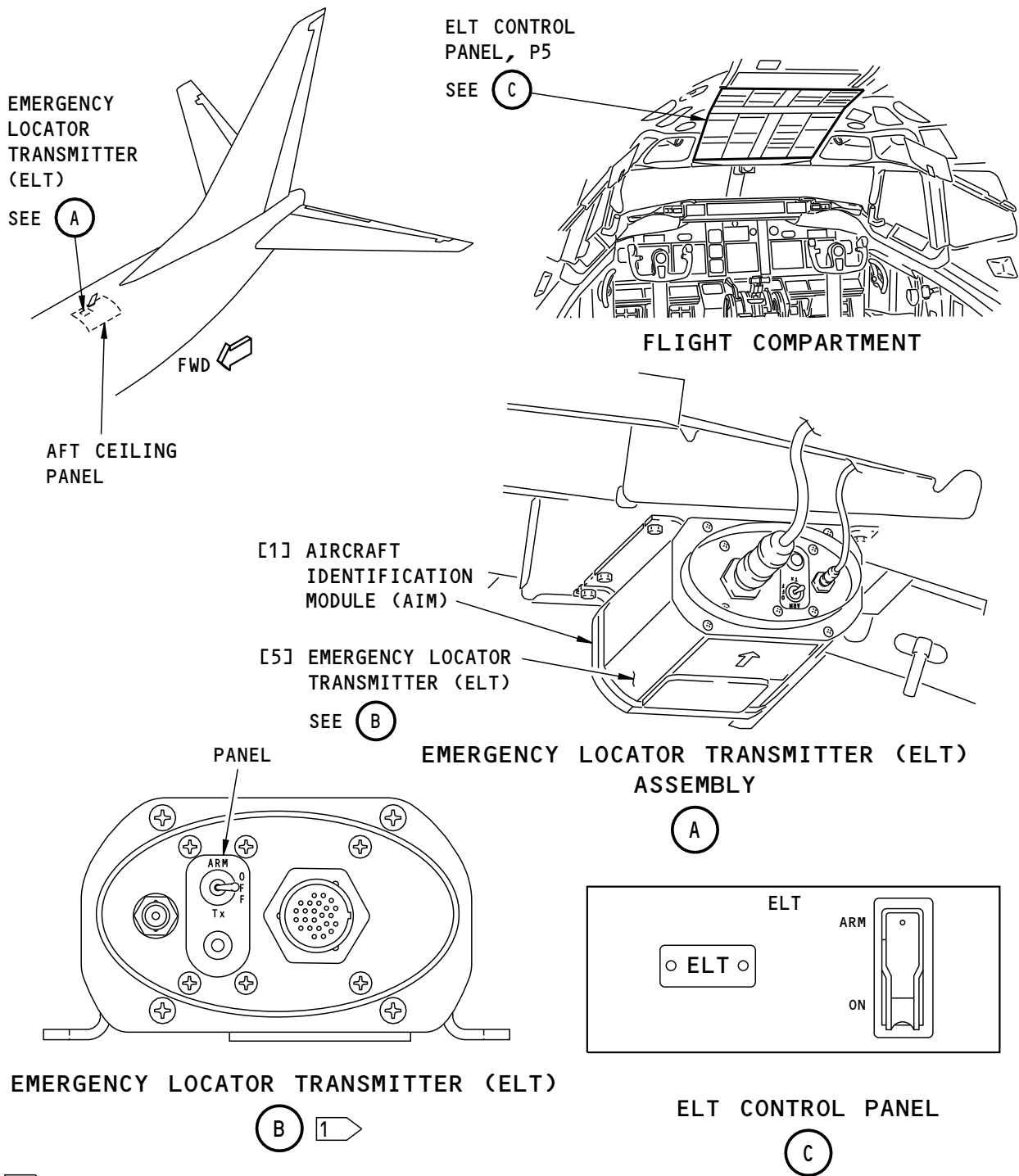
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1 ROTATED 180 DEGREES, CONNECTORS NOT SHOWN.

M53578 S0000146960_V2

Emergency Locator Transmitter (ELT)
Figure 201/23-24-00-990-803

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805. ELT BITE or Transmission Problem - Fault Isolation

A. Description

- (1) This task is for the maintenance message:
 - (a) LED does not flash exactly three times during BITE test.
 - (b) LED does not flash exactly two times during BITE test.
- (2) This task is for the observed fault:
 - (a) ELT: transmission problem.
- (3) The ELT BITE test does an operational check of the emergency locator transmitter (ELT) system. The LED on the ELT front panel does not flash exactly three times when the ELT detects a problem in the ELT system.
- (4) The ELT BITE test does an operational check of the emergency locator transmitter (ELT) system. The LED on the ELT front panel does not flash exactly two times when the ELT detects a problem in the ELT system.
- (5) If you do not hear the ELT signal on VHF COMM 2 during the BITE test, there is a problem in the ELT system transmission.

B. Possible Causes

- (1) Connections at the transmitter unit
- (2) ELT battery
- (3) ELT, M1523
- (4) Aircraft Identification Module (AIM), M2114
- (5) Programmable switch module, M2115
- (6) Connections at the ELT antenna
- (7) Wiring
- (8) ELT antenna, M1522

C. Related Data

- (1) (WDM 23-24-11)
- (2) (SSM 23-24-11)

D. Initial Evaluation

- (1) Do this task: ELT System - System Test, AMM TASK 23-24-00-730-802-002.
 - (a) If the LED does not flash exactly three times, then do the Fault Isolation Procedure - BITE Problem below.
 - (b) If the LED does flash three times, then continue the procedure.
 - (c) If you do not hear the ELT signal on VHF COMM 2, then do the Fault Isolation Procedure - Transmission Problem below.
 - (d) If you do hear the ELT signal, then there was an intermittent fault.
- (2) Do this task: ELT System - System Test, AMM TASK 23-24-00-730-802-002.
 - (a) If the LED does not flash exactly two times, then do the Fault Isolation Procedure - BITE Problem below.
 - (b) If the LED does flash two times, then continue the procedure.
 - (c) If you do not hear the ELT signal on VHF COMM 2, then do the Fault Isolation Procedure - Transmission Problem below.

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- (d) If you do hear the ELT signal, then there was an intermittent fault.

E. Fault Isolation Procedure - BITE Problem

- (1) If the LED does not flash, there is a failure with the emergency locator transmitter (ELT), M1523. Do the steps that follow:

- (a) Do a check for loose or damaged connectors at the front panel of the emergency locator transmitter (ELT), M1523:

NOTE: The ELT is above an access panel in the aft passenger cabin ceiling.

- 1) Repair the problems that you find.
- 2) Do this task: ELT System - System Test, AMM TASK 23-24-00-730-802-002.
- 3) If the LED flashes three times, then you corrected the fault.
- 4) If the LED does not flash three times, then continue the procedure.
- 5) If the LED flashes two times, then you corrected the fault.
- 6) If the LED does not flash two times, then continue the procedure.

- (b) Do a check for loose or damaged connectors at the ELT antenna, M1522:

- 1) Repair the problems that you find.
- 2) Do this task: ELT System - System Test, AMM TASK 23-24-00-730-802-002.
- 3) If the LED flashes three times, then you corrected the fault.
- 4) If the LED does not flash three times, then continue the procedure.
- 5) If the LED flashes two times, then you corrected the fault.
- 6) If the LED does not flash two times, then continue the procedure.

- (c) Replace the ELT, M1523.

These are the tasks:

Emergency Locator Transmitter - Removal, AMM TASK 23-24-00-000-802-002,

Emergency Locator Transmitter - Installation, AMM TASK 23-24-00-400-802-002.

- 1) Do this task: ELT System - System Test, AMM TASK 23-24-00-730-802-002.
- 2) If the LED flashes three times, then you corrected the fault.
- 3) If the LED flashes two times, then you corrected the fault.

- (2) If the LED flashes one time, there is a failure with the Aircraft Identification Module (AIM), M2114. Do the steps that follow:

- (a) Replace the Aircraft Identification Module (AIM), M2114.

These are the tasks:

Aircraft Identification Module (AIM) - Removal, AMM TASK 23-24-00-000-803-002,

Aircraft Identification Module (AIM) - Installation, AMM TASK 23-24-00-400-803-002.

- (b) Do this task: ELT System - System Test, AMM TASK 23-24-00-730-802-002.

- (c) If the LED flashes three times, then you corrected the fault.

- (d) If the LED flashes two times, then you corrected the fault.

- (3) If the LED flashes two times, do these steps:



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- (a) Examine the HEX identification label on the AIM to make sure that it has a valid NULL message installed:

NOTE: A null AIM that is compatible with the ELT will be identified as protocol "NULL-M1". A non-compatible AIM will be marked protocol "NULL".

- 1) Make sure that it shows PROTOCOL: NULL-M1.
- 2) If you do not find PROTOCOL: NULL-M1 on the label, do the steps that follow:
 - a) Replace the AIM, M23643 with the one that has a valid NULL message or the HEX identification label that shows PROTOCOL: NULL-M1.

These are the tasks:

Aircraft Identification Module (AIM) - Removal, AMM
TASK 23-24-00-000-803-002,

Aircraft Identification Module (AIM) - Installation, AMM
TASK 23-24-00-400-803-002.

- b) If the LED flashes three times, then you corrected the fault.
 - c) If the LED does not flash three times, then continue the procedure.
- (b) Do a check of the programmable switch module, M2115:
 - 1) Disconnect connector D11993 at the Aircraft Identification Module, M2114.
 - 2) Do a check of the wiring for the correct aircraft 24-bit identification (WDM 23-24-11).
 - 3) If you find a problem with the wiring or the programmable switch module then do these steps:
 - a) Replace or repair as necessary.
 - b) Do this task: ELT System - System Test, AMM TASK 23-24-00-730-802-002.
 - c) If the LED flashes three times, then you corrected the fault.

F. Fault Isolation Procedure - Transmission Problem

- (1) Replace the ELT, M1523.

These are the tasks:

Emergency Locator Transmitter - Removal, AMM TASK 23-24-00-000-802-002,

Emergency Locator Transmitter - Installation, AMM TASK 23-24-00-400-802-002.

- (a) Do this task: ELT System - System Test, AMM TASK 23-24-00-730-802-002.
 - (b) If you hear the ELT signal on VHF COMM 2, then you corrected the fault.
 - (c) If you do not hear the ELT signal on VHF COMM 2, then continue the procedure.
- (2) Do this check of the wiring:
 - (a) Disconnect connector D2905 from the ELT, M1523.
 - (b) Do a check of the coaxial cable from connector D2905 to ELT antenna. To do the check, do this task: Coaxial Cable Inspection, AMM TASK 20-10-72-210-801.
 - (c) If you find a problem with the wiring, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-connect the connector D2905.
 - 3) Do this task: ELT System - System Test, AMM TASK 23-24-00-730-802-002.
 - 4) If you hear the ELT signal on VHF COMM 2, then you corrected the fault.
 - (d) If you do not find a problem with the wiring, then do these steps:

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- 1) Re-connect the connector D2905.
 - 2) Do this task: ELT System - System Test, AMM TASK 23-24-00-730-802-002.
 - 3) If you hear the ELT signal on VHF COMM 2, then you corrected the fault.
 - 4) If you do not hear the ELT signal on VHF COMM 2, then continue the procedure.
- (3) Replace the ELT antenna.
- These are the tasks:
- ELT Antenna - Removal, AMM TASK 23-24-01-000-802,
ELT Antenna - Installation, AMM TASK 23-24-01-400-802.
- (a) Do this task: ELT System - System Test, AMM TASK 23-24-00-730-802-002.
 - (b) If you hear the ELT signal on VHF COMM 2, then you corrected the fault.

END OF TASK

807. ELT On - Fault Isolation

A. Initial Evaluation

- (1) The emergency locator transmitter (ELT) is on. Set the ELT ARM/ON switch on the overhead panel, P5, to the ON position for approximately one second and move it back to the ARM position (ELT System - Operational Test, AMM TASK 23-24-00-710-802-002).
 - (a) If the ELT annunciator goes OFF, then no maintenance action is necessary.
 - (b) If the ELT annunciator stays ON, then do the Fault Isolation Procedure below.

B. Fault Isolation Procedure

- (1) Disconnect connector D3003 from the ELT, M1523.
 - (a) If the ELT annunciator goes OFF, then do the steps that follow:
 - 1) Replace the ELT, M1523.

These are the tasks:

Emergency Locator Transmitter - Removal, AMM TASK 23-24-00-000-802-002
Emergency Locator Transmitter - Installation, AMM TASK 23-24-00-400-802-002
 - a) If the ELT annunciator goes OFF, then you corrected the fault.
 - b) If the ELT annunciator stays ON, then continue the procedure.
 - (b) If the ELT annunciator stays ON, then do these steps:
 - 1) Connect the connector D3003 back to the ELT, M1523.
 - 2) Continue the procedure.
- (2) Do a wiring check of the ELT ARM/ON switch on the ELT control panel, P5-80 (P5) (WDM 23-24-11).
 - (a) If you find a problem with the switch, then replace the ELT control panel.

These are the tasks:

Emergency Locator Transmitter (ELT) Control Panel Removal, AMM TASK 23-24-02-000-801
Emergency Locator Transmitter (ELT) Control Panel Installation, AMM TASK 23-24-02-400-801
 - 1) If the ELT annunciator goes OFF, then you corrected the fault.
 - 2) If the ELT annunciator stays ON, then continue the procedure.

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- (b) If you do not find a problem with the switch, then continue the procedure.
- (3) Do a wiring check between the ELT ARM/ON switch on the ELT control panel, P5-80 (P5) and the ELT, M1523 (WDM 23-24-11).
 - (a) Repair the problems that you find.
 - (b) If the ELT annunciator goes OFF, then you corrected the fault.

———— **END OF TASK** ————

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801. ACARS System Problem - Fault Isolation

A. Description

- (1) The Aircraft Communications Addressing and Reporting System (ACARS) has one of these problems:
 - (a) The Aircraft Communications Addressing and Reporting System (ACARS) communications management unit cannot communicate with an ACARS ground station (NO COMM shows in the CDU scratchpad display).
 - (b) The ACARS menu selection prompt (<ACARS) is missing from line 2 on one of the CDU Main Menu displays.
 - (c) The ACARS menu selection prompt (<ACARS) is missing from line 2 on both of the CDU Main Menu displays.
 - (d) The ACARS does not respond to CDU key pushes.
 - (e) The ground station reports that downlink messages from the ACARS system are incomplete.
 - (f) The ACARS communications management unit cannot print data on the multi-input printer.
 - (g) The flight compartment chime does not sound for an ACARS uplink message.
 - (h) The VHF-C lamp on the audio control panels does not come on for an ACARS uplink message.
 - (i) Pushing the VHF-C switchlight on the audio control panel does not acknowledge the ACARS uplink message (VHF-C CALL lamp does not go out).

B. Corrective Action

- (1) If the CMU cannot communicate with an ACARS ground station, do this task: ACARS Communication Problem - Fault Isolation, 23-27 TASK 814
- (2) If the <ACARS prompt is missing from one, or both, of the CDU Main Menu Displays, do this task: ACARS/CDU Interface Problem - Fault Isolation, 23-27 TASK 815
- (3) If the ACARS does not respond to CDU key pushes, do this task: ACARS/CDU Interface Problem - Fault Isolation, 23-27 TASK 815
- (4) If the ground station reports that downlink messages from the ACARS system are incomplete, do this task: ACARS Input Problem - Fault Isolation, 23-27 TASK 816
- (5) If the ACARS communications management unit cannot print on the multi-input printer, do this task: ACARS Print Problem - Fault Isolation, 23-27 TASK 812
- (6) If the flight compartment chime does not sound for an ACARS uplink message, do this task: ACARS Call Annunciation Problem - Fault Isolation, 23-27 TASK 820
- (7) If the VHF-C lamp on the audio control panels does not come on for an ACARS uplink message, do this task: ACARS Call Annunciation Problem - Fault Isolation, 23-27 TASK 820
- (8) If pushing the VHF-C switchlight on the audio control panel does not acknowledge the ACARS uplink message (VHF-C CALL lamp does not go out), do this task: ACARS Call Annunciation Problem - Fault Isolation, 23-27 TASK 820

C. Fault Isolation Procedure - ACARS Management Unit Problem

- (1) Replace the ACARS communications management unit (CMU) 1, M2127.

These are the tasks:

ACARS Communications Management Unit (CMU) Removal, AMM TASK 23-27-33-020-801,

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ACARS Communications Management Unit (CMU) Installation, AMM TASK 23-27-33-420-801.

- (a) If the installation test for the ACARS CMU is satisfactory, then you corrected the fault.

————— **END OF TASK** —————

812. ACARS Print Problem - Fault Isolation

A. Description

- (1) The Aircraft Communications Addressing And Reporting System (ACARS) Communications Management Unit (CMU) cannot print data on the Multi-input Printer.

B. Possible Causes

- (1) ACARS Communications Management Unit (CMU-1), M2127
(2) Multi-input Printer, M2196
(3) Wiring

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	5	C01216	PRINTER
E	8	C01483	CMU-1 AC

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	9	C01500	CMU/ACARS DC (INOP)

D. Related Data

- (1) WDM 23-27-32
(2) WDM 31-33-01
(3) SSM 23-27-32
(4) SSM 31-33-01

E. Initial Evaluation

- (1) Do a check of the Multi-input Printer as follows:
(a) Open these circuit breakers, wait at least 10 seconds, then close the circuit breakers:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	5	C01216	PRINTER
E	8	C01483	CMU-1 AC

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	9	C01500	CMU/ACARS DC (INOP)

- (b) On the CDU-1, push the MENU Key.

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- (c) Go to the ACARS-PART NUMBER Page.
 - 1) Refer to ACARS - System Test, AMM TASK 23-27-00-730-806-010 for detailed instructions.
- (d) Push the Line Select Key (LSK) adjacent to the *PRINT prompt.
 - 1) If the ACARS-PART NUMBER Page prints, then there was an intermittent fault.
 - 2) If the page does not print, push and hold the PRINTER TEST push-button for 1 second, then release the push-button.
 - a) The printer does a self-test and prints a pattern on the printer paper.
 - b) The FAIL or FAULT Light stays OFF.
 - <1> If the Printer Self-Test result is not satisfactory, replace the printer.
These are the tasks:
 - Printer Removal, AMM TASK 31-33-01-000-801
 - Printer Installation, AMM TASK 31-33-01-400-801
 - <2> If the Printer Self-Test result is satisfactory, then do the Fault Isolation Procedure below.
 - 3) If the page does not print, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure - MU or NON Honeywell CMU

- (1) On the Control Display Unit (CDU), access the Digital Flight Data Acquisition Unit (DFDAU) Menu and print a known printable Screen Page.
 - (a) If the page from the DFDAU printed, examine the wiring as follows:
 - 1) Examine the ARINC 429 Bus wiring from pins J12 and K12 of CMU connector D10727B to the common point TB3201 (WDM 31-33-01).
 - 2) If you find a problem with the wiring, then repair the wiring.
 - a) Do the Repair Confirmation below.
 - (b) If the page from the DFDAU does not print, examine the wiring as follows:
 - 1) Examine the ARINC 429 Bus wiring from pins KK and LL, of printer connector D2649 to the common point TB3201 (WDM 31-33-01).
 - 2) If you find a problem with the wiring, then repair the wiring.
 - a) Do the Repair Confirmation below.
- (2) Replace the Printer. These are the tasks:
 - Printer Removal, AMM TASK 31-33-01-000-801
 - Printer Installation, AMM TASK 31-33-01-400-801
 - (a) Do the Repair Confirmation below.

G. Repair Confirmation

- (1) On CDU-1, push the MENU key.
- (2) Go to the ACARS-PART NUMBER Page.
 - (a) Refer to ACARS - System Test, AMM TASK 23-27-00-730-806-010 for detailed instructions.
- (3) Push the LSK adjacent to the PRINT* prompt.
 - (a) If the ACARS-PART NUMBER Page prints on the printer, then you have corrected the problem.

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- (b) If the ACARS-PART NUMBER Page does not print, then continue the Fault Isolation Procedure at the subsequent step.

END OF TASK

814. ACARS Communication Problem - Fault Isolation

A. General

- (1) There are several conditions that may result in a NO COMM condition. Only a few of these conditions are the result of an airplane system failure.
- (2) This may include a VHF failure, a wiring problem, or an incorrect configuration setting.
- (3) At times, a NO COMM condition is normal:
 - (a) When the airplane is out of range of ground stations
 - (b) RF shadowing (VHF)
 - (c) VHF mode (POA/AOA) transitions
- (4) Under these "normal" conditions, the NO COMM goes away by itself when the communication link with the ground network is reestablished.
- (5) In addition, the ACARS keeps messages queued up during the NO COMM condition and transmits them when communication is again available.

B. Description

- (1) The Aircraft Communications Addressing and Reporting System (ACARS) communications management unit (CMU) cannot communicate with an ACARS ground station (NO COMM shows in the CDU scratchpad display).

C. Possible Causes

- (1) ACARS Communications Management Unit (CMU-1), M2127
- (2) VHF-3 Communications Transceiver (VHF-3), M411
- (3) Airplane Programming Module (APM), M2502
- (4) APM settings
- (5) #1 Radio Tuning Panel (RTP-1), P8-71
- (6) #2 Radio Tuning Panel (RTP-2), P8-72
- (7) #3 Radio Tuning Panel (RTP-3), P8-73
- (8) Wiring

D. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C00471	COMMUNICATIONS VHF 3

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	2	C00857	COMMUNICATIONS HF 2
E	8	C01483	CMU-1 AC

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This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	9	C01500	CMU/ACARS DC (INOP)

E. Related Data

- (1) SSM 23-27-35
- (2) WDM 23-27-35

F. Fault Isolation Procedure

- (1) On the CMU front panel, push and release the RESET switch.
 - (a) Make sure the SYSTEM FAIL indicator stays off.
 - (b) Make sure the LRU PASS/FAIL indicator is red for 2 seconds, then is green for 2 seconds, then is off for at least 2 seconds and no more than 5 seconds.
 - (c) If the test passes, the LRU PASS/FAIL indicator is green for 30 seconds, then is off.
 - (d) If the test fails, the LRU PASS/FAIL indicator is red for 30 seconds, then is off.
 - 1) If these indications did occur, go to the VHF Link Test step.
 - 2) If these indications did not occur, replace the ACARS CMU. These are the tasks:
ACARS Communications Management Unit (CMU) Removal, AMM
TASK 23-27-33-020-801
ACARS Communications Management Unit (CMU) Installation, AMM
TASK 23-27-33-420-801
- (2) On the left CDU, access the ACARS-IDENT BLK PGM page 1.
 - (a) If the airplane registration number that shows adjacent to the REG NUM prompt on the CDU screen agrees with the airplane registration number on the captain's instrument panel placard, then continue.
 - (b) If the registration numbers do not agree, do these steps:
 - 1) Do this task: ACARS Airplane Personality Module (APM) Software Installation, AMM
TASK 23-27-35-700-802
 - 2) If the APM will not accept data, replace the APM, M2502. These are the tasks:
ACARS Airplane Personality Module (APM) Removal, AMM
TASK 23-27-35-020-801
ACARS Airplane Personality Module (APM) Installation, AMM
TASK 23-27-35-420-801
 - (c) If the airline ID code adjacent to the AIRLINE ID prompt on the CDU screen is correct, continue to the captain's radio tuning panel step.
 - (d) If the airline ID code is incorrect or is missing, do these steps:
 - 1) Do this task: ACARS Airplane Personality Module (APM) Software Installation, AMM
TASK 23-27-35-700-802
 - 2) Also do subtask 23-27-00-730-081-009 of ACARS - System Test, AMM
TASK 23-27-00-730-806-010.
- (3) On the captain's radio tuning panel (RTP), select VHF-3.
 - (a) If "ACARS" or "DATA" shows in the active (left) display, go to the VHF Link Test step.

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- (b) If "ACARS" or "DATA" shows in the standby (right) display, do these steps:
 - 1) Push the transfer switch on the captain's RTP to move "ACARS" or "DATA" to the active display.
 - 2) Continue with the VHF Link Test step.
- (c) If "ACARS" or "DATA" does not show in the standby (right) display, do these steps:
 - 1) Use the frequency select knob to select a frequency in the standby (right) display that is outside the range of the normal VHF voice frequency range.
 - 2) If "ACARS" or "DATA" now shows in the standby (right) display, push the transfer switch on the captain's RTP to move "ACARS" or "DATA" to the active (left) display, then continue with the VHF Link Test step.
 - 3) If "ACARS" or "DATA" does not show in the standby (right) display, do these steps:
 - a) On the first officers RTP, select VHF-3.
 - b) Use the frequency select knob to select a frequency in the standby (right) display that is outside the range of the normal VHF voice frequency range.
 - c) If "ACARS" or "DATA" now shows in the standby (right) display, replace the captains RTP. These are the tasks:
Radio Tuning Panel (RTP) - Removal, AMM TASK 23-12-41-000-801
Radio Tuning Panel (RTP) - Installation, AMM TASK 23-12-41-400-801
 - d) If "ACARS" or "DATA" still does not show in the standby (right) display, examine the wiring between the CMU and the RTPs (WDM 23-27-35).
 - e) If no wiring faults are found, replace the ACARS CMU. These are the tasks:
ACARS Communications Management Unit (CMU) Removal, AMM TASK 23-27-33-020-801
ACARS Communications Management Unit (CMU) Installation, AMM TASK 23-27-33-420-801
- (4) Do the VHF Link Test subtask (AMM 23-27-00-730-115) of the ACARS System Test (AMM TASK 23-27-00-730-806-010).
 - (a) If the VHF Link Test completes with a "PASS" indication, then there was an intermittent fault.
 - (b) If the VHF Link Test completes with a "FAIL" indication, then do these steps:
 - 1) Do a voice communications test over VHF-3 (subtask 23-12-00-730-004 of VHF Communication System - System Test, AMM TASK 23-12-00-730-801).
 - a) If the voice communications test results are not satisfactory:
 - <1> Make sure there no obstructions between the VHF-3 antenna and the ACARS VHF ground station.
 - <2> If the fault continues, refer to PAGEBLOCK 23-12-00/201 for further fault isolation.
 - b) If the voice communications test results are satisfactory:
 - <1> Make sure there no obstructions between the VHF-3 antenna and the ACARS VHF ground station.
 - <2> Make sure the ACARS VHF ground station and network is operational.

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- <3> Check for messages on the ACARS network from the airplane. If the airplane is not in the ground station database, messages will not be acknowledged.
 - <4> If the fault continues, replace VHF-3 transceiver, M411. These are the tasks:
 - VHF Communication Transceiver - Removal, AMM
TASK 23-12-21-020-801
 - VHF Communication Transceiver - Installation, AMM
TASK 23-12-21-420-801
 - <5> If the fault continues, replace the ACARS CMU, M2127. These are the tasks:
 - ACARS Communications Management Unit (CMU) Removal, AMM
TASK 23-27-33-020-801
 - ACARS Communications Management Unit (CMU) Installation, AMM
TASK 23-27-33-420-801
 - <6> If the fault continues, examine the wiring between the ACARS CMU and the #3 VHF Transceiver WDM 23-27-37. Repair the problems that you find.
- 2) If the VHF frequency is not correct for the area that the airplane is located in, do these steps:
- a) Open the ACARS DATA FREQUENCY page.
 - b) Push the LSK adjacent to the region where the airplane is located.
 - <1> The new region selected is indicated by an arrow.
 - c) Access the ACARS COMM STATUS page.
 - d) Wait approximately 2 minutes, then go back to the VHF Link Test step.

END OF TASK

815. ACARS/CDU Interface Problem - Fault Isolation

A. Description

- (1) The Aircraft Communications Addressing and Reporting System (ACARS) menu selection prompt (<ACARS) is missing from line 2 on one of the CDU Main Menu displays.
- (2) The ACARS does not respond to CDU key pushes.

B. Possible Causes

- (1) ACARS Communications Management Unit (CMU-1), M2127
- (2) Left Flight Management Control Display Unit, P9-65
- (3) Right Flight Management Control Display Unit, P9-66
- (4) Wiring

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	7	C01238	FMCS MCDU 1

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F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	15	C01239	FMCS MCDU 2
E	8	C01483	CMU-1 AC

D. Related Data

- (1) SSM 23-27-32, 23-27-33
- (2) WDM 23-27-32, 23-27-33

E. Fault Isolation Procedure

- (1) On CDU-1 and CDU-2, push the MENU function key.
- (2) If the <ACARS prompt shows on the two CDU screens, then there was an intermittent fault.
- (3) If the <ACARS prompt does not show on one of the two CDU screens, do these steps:
 - (a) Open this circuit breaker:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	8	C01483	CMU-1 AC

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	9	C01500	CMU/ACARS DC (INOP)

- (b) Wait 30 seconds.
- (c) Close this circuit breaker:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	8	C01483	CMU-1 AC

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	9	C01500	CMU/ACARS DC (INOP)

- (d) If the fault continues, install the ACARS software. This is the task: ACARS Software Installation with a Portable Data Loader (PDL), AMM TASK 23-27-33-470-801
- (e) If the fault continues after the software is installed, replace the ACARS CMU. These are the tasks:
 - ACARS Communications Management Unit (CMU) Removal, AMM TASK 23-27-33-020-801
 - ACARS Communications Management Unit (CMU) Installation, AMM TASK 23-27-33-420-801
- (4) If the <ACARS prompt shows on only one of the CDU screens, then do these steps:

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- (a) Open this circuit breaker:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	8	C01483	CMU-1 AC

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	9	C01500	CMU/ACARS DC (INOP)

- (b) If the fault occurred on CDU-1, open this circuit breaker:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	7	C01238	FMCS MCDU 1

- (c) If the fault occurred on CDU-2, open this circuit breaker:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	15	C01239	FMCS MCDU 2

- (d) Wait 30 seconds.

- (e) Close this circuit breaker:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	8	C01483	CMU-1 AC

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	9	C01500	CMU/ACARS DC (INOP)

- (f) If the fault occurred on CDU-1, close this circuit breaker:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	7	C01238	FMCS MCDU 1

- (g) If the fault occurred on CDU-2, close this circuit breaker:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	15	C01239	FMCS MCDU 2

- (h) If the <ACARS prompt now shows on the two CDU screens, then there was an intermittent fault.

- (i) If the <ACARS prompt continues to show on only one of the CDU screens, do these steps:

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- 1) Interchange the positions of CDU-1 and CDU-2. These are the tasks:
 - FMCS Control Display Unit (CDU) Removal, AMM TASK 34-61-01-000-802
 - FMCS Control Display Unit (CDU) - Installation, AMM TASK 34-61-01-400-802

- 2) Open this circuit breaker:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	8	C01483	CMU-1 AC

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	9	C01500	CMU/ACARS DC (INOP)

- 3) Wait 30 seconds.
- 4) Close this circuit breaker:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	8	C01483	CMU-1 AC

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	9	C01500	CMU/ACARS DC (INOP)

- 5) If the fault moved to the other CDU position (1 to 2 or 2 to 1), replace the CDU that is now missing the <ACARS prompt. These are the tasks:
 - FMCS Control Display Unit (CDU) Removal, AMM TASK 34-61-01-000-802
 - FMCS Control Display Unit (CDU) - Installation, AMM TASK 34-61-01-400-802
- 6) If the <ACARS prompt did not show on CDU-1 and still does not show on CDU-1, do these steps:
 - a) Access the ACARS-SYSTEM CONFIG page on CDU-2.
 - b) Push the LSK adjacent to the * PRINT prompt.
 - c) If the ACARS-SYSTEM CONFIG page prints on the multifunction printer, do this check of the wiring:
 - <1> Remove the ACARS CMU. This is the task: ACARS Communications Management Unit (CMU) Removal, AMM TASK 23-27-33-020-801.
 - <2> Remove CDU-1. This is the task: FMCS Control Display Unit (CDU) Removal, AMM TASK 34-61-01-000-802.
 - <3> Do a check for an open circuit between these pins of connector D10727A of the ACARS CMU and connector D2181 of CDU-1 (WDM 23-27-32):

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ACARS CMU	CDU-1
D10727B	D2181
E15	14
F15	15

- <4> If you find a problem with the wiring, then do these steps:
- <a> Repair the wiring.
 - Re-install the ACARS CMU. This is the task: ACARS Communications Management Unit (CMU) Installation, AMM TASK 23-27-33-420-801.
 - <c> Re-install CDU-1. This is the task: FMCS Control Display Unit (CDU) - Installation, AMM TASK 34-61-01-400-802.
- d) If the ACARS-SYSTEM CONFIG page does not print, replace the ACARS CMU. These are the tasks:
- ACARS Communications Management Unit (CMU) Removal, AMM TASK 23-27-33-020-801
 - ACARS Communications Management Unit (CMU) Installation, AMM TASK 23-27-33-420-801
- 7) If the <ACARS prompt did not show on CDU-2 and still does not show on CDU-2, do these steps:
- a) Attempt to access a Digital Flight Data Acquisition Unit (DFDAU) screen that shows the status of the ARINC 429 data bus input from the CMU.
 - b) If the status shows that the data bus is active, do this check of the wiring:
 - <1> Remove the ACARS CMU. This is the task: ACARS Communications Management Unit (CMU) Removal, AMM TASK 23-27-33-020-801.
 - <2> Remove CDU-2. This is the task: FMCS Control Display Unit (CDU) Removal, AMM TASK 34-61-01-000-802.
 - <3> Do a check for an open circuit between these pins of connector D10727A of the ACARS CMU and connector D2221 of CDU-2 (WDM 23-27-33):

ACARS CMU	CDU-2
D10727B	D2221
E12	14
F12	15

- <4> If you find a problem with the wiring, then do these steps:
- <a> Repair the wiring.
 - Re-install the ACARS CMU. This is the task: ACARS Communications Management Unit (CMU) Installation, AMM TASK 23-27-33-420-801.
 - <c> Re-install CDU-2. This is the task: FMCS Control Display Unit (CDU) - Installation, AMM TASK 34-61-01-400-802.
- c) If the status shows that the data bus is inactive, replace the ACARS CMU. These are the tasks:

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- ACARS Communications Management Unit (CMU) Removal, AMM TASK 23-27-33-020-801
- ACARS Communications Management Unit (CMU) Installation, AMM TASK 23-27-33-420-801

END OF TASK

816. ACARS Input Problem - Fault Isolation

A. Description

- (1) The ground station reports that downlink messages from the ACARS system are incomplete

B. Possible Causes

- (1) ACARS Communications Management Unit (CMU-1), M2127
- (2) Flight Management Computer 1 (FMC-1), M1175
- (3) Flight Management Computer 2 (FMC-2), M1632 (if installed)
- (4) Digital Flight Data Acquisition Unit (DFDAU), M675
- (5) Proximity Switch Electronics Unit (PSEU), M2061
- (6) Wiring

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	8	C01483	CMU-1 AC

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	9	C01500	CMU/ACARS DC (INOP)

D. Related Data

- (1) SSM 23-27-33, 23-27-35, 23-27-36, 23-27-38
- (2) WDM 23-27-33, 23-27-35, 23-27-36, 23-27-38

E. Initial Evaluation

- (1) If the data reported missing from the downlink messages is from flight crew manual entries, make sure the flight crew enters their data correctly.
- (2) If the data reported missing from the downlink messages is OOOI data (Out, Off, On, In), do the Missing OOOI Data - Fault Isolation Procedure below.
- (3) If the data reported missing from the downlink messages is from a LRU that talks to the ACARS CMU over a ARINC-429 data bus, do the Missing ARINC Data - Fault Isolation Procedure below.

F. Missing OOOI Data - Fault Isolation Procedure

- (1) On a CDU, access the ACARS-SENSORS page.
 - (a) Do the Out-Off-On-In (OOOI) Sensor Test subtask of the ACARS System Test (AMM TASK 23-27-00-730-806-010). If one of the sensors fails the OOOI Sensor Test, do the fault isolation procedure for the failed sensor:

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- 1) PSEU Entry and Galley Service Door Monitored Problem - Fault Isolation, 52-10 TASK 801 for entry and galley doors.
 - 2) PSEU Cargo Door Monitored Problem - Fault Isolation, 52-30 TASK 803 for cargo doors.
 - 3) Parking Brake Switch Problem - Fault Isolation, 32-09 TASK 806 for the parking brake.
 - 4) Nose Landing Gear Air/Ground Sensor Fault - Fault Isolation, 32-09 TASK 802 for the air/ground sensor.
- (b) If all of the sensors passed the OOOI Sensor Test, do these steps:
- 1) Open this circuit breaker:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	8	C01483	CMU-1 AC

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	9	C01500	CMU/ACARS DC (INOP)

- 2) Wait 30 seconds.
- 3) Close this circuit breaker:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	8	C01483	CMU-1 AC

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	9	C01500	CMU/ACARS DC (INOP)

- 4) If the fault continues, install the ACARS software. This is the task: ACARS Software Installation with a Portable Data Loader (PDL), AMM TASK 23-27-33-470-801.
- 5) If the fault continues after the software is installed, replace the ACARS CMU. These are the tasks:

ACARS Communications Management Unit (CMU) Removal, AMM
TASK 23-27-33-020-801

ACARS Communications Management Unit (CMU) Installation, AMM
TASK 23-27-33-420-801

G. Missing ARINC Data - Fault Isolation Procedure

- (1) On a CDU, access the ACARS-PERIPHERALS screen, pages 1, 2 and 3.
 - (a) If the state of each connected input LRU (except for MCDU and PRINTER) shows "PRESENT" under the CONNECT prompt and "OK" under the STAT prompt, do the fault isolation procedure for the failed source LRU:
 - 1) DFDAU - DFDAU Internal Failure - Fault Isolation, 31-31 TASK 802

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- 2) FMC - FMC Hardware/Software Faults - Fault Isolation, 34-61 TASK 807
- 3) VHF-3 - VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801
- (b) If the state of one of the connected input LRUs (except for MCDU and PRINTER) shows "ABSENT" under the CONNECT prompt, do these steps:
 - 1) Cycle the power for the source LRU that shows "ABSENT".
 - 2) If the fault continues, replace the source LRU.
 - 3) If the fault continues after source LRU replacement, examine the ARINC 429 data bus wiring between the source LRU and the ACARS CMU.
 - a) DFDAU - WDM 23-27-33 and WDM 31-35-02
 - b) FMC-1 - WDM 23-27-32 and WDM 34-61-25
 - c) FMC-2 (if installed) - WDM 23-27-33 and WDM 34-61-25
 - d) VHF-3 - VHF Communication Transceiver System - BITE Procedure, 23-12 TASK 801

————— **END OF TASK** —————

820. ACARS Call Annunciation Problem - Fault Isolation

A. Description

- (1) Use this task when the flight compartment chime does not sound for an ACARS uplink message.
- (2) Use this task when the ACARS message does not show on the Engine Display for an ACARS uplink message.

B. Possible Causes

- (1) Software (CMU or DEU)
- (2) ACARS Communications Management Unit (CMU-1), M2127
- (3) Display Electronic Unit (DEU), M1808 or DEU, M1809
- (4) Aural Warning Unit Module, M315
- (5) Wiring

C. Initial Evaluation

- (1) Have an ACARS ground station send an uplink message to the airplane on VHF-3.
 - (a) If the ACARS message shows on the Engine Display and the flight compartment chime sounds, then there was an intermittent fault.
 - (b) If the ACARS message does not show on the Engine Display, then do the ACARS Message Annunciation Problem fault isolation procedure below.
 - (c) If the chime does not sound, then do the ACARS Message Chime Problem fault isolation procedure below.

D. ACARS Message Annunciation Problem - Fault Isolation Procedure

- (1) Do a check to make sure the CMU has the correct software installed. This is the task:
ACARS Communications Management Unit (CMU) Software Configuration Check, AMM TASK 23-27-33-700-802
- (2) Do a check to make sure the DEU has the correct software installed (Display Electronic Unit Installation, AMM TASK 31-62-21-400-801).

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- (3) If the fault continues, replace the CMU, M2127. These are the tasks:
ACARS Communications Management Unit (CMU) Removal, AMM TASK 23-27-33-020-801
ACARS Communications Management Unit (CMU) Installation, AMM TASK 23-27-33-420-801
- (4) If the fault continues, replace the DEU, M1808 or M1809. These are the tasks:
Display Electronic Unit Removal, AMM TASK 31-62-21-000-801
Display Electronic Unit Installation, AMM TASK 31-62-21-400-801
- (5) If the fault continues, examine the wiring between the CMU and the DEU (WDM 23-27-38),
(WDM 31-62-15, WDM 31-62-25).

E/E Compartment

CMU, M2127	DEU-1, M1808
D10727B	D3973D
J10	J15
K10	K15

- (a) If the resistance check does not show continuity, repair the problems with the wiring.

E. ACARS Message Chime Problem - Fault Isolation Procedure

- (1) Do a check to make sure the CMU has the correct software installed. This is the task:
ACARS Communications Management Unit (CMU) Software Configuration Check, AMM TASK 23-27-33-700-802
- (2) Do a check to make sure the DEU has the correct software installed (Display Electronic Unit Installation, AMM TASK 31-62-21-400-801).
- (3) If the fault continues, replace the Aural Warning Module, M315.
Aural Warning Module Removal, AMM TASK 31-51-04-000-801
Aural Warning Module Installation, AMM TASK 31-51-04-400-801
- (4) If the fault continues, replace the DEU, M1808 or M1809.
Display Electronic Unit Removal, AMM TASK 31-62-21-000-801
Display Electronic Unit Installation, AMM TASK 31-62-21-400-801
- (5) If the fault continues, examine the wiring between the CMU and the DEU (WDM 23-27-38).

E/E Compartment

CMU, M2127	DEU-1, M1808
D10727B	D3973D
J10	J15
K10	K15

- (a) If the resistance check does not show continuity, repair the problems with the wiring.
- (6) If the fault continues, examine the wiring between the DEU and the Aural Warning Module (WDM 23-22-11 and WDM 31-62-41).

E/E Compartment

DEU-1, M1808	Aural Warning
D3973A	Module, M315
E2	D940
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- (a) If the resistance check does not show continuity, repair the problems with the wiring.

————— **END OF TASK** —————

825. ACARS Message APM WARN - Fault Isolation

A. Description

- (1) Use this task when the scratchpad on the Aircraft Communications Addressing and Reporting System (ACARS) pages shows the message “APM WARN” while on the ground.

B. Possible Causes

- (1) ACARS Communications Management Unit (CMU).
- (2) Aircraft Personality Module (APM).
- (3) Wiring

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	8	C01483	CMU-1 AC

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	9	C01500	CMU/ACARS DC (INOP)

D. Related Data

- (1) (SSM 23-27-31)
- (2) (SSM 23-27-39)
- (3) (WDM 23-27-31)
- (4) (WDM 23-27-39)

E. Initial Evaluation

- (1) If the APM WARN message does not show in the CDU scratchpad, then there was an intermittent fault.
- (2) If the APM WARN message shows in the CDU scratchpad, then do the applicable fault isolation procedure below.

F. ACARS Message APM WARN - Fault Isolation Procedure

- (1) Prepare to cycle the circuit breakers. Do the steps that follow:
 - (a) Make sure that the circuit breakers are open for a minimum of 10 seconds.
 - (b) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	8	C01483	CMU-1 AC

- (c) Measure the time.

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

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	8	C01483	CMU-1 AC

This circuit breaker is inoperative and should remain open:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	9	C01500	CMU/ACARS DC (INOP)

- (e) If the APM WARN message does not show in the CDU scratchpad, then there was an intermittent fault.
- (f) If the APM WARN message still shows in the CDU scratchpad, then continue.
- (2) Do the ACARS - Operational Test. This is the task: ACARS - Operational Test, AMM TASK 23-27-00-740-816-010
- (a) If the test fails, replace the ACARS Communications Management Unit (CMU) 1, M2127. These are the tasks:
- ACARS Communications Management Unit (CMU) Removal, AMM TASK 23-27-33-020-801
- ACARS Communications Management Unit (CMU) Installation, AMM TASK 23-27-33-420-801
- (b) If the test passes and the APM WARN message still shows in the CDU scratchpad, then continue.
- (3) Do this check of the wiring between the CMU and the APM.
- (a) Remove the CMU. This is the task: ACARS Communications Management Unit (CMU) Removal, AMM TASK 23-27-33-020-801
- (b) Remove the APM. This is the task: ACARS Airplane Personality Module (APM) Removal, AMM TASK 23-27-35-020-801
- (c) Use the table that follows to do continuity checks between the pins of the APM (M2502) connector D11813 and the CMU (M2127) connector D10727A.

M2502		M2127
D11813		D10727A
1	.....	H1
2	.....	E1
3	.....	C1
4	.....	K1
5	.....	D1
6	.....	A2
7	.....	A1
8	.....	B1
9	.....	J1

- (d) If you find a problem with the wiring, then repair it as necessary.
- (e) If the wiring checks good, then continue.
- (4) Replace the APM module. This is the task:

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ACARS Airplane Personality Module (APM) Installation, AMM TASK 23-27-35-420-801

G. Repair Confirmation

- (1) If the APM WARN fault message does not show, then you corrected the fault.

———— **END OF TASK** ————

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801. SELCAL Call Switch Problem - Fault Isolation

A. Description

- (1) A call switch on Audio control panel, does not operate correctly.

B. Possible Causes

- (1) Audio control panel, P8-6 (captain's), P8-7 (first officer's) or P5-15 (first observer's).
(2) SELCAL decoder, M25
(3) Wiring problem

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	15	C00058	COMMUNICATIONS SELCAL

D. Related Data

- (1) (SSM 23-22-11)
(2) (WDM 23-22-11)

E. Initial Evaluation

- (1) Do this check of the Audio control panel:
- (a) Push the PTT for the applicable HF switch or VHF switch to reset the Call Light.
- 1) If the call light goes off for the applicable HF switch or VHF switch, then there was an intermittent fault.
- 2) If the call light does not go off for the applicable HF switch or VHF switch, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

- (1) Replace the Audio control panel.
- These are the tasks:
- Audio Control Panel Removal, AMM TASK 23-51-02-000-801,
Audio Control Panel Installation, AMM TASK 23-51-02-400-801.
- (a) If the call switch resets correctly, then you corrected the fault.
- (b) If the call switch does not reset correctly, then continue.
- (2) Replace the SELCAL decoder unit.
- These are the tasks:
- SELCAL Decoder Unit Removal, AMM TASK 23-28-11-020-801,
SELCAL Decoder Installation, AMM TASK 23-28-11-420-801.
- (a) If the call switch does reset correctly, then you corrected the fault.
- (b) If the call switch does not reset correctly, then continue.
- (3) Do this check of the wiring:
- (a) Remove the Remote Electronics Unit. To remove it, do this task: AMM TASK 23-51-01-000-801.



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- (b) Remove the SELCAL decoder unit, M00025. To remove it, do this task: SELCAL Decoder Unit Removal, AMM TASK 23-28-11-020-801.
- (c) Do a wiring check between the pins of connector D2501A for the Remote Electronics Unit (REU), and connector D2555B for the SELCAL decoder unit: Refer to WDM 23-22-11 for details.

FUNCTION KEY

	REU CONNECTOR	SELCAL DECODER CONNECTOR
HF1 (if applicable)	D2501A pin C10	D2555B pin C7
HF2 (if applicable)	D2501A pin J7	D2555B pin D7
VHF1	D2501A pin H6	D2555B pin D6
VHF2	D2501A pin A9	D2555B pin A7
VHF3 (if applicable)	D2501A pin F7	D2555B pin B7

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-connect the connectors.
 - 3) Re-install the Remote Electronics Unit. To install it, do this task: AMM TASK 23-51-01-000-802.
 - 4) Re-install the SELCAL decoder unit. To install it, do this task: SELCAL Decoder Installation, AMM TASK 23-28-11-420-801.
 - 5) If the call switch does reset correctly, then you corrected the fault.

———— **END OF TASK** ————

802. SELCAL Call Light Problem - Fault Isolation

A. Description

- (1) The mic/call light on the Audio Control Panel does not operate correctly.

B. Possible Causes

- (1) Audio Control Panel, captain's, first officer's, or observer's.
- (2) SELCAL decoder, M25
- (3) Wiring problem

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C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	15	C00058	COMMUNICATIONS SELCAL

D. Related Data

- (1) (SSM 23-22-11)
(2) (WDM 23-22-11)

E. Initial Evaluation

- (1) Push the mic/call light.
- (a) If the light comes on, then do these steps:
- 1) Push the mic call light again.
 - a) If the mic/call light goes off, then there was an intermittent fault.
 - b) If the mic/call light stays on, then, do this task: SELCAL Call Switch Problem - Fault Isolation, 23-28 TASK 801.
- (b) If the light does not come on, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

- (1) Replace the Audio Control Panel.

These are the tasks:

AMM TASK 23-51-02-000-801,
AMM TASK 23-51-02-400-801.

- (a) If the call light does reset correctly, then you corrected the fault.
(b) If the call light does not reset correctly, then continue.

- (2) Replace the SELCAL decoder unit.

These are the tasks:

SELCAL Decoder Unit Removal, AMM TASK 23-28-11-020-801,
SELCAL Decoder Installation, AMM TASK 23-28-11-420-801.

- (a) If the call switch does reset correctly, then you corrected the fault.
(b) If the call switch does not reset correctly, then continue.

- (3) Do this check of the wiring:

- (a) Remove the Audio Control Panel. To remove it, do this task: Audio Control Panel Removal, AMM TASK 23-51-02-000-801.
- (b) Remove the SELCAL decoder unit, M00025. To remove it, do this task: SELCAL Decoder Unit Removal, AMM TASK 23-28-11-020-801.
- (c) Do a wiring check between the pins of connector D141 for the Audio Control Panel (observer's) and connector D2555B for the SELCAL decoder unit: Refer to WDM 23-22-11 for details.

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FUNCTION KEY

	ACP CONNECTOR	SELCAL DECODER CONNECTOR
HF1 (if applicable)	D141 pin 4	D2555B pin C7
HF2 (if applicable)	D141 pin 5	D2555B pin D7
VHF1	D141 pin 1	D2555B pin D6
VHF2	D141 pin 2	D2555B pin A7
VHF3 (if applicable)	D141 pin 3	D2555B pin B7

- (d) Do the wiring check for the captain's ACP and the first officer's ACP. Refer to WDM 23-22-11 for ACP connector numbers.
- (e) If you find a problem with the wiring, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-connect the connectors.
 - 3) Re-install the Audio Control Panel. To install it, do this task: Audio Control Panel Installation, AMM TASK 23-51-02-400-801.
 - 4) Re-install the SELCAL decoder unit. To install it, do this task: SELCAL Decoder Installation, AMM TASK 23-28-11-420-801.
 - 5) If the call switch does reset correctly, then you corrected the fault.

———— **END OF TASK** ————

803. Aural Warning Unit Chimes Problem - Fault Isolation

A. Description

- (1) The chime on the aural warning unit module, M315 does not operate correctly for calls on VHF or HF.

B. Possible Causes

- (1) Remote electronics unit, M1353
- (2) Aural warning unit, M315
- (3) Wiring problem

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C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	15	C00058	COMMUNICATIONS SELCAL

D. Related Data

- (1) (SSM 23-22-11)
(2) (WDM 23-22-11)

E. Initial Evaluation

- (1) Initiate the chime in the aural warning unit, M315.
(a) If the chime comes on, then there was an intermittent fault.
(b) If the chime does not come on, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

- (1) Replace the aural warning unit, M315.

These are the tasks:

Aural Warning Module Removal, AMM TASK 31-51-04-000-801,
Aural Warning Module Installation, AMM TASK 31-51-04-400-801.

- (a) If the chime operates correctly, then you corrected the fault.
(b) If the chime does not operate correctly, then continue.

- (2) Replace the remote electronics unit, M1353.

These are the tasks:

Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801,
Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

- (a) If the chime operates correctly, then you corrected the fault.
(b) If the chime does not operate correctly, then continue.

- (3) Do this check of the wiring:

- (a) Remove the Audio Selector Panel P5-15, P8-6, and P8-7. To remove it, do this task:
AMM TASK 23-51-02-000-801.
(b) Remove the aural warning unit, M315. To remove it, do this task: AMM
TASK 31-51-04-000-801.
(c) Do a wiring check between these pins of connector D141 for the Audio control panel and
connector D940 for the aural warning unit:

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	ASP CONNECTOR	AURAL WARN UNIT CONNECTOR
HF1 (if applicable)	D141 pin 4	D940 pin 8
HF2 (if applicable)	D141 pin 5	D940 pin 8
VHF1	D141 pin 1	D940 pin 8
VHF2	D141 pin 2	D940 pin 8
VHF3 (if applicable)	D141 pin 3	D940 pin 8

- (d) If you find a problem with the wiring, then do these steps:
- 1) Repair the wiring.
 - 2) Re-connect the connectors.
 - 3) Re-install the Audio Selector Panel P5-15, P8-6, and P8-7. To remove it, do this task: AMM TASK 23-51-02-400-801.
 - 4) Re-install the aural warning unit. To install it, do this task: AMM TASK 31-51-04-400-801.
 - 5) If the chime operates correctly, then you corrected the fault.

————— **END OF TASK** —————

804. SELCAL Operation Problem - Fault Isolation

A. Description

- (1) The SELCAL system does not operate correctly for VHF or HF calls.

B. Possible Causes

- (1) SELCAL decoder unit, M25
- (2) Wiring problem

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	15	C00058	COMMUNICATIONS SELCAL

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D. Related Data

- (1) (SSM 23-22-11)
- (2) (WDM 23-22-11)

E. Fault Isolation Procedure

- (1) Replace the SELCAL decoder unit.

These are the tasks:

SELCAL Decoder Unit Removal, AMM TASK 23-28-11-020-801,

SELCAL Decoder Installation, AMM TASK 23-28-11-420-801.

- (a) If the call switch does reset correctly, then you corrected the fault.
 - (b) If the call switch does not reset correctly, then continue.
- (2) Do this check of the wiring:
 - (a) Remove the Audio Selector Panel P5-15, P8-6, and P8-7. To remove it, do this task: AMM TASK 23-51-02-000-801.
 - (b) Remove the SELCAL decoder unit, M25. To remove it, do this task: AMM TASK 23-28-11-020-801.
 - (c) Do a wiring check between the pins of connector D141 for the Audio Selector Panel, and connector D2555B for the SELCAL decoder unit:

FUNCTION KEY

	AUDIO SELECTOR PANEL	SELCAL DECODER CONNECTOR
HF1 (if applicable)	D141 pin 4	D2555B pin C7
HF2 (if applicable)	D141 pin J7	D2555B pin D7
VHF1	D141 pin 1	D2555B pin D6
VHF2	D141 pin 2	D2555B pin A7
VHF3 (if applicable)	D141 pin	D2555B pin B7

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-connect the connectors.
 - 3) Re-install the Audio Selector Panel. To install it, do this task: AMM TASK 23-51-02-400-801.

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- 4) Re-install the SELCAL decoder unit. To install it, do this task: AMM TASK 23-28-11-420-801.
- 5) If the call switch does reset correctly, then you corrected the fault.

————— **END OF TASK** —————

805. All SELCAL Call Lights On - Fault Isolation

A. Description

- (1) This task is for these Observed Faults:
 - (a) All mic/call lights on all the Audio Control Panel (ACP) come ON.

B. Possible Causes

- (1) Captain ACP, P8-6
- (2) First Officer ACP, P8-7
- (3) Observer ACP, P5-15
- (4) Selective Call System (SELCAL) Decoder, M25

C. Initial Evaluation

- (1) Push the mic/call light on the applicable ACP.
 - (a) If all mic/call lights go OFF, then there was an intermittent fault.
 - (b) If all mic/call lights stay ON, then do the Fault Isolation Procedure below.

D. Fault Isolation Procedure

- (1) Replace the SELCAL Decoder, M25. These are the tasks:
 - SELCAL Decoder Unit Removal, AMM TASK 23-28-11-020-801
 - SELCAL Decoder Installation, AMM TASK 23-28-11-420-801
 - (a) Do the Repair Confirmation at the end of this task.
- (2) Replace the applicable ACP. These are the tasks:
 - Audio Control Panel Removal, AMM TASK 23-51-02-000-801
 - Audio Control Panel Installation, AMM TASK 23-51-02-400-801
 - (a) Do the Repair Confirmation at the end of this task.

E. Repair Confirmation

- (1) Look at the mic/call lights on the applicable ACP.
 - (a) If all mic/call lights go OFF, you corrected the problem.
 - (b) If all mic/call lights do not go OFF, then continue the Fault Isolation Procedure at the subsequent step.

————— **END OF TASK** —————

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801. Passenger Address Does Not Operate from Flight Deck - Fault Isolation

A. Description

- (1) No, intermittent, or poor quality audio can be heard from the passenger address (PA) speakers when the flight crew makes a PA announcement.

B. Possible Causes

- (1) Microphone
(2) Wiring
(3) Control Wheel PTT switch.
(4) Passenger address amplifier, M63
(5) Remote electronic unit (REU), M1353.

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00082	COMMUNICATIONS PA AMPL BAT

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

D. Related Data

- (1) (SSM 23-31-11)
(2) (SSM 23-31-12)
(3) (SSM 23-31-13)
(4) (SSM 23-31-14)
(5) (SSM 23-51-11)
(6) (SSM 23-51-21)
(7) (SSM 23-51-31)
(8) (WDM 23-31-01)
(9) (WDM 23-31-02)
(10) (WDM 23-31-03)
(11) (WDM 23-31-04)
(12) (WDM 23-51-11)
(13) (WDM 23-51-21)
(14) (WDM 23-51-31)

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E. Fault Isolation Procedure

- (1) Do this check of the microphone:
 - (a) Use a microphone in the flight deck, other than where the problem was reported, to make an announcement over the passenger address system.
 - 1) Make sure you can hear the announcement on all of the applicable speakers.
 - (b) If you can hear the announcement on the speakers, then replace the microphone where the problem was reported.
 - 1) Do the Repair Confirmation at the end of this task.
 - a) If the Repair Confirmation is not satisfactory, then continue.
 - (c) If you cannot hear the announcement on the speakers, or the announcement is intermittent, then continue.
- (2) Do these steps to examine and repair the wires to the applicable microphone:
 - (a) For the PA microphone at the aft end of the control stand, use the 23-31 SSM and WDM listed in Related Data To examine these wires:
 - 1) Examine and repair the wires between the connector D2639B at the passenger address amplifier and the connector D6001 in the control stand.
 - a) If you found a problem, then do the Repair Confirmation at the end of this task.
 - b) If the Repair Confirmation is not OK, then continue.
 - (b) For other flight deck microphones, use the 23-51 SSM and WDM listed in Related Data to examine these wires:

NOTE: Other microphones are the Captains's or First Officer's hand microphone, boom microphone, oxygen mask microphone or the Observer seat microphones.

 - 1) Remove the remote electronic unit (REU). To remove it, do this task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801.
 - 2) Examine and repair the wires between the connector D2501B at the REU and the applicable microphone jack:

NOTE: Airplanes without active noise suppression may use a three wire or four wire microphone connector. Airplanes with active noise suppression may use a three wire, four wire, or five wire microphone connector.
 - (c) If you found and repaired a wire problem, then do these steps:
 - 1) Re-install the REU. To install it, do this task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
 - 2) If it is necessary, re-install the applicable microphone.
 - 3) Do the Repair Confirmation at the end of this task.
 - a) If the Repair Confirmation is not satisfactory, then continue.
 - (d) If no wire problem was found, then re-install the REU. To install it, do this task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
- (3) Do this check of the Control Wheel PTT switch:
 - (a) Press and latch the control wheel PTT switch in the interphone position.
 - (b) Use a microphone in the flight deck to make an announcement over the passenger address system.
 - 1) Make sure you can hear the announcement on all of the applicable speakers.

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- 2) If you can hear the announcement on the speakers, do the Repair Confirmation at the end of this task.
 - 3) If you cannot hear the announcement on the speakers, or the announcement is intermittent, then continue.
- (4) Replace the passenger address amplifier, M63.
- These are the tasks:
- Passenger Address (PA) Amplifier - Removal, AMM TASK 23-31-01-000-801,
Passenger Address (PA) Amplifier - Installation, AMM TASK 23-31-01-400-801.
- (a) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not satisfactory, then continue.
- (5) Replace the remote electronic unit, M1353.
- These are the tasks:
- Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801,
Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
- (a) Do the Repair Confirmation at the end of this task.

F. Repair Confirmation

- (1) Do this test of the passenger address system:
 - (a) Set the PA microphone selector switch on the audio control panel (ACP) to ON.
 - 1) Make sure its light comes on.
 - (b) Push and hold the R/T - I/C switch on the ACP in the R/T position.
 - (c) Speak into the microphone.
 - 1) Make sure you can hear the announcement on all of the applicable speakers.
 - (d) If you can hear the announcement on the speakers, then you corrected the fault.

————— **END OF TASK** —————

802. Passenger Address Volume Problem - Fault Isolation

A. Description

- (1) The audio heard from the passenger address speakers is too loud or too quiet.
- (2) The audio heard on the attendant and lavatory speakers is too loud or too quiet.

B. Possible Causes

- (1) Master gain on PA amplifier
- (2) PA Gain on Remote Electronic Unit (REU), M1353
- (3) Passenger address (PA) amplifier, M63
- (4) Wiring
- (5) Remote electronic unit (REU), M1353

C. Related Data

- (1) (SSM 73-22-31)
- (2) (WDM 23-31-01)
- (3) (WDM 23-31-02)
- (4) (WDM 23-31-03)

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- (5) (WDM 23-31-04)
- (6) (WDM 23-51-11)
- (7) (WDM 23-51-21)
- (8) (WDM 23-51-31)

D. Fault Isolation Procedure

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- (1) Adjust the master gain on the PA amplifier:
 - (a) Set and hold the test mode switch on the PA amplifier front panel to AMP TEST.
 - (b) Turn the MASTER GAIN screw on the front panel clockwise or counterclockwise to the desired level.

NOTE: To get the maximum undistorted audio, turn the master gain screw clockwise until the front panel LED's show 0dB.
 - (c) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not satisfactory, then continue.

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- (2) Replace the passenger address (PA) amplifier, M63.

These are the tasks:

Passenger Address (PA) Amplifier - Removal, AMM TASK 23-31-01-000-801,
Passenger Address (PA) Amplifier - Installation, AMM TASK 23-31-01-400-801.

 - (a) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not satisfactory, then continue.
- (3) Do this check of the wiring:
 - (a) Remove the remote electronic unit (REU). To remove it, do this task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801.
 - (b) Open this access panel to get access to junction box J22:

<u>Number</u>	<u>Name/Location</u>
113AW	Forward Nose Wheel Well Panel
 - (c) Disconnect electrical connector D10918 from the engine 1 running relay, R564.
 - (d) Open this access panel to get access to junction box J24:

<u>Number</u>	<u>Name/Location</u>
114AW	Forward Nose Wheel Well Panel
 - (e) Disconnect electrical connector D10916 from the engine 2 running relay, R563.
 - (f) Do a continuity check between these pins:

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	REU CONNECTOR	RELAY CONNECTOR
ENGINE 1 RUNNING RELAY (R564)	D2501A pin F5	D10918 pin A3
ENGINE 2 RUNNING RELAY (R563)	D2501A pin K5	D10916 pin A3

(g) If there is not continuity between the pins, then do these steps:

- 1) Repair the wiring.
- 2) Re-connect electrical connector D10918 to R564.
- 3) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
113AW	Forward Nose Wheel Well Panel

- 4) Re-connect electrical connector D10916 to R563.
- 5) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
114AW	Forward Nose Wheel Well Panel

- 6) Re-install the REU. To install it, do this task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
- 7) Do the Repair Confirmation at the end of this task.
 - a) If the Repair Confirmation is not OK, then continue.

(h) If there is continuity, then do these steps and continue:

- 1) Re-connect electrical connector D10918 to R564.
- 2) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
113AW	Forward Nose Wheel Well Panel

- 3) Re-connect electrical connector D10916 to R563.
- 4) Close this access panel:

<u>Number</u>	<u>Name/Location</u>
114AW	Forward Nose Wheel Well Panel

- (4) Install a new remote electronic unit (REU), M1353. To install it, do this task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

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

E. Repair Confirmation

- (1) Do this test of the passenger address system:

(a) Set the PA microphone selector switch on the audio control panel (ACP) to ON.

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- 1) Make sure its light comes on.
- (b) Push and hold the R/T - I/C switch on the ACP in the R/T position.
- (c) Speak into the microphone.
 - 1) Make sure you can hear the announcement from the passenger address speakers.
- (d) If you can hear the announcement on the speakers, then you corrected the fault.

———— **END OF TASK** ————

803. Chime Does Not Go OFF - Fault Isolation

A. Description

- (1) The chime in the Passenger Cabin does not go OFF.

B. Fault Isolation Procedure

- (1) Replace the Passenger Address (PA) Amplifier, M63. These are the tasks:
 - Passenger Address (PA) Amplifier - Removal, AMM TASK 23-31-01-000-801
 - Passenger Address (PA) Amplifier - Installation, AMM TASK 23-31-01-400-801

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- (a) Do these steps to make sure that you corrected the problem:
 - 1) On the PA Amplifier front panel, put the NORM/SPKR TEST Switch to the SPKR TEST position.
 - a) Make sure that you can hear a high chime sound on the PA Speakers.
 - 2) Put the NORM/SPKR TEST Switch to the NORM position.
 - a) Make sure that the chime does not sound.
 - 3) If you cannot hear the chime sound, then you corrected the problem.

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———— **END OF TASK** ————

804. Cabin Chime Does Not Operate - Fault Isolation

A. Description

- (1) The chime in the Passenger Cabin does not sound when one or more of these conditions occurs:
 - (a) Passenger call button on the Passenger Service Unit (PSU) is pushed
 - (b) Lavatory Call Button is pushed
 - (c) NO SMOKING Switch is set to the ON position
 - (d) FASTEN BELTS Switch is set to the ON position.

B. Possible Causes

- (1) PA Amplifier
- (2) Wiring
- (3) PSU
- (4) Lavatory Call Switch
- (5) No Smoking Switch, S45
- (6) No power to the No Smoking Relay

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- (7) No Smoking Relay, R25
- (8) Fasten Belts Switch, S46
- (9) No power to the Fasten Belts Relay
- (10) Fasten Belts Relay, R26

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	8	C01403	PASSENGER CABIN PASS CALL LEFT
B	8	C01404	PASSENGER CABIN PASS CALL RIGHT
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00082	COMMUNICATIONS PA AMPL BAT

D. Related Data

- (1) WDM 23-31-01
- (2) WDM 33-25-11
- (3) WDM 33-27-11
- (4) SSM 23-31-11
- (5) SSM 33-25-11
- (6) SSM 33-27-11

E. Initial Evaluation

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- (1) Do this test of the PA Amplifier:
 - (a) Put the NORM/SPKR TEST Switch on the front panel of the PA Amplifier to the SPKR TEST position.
 - 1) Make sure you can hear a high chime sound on the Attendant, Lavatory, and PSU speakers.
 - (b) Put the NORM/SPKR TEST Switch to the NORM position.
 - (c) If you do not hear a high chime on the speakers, then do the Fault Isolation Procedure - No Chime below.
 - (d) If you hear a high chime on the speakers, then continue.

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- (2) Do this test of the passenger call:
 - (a) Push the Attendant Call Button on the PSU.
 - 1) Make sure you hear a high chime on the Attendant, Lavatory, and PSU speakers.
 - (b) If you do not hear a high chime on the speakers, then do the Fault Isolation Procedure - Passenger Call below.
 - (c) If you hear a high chime on the speakers, then continue.

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- (3) Do this test of the Lavatory Call:
 - (a) Push the Call Button in the Lavatory.
 - 1) Make sure you hear a high chime on the Attendant, Lavatory, and PSU speakers.
 - (b) If you do not hear a high chime on the speakers, then do the Fault Isolation Procedure - Lavatory Call below.
 - (c) If you hear a high chime on the speakers, then continue.
- (4) Do this test of the NO SMOKING Switch:
 - (a) Set the NO SMOKING Switch, on the P5 Overhead Panel in the Flight Compartment, to the ON position.
 - 1) Make sure you hear a low chime on the Attendant, Lavatory, and PSU speakers.
 - (b) If you do not hear a low chime on the speakers, then do the Fault Isolation Procedure - No Smoking Chime below.
 - (c) If you hear a low chime on the speakers, then continue.
- (5) Do this test of the FASTEN BELTS Switch:
 - (a) Set the FASTEN BELTS Switch, on the P5 Overhead Panel in the Flight Compartment, to the ON position.
 - 1) Make sure you hear a low chime on the Attendant, Lavatory, and PSU speakers.
 - (b) If you do not hear a low chime on the speakers, then do the Fault Isolation Procedure - Fasten Belts Chime below.
 - (c) If you hear a low chime on the speakers, then there was an intermittent fault.

F. Fault Isolation Procedure - No Chime

- (1) Replace the PA Amplifier. These are the tasks:
 - Passenger Address (PA) Amplifier - Removal, AMM TASK 23-31-01-000-801
 - Passenger Address (PA) Amplifier - Installation, AMM TASK 23-31-01-400-801

SIA ALL; AIRPLANES WITH PA P/N 256-5

- (a) Do these steps to make sure that you corrected the problem:
 - 1) On the PA Amplifier front panel, put the NORM/SPKR TEST Switch to the SPKR TEST position.
 - a) Make sure that you can hear a high chime sound at the Attendant, Lavatory, and PSU speakers.
 - 2) Put the NORM/SPKR TEST Switch to the NORM position.
 - a) If you hear the chime, then you corrected the problem.

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G. Fault Isolation Procedure - Passenger Call

- (1) Do this check of the wiring:
 - (a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	8	C01403	PASSENGER CABIN PASS CALL LEFT
B	8	C01404	PASSENGER CABIN PASS CALL RIGHT

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F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00082	COMMUNICATIONS PA AMPL BAT

- (b) Remove the PSU. This is the task: Passenger Service Unit - Removal, AMM TASK 25-23-61-000-804.
- (c) Remove the PA Amplifier. This is the task: Passenger Address (PA) Amplifier - Removal, AMM TASK 23-31-01-000-801.
- (d) Do a continuity check as follows:

PA AMP, M63	PSU
D2639B	CONNECTOR
pin A11	pin 2

- 1) If there is not continuity, then do these steps:
 - a) Repair the wiring.
 - b) Re-install the PA Amplifier. This is the task: Passenger Address (PA) Amplifier - Installation, AMM TASK 23-31-01-400-801.
 - c) Re-install the PSU. This is the task: Passenger Service Unit - Installation, AMM TASK 25-23-61-400-804.
 - d) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	8	C01403	PASSENGER CABIN PASS CALL LEFT
B	8	C01404	PASSENGER CABIN PASS CALL RIGHT

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00082	COMMUNICATIONS PA AMPL BAT

- e) Push the Attendant Call Button on the PSU.
 - <1> Make sure you hear a chime over the Attendant, Lavatory, and PSU speakers.
- f) If you hear a chime over the speakers, then you corrected the problem.
- g) If you did not hear a chime over the speakers, then continue.
- 2) If there is continuity, then do these steps:
 - a) Install a new PSU. This is the task: Passenger Service Unit - Installation, AMM TASK 25-23-61-400-804.
 - b) Re-install the PA Amplifier. This is the task: Passenger Address (PA) Amplifier - Installation, AMM TASK 23-31-01-400-801.
 - c) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	8	C01403	PASSENGER CABIN PASS CALL LEFT
B	8	C01404	PASSENGER CABIN PASS CALL RIGHT

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F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00082	COMMUNICATIONS PA AMPL BAT

- d) Push the Attendant Call Button on the PSU.
 - <1> Make sure you hear a chime over the Attendant, Lavatory, and PSU speakers.
- e) If you hear a chime over the speakers, then you corrected the problem.

H. Fault Isolation Procedure - Lavatory Call

- (1) Do this test of the Lavatory Call:
 - (a) Push the Call Button in the Lavatory.
 - 1) Make sure the Amber Light on the Exit locator Signs comes ON.
 - (b) If the light does not come ON, then do these steps:
 - 1) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	8	C01403	PASSENGER CABIN PASS CALL LEFT
B	8	C01404	PASSENGER CABIN PASS CALL RIGHT

- 2) Replace the Lavatory Call Switch.
 - a) To replace it, do this task: Lavatory Call Light - Light/Switch Replacement, AMM TASK 33-27-00-960-802.
- 3) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	8	C01403	PASSENGER CABIN PASS CALL LEFT
B	8	C01404	PASSENGER CABIN PASS CALL RIGHT

- 4) Push the Call Button in the Lavatory.
 - a) Make sure you hear a high chime on the Attendant, Lavatory, and PSU speakers.
- 5) If you hear a high chime on the speakers, then you corrected the problem.
- 6) If you do not hear a high chime on the speakers, then continue.
- (c) If the light comes ON, then continue.
- (2) Do this check of the wiring (WDM 33-27-11):
 - (a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	8	C01403	PASSENGER CABIN PASS CALL LEFT
B	8	C01404	PASSENGER CABIN PASS CALL RIGHT

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F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00082	COMMUNICATIONS PA AMPL BAT

- (b) Disconnect applicable connector from the Lavatory Module.
- (c) Remove the PA Amplifier. This is the task: Passenger Address (PA) Amplifier - Removal, AMM TASK 23-31-01-000-801.
- (d) Do a continuity check as follows:

PA AMP, M63	LAV MODULE
D2639B	CONNECTOR
pin A11	pin A2

- 1) If there is not continuity, then do these steps:
- 2) Repair the wiring.
- 3) Re-install the PA Amplifier. This is the task: Passenger Address (PA) Amplifier - Installation, AMM TASK 23-31-01-400-801.
- 4) Re-connect connector to the Lavatory Module.
- 5) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	8	C01403	PASSENGER CABIN PASS CALL LEFT
B	8	C01404	PASSENGER CABIN PASS CALL RIGHT

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00082	COMMUNICATIONS PA AMPL BAT

- 6) Push the Lavatory Call Button.
 - a) Make sure you hear a chime over the Attendant, Lavatory, and PSU speakers.
- 7) If you hear a chime over the speakers, then you corrected the problem.

I. Fault Isolation - No Smoking Chime

- (1) Do this check of the NO SMOKING Switch (WDM 33-25-11):
 - (a) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

- (b) Disconnect connector D1620 from the No Smoking Relay, R25 in the P6 Panel.
- (c) Set the NO SMOKING Switch, on the P5 Overhead Panel in the Flight Compartment, to the ON position.
- (d) Do a continuity check as follows:

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**NO SMOKING
SIGN RELAY,
R25
D1620**

pin X2 GND

- 1) If there is not continuity, then do these steps:
 - a) Replace the NO SMOKING Switch, S45.
 - b) Make sure the NO SMOKING Switch is in the OFF position.
 - c) Re-connect connector D1620 to the No Smoking Relay, R25 in the P6 Panel.
 - d) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

- e) Set the NO SMOKING Switch to the ON position.
 - <1> Make sure you hear a low chime on the Attendant, Lavatory, and PSU speakers.
- f) If you hear a chime on the speakers, then you corrected the problem.
- g) If you did not hear a chime on the speakers, then do these steps:
 - <1> Set the NO SMOKING Switch to the OFF position.
 - <2> Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

- <3> Repair the wiring between pin X2 of connector D1620 on the No Smoking Relay, R25 and the NO SMOKING Switch, S45.
- <4> Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

- <5> Set the NO SMOKING Switch to the ON position.
- <6> Make sure you hear a low chime on the Attendant, Lavatory, and PSU speakers.

- h) If you hear a chime on the speakers, then you corrected the problem.

- 2) If there is continuity, then continue.

- (2) Do this check for power to the No Smoking Relay (WDM 33-25-11):

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

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

- (b) Do a voltage check at these pins of connector at the No Smoking Relay, R25 and Structure Ground:

**NO SMOKING
SING RELAY,
R25
D1620**

pin X1	.....	GND
pin B2	.....	GND

- 1) If there is not voltage, then do these steps:

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

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

- b) Repair the wiring between the No Smoking Relay, R25 and this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

- c) Re-connect electrical connector D1620 to the No Smoking Relay, R25 in the P6 Panel.
- d) Set the NO SMOKING Switch to the OFF position.
- e) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

- f) Set the NO SMOKING Switch to the ON position.
- <1> Make sure you hear a chime on the Attendant, Lavatory, and PSU speakers.
- g) If you hear a chime on the speakers, then you corrected the problem.

- 2) If there is voltage, then continue.

- (3) Do this check of the wiring (WDM 33-25-11):

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

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

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F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00082	COMMUNICATIONS PA AMPL BAT

- (b) Remove the PA Amplifier. This is the task: Passenger Address (PA) Amplifier - Removal, AMM TASK 23-31-01-000-801.
- (c) Do a continuity check as follows:

PA AMP, M63	NO SMOKING
D2639B	SIGN RELAY,
	R25
pin D11	D1620
	pin B1

- 1) If there is not continuity, then do these steps:
- Repair the wiring.
 - Re-install the PA Amplifier. This is the task: Passenger Address (PA) Amplifier - Installation, AMM TASK 23-31-01-400-801.
 - Re-connect connector D1620 to the No Smoking Relay, R25 in the P6 Panel.
 - Set the NO SMOKING Switch to the OFF position.
 - Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00082	COMMUNICATIONS PA AMPL BAT

- f) Set the NO SMOKING Switch to the ON position.
- <1> Make sure you hear a chime on the Attendant, Lavatory, and PSU speakers.
- g) If you hear a chime on the speakers, then you corrected the problem.
- 2) If there is continuity, then continue.
- Re-install the PA Amplifier. This is the task: Passenger Address (PA) Amplifier - Installation, AMM TASK 23-31-01-400-801.
- (4) Replace the No Smoking Relay:
- Replace the No Smoking Relay, R25.
 - Re-connect connector D1620 to the No Smoking Relay, R25 in the P6 Panel.
 - Set the NO SMOKING Switch to the OFF position.
 - Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

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F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00082	COMMUNICATIONS PA AMPL BAT

- 4) Set the NO SMOKING Switch to the ON position.
 - a) Make sure you hear a chime on the Attendant, Lavatory, and PSU speakers.
- 5) If you hear a chime on the speakers, then you corrected the problem.

J. Fault Isolation - Fasten Belts Chime

- (1) Do this check of the FASTEN BELTS Switch (WDM 33-25-11):

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

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

- (b) Disconnect connector D1622 from the Fasten Belts Relay, R26 in the P6 Panel.
 - (c) Set the FASTEN BELTS Switch, on the P5 Overhead Panel in the Flight Compartment, to the ON position.
 - (d) Do a check for continuity as follows:

**SEAT BELT
RELAY, R26**

D1622

pin X2 GND

- 1) If there is not continuity, then do these steps:
 - a) Replace the FASTEN BELTS Switch, S46.
 - b) Make sure the FASTEN BELTS Switch is in the OFF position.
 - c) Re-connect connector D1622 to the Fasten Belts Relay, R26 in the P6 Panel.
 - d) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

- e) Set the FASTEN BELTS Switch to the ON position.
 - <1> Make sure you hear a low chime on the Attendant, Lavatory, and PSU speakers.
 - f) If you hear a chime on the speakers, then you corrected the problem.
 - g) If you did not hear a chime on the speakers, then do these steps:
 - <1> Set the FASTEN BELTS Switch to the OFF position.

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<2> Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

<3> Repair the wiring between pin X2 of connector D1622 on the Fasten Belts Relay, R26 and the FASTEN BELTS Switch, S46.

<4> Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

<5> Set the FASTEN BELTS Switch to the ON position.

<6> Make sure you hear a low chime on the Attendant, Lavatory, and PSU speakers.

h) If you hear a chime on the speakers, then you corrected the problem.

2) If there is continuity, then continue.

(2) Do this check for power to the Fasten Belts Relay (WDM 33-25-11):

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

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

(b) Do a voltage check at these pins of connector at the Fasten Belts Relay, R26 and Structure Ground:

SEAT BELT RELAY, R26

			VOLTAGE
D1622			
pin X1	.....	GND	28V DC
pin B2	.....	GND	28V DC

1) If there is not voltage, then do these steps:

a) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

b) Repair the wiring between the Fasten Belts Relay, R26 and this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

c) Re-connect connector D1622 to the Fasten Belts Relay, R26 in the P6 Panel.

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- d) Set the FASTEN BELTS Switch to the OFF position.
- e) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

- f) Set the FASTEN BELTS Switch to the ON position.
 - <1> Make sure you hear a chime on the Attendant, Lavatory, and PSU speakers.
 - g) If you hear a chime on the speakers, then you corrected the problem.
- 2) If there is voltage, then continue.
- (3) Do this check of the wiring (WDM 33-25-11):
- (a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00082	COMMUNICATIONS PA AMPL BAT

- (b) Remove the PA Amplifier. This is the task: Passenger Address (PA) Amplifier - Removal, AMM TASK 23-31-01-000-801.
- (c) Do a continuity check as follows:

PA AMP, M63	SEAT BELT
D2639B	RELAY, R26
	D1622
pin C11	pin B1

- 1) If there is not continuity, then do these steps:
- a) Repair the wiring.
 - b) Re-install the PA Amplifier. This is the task: Passenger Address (PA) Amplifier - Installation, AMM TASK 23-31-01-400-801.
 - c) Re-connect connector D1622 to the Fasten Belts Relay, R26 in the P6 Panel.
 - d) Set the FASTEN BELTS Switch to the OFF position.
 - e) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00082	COMMUNICATIONS PA AMPL BAT

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- f) Set the FASTEN BELTS Switch to the ON position.
 - <1> Make sure you hear a chime on the Attendant, Lavatory, and PSU speakers.
- g) If you hear a chime on the speakers, then you corrected the problem.
- 2) If there is continuity, then do this step and continue:
 - a) Re-install the PA Amplifier. This is the task: Passenger Address (PA) Amplifier - Installation, AMM TASK 23-31-01-400-801.
- (4) Replace the Fasten Belts Relay:
 - (a) Replace the Fasten Belts Relay, R26.
 - 1) Re-connect connector D1622 to the Fasten Belts Relay, R26 in the P6 Panel.
 - 2) Set the FASTEN BELTS Switch to the OFF position.
 - 3) Remove the safety tags and close these circuit breakers:
CAPT Electrical System Panel, P18-3

Row	Col	Number	Name
D	11	C00442	PASSENGER CABIN SIGNS PASS SIGN CONT

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
D	4	C00082	COMMUNICATIONS PA AMPL BAT
- 4) Set the FASTEN BELTS Switch to the ON position.
 - a) Make sure you hear a chime on the Attendant, Lavatory, and PSU speakers.
- 5) If you hear a chime on the speakers, then you corrected the problem.

————— **END OF TASK** —————

805. Passenger Address System Problem - Fault Isolation

A. Description

- (1) No audio, intermittent, or poor quality audio is heard from the PA Amplifier Speakers during an announcement.

B. Possible Causes

- (1) Attendant's Handset
- (2) Hand Microphone on the P-8 Aisle Stand (in the flight compartment)
- (3) FWD (AFT) Cabin Attendant's Control Panel, P13 (P14)
- (4) Wiring
- (5) PA Amplifier, M63
- (6) Remote Electronics Unit (REU), M1353

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-1

Row	Col	Number	Name
C	6	C01583	ENTERTAINMENT PA SYS BAT
D	4	C00082	COMMUNICATIONS PA AMPL BAT

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F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

(SSM 23-31-11)

D. Related Data

- (1) SSM 23-31-11
- (2) SSM 23-31-12
- (3) SSM 23-31-13
- (4) SSM 23-31-14
- (5) WDM 23-31-01
- (6) WDM 23-31-02
- (7) WDM 23-31-03
- (8) WDM 23-31-04
- (9) WDM 23-31-06

E. Fault Isolation Procedure

- (1) Do this check of the Attendant's Handset:
 - (a) Use an Attendant's Handset, other than where the problem was reported, to make an announcement over the Passenger Address System.
 - 1) Make sure you can hear the announcement on the Attendant, PSU, and Lavatory Speakers.
 - (b) If you can hear the announcement on the speakers, then replace the Attendant's Handset where the problem was reported. These are the tasks:
 - Attendant Handset Removal, AMM TASK 23-42-01-000-801
 - Attendant Handset Installation, AMM TASK 23-42-01-400-803
 - 1) Do the Repair Confirmation at the end of this task.
 - a) If the Repair Confirmation is not satisfactory, then continue.
 - (c) If you cannot hear the announcement on the speakers, or the announcement is intermittent, then continue.
- (2) Do a check of the Hand Microphone on the aft end of P-8 Aisle Stand in the flight compartment.
 - (a) Disconnect the Hand Microphone from the P-8 Aisle Stand.
 - (b) Do the Repair Confirmation at the end of the this task.
 - 1) If the Repair Confirmation is satisfactory, do these steps:

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- a) Replace the Hand Microphone at the P-8 Aisle Stand in the flight compartment.
- b) Do the Repair Confirmation at the end of this test again.
 - <1> If the Repair Confirmation is satisfactory, then you corrected the problem.
- 2) If the Repair Confirmation is not satisfactory, put the Hand Microphone back on the P-8 Aisle Stand, and continue.
- (3) Replace the applicable Cabin Attendant's Control Panel. These are the tasks:
 - Attendant's Panel with LCD Touch Panel - Removal, AMM TASK 25-25-11-000-802
 - Attendant's Panel with LCD Screen - Installation, AMM TASK 25-25-11-400-802
 - (a) Do the Repair Confirmation at the end of this task.
- (4) Do this check of the wiring between the PA Amplifier and the Attendant's Handset:
 - (a) Remove the PA Amplifier. This is the task: Passenger Address (PA) Amplifier - Removal, AMM TASK 23-31-01-000-801.
 - (b) If there is no continuity between the pins, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the PA Amplifier. This is the task: Passenger Address (PA) Amplifier - Installation, AMM TASK 23-31-01-400-801.
 - 3) Do the Repair Confirmation at the end of this task.
 - (c) If there is continuity between the pins, then continue.
 - 1) Re-install the PA Amplifier. This is the task: Passenger Address (PA) Amplifier - Installation, AMM TASK 23-31-01-400-801.
- (5) Replace the PA Amplifier, M63. These are the tasks:
 - Passenger Address (PA) Amplifier - Removal, AMM TASK 23-31-01-000-801
 - Passenger Address (PA) Amplifier - Installation, AMM TASK 23-31-01-400-801
 - (a) Do the Repair Confirmation at the end of this task.
- (6) Replace the REU, M1353. These are the tasks:
 - Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801
 - Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802
 - (a) Do the Repair Confirmation at the end of this task.

F. Repair Confirmation

- (1) Do this check of the Passenger Address System:
 - (a) Set the Attendant's Handset to the PA Mode.
 - (b) Push the PTT button on the Attendant's Handset.
 - (c) Speak into the Attendant's Handset.
 - 1) Make sure that you can hear the announcement on the other Attendant, PSU, and Lavatory Speakers.
 - (d) If you can hear the announcement on the speakers, then you corrected the fault.

———— **END OF TASK** ————

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806. Passenger Address Speaker Problem - Fault Isolation

A. Description

- (1) No, intermittent, or poor quality audio can be heard on one of these passenger address speakers during an announcement:
 - (a) Attendant
 - (b) Lavatory
 - (c) Passenger service unit.

B. Possible Causes

- (1) Speaker
- (2) Wiring
- (3) Remote electronic unit, M1353

C. Related Data

- (1) SSM 23-31-11
- (2) SSM 23-31-12
- (3) SSM 23-31-13
- (4) SSM 23-31-14
- (5) WDM 23-31-01
- (6) WDM 23-31-02
- (7) WDM 23-31-03
- (8) WDM 23-31-04
- (9) WDM 23-31-06

D. Initial Evaluation

- (1) Do this test of the passenger address system:
 - (a) Use a microphone in the flight deck to make an announcement on the passenger address system.
 - 1) Make sure you can hear the announcement on the attendant, lavatory, and passenger service unit speakers.
 - (b) If you cannot hear the announcement on both forward attendant speakers or both aft attendant speakers, then do the Fault Isolation Procedure - Both Attendant Speakers below.
 - (c) If you cannot hear the announcement, or the quality of the audio is bad, on an attendant speaker, then do the Fault Isolation Procedure - One Attendant Speaker below.
 - (d) If you cannot hear the announcement, or the quality of the audio is bad, on a lavatory speaker, then do the Fault Isolation Procedure - Lavatory Speaker below.
 - (e) If you cannot hear the announcement, or the quality of the audio is bad, on a passenger service unit (PSU) speaker, then do the Fault Isolation Procedure - PSU Speaker below.
 - (f) If you hear the announcement on all speakers, then there was an intermittent fault.

E. Fault Isolation Procedure - Both Attendant Speakers

- (1) Replace the remote electronic unit (REU), M1353. These are the tasks:
 - Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801
 - Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802

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- (a) Use a microphone in the flight deck to make an announcement over the passenger address system.
 - 1) Make sure you can hear the announcement on both attendant's speakers.
- (b) If you heard the announcement on both attendant's speakers, then you corrected the fault.
- (c) If you did not hear the announcement on the attendant's speaker, then continue.
- (2) Do this check of the wiring:
 - (a) Remove the remote electronic unit (REU), M1353. This is the task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801.
 - (b) Remove the passenger address (PA) amplifier, M63. This is the task: Passenger Address (PA) Amplifier - Removal, AMM TASK 23-31-01-000-801.
 - (c) Remove the attendant speakers. This is the task: Attendant Speaker - Removal, AMM TASK 23-31-03-000-801.

NOTE: Record the wiring terminal connections. When you re-install or replace the attendant speakers, put the electrical wires to the same terminals.
 - (d) If there is not continuity between the pins, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the speakers. This is the task: Attendant Speaker - Installation, AMM TASK 23-31-03-400-801.

NOTE: Make sure that the electrical connectors are connected to the same terminals that they were removed from.
 - 3) Re-install the PA amplifier. This is the task: Passenger Address (PA) Amplifier - Installation, AMM TASK 23-31-01-400-801.
 - 4) Re-install the REU. This is the task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
 - 5) Use a microphone in the flight deck to make an announcement over the passenger address system.
 - a) Make sure you can hear the announcement on both attendant's speakers.
 - 6) If you heard the announcement on both attendant's speakers, then you corrected the fault.

F. Fault Isolation Procedure - One Attendant Speaker

- (1) Replace the attendant speaker. These are the tasks:
 - Attendant Speaker - Removal, AMM TASK 23-31-03-000-801
 - Attendant Speaker - Installation, AMM TASK 23-31-03-400-801
- (a) Use a microphone in the flight deck to make an announcement over the passenger address system.
 - 1) Make sure you can hear the announcement on the attendant's speaker.
- (b) If you heard the announcement on the attendant's speaker, then you corrected the fault.
- (c) If you did not hear the announcement on the attendant's speaker, then continue.
- (2) Do this check of the wiring.
 - (a) Remove the remote electronic unit (REU), M1353. This is the task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801.

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- (b) Remove the passenger address (PA) amplifier, M63. This is the task: Passenger Address (PA) Amplifier - Removal, AMM TASK 23-31-01-000-801.
- (c) Remove the attendant speakers. This is the task: Attendant Speaker - Removal, AMM TASK 23-31-03-000-801.

NOTE: Record the wiring terminal connections. When you re-install or replace the attendant speakers, put the electrical wires to the same terminals.

- (d) If there is not continuity between the pins, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the speakers. This is the task: Attendant Speaker - Installation, AMM TASK 23-31-03-400-801.

NOTE: Make sure that the electrical connectors are connected to the same terminals that they were removed from.
 - 3) Re-install the PA amplifier. This is the task: Passenger Address (PA) Amplifier - Installation, AMM TASK 23-31-01-400-801.
 - 4) Re-install the REU. This is the task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
 - 5) Use a microphone in the flight deck to make an announcement over the passenger address system.
 - a) Make sure you can hear the announcement on both attendant's speakers.
 - 6) If you heard the announcement on both attendant's speakers, then you corrected the fault.

G. Fault Isolation Procedure - Lavatory Speaker

- (1) Replace the lavatory speaker. These are the tasks:
 - Lavatory Speaker Removal, AMM TASK 23-31-05-000-801
 - Lavatory Speaker Installation, AMM TASK 23-31-05-400-801
- (a) Use a microphone in the flight deck to make an announcement over the passenger address system.
 - 1) Make sure you can hear the announcement on the lavatory speaker.
- (b) If you heard the announcement on the lavatory speaker, then you corrected the fault.
- (c) If you did not hear the announcement on the lavatory speaker, then continue.
- (2) Do this check of the wiring.
 - (a) Remove the passenger address (PA) amplifier, M63. To remove it, do this task: Passenger Address (PA) Amplifier - Removal, AMM TASK 23-31-01-000-801.
 - (b) Disconnect electrical connector D3732 from the left forward lavatory module.
 - (c) Disconnect electrical connector D3738 from the left aft lavatory module.
 - (d) Disconnect electrical connector D3740 from the right aft lavatory module.
 - (e) If there is not continuity between the pins, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-connect electrical connector D3732 to the left forward lavatory module.
 - 3) Re-connect electrical connector D3738 to the left aft lavatory module.
 - 4) Re-connect electrical connector D3740 to the right aft lavatory module.

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- 5) Re-install the PA amplifier. This is the task: Passenger Address (PA) Amplifier - Installation, AMM TASK 23-31-01-400-801.
- 6) Use a microphone in the flight deck to make an announcement over the passenger address system.
 - a) Make sure you can hear the announcement on the lavatory speaker.
- 7) If you heard the announcement on the lavatory speaker, then you corrected the fault.

H. Fault Isolation Procedure - PSU Speaker

- (1) Replace the PSU speaker.
 - (a) These are the tasks:
 - 1) Passenger Service Unit (PSU) Speaker - Removal, AMM TASK 23-31-02-000-801
 - 2) Passenger Service Unit (PSU) Speaker - Installation, AMM TASK 23-31-02-400-801
 - (b) Use a microphone in the flight deck to make an announcement over the passenger address system.
 - 1) Make sure you can hear the announcement on the PSU speaker.
 - (c) If you heard the announcement on the PSU speaker, then you corrected the fault.
 - (d) If you did not hear the announcement on the PSU speaker, then continue.

———— **END OF TASK** ————

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801. Service Interphone Connection Problem - Fault Isolation

A. Description

- (1) The service interphone does not connect to the flight interphone or other service interphone locations.

B. Possible Causes

- (1) Remote Electronic Unit (REU), M1353
- (2) SERVICE INTERPHONE switch, S50
- (3) Wiring

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

D. Related Data

- (1) (SSM 23-41-11)
- (2) (WDM 23-41-11)

E. Initial Evaluation

- (1) Do these steps to prepare the service interphone system for initial evaluation and for fault isolation:
 - (a) Set the SERVICE INTERPHONE switch, S50, on the P5 Overhead Panel to the ON position.
 - (b) Connect a boom mic/headset to the pilot's station in the flight deck.
 - (c) Connect a boom mic/headset to the service interphone jack at the EE rack.
 - (d) Push the SERV INT microphone selector switch on the pilot's audio control panel (ACP).
 - (e) Push the volume control for the SVC microphone selector switch and turn to the middle position.
- (2) Do this check of the service interphone system:
 - (a) Push the PTT switch on the pilot's control wheel to the INT position.
 - (b) Speak into the pilot's boom microphone.
 - (c) Make sure the ground crew can hear the voice clearly from the headset.
 - (d) Push the switch to the center (OFF) position.
 - (e) Have the ground crew speak into the boom microphone.
 - (f) Make sure you can hear the voice clearly on the pilot's headset.
 - (g) If the voice is not heard on either headset, then do the Fault Isolation Procedure below.

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- (h) If the voice is heard on both headsets, then there was an intermittent fault.

F. Fault Isolation Procedure

NOTE: You must do the steps to prepare for fault isolation that are in the Initial Evaluation before you can do these steps.

- (1) Replace the Remote Electronic Unit (REU), M1353.

These are the tasks:

Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801,
Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

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

- 1) If the Repair Confirmation is not OK, then continue.

- (2) Replace the SERVICE INTERPHONE switch, S50, on the P5 overhead panel.

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

- 1) If the Repair Confirmation is not OK, then continue.

- (3) Do this check of the wiring for open circuit:

- (a) Remove the REU, M1353 from the E4-1 shelf. To remove it, do this task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801.

- (b) Remove the SERVICE INTERPHONE switch, S50, from the P5 overhead panel.

- (c) Do a check for an open circuit between these pins of the SERVICE INTERPHONE switch, S50, and connector D2501B of the REU:

S50	D2501B
pin 2	pin D6

- (d) Remove the EE rack service interphone jack, D6025.

- (e) Do a check for an open circuit between these pins of the SERVICE INTERPHONE switch, S50, and the EE rack service interphone jack, D6025:

S50	D6025
pin 1	pin R

- (f) Do a check for an open circuit between these pins of connector D2501B of the REU and the EE rack service interphone jack, D6025:

D2501B	D6025
pin D7	pin S
pin E7	pin T

- (g) If you find a problem with the wiring, then do these steps:

- 1) Repair the wiring.

- 2) Re-install the REU. To install it, do this task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

- 3) Re-install the SERVICE INTERPHONE switch.

- 4) Re-install the EE rack service interphone jack.

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

- a) If the Repair Confirmation is not OK, then continue.

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(4) Do this check for short circuit:

- (a) Remove the REU, M1353 from the E4-1 shelf. To remove it, do this task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801.
- (b) Make sure the SERVICE INTERPHONE switch, S50, is at the ON position
- (c) Do a check for short circuit at connector D2501B:

D2501B	D2501B
Pin D6	D7
Pin E7	D7

(d) If a short circuit is identified, then do these steps:

- 1) Inspect and isolate each jack and wiring for the source of short circuit such as corrosion, fluid contamination or spring contacts touching the jack body. Refer to WDM 23-41-11.

NOTE: Inspect jacks D6017, D6011 and D6057 before you check the other jacks. Due to their location, they are more likely to have short circuit problems.

- 2) Repair or replace the damaged jack or wiring

- (e) Re-install the REU. To install it, do this task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
- (f) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

(1) Do this check of the service interphone system:

NOTE: You must do the steps to prepare for fault isolation that are in the Initial Evaluation before you can do this check.

- (a) Push the PTT switch on the pilot's control wheel to the INT position.
- (b) Speak into the pilot's boom microphone.
- (c) Make sure the ground crew can hear the voice clearly on the headset.
- (d) Push the switch to the center (OFF) position.
- (e) Have the ground crew speak into the boom microphone.
- (f) Make sure you can hear the voice clearly on the pilot's headset.
- (g) If the voice is heard on both headsets, then you corrected the fault.

———— **END OF TASK** ————

802. Service Interphone Audio Problem at One Jack - Fault Isolation

A. Description

- (1) The audio heard at one of the service interphone jacks is unsatisfactory.

B. Possible Causes

- (1) Service Interphone Jack
- (2) Wiring

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C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

D. Related Data

- (1) (SSM 23-41-11)
(2) (WDM 23-41-11)

E. Initial Evaluation

- (1) Do this check of the service interphone jack:
- (a) Push the PTT switch on the pilot's control wheel to the INT position.
 - (b) Speak into the pilot's boom microphone.
 - (c) Make sure the ground crew can hear the voice clearly on the headset at the applicable service interphone jack.
 - (d) Push the switch to the center (OFF) position.
 - (e) Have the ground crew speak into the boom microphone.
 - (f) Make sure you can hear the voice clearly on the pilot's headset.
 - (g) If the voice is not heard on either headset, then do the Fault Isolation Procedure below.
 - (h) If the voice is heard on both headsets, then there was an intermittent fault.

F. Fault Isolation Procedure

NOTE: You must do the steps to prepare for fault isolation that are in the Initial Evaluation before you can do these steps.

- (1) Replace the applicable jack.
- (a) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not OK, then continue.
- (2) Do this check of the wiring:
- (a) Remove the REU from the E4-1 shelf. To remove it, do this task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801.
 - (b) Do a check for an open circuit between these pins of connector D2501B of the REU and the applicable service interphone jack:

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JACK LOCATION		
	REU CONNECTOR	JACK CONNECTOR
EE RACK	D2501B pin D7	D6025 pin S
	D2501B pin E7	D6025 pin T
APU	D2501B pin D7	D6017 pin S
	D2501B pin E7	D6017 pin T
AFT ENTRY LIGHT PANEL	D2501B pin D7	D6015 pin S
	D2501B pin E7	D6015 pin T
LEFT WHEEL WELL	D2501B pin D7	D6011 pin S
	D2501B pin E7	D6011 pin T
RIGHT WHEEL WELL	D2501B pin D7	D6057 pin S
	D2501B pin E7	D6057 pin T
RIGHT WING REFUELING SLAT	D2501B pin D7	D6013 pin S
	D2501B pin E7	D6013 pin T

- (c) If you find a problem with the wiring, then do these steps:
- 1) Repair the wiring.
 - 2) Re-install the REU. To install it, do this task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

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

G. Repair Confirmation

- (1) Do this check of the service interphone system:

NOTE: You must do the steps to prepare for fault isolation that are in the Initial Evaluation before you can do this check.

- (a) Push the PTT switch on the pilot's control wheel to the INT position.
- (b) Speak into the pilot's boom microphone.
- (c) Make sure the ground crew can hear the voice clearly on the headset at the applicable service interphone jack.
- (d) Push the switch to the center (OFF) position.
- (e) Have the ground crew speak into the boom microphone.
- (f) Make you can hear the voice clearly on the pilot's headset.
- (g) If the voice is heard on both headsets, then you corrected the fault.

— END OF TASK —

803. Service Interphone Audio Problem at All Jacks - Fault Isolation

A. Description

- (1) The audio heard at all of the service interphone jacks is unsatisfactory.

B. Possible Causes

- (1) Remote Electronic Unit (REU), M1353
- (2) Wiring

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

D. Related Data

- (1) (SSM 23-41-11)
- (2) (WDM 23-41-11)

E. Initial Evaluation

- (1) Do these steps to prepare the service interphone system for initial evaluation and for fault isolation:
 - (a) Set the SERVICE INTERPHONE switch, S50, on the P5 Overhead Panel to the ON position.

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- (b) Connect a boom mic/headset to the pilot's station in the flight deck.
- (c) Connect a boom mic/headset to the EE rack service interphone jack.
- (d) Push the CABIN microphone selector switch on the pilot's audio control panel (ACP).
- (e) Push the volume control for the CABIN microphone selector switch and turn to the middle position.
- (2) Do this check of the service interphone system:
 - (a) Push the PTT switch on the pilot's control wheel to the INT position.
 - (b) Speak into the pilot's boom microphone.
 - (c) Make sure the ground crew can hear the voice clearly on the headset at the EE rack service interphone jack.

NOTE: Repeat this step at several of the service interphone jack locations to make sure the problem occurs at all jacks.
 - (d) Push the switch to the center (OFF) position.
 - (e) Have the ground crew speak into the boom microphone.
 - (f) Make sure you can hear the voice clearly on the pilot's headset.
 - (g) If the voice is not heard on either headset, from each service interphone jack you tried, then do the Fault Isolation Procedure below.
 - (h) If the voice is heard on both headsets, then there was an intermittent fault.

F. Fault Isolation Procedure

NOTE: You must do the steps to prepare for fault isolation that are in the Initial Evaluation before you can do these steps.

- (1) Replace the Remote Electronic Unit (REU), M1353.

These are the tasks:
Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801,
Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.

 - (a) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not OK, then continue.
- (2) Do this check of the wiring:
 - (a) Remove the REU from the E4-1 shelf. To remove it, do this task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801.
 - (b) Remove the EE rack service interphone jack, D6025.
 - (c) Do a check for an open circuit between these pins of connector D2501B of the REU and the EE rack service interphone jack, D6025:

D2501B		D6025
pin D7	.....	pin S
pin E7	.....	pin T
- (d) If you find a problem with the wiring, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the REU. To install it, do this task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
 - 3) Re-install the EE rack service interphone jack, D6025.

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

G. Repair Confirmation

- (1) Do this check of the service interphone system:

NOTE: You must do the steps to prepare for fault isolation that are in the Initial Evaluation before you can do these steps.

- (a) Push the PTT switch on the pilot's control wheel to the INT position.
- (b) Speak into the pilot's boom microphone.
- (c) Make sure the ground crew can hear the voice clearly on the headset at the EE rack service interphone jack.
- (d) Push the switch to the center (OFF) position.
- (e) Have the ground crew speak into the boom microphone.
- (f) Make sure you can hear the voice clearly on the pilot's headset.
- (g) If the voice is heard on both headsets, then you corrected the fault.

————— **END OF TASK** —————

804. Attendant Handset Problem - Fault Isolation

A. Description

- (1) The audio heard at an Attendant's Handset is unsatisfactory.
- (2) If the Attendant's Handset has problems with a PA Announcement, refer to Passenger Address System Problem - Fault Isolation, 23-31 TASK 805.

B. Possible Causes

- (1) Attendant's Handset, M74 (M75)
NOTE: 737BCF does not have a M75 installed.
- (2) FWD (AFT) Cabin Attendant's Control Panel, P13 (P14)
NOTE: 737BCF does not have a P14 installed.
- (3) Remote Electronics Unit (REU), M1353
- (4) Wiring
- (5) Inline Filter M2931 or M2932

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-2

Row	Col	Number	Name
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

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D. Related Data

- (1) WDM 23-41-11
- (2) WDM 23-42-11
- (3) SSM 23-41-11
- (4) SSM 23-42-11
- (5) WDM 23-42-12

E. Initial Evaluation

- (1) Do this check of the Attendant's Handset:
 - (a) Lift the handset from the cradle.
 - (b) Push the button for the attendant on the handset keypad.
 - (c) Make sure that you hear a chime from the PA Speakers and a Master Call Light at the Attendant's Station comes ON.
 - (d) Make voice communication to the other attendant's station.
 - 1) If the sound you hear on the Attendant's Handset is satisfactory, then there was an intermittent fault.
 - 2) If the sound you hear on the Attendant's Handset is not satisfactory, do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

- (1) Make sure that the connection between the handset and cord is correct.

NOTE: To connect a cord to the handset, push the cord connector into the handset connector until you hear an audible click.
- (2) Replace the Attendant's Handset/Cord Assembly, M74 (M75). These are the tasks:
 - Attendant Handset Removal, AMM TASK 23-42-01-000-801
 - Attendant Handset Cord Removal, AMM TASK 23-42-01-000-802
 - Attendant Handset Installation, AMM TASK 23-42-01-400-803
 - Attendant Handset Cord Installation, AMM TASK 23-42-01-400-802
 - (a) Do the Repair Confirmation at the end of this task.
- (3) Replace the applicable Cabin Attendant's Control Panel, P13 (P14). These are the tasks:
 - Attendant's Panel with LCD Touch Panel - Removal, AMM TASK 25-25-11-000-802
 - Attendant's Panel with LCD Screen - Installation, AMM TASK 25-25-11-400-802
 - (a) Do the Repair Confirmation at the end of this task.
- (4) Replace the REU, M1353. These are the tasks:
 - Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801
 - Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802
 - (a) Do the Repair Confirmation at the end of this task.
- (5) Replace the applicable inline filter M2931 or M2932. These are the tasks:
 - Inline Filter Removal, AMM TASK 23-42-04-000-801
 - Inline Filter Installation, AMM TASK 23-42-04-400-801
 - (a) Do the Repair Confirmation at the end of this task.
- (6) Do this check of the wiring:

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- (a) Remove the attendant handset, M75. This is the task: Attendant Handset Removal, AMM TASK 23-42-01-000-801.
- (b) Remove the inline filter, 2931. This is the task: Inline Filter Removal, AMM TASK 23-42-04-000-801.
- (c) Do a check for an open circuit between the attendant handset and the inline filter as follows (WDM 23-42-12):

J1	D11815
C5	4
D5	2
C6	3

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the Attendant's Handset, M75. This is the task: Attendant Handset Installation, AMM TASK 23-42-01-400-803.
 - 3) Re-install the inline filter, 2931. This is the task: Inline Filter Installation, AMM TASK 23-42-04-400-801.
 - 4) Do the Repair Confirmation at the end of this task.
- (7) Do this check of the wiring:
 - (a) Remove the inline filter, 2931. This is the task: Inline Filter Removal, AMM TASK 23-42-04-000-801.
 - (b) Remove the REU, M1353. This is the task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801
 - (c) Do a check for an open circuit between the inline filter and the REU as follows (WDM 23-42-12):

D11815	D2501B
13	G8
7	G9
6	F7

- (d) If you find a problem with the wiring, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the inline filter, 2931. This is the task: Inline Filter Installation, AMM TASK 23-42-04-400-801.
 - 3) Re-install the REU, M1353. This is the task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
 - 4) Do the Repair Confirmation at the end of this task.
- (8) Do this check of the wiring:
 - (a) Remove the attendant handset, M74. This is the task: Attendant Handset Removal, AMM TASK 23-42-01-000-801.
 - (b) Remove the inline filter, 2932. This is the task: Inline Filter Removal, AMM TASK 23-42-04-000-801.
 - (c) Do a check for an open circuit between the attendant handset and the inline filter as follows (WDM 23-42-12):

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J1	D13363
15	3
16	2
14	4

- (d) If you find a problem with the wiring, then do these steps:
- 1) Repair the wiring.
 - 2) Re-install the Attendant's Handset, M74. This is the task: Attendant Handset Installation, AMM TASK 23-42-01-400-803.
 - 3) Re-install the inline filter, 2932. This is the task: Inline Filter Installation, AMM TASK 23-42-04-400-801.
 - 4) Do the Repair Confirmation at the end of this task.
- (9) Do this check of the wiring:
- (a) Remove the inline filter, 2932 This is the task: Inline Filter Removal, AMM TASK 23-42-04-000-801.
 - (b) Remove the REU, M1353. This is the task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801
 - (c) Do a check for an open circuit between the inline filter and the REU as follows (WDM 23-42-12):

D13363	D2501B
3	G8
2	G9
4	F7

- (d) If you find a problem with the wiring, then do these steps:
- 1) Repair the wiring.
 - 2) Re-install the inline filter, 2932 This is the task: Inline Filter Installation, AMM TASK 23-42-04-400-801.
 - 3) Re-install the REU, M1353. This is the task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
 - 4) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

- (1) On the Handset Keypad, push the button for the attendant
 - (a) Make sure that you hear a chime from the PA Speakers and a Master Call Light at the Attendant's Station comes ON.
- (2) Make voice communication to the other Attendant's Station.
 - (a) If the sound you hear on the Attendant's Handset is satisfactory, then you corrected the problem.
 - (b) If the sound you hear on the Attendant's Handset is not satisfactory, continue the Fault Isolation Procedure at the subsequent step.

———— **END OF TASK** ————

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801. Attendant Control Panel (ACP) - BITE Procedure

A. General

- (1) This procedure provides the system test for the Attendant Control Panels (ACPs). The system test is performed at the forward ACP.
 - (a) For the system test, the forward ACP will initiate BITE test on both the forward and the aft ACPs. The BITE test will check the ACPs for internal faults and their communication status. The forward ACP will then query the light LRU's for fault information. If there are ACP or lighting faults, the ACP will show the faults at the end of the test.
- (2) The procedure also provides the task to view faults that are generated during data loading.

B. System Test Procedure

- (1) At the forward ACP, do the steps that follow to start the system test:
 - (a) In the ACP main menu column, push the Maintenance button.
 - (b) In the Maintenance menu column, push the System Test button.
 - (c) In the control window, push the Start Test button.

NOTE: When the system test operates, the System Test and Start Test buttons are active, the other buttons become disabled and the status bar will display the approximate percent complete. When the test completes, the System Test and the Start Test buttons remain active and other buttons will be available for selection.
 - (d) Check the result window for the system test faults.

NOTE: The result window will show the faults with their maintenance message numbers and corrective actions. If there are no faults, a message will be displayed to indicate that there are no system test faults.
 - (e) To save the fault data on a diskette, refer to: Attendant Control Panel (ACP) - Saving Fault Data, AMM TASK 23-42-03-970-802.
 - (f) To correct the fault, do the actions recommended on the screen or use the fault maintenance message number and refer to the table at the end of this task to find the fault isolation task for the applicable maintenance message.

C. Data Load Fault Data Review Procedure

- (1) Do the steps that follow to view the Data Load Faults:

NOTE: These faults are generated during data loading, user will see the warning messages about the faults.

 - (a) In the Maintenance menu column, push the Fault Data button.

NOTE: After you push the Fault Data button, four buttons will appear in the control window: System Test Faults, Data Load Faults, Save All and Exit. The result window will show instructions for user to view or save the fault data.
 - (b) Push the Data Load Faults button in the control window.
 - (c) Check the result window for the data load faults.

NOTE: The result window will show the faults with their maintenance message numbers and corrective actions. If there are no faults, a message will be displayed to indicate that there are no data load faults.
 - (d) To save the fault data on a diskette, refer to: Attendant Control Panel (ACP) - Saving Fault Data, AMM TASK 23-42-03-970-802.



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- (e) To correct the faults, do the actions recommended on the screen or using the fault maintenance message number and refer to the table at the end of this task to find the fault isolation task for the applicable maintenance messages.

LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
ACP	23-11001 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 807
ACP	23-11002 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 807
ACP	23-11003 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 807
ACP	23-11004 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 807
ACP	23-11005 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 808
ACP	23-11006 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 808
ACP	23-11007 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 808
ACP	23-11008 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 809
ACP	23-11010 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 807
ACP	23-11011 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 807
ACP	23-11012 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 807
ACP	23-11013 INTERNAL ACP FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 807
ACP	23-11014 INTERNAL ACP FAULT DETECTED IN FORWARD AND AFT ACPS	23-42 TASK 809
ACP	23-11015 <FORWARD | AFT> WORK LIGHT FAULT DETECTED	23-42 TASK 811
ACP	23-11016 <FORWARD | AFT> MDCLD LIGHT FAULT DETECTED	23-42 TASK 812
ACP	23-11017 28 VDC POWER FAULT DETECTED IN <FORWARD | AFT> ACP	23-42 TASK 814
ACP	23-11018 INTERNAL ACP FAULT DETECTED	23-42 TASK 808
ACP	23-11019 INTERNAL ACP FAULT DETECTED	23-42 TASK 808
ACP	23-11020 INTERNAL ACP FAULT DETECTED	23-42 TASK 808
ACP	23-11021 INTERNAL ACP FAULT DETECTED	23-42 TASK 808
ACP	23-11022 COMMUNICATION WITH AFT ACP LOST	23-42 TASK 815
ACP	23-11023 CABIN TEMPERATURE FAULT DETECTED	23-42 TASK 816

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
ACP	23-11024 <FORWARD AFT> THRESHOLD LIGHT FAULT DETECTED	23-42 TASK 813
ACP	23-11025 INTERNAL ACP FAULT DETECTED	23-42 TASK 807
ACP	23-11026 LAVATORY INOPERATIVE	23-42 TASK 817
ACP	23-11027 CLEAN CHECK SENSORS	23-42 TASK 817
ACP	23-11028 LIGHT <COLUMN>-<ADDRESS> NO RESPONSE DURING ADDRESSING	23-42 TASK 810
ACP	23-11029 LIGHT <COLUMN>-<ADDRESS> OUT OF SEQUENCE RESPONSE DURING ADDRESSING	23-42 TASK 810
ACP	23-11030 LIGHT <COLUMN>-<ADDRESS> EXTRA RESPONSE DURING ADDRESSING	23-42 TASK 810
ACP	23-11031 LIGHT <COLUMN>-<ADDRESS> INCORRECT ZONE DETECTED	23-42 TASK 810
ACP	23-11032 LIGHT <COLUMN>-<ADDRESS> INCORRECT ZONE DETECTED	23-42 TASK 810
ACP	23-11033 LIGHT <COLUMN>-<ADDRESS> INCORRECT STANDARD SCENES DETECTED	23-42 TASK 810
ACP	23-11034 LIGHT <COLUMN>-<ADDRESS> INCORRECT CUSTOM SCENES DETECTED	23-42 TASK 810
ACP	23-11035 NO SYSTEM TEST LRU RESPONSES DETECTED ON COLUMN 1	23-42 TASK 819
ACP	23-11036 NO SYSTEM TEST LRU RESPONSES DETECTED ON COLUMN 2	23-42 TASK 819
ACP	23-11037 NO SYSTEM TEST LRU RESPONSES DETECTED ON COLUMN 3	23-42 TASK 819
ACP	23-11038 NO SYSTEM TEST LRU RESPONSES DETECTED ON COLUMN 4	23-42 TASK 819
ACP	23-11039 SYSTEM TEST RS-485 CABLE BREAK DETECTED AT LRU 1-<X>	23-42 TASK 818
ACP	23-11040 SYSTEM TEST RS-485 CABLE BREAK DETECTED AT LRU 2-<X>	23-42 TASK 818
ACP	23-11041 SYSTEM TEST RS-485 CABLE BREAK DETECTED AT LRU 3-<X>	23-42 TASK 818
ACP	23-11042 SYSTEM TEST RS-485 CABLE BREAK DETECTED AT LRU 4-<X>	23-42 TASK 818
ACP	23-11043 LIGHT <COLUMN>-<ADDRESS> NO RESPONSE DURING ADDRESSING	23-42 TASK 820
ACP	23-11044 LIGHT <COLUMN>-<ADDRESS> OUT OF SEQUENCE RESPONSE DURING ADDRESSING	23-42 TASK 820
ACP	23-11045 LIGHT <COLUMN>-<ADDRESS> EXTRA RESPONSE DURING ADDRESSING	23-42 TASK 821

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
ACP	23-11046 LIGHT <COLUMN>-<ADDRESS> INCORRECT LIGHT TYPE DETECTED	23-42 TASK 822
ACP	23-11047 LIGHT <COLUMN>-<ADDRESS> NO RESPONSE DURING ZONING	23-42 TASK 823
ACP	23-11048 LIGHT <COLUMN>-<ADDRESS> OUT OF SEQUENCE RESPONSE DURING ZONING	23-42 TASK 823
ACP	23-11049 LIGHT <COLUMN>-<ADDRESS> INCORRECT ZONE DETECTED	23-42 TASK 824
ACP	23-11050 LIGHT <COLUMN>-<ADDRESS> NO RESPONSE DURING STANDARD SCENE DOWNLOAD	23-42 TASK 823
ACP	23-11051 LIGHT <COLUMN>-<ADDRESS> OUT OF SEQUENCE RESPONSE DURING STANDARD SCENE DOWNLOAD	23-42 TASK 823
ACP	23-11052 LIGHT <COLUMN>-<ADDRESS> FAILED STANDARD SCENE DOWNLOAD	23-42 TASK 823
ACP	23-11053 LIGHT <COLUMN>-<ADDRESS> NO RESPONSE DURING CUSTOM SCENE DOWNLOAD	23-42 TASK 823
ACP	23-11054 LIGHT <COLUMN>-<ADDRESS> OUT OF SEQUENCE RESPONSE DURING CUSTOM SCENE DOWNLOAD	23-42 TASK 823
ACP	23-11055 LIGHT <COLUMN>-<ADDRESS> FAILED CUSTOM SCENE DOWNLOAD	23-42 TASK 823
ACP	23-11056 NO DATA LOAD LRU RESPONSES DETECTED ON COLUMN 1	23-42 TASK 825
ACP	23-11057 NO DATA LOAD LRU RESPONSES DETECTED ON COLUMN 2	23-42 TASK 825
ACP	23-11058 NO DATA LOAD LRU RESPONSES DETECTED ON COLUMN 3	23-42 TASK 825
ACP	23-11059 NO DATA LOAD LRU RESPONSES DETECTED ON COLUMN 4	23-42 TASK 825
ACP	23-11060 DATA LOAD RS-485 CABLE BREAK DETECTED ON COLUMN 1	23-42 TASK 826
ACP	23-11061 DATA LOAD RS-485 CABLE BREAK DETECTED ON COLUMN 2	23-42 TASK 826
ACP	23-11062 DATA LOAD RS-485 CABLE BREAK DETECTED ON COLUMN 3	23-42 TASK 826
ACP	23-11063 DATA LOAD RS-485 CABLE BREAK DETECTED ON COLUMN 4	23-42 TASK 826
ACP	23-11064 INTERNAL ACP FAULT DETECTED	23-42 TASK 827
ACP	23-11065 INTERNAL ACP FAULT DETECTED	23-42 TASK 827
ACP	23-11066 INTERNAL ACP FAULT DETECTED	23-42 TASK 827

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
ACP	23-11067 INTERNAL ACP FAULT DETECTED	23-42 TASK 827
ACP	23-11068 COMMUNICATIONS WITH AFT ACP LOST	23-42 TASK 828
ACP	23-11069 LSAP CONFIGURATION INVALID	23-42 TASK 829
ACP	23-11070 INTERNAL ACP FAULT DETECTED	23-42 TASK 830
ACP	23-11071 INTERNAL ACP FAULT DETECTED	23-42 TASK 830
ACP	23-11072 INTERNAL ACP FAULT DETECTED	23-42 TASK 830
ACP	23-11073 INTERNAL ACP FAULT DETECTED	23-42 TASK 830
ACP	23-11074 DISK FAULT DETECTED	23-42 TASK 831
ACP	23-11075 DISK FAULT DETECTED	23-42 TASK 831
ACP	23-11076 DISK FAULT DETECTED	23-42 TASK 831
ACP	23-11077 DISK FAULT DETECTED	23-42 TASK 831
ACP	23-11078 INCOMPATIBLE DISK DETECTED	23-42 TASK 832
ACP	23-11079 INCOMPATIBLE DISK DETECTED	23-42 TASK 832
ACP	23-11080 COMMUNICATIONS WITH ADL LOST	23-42 TASK 833
ACP	33-11001 Light <column>-<address> Component ID Error	33-20 TASK 817
ACP	33-11002 Light <column>-<address> Calibration Data CRC Error	33-20 TASK 817
ACP	33-11003 Light <column>-<address> Firmware Version Disagree Error	33-20 TASK 817
ACP	33-11004 Light <column>-<address> Power Supply Error	33-20 TASK 817
ACP	33-11005 Light <column>-<address> Temperature Sensor Error	33-20 TASK 817
ACP	33-11006 Light <column>-<address> RAM Check Error	33-20 TASK 817
ACP	33-11007 Light <column>-<address> Slave Token Error	33-20 TASK 817
ACP	33-11008 Light <column>-<address> Slave Communication Error	33-20 TASK 817
ACP	33-11009 Light <column>-<address> Slave Communication Error	33-20 TASK 817
ACP	33-11010 Light <column>-<address> Slave Communication Error	33-20 TASK 817
ACP	33-11011 Light <column>-<address> LED Wrap Data	33-20 TASK 817
ACP	33-11012 Light <column>-<address> Zone/Address Data CRC Error	33-20 TASK 818
ACP	33-11013 Light <column>-<address> Zone Address Disagree	33-20 TASK 818
ACP	33-11014 Light <column>-<address> Standard Scene CRC Error	33-20 TASK 818
ACP	33-11015 Light <column>-<address> Custom Scene CRC Error	33-20 TASK 818

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LRU/SYSTEM	MAINTENANCE MESSAGE	GO TO FIM TASK
ACP	33-11016 Light <column>-<address> Watchdog Timer Error	33-20 TASK 817
ACP	33-11017 Light <column>-<address> Master Token Timeout Error	33-20 TASK 819
ACP	33-11018 Light <column>-<address> Master Token Release Error	33-20 TASK 819
ACP	33-11019 Light <column>-<address> Loss of communication	33-20 TASK 819

————— **END OF TASK** —————

802. Flight Deck to Attendant, Call System Does Not Operate - Fault Isolation

A. Description

- (1) The pink attendant call light on the Exit Locator Signs does not come on and the call chime does not sound when the flight crew presses the ATTEND button on the P5 forward overhead panel.

B. Possible Causes

- (1) Attendant Call Switch, S36
- (2) Wiring

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	9	C00073	PASSENGER CABIN CREW CALL

D. Related Data

- (1) (SSM 23-42-11)
- (2) (SSM 23-43-11)
- (3) (WDM 23-42-11)
- (4) (WDM 23-43-11)

E. Initial Evaluation

- (1) Do this check of the attendant's CALL light:
 - (a) Press the ATTEND button on the P5 forward overhead panel.
 - 1) Make sure the pink call light on the forward and aft Exit Locator Signs comes on.
 - 2) Make sure you hear a chime in the passenger cabin.
 - (b) Press the button for reset on the attendant's handset.
 - (c) If the pink call lights do not come on and the chime does not sound, then do the Fault Isolation Procedure below.
 - (d) If the pink call lights go on and the chime sounds, then there was an intermittent fault.

F. Fault Isolation Procedure

- (1) Replace the Attendant's Call switch, S36, on the P5 forward overhead panel.
 - (a) Do the Repair Confirmation at the end of this task.

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- 1) If the Repair Confirmation is not OK, then continue.
- (2) Do these checks of the wiring:
 - (a) Remove the Exit Locator Sign, L1086 (forward) or L1223 (aft).
 - (b) Remove the attendant control panel. To remove it, do this task: Attendant's Panel with LCD Touch Panel - Removal, AMM TASK 25-25-11-000-802
 - (c) Do a check for an open circuit between connector D3160 (forward) or D10180 (aft), of the Exit Locator Sign, and connector D14368 (forward attendant control panel) or D14376 (aft attendant control panel). For correct pins, refer to WDM 23-42-11.
 - (d) Remove the Attendant's Call switch, S36, from the P5 forward overhead panel.
 - (e) Do a check for an open circuit between connector D40170J of the attendant's call switch, S36, and connector D14368 of the forward attendant control panel. For correct pins, refer to WDM 23-42-11.
 - (f) If there is an open circuit, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the Attendant's Call switch.
 - 3) Re-install the attendant control panel. Do this task: Attendant's Panel with LCD Screen - Installation, AMM TASK 25-25-11-400-802.
 - 4) Re-install the Exit Locator Sign.
 - 5) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

- (1) Do this check of the attendant's CALL light:
 - (a) Press the ATTEND button on the P5 forward overhead panel.
 - 1) Make sure the pink call light on the forward and aft Exit Locator Signs comes on.
 - 2) Make sure you hear a chime in the passenger cabin.
 - (b) Press the button for reset on the attendant's handset.
 - (c) If the pink call lights go on and the chime sounds, then you corrected the fault.

END OF TASK

803. Attendant Call Chime Does Not Operate - Fault Isolation

A. Description

- (1) The chime from the Passenger Address system does not come on, but the call lights come on when the flight crew presses the ATTENDANT button on the P5 forward overhead panel.

B. Possible Causes

- (1) Passenger Address Amplifier, M63
- (2) Wiring

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	9	C00073	PASSENGER CABIN CREW CALL

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F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	4	C00082	COMMUNICATIONS PA AMPL BAT

D. Related Data

- (1) (SSM 23-42-11)
- (2) (SSM 23-43-11)
- (3) (WDM 23-42-11)
- (4) (WDM 23-43-11)

E. Initial Evaluation

- (1) Do this check of the call chime:
 - (a) Press either the ATTEND button on the P5 forward overhead panel, or the button for the attendant on the attendant handset.
 - 1) Make sure you hear a chime in the passenger cabin.
 - (b) Press the button for reset on the attendant's handset.
 - (c) If the chime does not sound, then do the Fault Isolation Procedure below.
 - (d) If the chime sounds, then there was an intermittent fault.

F. Fault Isolation Procedure

- (1) Replace the Passenger Address Amplifier, M63.

These are the tasks:

Passenger Address (PA) Amplifier - Removal, AMM TASK 23-31-01-000-801,
Passenger Address (PA) Amplifier - Installation, AMM TASK 23-31-01-400-801.

 - (a) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not OK, then continue.
- (2) Do this check of the wiring:
 - (a) Remove the Passenger Address Amplifier, M63. To remove it, do this task: Passenger Address (PA) Amplifier - Removal, AMM TASK 23-31-01-000-801.
 - (b) Remove the attendant control panel. To remove it, do this task: Attendant's Panel with LCD Touch Panel - Removal, AMM TASK 25-25-11-000-802
 - (c) Do a check for an open circuit between the Passenger Address Amplifier M63, and connector D14368 (forward attendant control panel) or D14376 (aft attendant control module). Refer to WDM 23-42-11.
 - (d) If there is an open circuit, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the Passenger Address Amplifier. To install it, do this task: Passenger Address (PA) Amplifier - Installation, AMM TASK 23-31-01-400-801.
 - 3) Re-install the attendant control panel. Do this task: Attendant's Panel with LCD Screen - Installation, AMM TASK 25-25-11-400-802.
 - 4) Do the Repair Confirmation at the end of this task.

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G. Repair Confirmation

- (1) Do this check of the attendant's CALL light:
 - (a) Press either the ATTEND button on the P5 forward overhead panel, or the button for the attendant on the attendant handset.
 - 1) Make sure you hear a chime in the passenger cabin.
 - (b) Press the button for reset on the attendant's handset.
 - (c) If you heard a chime, then you corrected the fault.

———— **END OF TASK** ————

804. Flight Compartment Call Chime Does Not Operate - Fault Isolation

A. Description

- (1) The chime from the Aural Warning Module does not come on, but the CALL light on the P5 forward overhead panel comes on when the ground crew presses the PILOT CALL button on the P19 external power panel or an attendant presses the button for the pilot on the attendant handset.

B. Possible Causes

- (1) Aural Warning Module, M315
- (2) Handset, M74 or M75
- (3) PILOT CALL switch, S33
- (4) Wiring

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	9	C00073	PASSENGER CABIN CREW CALL

F/O Electrical System Panel, P6-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	18	C00451	LANDING GEAR AURAL WARN

D. Related Data

- (1) SSM 23-42-11
- (2) SSM 23-43-11
- (3) WDM 23-42-11
- (4) WDM 23-43-11

E. Initial Evaluation

- (1) Do this check of the call chime:
 - (a) Press the PILOT CALL button on the P19 External Power panel and the button for the pilot on the forward and aft handsets.
 - (b) Make sure you hear a chime in the flight deck.
 - (c) If you do not hear a chime when you push the button for the pilot on one handset but you hear the chime for the other handset, then do the Fault Isolation Procedure - Handset.

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- (d) If you do not hear a chime when you push the button for the pilot on the two handsets but you hear a chime when you push the PILOT CALL button on the P19 External Power panel, then do the Fault Isolation Procedure - Handset Wiring.
- (e) If you hear a chime when you push the button for the pilot on one of the handsets but you do not hear a chime when you push the PILOT CALL button on P19 panel, then do the Fault Isolation Procedure - Switch.
- (f) If you do not hear a chime when you push the button for the pilot on the two handsets and the PILOT CALL button on P19 panel, then do the Fault Isolation Procedure - Aural Warning Module.

F. Fault Isolation Procedure - Handset

- (1) Replace the defective handset, M74 or M75. These are the tasks:
 - Attendant Handset Removal, AMM TASK 23-42-01-000-801
 - Attendant Handset Installation, AMM TASK 23-42-01-400-803
- (a) Do the Repair Confirmation at the end of this task.
- (b) If the Repair Confirmation is not OK, then continue.
- (2) Do this check of the wiring:
 - (a) Remove the defective handset. To remove it, do this task: Attendant Handset Removal, AMM TASK 23-42-01-000-801
 - (b) Do a check between the handset logic control card and the terminator box SM9 (WDM 23-42-11):

Handset Logic Control Card	Terminator Box SM9
Handset Connector	SM9
pin E13	SM9
- (c) If you find problems with the wiring, do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the handset. To install it, do this task: Attendant Handset Installation, AMM TASK 23-42-01-400-803.
 - 3) Do the Repair Confirmation at the end of this task.

G. Fault Isolation Procedure - Handset Wiring

- (1) Do a check of the wiring from the handsets to the Aural Warning Module.
 - (a) Remove the defective handset. To remove it, do this task: Attendant Handset Removal, AMM TASK 23-42-01-000-801
 - (b) Remove the Aural Warning Module. To remove it, do this task: Aural Warning Module Removal, AMM TASK 31-51-04-000-801
 - (c) Do a check of the wiring between the handset logic control card and the Aural Warning Module (WDM 23-42-11).

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Handset Logic Control Card

Handset Connector

pin E13 pin 7

Aural Warning Module

D940

- (d) If you find problems with the wiring, do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the handset. To install it, do this task: Attendant Handset Installation, AMM TASK 23-42-01-400-803.
 - 3) Re-install the Aural Warning Module. To install it, do this task: Aural Warning Module Installation, AMM TASK 31-51-04-400-801.
 - 4) Do the Repair Confirmation at the end of this task.

H. Fault Isolation Procedure - Switch

- (1) Replace the PILOT CALL switch, S33 on the P19 External Power panel.
 - (a) Do the Repair Confirmation at the end of this task.

I. Fault Isolation Procedure - Aural Warning Module

- (1) Replace the Aural Warning Module, M315. These are the tasks:
 - Aural Warning Module Removal, AMM TASK 31-51-04-000-801
 - Aural Warning Module Installation, AMM TASK 31-51-04-400-801
 - (a) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not OK, then continue.
- (2) Do this check of the wiring:
 - (a) Remove the Aural Warning Module. To remove it, do this task: Aural Warning Module Removal, AMM TASK 31-51-04-000-801.
 - (b) Press and hold the PILOT CALL switch, S33, on the P19 External Power panel or the button for the pilot on the attendant's handset.
 - (c) Do a check for 28 VDC at the Aural Warning Module connector D940, pin 7 (pin 6 ground).
 - (d) Release the PILOT CALL switch or button for the pilot on the attendant handset.
 - (e) If there is not 28 VDC, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the Aural Warning Module. To install it, do this task: Aural Warning Module Installation, AMM TASK 31-51-04-400-801.
 - 3) Do the Repair Confirmation at the end of this task.

J. Repair Confirmation

- (1) Do this check of the call chime:
 - (a) Press either the PILOT CALL button on the P19 External Power panel, or the button for the pilot on the attendant handset.
 - (b) Make sure you hear a chime in the flight deck.

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(c) If the chime sounds, then you corrected the fault.

———— **END OF TASK** ————

805. Attendant to Flight Deck, Call System Does Not Operate - Fault Isolation

A. Description

- (1) The Cabin Crew cannot communicate with the flight deck or the other Crew Stations with the Crew Call and Interphone System.

B. Possible Causes

- (1) FWD (AFT) Cabin Attendant's Control Panel, P13 (P14)
(2) Magnetic Actuated Reset Switch

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	9	C00073	PASSENGER CABIN CREW CALL

F/O Electrical System Panel, P6-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	18	C00451	LANDING GEAR AURAL WARN

D. Related Data

- (1) WDM 23-42-11
(2) WDM 23-43-11
(3) SSM 23-42-11
(4) SSM 23-43-11

E. Initial Evaluation

- (1) Do this check of the Attendant's Handset:
- (a) Lift the handset from the cradle.
 - (b) Push the button for the attendant on the Handset Keypad.
 - (c) Make sure that you hear a chime from the PA Speakers and the Pink Attendant Call Light at the other Attendant's Station comes ON.
 - (d) Make voice communication to the other Attendant's Station.
 - 1) If you hear the voice on the Attendant's Handset, then there was an intermittent fault.
 - 2) If you do not hear the voice on the Attendant's Handset, do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

- (1) Replace the applicable Cabin Attendant's Control Panel. These are the tasks:
- Attendant's Panel with LCD Touch Panel - Removal, AMM TASK 25-25-11-000-802
 - Attendant's Panel with LCD Screen - Installation, AMM TASK 25-25-11-400-802
- (a) Do the Repair Confirmation at the end of this task.
- (2) Do this check of the Cradle Reset Magnet:

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- (a) Remove the Handset Handle Cradle. This is the task: Attendant Handset Cradle Removal, AMM TASK 23-42-01-000-803.
- (b) Remove the retainer.
- (c) Repair the Cradle Reset Magnet. This is the task: Attendant Handset Cradle Installation, AMM TASK 23-42-01-400-801
- (d) Re-install the retainer.
- (e) Re-install the Handset Cradle.
- (f) Put the Handset in the cradle.
- (g) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

- (1) Do this check of the handset:
 - (a) Lift the handset from the Handle Cradle.
 - (b) Push the button for the attendant on the Handset Keypad.
 - 1) Make sure that you hear a chime from the PA Speakers and the Pink Attendant Call Light at the other Attendant's Station comes ON.
 - (c) Make voice communication to the other Attendant's Station.
 - 1) If you hear the voice on the Attendant's Handset, then you corrected the problem.
 - 2) If you do not hear the voice on the Attendant's Handset, continue the Fault Isolation Procedure at the subsequent step.

————— **END OF TASK** —————

806. Attendant To Flight Deck, Captain's Call Light Does Not Operate - Fault Isolation

A. Description

- (1) The CALL light on the forward overhead panel does not come on, but the call chime sounds when the PILOT button is pushed on an attendant's handset.

B. Possible Causes

- (1) Master Dim and Test switch, S3
- (2) Captain's Call Light, L19
- (3) Wiring

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	9	C00073	PASSENGER CABIN CREW CALL

D. Related Data

- (1) (SSM 23-42-11)
- (2) (SSM 23-43-11)
- (3) (WDM 23-42-11)
- (4) (WDM 23-43-11)

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E. Initial Evaluation

- (1) Do this check of the captain's CALL light:
 - (a) Set the Master Dim and Test switch, S3, on the P1 main instrument panel, to BRT.
 - (b) Press and hold the button for the pilot on the attendant's handset.
 - 1) Make sure the CALL light on the P5 forward overhead panel goes on.
 - (c) Release the button on the attendant's handset.
 - (d) If the CALL light does not go on, then do the Fault Isolation Procedure below.
 - (e) If the CALL light goes on, then there was an intermittent fault.

F. Fault Isolation Procedure

- (1) Do this test of the Captain's CALL light, L19:
 - (a) Set the Master Dim and Test switch, S3, on the P1 main instrument panel, to TEST.
 - (b) If the CALL light does not go on, then replace the Captain's CALL light.
 - 1) Do the Repair Confirmation at the end of this task.
 - a) If the Repair Confirmation is not OK, then continue.
 - (c) If the CALL light goes on, then continue.
- (2) Do this check of the wiring:
 - (a) Remove the Captain's CALL light, L19, from the P5 forward overhead panel.
 - (b) Remove the attendant control panel. To remove it, do this task: Attendant's Panel with LCD Touch Panel - Removal, AMM TASK 25-25-11-000-802
 - (c) Do a check for an open circuit between connector D40170J at the Captain's CALL light, L19, and connector D14368 (forward attendant control panel) or D14376 (aft attendant control panel). For correct pins, refer to WDM 23-42-11.
 - (d) If you find a problem with the wiring, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the attendant control panel. Do this task: Attendant's Panel with LCD Screen - Installation, AMM TASK 25-25-11-400-802.
 - 3) Re-install the Captain's CALL light.
 - 4) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

- (1) Do this check of the Captain's CALL light:
 - (a) Press and hold the button for the pilot on the attendant's handset.
 - 1) Make sure the CALL light on the P5 forward overhead panel goes on.
 - (b) Release the button on the attendant's handset.
 - (c) If the CALL light goes on, then you corrected the fault.

————— **END OF TASK** —————

807. Internal ACP Fault In Forward/Aft ACP - Fault Isolation

A. Description

- (1) This task is for the following maintenance messages:
 - (a) 23-11001

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- (b) 23-11002
- (c) 23-11003
- (d) 23-11004
- (e) 23-11010
- (f) 23-11011
- (g) 23-11012
- (h) 23-11013
- (i) 23-11025

(2) The fault(s) is generated by the system test.

B. Possible Causes

- (1) Attendant Control Panel (ACP)

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

E. Fault Isolation Procedure

- (1) Open and close the circuit breaker C01936 to cycle the power to the ACP's.
- (2) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault message does not show, then you corrected the fault. If the message shows, then continue.
- (3) Replace the applicable ACP. Refer to: AMM PAGEBLOCK 25-25-11/401
- (4) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the maintenance message does not show, then you corrected the fault.

————— **END OF TASK** —————

808. Internal ACP Fault - Data Loading - Fault Isolation

A. Description

- (1) This task is for the following maintenance messages:
 - (a) 23-11005
 - (b) 23-11006
 - (c) 23-11007
 - (d) 23-11018

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- (e) 23-11019
- (f) 23-11020
- (g) 23-11021

(2) The fault(s) is generated by the system test.

B. Possible Causes

- (1) Data load

C. Initial Evaluation

- (1) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

D. Fault Isolation Procedure

- (1) Do ADL to ACP or Phase 1 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801
- (2) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault message does not show, then you corrected the fault.

————— **END OF TASK** —————

809. Internal ACP Fault - HW Config - Fault Isolation

A. Description

- (1) This task is for the following maintenance messages:
 - (a) 23-11008
 - (b) 23-11014
- (2) The fault(s) is generated by the system test.

B. Possible Causes

- (1) Attendant Control Panel (ACP)

C. Initial Evaluation

- (1) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

D. Fault Isolation Procedure

- (1) Replace the applicable ACP. Refer to: AMM PAGEBLOCK 25-25-11/401.
- (2) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault does not show, then you corrected the fault.

————— **END OF TASK** —————

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810. Light Column Address Fault - Fault Isolation

A. Description

- (1) This task is for the following maintenance messages:
 - (a) 23-11028
 - (b) 23-11029
 - (c) 23-11030
 - (d) 23-11031
 - (e) 23-11032
 - (f) 23-11033
 - (g) 23-11034
- (2) The fault(s) is generated by the system test.

B. Possible Causes

- (1) Data load

C. Initial Evaluation

- (1) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

D. Fault Isolation Procedure

- (1) Set the cabin/utility switch on the overhead panel P5 to OFF and ON position to cycle power to the light LRU's.
- (2) Do the system test, refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault message does not show, then you corrected the fault. If the message shows, then continue.
- (3) Do ACP to LRU or Phase 2 Data Load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
- (4) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault message does not show, then you corrected the fault.

————— **END OF TASK** —————

811. Fwd/Aft Work Light Fault - Fault Isolation

A. Description

- (1) This task is for the maintenance message 23-11015.
- (2) The fault is generated by the system test.

B. Possible Causes

- (1) Wiring to the Fwd/Aft Work Light
- (2) Attendant Control Panel (ACP)

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C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
- (a) If the fault does not show, then there was an intermittent fault.
- (b) If the fault shows, then continue.

E. Fault Isolation Procedure

- (1) Open and close the circuit breaker C01936 to cycle the power to the ACP's.
- (2) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
- (a) If the fault message does not show, then you corrected the fault. If the message shows, then continue.
- (3) Do the wiring check and correct problems (if applicable) for the Work Light. Refer to: Passenger Compartment Lighting Problem - Fault Isolation, 33-20 TASK 801.
- (4) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
- (a) If the fault message does not show, then you corrected the fault. If the message shows, then continue.
- (5) Replace the applicable ACP. Refer to: AMM PAGEBLOCK 25-25-11/401.
- (6) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
- (a) If the maintenance message does not show, then you corrected the fault.

———— **END OF TASK** ————

812. Fwd/Aft MD CD Light Fault - Fault Isolation

A. Description

- (1) This task is for the maintenance message 23-11016.
- (2) The fault is generated by the system test.

B. Possible Causes

- (1) Wiring to the Main Deck Cargo Door (MD CD) Light
- (2) Attendant Control Panel (ACP)

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

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D. Initial Evaluation

- (1) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

E. Fault Isolation Procedure

- (1) Open and close the circuit breaker C01936 to cycle the power to the ACP's.
- (2) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault message does not show, then you corrected the fault. If the message shows, then continue.
- (3) Do the wiring check and correct problems (if applicable) for the MDCD Light. Refer to: Cargo/Service Compartment Lighting Problem - Fault Isolation, 33-30 TASK 801.
- (4) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault message does not show, then you corrected the fault. If the message shows, then continue.
- (5) Replace the applicable ACP. Refer to: AMM PAGEBLOCK 25-25-11/401.
- (6) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the maintenance message does not show, then you corrected the fault.

————— **END OF TASK** —————

813. Fwd/Aft Threshold Light Fault - Fault Isolation

A. Description

- (1) This task is for the maintenance message 23-11024.
- (2) The fault is generated by the system test.

B. Possible Causes

- (1) Wiring to the Fwd/Aft Threshold Light

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

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E. Fault Isolation Procedure

- (1) Open and close the circuit breaker C01936 to cycle the power to the ACP's.
- (2) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault message does not show, then you corrected the fault. If the message shows, then continue.
- (3) Do the wiring check and correct problems (if applicable) for the Threshold Light. Refer to: Passenger Compartment Lighting Problem - Fault Isolation, 33-20 TASK 801.
- (4) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault message does not show, then you corrected the fault.

————— **END OF TASK** —————

814. 28 Vdc Power Fault in Fwd/Aft ACP - Fault Isolation

A. Description

- (1) This task is for the maintenance message 23-11017.
- (2) The fault is generated by the system test.

B. Possible Causes

- (1) 28 Vdc Power

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

E. Fault Isolation Procedure

- (1) If the fault shows for both forward and aft ACP's, do this check for 28 Vdc at the circuit breaker:
 - (a) Do a check for 28 Vdc at the load terminal of the circuit breaker C01936 ATTENDANT PANEL to structure ground.
 - (b) If there is not 28 Vdc at the load terminal, replace the circuit breaker.
- (2) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the maintenance message does not show, then you corrected the fault.
- (3) Do a check for wiring from the circuit breaker C01936 to the applicable ACP and fix problems.
- (4) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.

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- (a) If the maintenance message does not show, then you corrected the fault.

————— END OF TASK —————

815. Communication with Aft ACP Lost - Fault Isolation

A. Description

- (1) This task is for the maintenance message 23-11022.
- (2) The fault is generated by the system test.

B. Possible Causes

- (1) Wiring

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

E. Fault Isolation Procedure

- (1) Open and close the circuit breaker C01936 to cycle the power to the ACP's.
- (2) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault message does not show, then you corrected the fault. If the message shows, then continue.
- (3) Do a check for the wiring between the forward ACP and the aft ACP and fix problems if you find them. Refer to :WDM 23-42-XX.
- (4) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the maintenance message does not show, then you corrected the fault.

————— END OF TASK —————

816. Cabin Temperature Fault - Fault Isolation

A. Description

- (1) This task is for the maintenance message 23-11023.
- (2) The fault is generated by the system test.

B. Possible Causes

- (1) Data Load

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C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
- (a) If the fault does not show, then there was an intermittent fault.
- (b) If the fault shows, then continue.

E. Fault Isolation Procedure

- (1) Do data load for the CDB software. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
- (2) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
- (a) If the fault message does not show, then you corrected the fault. If the message shows, then continue.
- (3) Do data load for the OPS software. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
- (4) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
- (a) If the fault message does not show, then you corrected the fault.

———— **END OF TASK** ————

817. Lavatory Inoperative / Clean Check Sensors - Fault Isolation

A. Description

- (1) This task is for the maintenance messages 23-11026 and 23-11027.
- (2) The fault is generated by the system test.

B. Possible Causes

- (1) The Lavatory Logic Control Module

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
- (a) If the fault does not show, then there was an intermittent fault.
- (b) If the fault shows, then continue.

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E. Fault Isolation Procedure

- (1) Do a check of the Lavatory Logic Control Module and correct problems (if applicable). Refer to: LOGIC CONTROL MODULE - MAINTENANCE PRACTICES, AMM 38-33-03/201.
- (2) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault message does not show, then you corrected the fault. If the message shows, then continue.
- (3) Do a check of wiring to the Lavatory Logic Control Module and correct problems (if applicable). Refer to: WDM 38-3X.
- (4) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the maintenance message does not show, then you corrected the fault.

————— END OF TASK —————

818. RS-485 Cable Break - Fault Isolation

A. Description

- (1) This task is for the following maintenance messages:
 - (a) 23-11039
 - (b) 23-11040
 - (c) 23-11041
 - (d) 23-11042
- (2) The fault(s) is generated by the system test.

B. Possible Causes

- (1) Wiring connection

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

E. Fault Isolation Procedure

- (1) Do a check for wiring connection and correct problems (if applicable) for the light(s) indicated on the ACP. Refer to: Passenger Compartment Lighting Problem - Fault Isolation, 33-20 TASK 801.
- (2) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.

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- (a) If the maintenance message does not show, then you corrected the fault.

————— **END OF TASK** —————

819. No LRU Responses - Fault Isolation

A. Description

- (1) This task is for the following maintenance messages:
- (a) 23-11035
 - (b) 23-11036
 - (c) 23-11037
 - (d) 23-11038
- (2) The fault(s) is generated by the system test.

B. Possible Causes

- (1) Wiring connection at the light
- (2) Wiring connection at the forward ACP
- (3) Forward ACP

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
- (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

E. Fault Isolation Procedure

- (1) Do a wiring connection check and correct problems (if applicable) at the specified light. Refer to: Passenger Compartment Lighting Problem - Fault Isolation, 33-20 TASK 801.
- (2) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault message does not show, then you corrected the fault. If the message shows, then continue.
- (3) Do a wiring connection check and correct problems (if applicable) at the forward ACP. Refer to: WDM 23-42-XX.
- (4) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.
 - (a) If the fault message does not show, then you corrected the fault. If the message shows, then continue.
- (5) Replace the forward ACP. Refer to: AMM PAGEBLOCK 25-25-11/401.
- (6) Do the system test. Refer to: Attendant Control Panel (ACP) - BITE Procedure, 23-42 TASK 801.

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- (a) If the maintenance message does not show, then you corrected the fault.

————— **END OF TASK** —————

820. LRU Address Fault - Fault Isolation

A. Description

- (1) This task is for the maintenance messages:
- (a) 23-11043
 - (b) 23-11044
- (2) The fault(s) is generated during the ACP to LRU or Phase 2 data load.

B. Possible Causes

- (1) The light LRU

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the ACP to LRU or Phase 2 data load again. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
- (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

E. Fault Isolation Procedure

- (1) Do a check and correct problems (if applicable) for the light LRU. Refer to: Passenger Compartment Lighting Problem - Fault Isolation, 33-20 TASK 801.
- (2) Do the ACP to LRU or Phase 2 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
- (a) If the fault does not shows, then you corrected the fault.

————— **END OF TASK** —————

821. LRU Address - Extra Response - Fault Isolation

A. Description

- (1) This task is for the maintenance message:
- (a) 23-11045
- (2) The fault is generated during the ACP to LRU or Phase 2 data load.

B. Possible Causes

- (1) The Configuration Database (CDB) software
- (2) The light LRU

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C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the ACP to LRU or Phase 2 data load again. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

E. Fault Isolation Procedure

- (1) Make sure that the CDB part number is correct.
 - (a) If the CDB part number is not correct, do the data load again with the correct CDB. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - 1) If the fault does not show, then you corrected the fault.
 - (b) If the CDB part number is correct, then continue.
- (2) Make sure the CDB matches the airplane configuration.
 - (a) If the CDB does not match the airplane configuration, do the ACP to LRU or Phase 2 data load again with the correct CDB that matches the airplane configuration. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - 1) If the fault does not show, then you corrected the fault.
 - (b) If the CDB matches the airplane configuration, then continue.
- (3) Do a check for wiring connection and correct problems for the light LRU. Refer to: Passenger Compartment Lighting Problem - Fault Isolation, 33-20 TASK 801.
- (4) Do the ACP to LRU or Phase 2 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then you corrected the fault.

————— END OF TASK —————

822. LRU Address - Incorrect Light - Fault Isolation

A. Description

- (1) This task is for the maintenance message:
 - (a) 23-11046
- (2) The fault is generated during the ACP to LRU or Phase 2 data load.

B. Possible Causes

- (1) The Configuration Database (CDB) software
- (2) The light LRU

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C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the ACP to LRU or Phase 2 data load again. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
- (a) If the fault does not show, then there was an intermittent fault.
- (b) If the fault shows, then continue.

E. Fault Isolation Procedure

- (1) Make sure that the CDB part number is correct.
- (a) If the CDB part number is not correct, do the data load again with the correct CDB. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
- 1) If the fault does not show, then you corrected the fault.
- (b) If the CDB part number is correct, then continue.
- (2) Make sure the CDB matches the airplane configuration.
- (a) If the CDB does not match the airplane configuration, do the ACP to LRU or Phase 2 data load again with the correct CDB that matches the airplane configuration. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
- 1) If the fault does not show, then you corrected the fault.
- (b) If the CDB matches the airplane configuration, then continue.
- (3) Make sure the LRU light part number is correct.
- (a) If the LRU light part number is not correct, replace it with the correct light. Refer to chapter 33 for the correct procedure.
- (4) Do the ACP to LRU or Phase 2 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
- (a) If the fault does not show, then you corrected the fault.

———— **END OF TASK** ————

823. LRU Address Fault - Zone/Scene Download - Fault Isolation

A. Description

- (1) This task is for the maintenance messages:
- (a) 23-11047
- (b) 23-11048
- (c) 23-11050
- (d) 23-11051
- (e) 23-11052
- (f) 23-11053
- (g) 23-11054
- (h) 23-11055

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(2) The fault(s) is generated during the ACP to LRU or Phase 2 data load.

B. Possible Causes

(1) The light LRU

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

(1) Do the ACP to LRU or Phase 2 data load again. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.

(a) If the fault does not show, then there was an intermittent fault.

(b) If the fault shows, then continue.

E. Fault Isolation Procedure

(1) Set the cabin/utility switch on the overhead panel P5 to OFF and ON position to cycle power to the light LRU's.

(2) Do the ACP to LRU or Phase 2 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.

(a) If the fault message does not show, then you corrected the fault. If the message shows, then continue.

(3) Replace the light LRU.

(4) Do the ACP to LRU or Phase 2 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.

(a) If the fault does not show, then you corrected the fault.

————— **END OF TASK** —————

824. LRU Address - Incorrect Zone - Fault Isolation

A. Description

(1) This task is for the maintenance message:

(a) 23-11049

(2) The fault is generated during the ACP to LRU or Phase 2 data load.

B. Possible Causes

(1) The Configuration Database (CDB)

C. Circuit Breakers

(1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

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D. Initial Evaluation

- (1) Do the ACP to LRU or Phase 2 data load again. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

E. Fault Isolation Procedure

- (1) Make sure that the CDB part number is correct.
 - (a) If the CDB part number is not correct, do the data load again with the correct CDB. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - 1) If the fault does not show, then you corrected the fault.
 - (b) If the CDB part number is correct, then continue.
- (2) Make sure the CDB matches the airplane configuration.
 - (a) If the CDB does not match the airplane configuration, do the ACP to LRU or Phase 2 data load again with the correct CDB that matches the airplane configuration. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - 1) If the fault does not show, then you corrected the fault.

————— **END OF TASK** —————

825. No Data Load LRU Responses - Fault Isolation

A. Description

- (1) This task is for the maintenance messages:
 - (a) 23-11056
 - (b) 23-11057
 - (c) 23-11058
 - (d) 23-11059
- (2) The fault(s) is generated during the ACP to LRU or Phase 2 data load.

B. Possible Causes

- (1) Wiring
- (2) The forward ACP

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the ACP to LRU or Phase 2 data load again. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

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E. Fault Isolation Procedure

- (1) Set the cabin/utility switch on the overhead panel P5 to OFF and ON position to cycle power to the light LRU's.
- (2) Do the ACP to LRU or Phase 2 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then you corrected the fault. If the fault shows, then continue.
- (3) Do a wiring connection check and correct problems (if applicable) at the specified light. Refer to: Passenger Compartment Lighting Problem - Fault Isolation, 33-20 TASK 801.
- (4) Do the ACP to LRU or Phase 2 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then you corrected the fault. If the fault shows, then continue.
- (5) Replace the forward ACP. Refer to: AMM PAGEBLOCK 25-25-11/401.
- (6) Do the ACP to LRU or Phase 2 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then you corrected the fault.

————— **END OF TASK** —————

826. Data Load RS-485 Cable Break - Fault Isolation

A. Description

- (1) This task is for the maintenance messages:
 - (a) 23-11060
 - (b) 23-11061
 - (c) 23-11062
 - (d) 23-11063
- (2) The fault(s) is generated during the ACP to LRU or Phase 2 data load.

B. Possible Causes

- (1) Wiring

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the ACP to LRU or Phase 2 data load again. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

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E. Fault Isolation Procedure

- (1) Set the cabin/utility switch on the overhead panel P5 to OFF and ON position to cycle power to the light LRU's.
- (2) Do the ACP to LRU or Phase 2 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then you corrected the fault. If the fault shows, then continue.
- (3) Do a wiring connection check and correct problems (if applicable) at the specified light(s). Refer to: Passenger Compartment Lighting Problem - Fault Isolation, 33-20 TASK 801.
- (4) Do the ACP to LRU or Phase 2 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then you corrected the fault.

————— **END OF TASK** —————

827. Aft ACP Internal Fault - Fault Isolation

A. Description

- (1) This task is for the maintenance messages:
 - (a) 23-11064
 - (b) 23-11065
 - (c) 23-11066
 - (d) 23-11067
- (2) The fault is generated during the ACP to ACP or Phase 2 data load.

B. Possible Cause

- (1) The aft ACP

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the ACP to ACP or Phase 2 data load again. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

E. Fault Isolation Procedure

- (1) Open and close the circuit breaker C01936 to cycle the power to the ACP's.
- (2) Do the ACP to ACP or Phase 2 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then you corrected the fault. If the fault shows, then continue.
- (3) Replace the aft ACP. Refer to: AMM PAGEBLOCK 25-25-11/401.
- (4) Do the ACP to ACP or Phase 2 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.

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- (a) If the fault does not show, then you corrected the fault.

————— **END OF TASK** —————

828. Communication with Aft ACP Lost - Fault Isolation

A. Description

- (1) This task is for the maintenance message 23-11068.
- (2) The fault is generated during the ACP to ACP or Phase 2 data load.

B. Possible Causes

- (1) Wiring
- (2) The ACP's

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the ACP to ACP or Phase 2 data load again. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows on the screen, then continue.

E. Fault Isolation Procedure

- (1) Do a wiring check between the forward and the aft ACP's. Refer to: WDM 23-42-XX.
 - (a) Correct the problems that you find (if applicable).
- (2) Do the ACP to ACP or Phase 2 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then you corrected the fault. If the fault shows, then continue.
- (3) Replace the aft ACP. Refer to: AMM PAGEBLOCK 25-25-11/401.
- (4) Do the ACP to ACP or Phase 2 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then you corrected the fault. If the fault shows, then continue.
- (5) Replace the forward ACP. Refer to: AMM PAGEBLOCK 25-25-11/401.
- (6) Do the ACP to ACP or Phase 2 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then you corrected the fault.

————— **END OF TASK** —————

829. LSAP Configuration Invalid - Fault Isolation

A. Description

- (1) This task is for the maintenance message 23-11069.
- (2) The fault is generated during the ACP to ACP or Phase 2 data load.

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B. Possible Causes

- (1) Incorrect LSAP

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the ACP to ACP or Phase 2 data load again. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

E. Fault Isolation Procedure

- (1) Make sure the LSAP part number is correct. If it is not correct, do the ACP to ACP or Phase 2 data load again with the correct LSAP part number. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then you corrected the fault.

————— **END OF TASK** —————

830. Forward ACP Internal Fault - Fault Isolation

A. Description

- (1) This task is for the maintenance messages:
 - (a) 23-11070
 - (b) 23-11071
 - (c) 23-11072
 - (d) 23-11073
- (2) The fault is generated during the ADL to ACP or Phase 1 data load.

B. Possible Causes

- (1) The forward ACP

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the ADL to ACP or Phase 1 data load again. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

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E. Fault Isolation Procedure

- (1) Open and close the circuit breaker C01936 to cycle the power to the ACP's.
- (2) Do the ADP to ACP or Phase 1 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then you corrected the fault. If the fault shows, then continue.
- (3) Replace the forward ACP. Refer to: AMM PAGEBLOCK 25-25-11/401.
- (4) Do the ADP to ACP or Phase 1 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then you corrected the fault.

————— **END OF TASK** —————

831. LSAP Disk Fault - Fault Isolation

A. Description

- (1) This task is for the maintenance messages:
 - (a) 23-11074
 - (b) 23-11075
 - (c) 23-11076
 - (d) 23-11077
- (2) The fault is generated during the ADL to ACP or Phase 1 data load.

B. Possible Causes

- (1) The LSAP diskette

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the ADL to ACP or Phase 1 data load again. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

E. Fault Isolation Procedure

- (1) Check the LSAP diskette, make sure that it is not physically broken. If it is broken, replace it with another diskette (same LSAP part number).
- (2) Do the ADL to ACP or Phase 1 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then you corrected the fault.

————— **END OF TASK** —————

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832. Incompatible Disk Fault - Fault Isolation

A. Description

- (1) This task is for the maintenance messages:
 - (a) 23-11078
 - (b) 23-11079
- (2) The fault is generated during the ADL to ACP or Phase 1 data load.

B. Possible Causes

- (1) Incorrect LSAP

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

D. Initial Evaluation

- (1) Do the ADL to ACP or Phase 1 data load again. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

E. Fault Isolation Procedure

- (1) Make sure that the LSAP diskette part number is correct. If it is not correct, replace it with the diskette with correct LSAP part number.
- (2) Do the ADL to ACP or Phase 1 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then you corrected the fault.

————— **END OF TASK** —————

833. Communications with ADL Lost - Fault Isolation

A. Description

- (1) This task is for the maintenance message 23-11080.
- (2) The fault is generated during the ADL to ACP or Phase 1 data load.

B. Possible Causes

- (1) Incorrect ADL set up
- (2) Wiring

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

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D. Initial Evaluation

- (1) Do the ADL to ACP or Phase 1 data load again. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then there was an intermittent fault.
 - (b) If the fault shows, then continue.

E. Fault Isolation Procedure

- (1) Make sure that the ADL selector switch is in the correct position.
 - (a) If the ADL selector switch is not in the correct position, reset the switch and do the data load again. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - 1) If the fault does not show, then you corrected the fault.
 - (b) If the ADL selector switch is correct, then continue.
- (2) Open and close the circuit breaker C01936 to cycle the power to the ACP's.
- (3) Do the ADL to ACP or Phase 1 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then you corrected the fault. If the fault shows, then continue.
- (4) Do a wiring check from the ACP to the ADL. Refer to: WDM 23-42-XX
- (5) Do the ADL to ACP or Phase 1 data load. Refer to: Attendant Control Panel (ACP) Software Loading, AMM TASK 23-42-03-470-801.
 - (a) If the fault does not show, then you corrected the fault.

————— **END OF TASK** —————

839. LED on the ACP Switch Assembly (ISA) is ON - Fault Isolation

A. Description

- (1) When the LED on the ISA is on steadily (not flashing), this indicates an over temperature condition and the ACP is not operational.
- (2) When the LED on the ISA is on and flashing, this indicates an internal critical fault with the ACP and the ACP is shut down.

B. Possible Causes

- (1) Ambient temperature is out of range
- (2) ACP internal fault

C. Initial Evaluation

- (1) If the LED is on and not flashing (indicating that ambient temperature is out of range), no maintenance action is necessary. The ACP will become operational when the temperature is in range (32°F (0°C) to 122°F (50°C)).
- (2) If the LED is flashing, there is an internal fault with the ACP. Do the fault isolation procedure that follows.

D. Fault Isolation Procedure

- (1) Do the steps that follow when the LED is flashing:
 - (a) Replace the applicable ACP. Refer to: AMM PAGEBLOCK 25-25-11/401.
 - (b) If the LED on the ISA does not turn on, then you corrected the fault.

————— **END OF TASK** —————

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840. Attendant Control Panel - Touch Screen Inoperative

A. Description

- (1) When the ACP Touch Screen is inoperative, it does not respond to any touching inputs.

B. Possible Causes

- (1) The ACP Touch Screen is locked up.
- (2) The Touch Screen Display function is not operative.

C. Initial Evaluation

- (1) To activate the Touch Screen, touch the two opposite corners of the screen sequentially.
 - (a) If the Touch Screen responds to inputs then you corrected the problem.
 - (b) If the Touch Screen does not respond to any touching inputs, do the fault isolation procedure that follows.

D. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

E. Fault Isolation Procedure

- (1) Open and close the circuit breaker C01936 to cycle the power to the ACP.
 - (a) Touch the two opposite corners of the Touch Screen to activate the Touch Screen
 - (b) If the Touch screen responds to inputs, then there was an intermittent fault.
 - (c) If the Touch Screen does not respond to touching inputs, then continue.
- (2) Replace the applicable ACP. Refer to:AMM PAGEBLOCK 25-25-11/401.
 - (a) If the touch screen operates, then you corrected the fault.

————— **END OF TASK** —————

841. Amber LED Light on ACP Switch Assembly does not come on during operational test

A. Description

- (1) After power-up, the amber LED at the left corner of the ACP should turn on for about 2 seconds and then turn off. If the LED does not turn on at power-up, it might be inoperative.

B. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	12	C01936	ATTENDANT PANELS

C. Fault Isolation Procedure

- (1) Open and close the circuit breaker C01936 to cycle the power to the ACP.
 - (a) Check the LED again during the first 2 seconds of power-up.
 - (b) If the LED light turns on during the first 2 seconds of power-up and then turn off, then there was an intermittent fault.

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- (c) If the LED light does not turn on during the first 2 seconds of power-up, then continue.
- (2) Replace the applicable ACP. Refer to:AMM PAGEBLOCK 25-25-11/401.
- (a) If the LED light turns on during the first 2 seconds of power-up and then turn off, then you corrected the fault.

———— **END OF TASK** ————

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ECCN 9E991 BOEING PROPRIETARY - See title page for details

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801. Ground Crew Call Horn Does Not Operate - Fault Isolation

A. Description

- (1) The ground crew call horn does not sound in the nose wheel well area.

B. Possible Causes

- (1) Ground Crew Call Horn, M53
(2) Ground Crew Call Switch, S32
(3) Wiring
(4) No power to the Ground Crew Call Horn

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	9	C00073	PASSENGER CABIN CREW CALL

D. Related Data

- (1) (SSM 23-43-11)
(2) (WDM 23-43-11)

E. Initial Evaluation

- (1) Do this check of the ground crew call horn:
- (a) Push and hold the GRD CALL switch on the P5 forward overhead panel.
- 1) Make sure that you hear the ground crew call horn in the nose wheel well area.
- (b) Release the GRD CALL switch.
- (c) If the ground crew call horn does not sound, then do the Fault Isolation Procedure below.
- (d) If the ground crew call horn sounds, then there was an intermittent fault.

F. Fault Isolation Procedure

- (1) Do this check for electrical power to the ground crew call horn:

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

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	9	C00073	PASSENGER CABIN CREW CALL

- (b) Remove the Ground Crew Call Horn, M53, from the nose wheel well area. To remove it, do this task: Ground Crew Call Horn Removal, AMM TASK 23-43-02-000-801.
- (c) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	9	C00073	PASSENGER CABIN CREW CALL

- (d) Push and hold the GRD CALL switch on the P5 forward overhead panel.
- (e) Do a check for 28 VDC across the Ground Crew Call Horn wires (one 28 VDC, the other ground).

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- (f) Release the GRD CALL switch.
- (g) If there is 28 VDC, then do these steps:
 - 1) Install a new Ground Crew Call Horn. To install it, do this task: Ground Crew Call Horn Installation, AMM TASK 23-43-02-420-801.
 - 2) Do the Repair Confirmation at the end of this task.
- (h) If there is not 28 VDC, then continue.
- (2) Replace the Ground Crew Call Switch, S32, on the P5 forward overhead panel.
 - (a) Do the Repair Confirmation at the end of this task.
 - (b) If the Repair Confirmation is not OK, then continue.
- (3) Repair the wiring between the ground crew call horn, M53, and the circuit breaker, C73, on the P18-3 circuit breaker panel.
 - (a) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

- (1) Do this check of the ground crew call horn:
 - (a) Push and hold the GRD CALL switch on the P5 forward overhead panel.
 - 1) Make sure that you hear the ground crew call horn in the nose wheel well area.
 - (b) Release the GRD CALL switch.
 - (c) If the ground crew call horn sounds, then you corrected the fault.

————— **END OF TASK** —————

802. Ground Crew Call Horn Operates Continuously - Fault Isolation

A. Description

- (1) The ground crew call horn stays on continuously.

B. Possible Causes

- (1) Air Data Inertial Reference Unit (ADIRU), M1749 (left) or M1752 (right)
- (2) The electrical battery is discharging.
- (3) Ground crew call switch, S32

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	7	C01007	ADIRU LEFT AC

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	9	C00073	PASSENGER CABIN CREW CALL
A	17	C01433	EQPT COOLING LOW FLOW DETECT SUPPLY
A	18	C01434	EQPT COOLING LOW FLOW DETECT EXHAUST

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F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	14	C01008	ADIRU RIGHT AC

F/O Electrical System Panel, P6-4

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	12	C01116	EQPT COOLING SUPPLY FAN CONT-NORMAL
C	13	C01117	EQPT COOLING SUPPLY FAN CONTROL-ALTN
C	14	C01435	EQPT COOLING EXHAUST FAN CONT NORMAL
C	15	C01436	EQPT COOLING EXHAUST FAN CONT ALTN

Power Distribution Panel Number 1, P91

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	8	C00935	EQPT CLG SPLY FAN PWR-ALTN
E	1	C00836	EQPT CLG EXH FAN PWR-NORM

Power Distribution Panel Number 2, P92

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	10	C00934	EQPT CLG SPLY FAN PWR-NORM
D	12	C00837	EQPT CLG EXH FAN PWR-ALTN

D. Related Data

- (1) (SSM 23-43-11)
- (2) (WDM 23-43-11)

E. Fault Isolation Procedure

- (1) Do this task: Ground Crew Call Horn Sounds - Fault Isolation, 34-21 TASK 829.
 - (a) If the ground crew call horn goes off, then you corrected the fault.
 - (b) If you still hear the ground crew call horn, then continue.
- (2) Do the steps that follow for the electrical battery:
 - (a) Check the battery charger power and the battery switch to make sure the battery is not discharging.

NOTE: The battery discharges when the battery charger power is off and the battery switch is on.
 - (b) If you still hear the ground crew call horn, then continue.
- (3) Replace the Ground Crew Call Switch, S32, on the P5 forward overhead panel.
 - (a) Do this check of the ground crew call horn:
 - 1) Push and hold the GRD CALL switch on the P5 forward overhead panel.
 - a) Make sure you hear the ground crew call horn in the nose wheel well area.
 - 2) Release the GRD CALL switch.
 - a) Make sure that the ground crew call horn goes off.
 - 3) If the ground crew call horn sounds and goes off, then you corrected the fault.

————— **END OF TASK** —————

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803. Ground Crew to Flight Deck, Call System Does Not Operate - Fault Isolation

A. Description

- (1) The CALL light on the forward overhead panel does not come on and the Aural Warning Unit does not chime when the ground crew pushes the PILOT CALL button on the External Power Panel.

B. Possible Causes

- (1) PILOT CALL Switch, S33

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	9	C00073	PASSENGER CABIN CREW CALL

D. Related Data

- (1) (SSM 23-43-11)
- (2) (WDM 23-43-11)

E. Initial Evaluation

- (1) Do this check of the captain's CALL light:
 - (a) Press and hold the PILOT CALL button on the P19 External Power panel.
 - 1) Make sure the CALL light on the P5 forward overhead panel goes on.
 - 2) Make sure that you hear a chime in the flight deck.
 - (b) Release the PILOT CALL button.
 - (c) If the CALL light does not go on and the chime does not sound, then do the Fault Isolation Procedure below.
 - (d) If the CALL light goes on and the chime sounds, then there was an intermittent fault.

F. Fault Isolation Procedure

- (1) Replace the PILOT CALL switch, S33, on the P19 External Power panel.
 - (a) Do this check of the captain's CALL light:
 - 1) Press and hold the PILOT CALL button on the P19 External Power panel.
 - a) Make sure the CALL light on the P5 forward overhead panel goes on.
 - b) Make sure that you hear a chime in the flight deck.
 - 2) Release the PILOT CALL button.
 - 3) If the CALL light goes on and you hear a chime, then you corrected the fault.

———— **END OF TASK** ————

804. Ground Crew to Flight Deck, Call Light Does Not Operate - Fault Isolation

A. Description

- (1) The CALL light on the forward overhead panel does not come on, but the call chime sounds when the ground crew pushes the PILOT CALL button on the External Power Panel.

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B. Possible Causes

- (1) Master Dim and Test Switch, S3
- (2) Captain's Call Light, L19
- (3) Wiring

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	9	C00073	PASSENGER CABIN CREW CALL

D. Related Data

- (1) (SSM 23-43-11)
- (2) (WDM 23-43-11)

E. Initial Evaluation

- (1) Do this check of the captain's CALL light:
 - (a) Set the Master Dim and Test switch, S3, on the P1 main instrument panel, to BRT.
 - (b) Push and hold the PILOT CALL button, S33, on the P19 External Power panel.
 - 1) Make sure the CALL light on the P5 forward overhead panel goes on.
 - (c) Release the PILOT CALL button.
 - (d) If the CALL light does not go on, then do the Fault Isolation Procedure below.
 - (e) If the CALL light goes on, then there was an intermittent fault.

F. Fault Isolation Procedure

- (1) Do this test of the Captain's CALL light, L19:
 - (a) Set the Master Dim and Test switch, S3, on the P1 main instrument panel, to TEST.
 - (b) If the CALL light does not go on, then replace the Captain's CALL light.
 - 1) Do the Repair Confirmation at the end of this task.
 - a) If the Repair Confirmation is not OK, then continue.
 - (c) If the CALL light goes on, then continue.
- (2) Do this check of the wiring:
 - (a) Open these circuit breakers and install safety tags:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	9	C00073	PASSENGER CABIN CREW CALL

F/O Electrical System Panel, P6-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00133	INDICATOR MASTER DIM DIM/TST CONT

- (b) Remove the Captain's CALL light, L19, from the P5 forward overhead panel.
- (c) Remove the PILOT CALL switch, S33, from the P19 External Power panel.

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- (d) Do a check for an open circuit between these pins of the Captain's CALL light, L19, and the PILOT CALL switch, S33:

L19	S33
pin 1	pin C

- (e) If you find a problem with the wiring, then do these steps:
- 1) Repair the wiring.
 - 2) Re-install the PILOT CALL switch.
 - 3) Re-install the Captain's CALL light.
 - 4) Remove the safety tags and close these circuit breakers:

CAPT Electrical System Panel, P18-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	9	C00073	PASSENGER CABIN CREW CALL

F/O Electrical System Panel, P6-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	11	C00133	INDICATOR MASTER DIM DIM/TST CONT

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

G. Repair Confirmation

- (1) Do this check of the captain's CALL light:
- (a) Press and hold the PILOT CALL switch, S33, on the P19 External Power panel.
 - 1) Make sure the captain's CALL light, L19, on the P5 forward overhead panel goes on.
 - (b) Release the PILOT CALL switch.
 - (c) If the CALL light goes on, then you corrected the fault.

———— **END OF TASK** ————

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801. Microphone/Headset Problem - Fault Isolation

A. Description

- (1) A flight interphone hand microphone, headset, or boom microphone/headset does not operate.

B. Possible Causes

- (1) Hand microphone, headset, or boom microphone/headset
- (2) Microphone, headset, or boom microphone/headset jack
- (3) Audio Control Panel (ACP), P8-6 (captain's), P8-7 (first officer's), or P5-15 (observer's)
- (4) Oxygen Mask stowage panels.
- (5) Remote Electronic Unit (REU), M1353
- (6) Wiring

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

D. Related Data

- (1) SSM 23-51-11
- (2) WDM 23-51-11
- (3) WDM 23-51-21
- (4) WDM 23-51-31

E. Initial Evaluation

- (1) Do these steps to prepare the flight interphone for initial evaluation and for fault isolation:
 - (a) Make sure the AURAL WARN MUTE switch on the front panel of the REU is not in the "Mute" position.
NOTE: The switch is in "Mute" position when it is horizontal to the bottom edge of the front panel.
 - (b) Set the SERVICE INTERPHONE switch, S50, on the P5 Overhead Panel to the OFF position.
 - (c) Connect a microphone and headset to all flight interphone stations.
 - (d) Push the flight microphone selector switch on all Audio Control Panels (ACPs). The flight microphone selector switch is labelled FLT, FLT INT, or INT.
 - (e) Push the volume control for the flight microphone selector switch to on.
- (2) Do this check of the flight interphone:

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- (a) Push and hold the test switch on the affected station's Audio Control Panel in the R/T or RADIO position. The switch is labelled R/T - I/C or RADIO - INT.
- (b) Speak into the affected station's microphone.
 - 1) Make sure you can hear the voice clearly from the other stations' headset.
- (c) Release the test switch.
- (d) If the voice is not heard on all headsets, then do the Fault Isolation Procedure below.
- (e) If the voice is heard on all headsets, then there was an intermittent fault.

F. Fault Isolation Procedure

- (1) Replace the affected hand microphone, headset, or boom microphone/headset.
 - (a) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not OK, then continue.
- (2) Replace the affected station's hand microphone, headset, or boom microphone/headset jack.
 - (a) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not OK, then continue.
- (3) Replace the affected Audio Control Panel (ACP):
 - Audio Control Panel Removal, AMM TASK 23-51-02-000-801
 - Audio Control Panel Installation, AMM TASK 23-51-02-400-801.
 - (a) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not OK, then continue.
- (4) Replace the Remote Electronic Unit (REU), M1353:
 - Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801
 - Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
 - (a) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not OK, then continue.
- (5) Use the SSM and WDM listed in Related Data to do a check of the wires from the remote electronics unit:
 - (a) Remove the affected station's hand microphone, headset, or boom microphone/headset jack.
 - (b) Remove the REU, M1353 from the E4-1 shelf (AMM TASK 23-51-01-000-801).
 - (c) Examine and repair the wires between the REU connector D2501B and the microphone, headset, or boom microphone/headset jack connector.
 - 1) If you found and repaired a wire problem, then do these steps:
 - a) Re-install the REU (AMM TASK 23-51-01-000-802).
 - b) If it is necessary, re-install the hand microphone, headset, or boom microphone/headset jack.
 - c) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

- (1) If it is necessary, do these steps to prepare the flight interphone for Repair Confirmation:
 - (a) Make sure that the SERVICE INTERPHONE switch, S50, on the P5 Overhead Panel to the OFF position.

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- (b) Make sure that a microphone and headset is connected at all flight interphone stations.
- (c) Make sure that these steps are completed:
 - 1) Push the flight microphone selector switch on all Audio Control Panels (ACPs). The flight microphone selector switch is labelled FLT, FLT INT, or INT.
 - 2) Push the volume control for the flight microphone selector switch to on.
- (2) Do this check of the flight interphone:
 - (a) Push and hold the test switch on the affected station's Audio Control Panel in the R/T or RADIO position. The switch is labelled R/T - I/C or RADIO - INT.
 - (b) Speak into the affected station's microphone.
 - 1) Make sure you can hear the voice clearly from the other stations' headset.
 - (c) Release the test switch.
 - (d) If the voice is heard on all headsets, then you have corrected the problem.

————— **END OF TASK** —————

802. Damaged Microphone/Headset - Fault Isolation

A. Fault Isolation Procedure

- (1) Replace the affected hand microphone, headphone, or boom microphone/headset.

————— **END OF TASK** —————

803. Flight Interphone Problem At All Stations - Fault Isolation

A. Description

- (1) The flight interphone does not operate at any flight deck station.

B. Possible Causes

- (1) Remote Electronics Unit (REU), M1353

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

D. Related Data

- (1) SSM 23-51-11
- (2) WDM 23-51-11
- (3) WDM 23-51-21
- (4) WDM 23-51-31

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E. Initial Evaluation

- (1) Do these steps to prepare the flight interphone for initial evaluation and for fault isolation:
 - (a) Set the SERVICE INTERPHONE switch, S50, on the P5 Overhead Panel to the OFF position.
 - (b) Connect a boom mic/headset to both pilots' boom microphone/headset jacks in the flight deck.
 - (c) Push the flight microphone selector switch on all Audio Control Panels (ACPs). The flight microphone selector switch is labelled FLT, FLT INT, or INT.
 - (d) Push the volume control for the flight microphone selector switch to on.
- (2) Do this check of the flight interphone:
 - (a) Push and hold the PTT switch on the affected pilot's control wheel to the MIC position.
 - (b) Speak into the boom microphone.
 - 1) Make sure you can hear the voice clearly from the other pilot's headset.
 - (c) Release the PTT switch on the control wheel.
 - (d) Push and hold the PTT switch on the other pilot's control wheel to the MIC position.
 - (e) Speak into the boom microphone.
 - 1) Make sure you can hear the voice clearly from the other pilot's headset.
 - (f) Release the PTT switch on the control wheel.
 - (g) If the voice is not heard on either headset, then do the Fault Isolation Procedure below.
 - (h) If the voice is heard on both headsets, then there was an intermittent fault.

F. Fault Isolation Procedure

- (1) Replace the Remote Electronic Unit (REU), M1353:
 - Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801
 - Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
- (a) Do this check of the flight interphone:

NOTE: You must do the steps to prepare for fault isolation that are in the Initial Evaluation before you can do this check.

 - 1) Push and hold the PTT switch on the pilot's control wheel to the MIC position.
 - 2) Speak into the boom microphone/headset.
 - a) Make sure you can hear the voice clearly from the other pilot's headset.
 - 3) Release the PTT switch on the control wheel.
 - 4) Push and hold the PTT switch on the other pilot's control wheel to the MIC position.
 - 5) Speak into the boom microphone.
 - a) Make sure you can hear the voice clearly from the other pilot's headset.
 - 6) Release the PTT switch on the control wheel.
 - 7) If the voice is heard on both headsets, then you corrected the fault.

———— **END OF TASK** ————

804. Flight Interphone Problems At One Station - Fault Isolation

A. Description

- (1) The flight interphone does not operate at one station. The other stations operate correctly.

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B. Possible Causes

- (1) Push-To-Talk (PTT) switch, S519 (captain's) or S520 (first officer's)
- (2) Glareshield PTT switch, S1091 (captain's) or S989 (first officer's)
- (3) Audio Control Panel (ACP), P8-6 (captain's), P8-7 (first officer's), or P5-15 (observer's)
- (4) Remote Electronics Unit (REU), M1353

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

D. Related Data

- (1) SSM 23-51-11
- (2) WDM 23-51-11
- (3) WDM 23-51-21
- (4) WDM 23-51-31

E. Initial Evaluation

- (1) Do these steps to prepare the flight interphone for initial evaluation and for fault isolation:
 - (a) Set the SERVICE INTERPHONE switch, S50, on the P5 overhead panel, to the OFF position.
 - (b) Connect a microphone and headset to jacks at all flight interphone stations in the flight deck.
 - (c) Push the flight microphone selector switch on all ACPs. The flight microphone selector switch is labelled FLT, FLT INT, or INT.
 - (d) Push the volume control for the flight microphone selector switch to on.
- (2) Do this check of the flight interphone:
 - (a) Push and hold the test switch on the affected station's ACP in the R/T or RADIO. The switch is labelled R/T - I/C or RADIO - INT.
 - (b) Speak into the affected station's microphone.
 - 1) Make sure that you can hear the voice clearly from the other stations' headset.
 - (c) Release the test switch.
 - (d) If the voice is not heard on all headsets, then do the Fault Isolation Procedure below.
 - (e) If the voice is heard on all headsets, then there was an intermittent fault.



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F. Fault Isolation Procedure

- (1) Replace the PTT switch, S519 (captain's) or S520 (first officer's):
 - Control Wheel PTT Switch Removal, AMM TASK 23-51-04-000-801
 - Control Wheel PTT Switch Installation, AMM TASK 23-51-04-400-801.
 - (a) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not OK, then continue.
- (2) Replace the glareshield PTT switch, S1091 (captain's) or S989 (first officer's):
 - Glareshield PTT Switch Removal, AMM TASK 23-51-05-000-801
 - Glareshield PTT Switch - Installation, AMM TASK 23-51-05-400-801.
 - (a) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not OK, then continue.
- (3) Replace the affected ACP:
 - Audio Control Panel Removal, AMM TASK 23-51-02-000-801
 - Audio Control Panel Installation, AMM TASK 23-51-02-400-801.
 - (a) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not OK, then continue.
- (4) Replace the REU, M1353:
 - Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801
 - Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
 - (a) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

- (1) If it is necessary, do these steps to prepare the flight interphone for Repair Confirmation:
 - (a) Make sure that the SERVICE INTERPHONE switch, S50, on the P5 overhead panel, to the OFF position.
 - (b) Make sure that a microphone and headset is connected at all flight interphone stations.
 - (c) Make sure that these steps are completed:
 - 1) Push the flight microphone selector switch on all ACPs. The flight microphone selector switch is labelled FLT, FLT INT, or INT.
 - 2) Push the volume control for the flight microphone selector switch to on.
- (2) Do this check of the flight interphone:
 - (a) Push and hold the test switch on the affected station's ACP in the R/T or RADIO position. The switch is labelled R/T - I/C or RADIO - INT.
 - (b) Speak into the affected station's microphone.
 - 1) Make sure that you can hear the voice clearly from the other stations' headset.
 - (c) Release the test switch.
 - (d) If the voice is heard on all headsets, then you have corrected the problem.

————— **END OF TASK** —————

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805. Captain's Flight Interphone Speaker Problem - Fault Isolation

A. Description

- (1) Sound is not heard from the captain's flight interphone speaker.

B. Possible Causes

- (1) Captain's Flight Interphone Speaker, M77
- (2) Captain's Audio Control Panel, P8-6
- (3) Remote Electronic Unit (REU), M1353
- (4) Wiring

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

D. Related Data

- (1) SSM 23-51-11
- (2) WDM 23-51-11
- (3) WDM 23-51-21
- (4) WDM 23-51-31

E. Initial Evaluation

- (1) Do these steps to prepare the flight interphone for initial evaluation and for fault isolation:
 - (a) Set the SERVICE INTERPHONE switch, S50, on the P5 Overhead Panel to the OFF position.
 - (b) Connect a microphone to the first officer's microphone jack.
 - (c) Set all audio control panels (ACPs) to these conditions:
 - 1) Push all audio monitor switches to off.
 - 2) Push the flight microphone selector switch to on. The flight microphone selector switch is labelled FLT, FLT INT, or INT.
 - a) Make sure its light comes on.
 - 3) Push the volume control for the flight microphone selector switch. The flight microphone selector switch is labelled FLT, FLT INT, or INT.
 - a) Make sure its light comes on.
 - 4) Turn the volume control for the flight microphone selector switch to the middle position. The flight microphone selector switch is labelled FLT, FLT INT, or INT.
 - (d) Set the captain's ACP to these conditions:

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- 1) Push the SPKR volume control switch to on.
 - a) Make sure its light comes on.
 - 2) Turn the SPKR volume control switch to the middle position or to the volume level you are comfortable with.
- (2) Do this check of the captain's flight interphone speaker:
- (a) Push and hold the PTT switch on the first officer's control wheel to the MIC position.
 - (b) Speak into the first officer's microphone.
 - (c) Make sure you can hear the voice clearly from the captain's flight interphone speaker.
 - (d) If the voice is not heard on the captain's flight interphone speaker, then do the Fault Isolation Procedure below.
 - (e) If the voice is heard on the captain's flight interphone speaker, then there was an intermittent fault.

F. Fault Isolation Procedure

- (1) Replace the captain's flight interphone speaker:
 - Flight Interphone Speaker Removal, AMM TASK 23-51-03-000-802
 - Flight Interphone Speaker Installation, AMM TASK 23-51-03-000-804.
 - (a) Do the Repair Confirmation at the end of this task.
 - (b) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not OK, then continue.
- (2) Replace the captain's Audio Control Panel (ACP):
 - Audio Control Panel Removal, AMM TASK 23-51-02-000-801
 - Audio Control Panel Installation, AMM TASK 23-51-02-400-801.
 - (a) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not OK, then continue.
- (3) Replace the Remote Electronic Unit (REU):
 - Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801
 - Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
 - (a) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not OK, then continue.
- (4) Do this check of the wiring:
 - (a) Remove the REU, M1353 from the E4-1 shelf (AMM TASK 23-51-01-000-801).
 - (b) Remove the captain's flight interphone speaker (AMM TASK 23-51-03-000-802).
 - (c) Do a check for an open circuit between connector D2501B, pin D8 of the REU, M1353, and connector D127, pin 1 of the captain's flight interphone speaker, M77:
 - (d) If there is an open circuit, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the captain's flight interphone speaker (AMM TASK 23-51-03-000-804).
 - 3) Re-install the REU (AMM TASK 23-51-01-000-802).
 - 4) Do the Repair Confirmation at the end of this task.



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G. Repair Confirmation

- (1) Do this check of the captain's flight interphone speaker:

NOTE: You must do the steps to prepare for fault isolation that are in the Initial Evaluation before you can do this check.

- (a) Push and hold the PTT switch on the first officer's control wheel to the MIC position.
- (b) Speak into the first officer's microphone.
- (c) Make sure you can hear the voice clearly from the captain's flight interphone speaker.
- (d) If the voice is heard on the captain's flight interphone speaker, then you corrected the fault.

END OF TASK

806. First Officer's Flight Interphone Speaker Problem - Fault Isolation

A. Description

- (1) Sound is not heard from the first officer's flight interphone speaker.

B. Possible Causes

- (1) Remote Electronic Unit (REU), M1353
- (2) First Officer's Audio Control Panel, P8-6
- (3) First Officer's Flight Interphone Speaker, M78
- (4) Wiring

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

D. Related Data

- (1) SSM 23-51-11
- (2) WDM 23-51-11
- (3) WDM 23-51-21
- (4) WDM 23-51-31

E. Initial Evaluation

- (1) Do these steps to prepare the flight interphone for initial evaluation and for fault isolation:
 - (a) Set the SERVICE INTERPHONE switch, S50, on the P5 Overhead Panel to the OFF position.
 - (b) Connect a microphone to the captain's microphone jack.

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- (c) Set all audio control panels (ACPs) to these conditions:
 - 1) Push all audio monitor switches to off.
 - 2) Push the flight microphone selector switch to on. The flight microphone selector switch is labelled FLT, FLT INT, or INT.
 - a) Make sure its light comes on.
 - 3) Push the volume control for the flight microphone selector switch. The flight microphone selector switch is labelled FLT, FLT INT, or INT.
 - a) Make sure its light comes on.
- (d) Set the first officer's ACP to these conditions:
 - 1) Push the SPKR volume control switch to on.
 - a) Make sure its light comes on.
 - 2) Turn the SPKR volume control switch to the middle position or to the volume level you are comfortable with.
- (2) Do this check of the first officer's flight interphone speaker:
 - (a) Push and hold the PTT switch on the captain's control wheel to the MIC position.
 - (b) Speak into the captain's microphone.
 - (c) Make sure you can hear the voice clearly from the first officer's flight interphone speaker.
 - (d) If the voice is not heard on the first officer's flight interphone speaker, then do the Fault Isolation Procedure below.
 - (e) If the voice is heard on the first officer's flight interphone speaker, then there was an intermittent fault.

F. Fault Isolation Procedure

- (1) Replace the first officer's Audio Control Panel (ACP):
 - Audio Control Panel Removal, AMM TASK 23-51-02-000-801
 - Audio Control Panel Installation, AMM TASK 23-51-02-400-801.
 - (a) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not OK, then continue.
- (2) Replace the Remote Electronic Unit (REU):
 - Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801
 - Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
 - (a) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not OK, then continue.
- (3) Replace the first officer's flight interphone speaker:
 - Flight Interphone Speaker Removal, AMM TASK 23-51-03-000-802
 - Flight Interphone Speaker Installation, AMM TASK 23-51-03-000-804.
 - (a) Do the Repair Confirmation at the end of this task.
 - 1) If the Repair Confirmation is not OK, then continue.
- (4) Do this check of the wiring:
 - (a) Remove the REU, M1353 from the E4-1 shelf (AMM TASK 23-51-01-000-801).
 - (b) Remove the first officer's flight interphone speaker (AMM TASK 23-51-03-000-802).

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- (c) Do a check for an open circuit between connector D2501B, pin C11 of the REU, M1353, and connector D129, pin 1 of the first officer's flight interphone speaker, M78:
- (d) If there is an open circuit, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the first officer's flight interphone speaker (AMM TASK 23-51-03-000-804).
 - 3) Re-install the REU (AMM TASK 23-51-01-000-802).
 - 4) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

- (1) Do this check of the first officer's flight interphone speaker:

NOTE: You must do the steps to prepare for fault isolation that are in the Initial Evaluation before you can do this check.

- (a) Push and hold the PTT switch on the captain's control wheel to the MIC position.
- (b) Speak into the captain's microphone.
- (c) Make sure you can hear the voice clearly from the first officer's flight interphone speaker.
- (d) If the voice is heard on the first officer's flight interphone speaker, then you corrected the fault.

———— **END OF TASK** ————

807. Audio Control Panel Problems - Fault Isolation

A. Description

- (1) The audio control panel does not operate correctly at one station. The other stations operate correctly.

B. Possible Causes

- (1) Audio Control Panel (ACP), P8-6 (captain's), P8-7 (first officer's), or P5-15 (observer's)

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

D. Related Data

- (1) SSM 23-51-11
- (2) WDM 23-51-11
- (3) WDM 23-51-21
- (4) WDM 23-51-31

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E. Initial Evaluation

- (1) Do these steps to prepare the audio control panel for initial evaluation and for fault isolation:
 - (a) Visually examine the audio control panel.
 - 1) Identify the light or switch that does not operate correctly.

F. Fault Isolation Procedure

- (1) Replace the affected Audio Control Panel (ACP):
 - Audio Control Panel Removal, AMM TASK 23-51-02-000-801
 - Audio Control Panel Installation, AMM TASK 23-51-02-400-801.
- (a) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

- (1) Do this check of the audio control panel:
 - (a) Operate the light or switch that did not operate correctly.
 - (b) If the light or switch now operates correctly, then you corrected the fault.

———— **END OF TASK** ————

808. Captain's (First Officer's, Observer's) Oxygen Mask Communication Problems - Fault Isolation

A. Description

- (1) The Captain's (First Officer's, Observer's) oxygen mask communication does not operate correctly.

B. Possible Causes

- (1) Oxygen Mask, M524 (M525, M526)
- (2) Captain's (First Officer's, Observer's) Oxygen Mask Stowage Panel, P21-7 (P23-7, P61-7)
- (3) Captain's (First Officer's, Observer's) ACP, P8-6 (P8-7, P5-15)
- (4) REU, M1353
- (5) Wiring

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	2	C00412	INSTR XFR

F/O Electrical System Panel, P6-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	21	C00560	INTERPHONE POWER F/O DC 2
C	22	C00561	INTERPHONE POWER F/O BAT
C	23	C00239	INTERPHONE POWER CAPT DC 2
C	24	C00240	INTERPHONE POWER CAPT BAT
D	21	C00084	INTPH AND WARN
D	22	C00086	AUDIO F/O
D	23	C00083	AUDIO CAPT
D	24	C00085	AUDIO OBS

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D. Related Data

- (1) SSM 23-51-11
- (2) WDM 23-51-11
- (3) WDM 23-51-21
- (4) WDM 23-51-31

E. Initial Evaluation

- (1) Do a test for the applicable oxygen mask microphone: Oxygen Mask Microphone - Operational Test, AMM TASK 23-51-00-710-803.
 - (a) If the oxygen mask microphone operate correctly, then there was an intermittent fault.
 - (b) If the oxygen mask microphone does not operate correctly, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

- (1) Replace the Oxygen Mask, M524 (M525, M526). These are the tasks:
 - Oxygen Mask/Regulator Removal, AMM TASK 35-12-85-000-802
 - Oxygen Mask/Regulator Installation, AMM TASK 35-12-85-400-802.
 - (a) Do the Repair Confirmation at the end of this task.
- (2) Do this wiring check (WDM 21-51-11, WDM 21-51-21, WDM 23-51-31):
 - (a) Use Wiring Diagram Manual (WDM) to identify the pins of connector D6049 (D6051, D6053) and pins of connector D2501B for the interface between Captain's (First Officer's, Observer's) Oxygen Mask Stowage Panel, P21-7 (P23-7, P61-7) and REU, M1353.
 - (b) Remove the Captain's (First Officer's, Observer's) Oxygen Mask Stowage Panel, P21-7 (P23-7, P61-7). This is the task: Oxygen Mask Stowage Box Removal, AMM TASK 35-12-85-000-801.
 - (c) Remove the REU, M1353. This is the task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801.
 - (d) Do a wiring check between pins of connector D6049 (D6051, D6053) at the Captain's (First Officer's, Observer's) Oxygen Mask Stowage Panel and pins of connector D2501B at the E4-1 Shelf.
 - (e) If you find a problem with the wiring, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the Captain's (First Officer's, Observer's) Oxygen Mask Stowage Panel, P21-7 (P23-7, P61-7). This is the task: Oxygen Mask Stowage Box Installation, AMM TASK 35-12-85-400-801.
 - 3) Re-install the REU, M1353. This is the task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
 - 4) Do the Repair Confirmation at the end of this task.
 - (f) If you do not find a problem with the wiring, then do this step and continue:
 - 1) Re-install the REU, M1353. This is the task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
- (3) Do this wiring check (WDM 21-51-11, WDM 21-51-21, WDM 23-51-31):

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- (a) Remove the Captain's (First Officer's, Observer's) Oxygen Mask Stowage Panel, P21-7 (P23-7, P61-7). This is the task: Oxygen Mask Stowage Box Removal, AMM TASK 35-12-85-000-801.
- (b) Remove the Captain's (First Officer's, Observer's) ACP, P8-6 (P8-7, P5-15). This is the task: Audio Control Panel Removal, AMM TASK 23-51-02-000-801.
- (c) Do a wiring check as follows:

CAPTAIN

CAPTAINS

**OXYGEN MASK
STOWAGE PNL,
P21-7
D6049**

pin E

**CAPT AUDIO
CONTROL
PANEL, P8-6
D133**

pin E

FIRST OFFICER

F/O OXYGEN

**MASK
STOWAGE PNL,
P23-7
D6051**

pin E

**F/O AUDIO
CONTROL
PANEL, P8-7
D137**

pin E

OBSERVER

**OXYGEN MASK
STOWAGE PNL,
P61-7
D6053**

pin E

**OBS AUDIO
CONTROL
PANEL, P5-15
D139**

pin E

- (d) Do a continuity check to make sure that this pin of connector D6049 (D6051, D6053) has continuity to the Structure Ground as follows:

CAPTAIN

CAPTAINS

**OXYGEN MASK
STOWAGE PNL,
P21-7
D6049**

pin F

GND

FIRST OFFICER

F/O OXYGEN

**MASK
STOWAGE PNL,
P23-7
D6051**

pin F

GND

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OBSERVER

**OXYGEN MASK
STOWAGE PNL,
P61-7
D6053**

pin F GND

- (e) If you find a problem with the wiring, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the Captain's (First Officer's, Observer's) Oxygen Mask Stowage Panel, P21-7 (P23-7, P61-7). This is the task: Oxygen Mask Stowage Box Installation, AMM TASK 35-12-85-400-801.
 - 3) Re-install the Captain's (First Officer's, Observer's) ACP, P8-6 (P8-7, P5-15). This is the task: Audio Control Panel Installation, AMM TASK 23-51-02-400-801.
 - 4) Do the Repair Confirmation at the end of this task.
- (f) If you do not find a problem with the wiring, then do this step and continue:
 - 1) Re-install the Captain's (First Officer's, Observer's) Oxygen Mask Stowage Panel, P21-7 (P23-7, P61-7). This is the task: Oxygen Mask Stowage Box Installation, AMM TASK 35-12-85-400-801.
- (4) Do this wiring check (WDM 21-51-11, WDM 21-51-21, WDM 23-51-31):
 - (a) Remove the REU, M1353. This is the task: Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801.
 - (b) Remove the Captain's (First Officer's, Observer's) ACP, P8-6 (P8-7, P5-15). This is the task: Audio Control Panel Removal, AMM TASK 23-51-02-000-801.
 - (c) Do a wiring check as follows:

CAPTAIN

**CAPT AUDIO
CONTROL
PANEL, P8-6
D133**

pin A pin K1
pin B pin K2

**REMOTE
ELECTRONIC
UNIT, M1353
D2501B**

FIRST OFFICER

**F/O AUDIO
CONTROL
PANEL, P8-6
D137**

pin A pin K6
pin B pin K7

**REMOTE
ELECTRONIC
UNIT, M1353
D2501B**

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OBSERVER

**OBS AUDIO
CONTROL
PANEL, P5-15
D139**

**REMOTE
ELECTRONIC
UNIT, M1353
D2501B**

pin A pin K11
pin B pin K12

- 1) If you find a problem with the wiring, then do these steps:
 - a) Repair the wiring.
 - b) Re-install the REU, M1353. This is the task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
 - c) Re-install the Captain's (First Officer's, Observer's) ACP, P8-6 (P8-7, P5-15). This is the task: Audio Control Panel Installation, AMM TASK 23-51-02-400-801.
 - d) Do the Repair Confirmation at the end of this task.
- 2) If you do not find a problem with the wiring, then do these steps and continue:
 - a) Re-install the REU, M1353. This is the task: Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
 - b) Re-install the Captain's (First Officer's, Observer's) ACP, P8-6 (P8-7, P5-15). This is the task: Audio Control Panel Installation, AMM TASK 23-51-02-400-801.
- (5) Replace the Captain's (First Officer's, Observer's) Oxygen Mask Stowage Panel, P21-7 (P23-7, P61-7). These are the tasks:
 - Oxygen Mask Stowage Box Removal, AMM TASK 35-12-85-000-801
 - Oxygen Mask Stowage Box Installation, AMM TASK 35-12-85-400-801.
 - (a) Do the Repair Confirmation at the end of this task.
- (6) Replace the Captain's (First Officer's, Observer's) ACP, P8-6 (P8-7, P5-15). These are the tasks:
 - Audio Control Panel Removal, AMM TASK 23-51-02-000-801
 - Audio Control Panel Installation, AMM TASK 23-51-02-400-801.
 - (a) Do the Repair Confirmation at the end of this task.
- (7) Replace the REU, M1353. These are the tasks:
 - Remote Electronics Unit (REU) Removal, AMM TASK 23-51-01-000-801
 - Remote Electronics Unit (REU) Installation, AMM TASK 23-51-01-000-802.
 - (a) Do the Repair Confirmation at the end of this task.

G. Repair Confirmation

- (1) Do a test for the applicable oxygen mask microphone: Oxygen Mask Microphone - Operational Test, AMM TASK 23-51-00-710-803.
 - (a) If the observed fault symptom is gone, then you corrected a problem.
 - (b) If the observed fault symptom stays, then continue the Fault Isolation Procedure at the subsequent step.

———— **END OF TASK** ————

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801. Voice Recorder Monitor Jack Signal Problem - Fault Isolation

A. Description

- (1) No sound is heard through the headset/headphone.

B. Possible Causes

- (1) Headset/headphone
- (2) Voice recorder unit, M383
- (3) Voice recorder control panel, P5-7
- (4) Wiring or connector.

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	6	C01948	VOICE RCDR/RIPS

This circuit breaker is inoperative and should remain open:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	7	C00107	VOICE RCDR (INOP)

D. Related Data

- (1) (SSM 23-71-11)
- (2) (WDM 23-71-01)

E. Initial Evaluation

- (1) Connect the headphone, STD-1390 to the voice recorder control panel at the pilot's overhead panel, P5.
- (2) Set the volume control switches on the audio control panels (ACP) to the off position.
- (3) Set the CVR AUTO/ON switch to the ON position.

NOTE: Both engines must be off for at least five minutes.

- (a) Make sure that the CVR AUTO/ON switch stays in the ON position.
- (4) Make sure that you can hear the flight deck conversation in the headphone.
- (5) Push and hold the TEST switch on the voice recorder control panel.
 - (a) Make sure that you can hear a tone in the headphone.
 - 1) If you hear a tone in the headphone, then continue.
 - 2) If you do not hear a tone in the headphone, then do the Fault Isolation procedure below.
- (6) Release the TEST switch.
- (7) Speak into the microphones for the captain, the first officer, and the first observer, and the area microphone on the P5 overhead panel.
 - (a) If you hear your voice on all four channels through the headphone at the voice recorder control panel, then there was an intermittent fault.

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- (b) If you can not hear your voice on all four channels through the headphone at the voice recorder control panel, then do the Fault Isolation Procedure below.
- (8) Set the CVR AUTO/ON switch back to the AUTO position.

F. Fault Isolation Procedure

- (1) Replace the voice recorder, M383.

These are the tasks:

Voice Recorder Removal, AMM TASK 23-71-11-000-801,

Voice Recorder Installation, AMM TASK 23-71-11-400-801.

- (a) Push and hold the TEST switch on the voice recorder control panel.
 - (b) If you hear a modulated sound through the headphone at the voice recorder control panel, then you corrected the fault.
 - (c) If you do not hear a modulated sound through the headphone at the voice recorder control panel, then continue.
 - (d) Release the TEST switch.
- (2) Replace the voice recorder control panel, P5-7.
- These are the tasks:
- Voice Recorder Control Panel Removal, AMM TASK 23-71-12-000-801,
Voice Recorder Control Panel Installation, AMM TASK 23-71-12-400-801.
- (a) Push and hold the TEST switch on the voice recorder control panel.
 - (b) If you hear a modulated sound through the headphone at the voice recorder control panel, then you corrected the fault.
 - (c) If you do not hear a modulated sound through the headphone at the voice recorder control panel, then continue.
 - (d) Release the TEST switch.
- (3) Do this check of the wiring:
- (a) Remove the voice recorder control panel, P5-7. To remove it, do this task: Voice Recorder Control Panel Removal, AMM TASK 23-71-12-000-801.
 - (b) Do a wiring check between these pins of connector D179, at the P5 overhead panel, and connector D177, at the voice recorder rack.

D179		D177
pin B	.....	pin 13
pin C	.....	pin 14
pin L	.....	pin 47
pin K	.....	pin 45
pin V	.....	pin 5
pin W	.....	pin 6

- (c) If you find a problem with the wiring, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the voice recorder unit, M383. To install it, do this task:Voice Recorder Installation, AMM TASK 23-71-11-400-801.
 - 3) Re-install the voice recorder control panel, P5-7. To install it, do this task:Voice Recorder Control Panel Installation, AMM TASK 23-71-12-400-801.

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- 4) Push the TEST switch on the voice recorder control panel for 3 to 5 seconds.
- 5) If you hear a modulated sound through the headphone at the voice recorder control panel, then you corrected the fault.

———— **END OF TASK** ————

804. Voice Recorder STATUS Light or TEST Light Problem - Fault Isolation

A. Description

- (1) When you push the TEST Button on the Cockpit Voice Recorder (CVR) Control Panel for approximately 5 seconds, the STATUS or TEST Light does not come ON.

B. Possible Causes

- (1) Voice Recorder Unit, M383
- (2) Voice Recorder Control Panel, P5-7
- (3) Recorder Independent Power Supply (RIPS) Battery Pack
- (4) RIPS, M2862
- (5) CVR Dispatch Relay, R1069
- (6) Circuit Breaker, C1537
- (7) Wiring

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	7	C01537	VOICE RCDR RELAY
D	6	C01948	VOICE RCDR/RIPS

This circuit breaker is inoperative and should remain open:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	7	C00107	VOICE RCDR (INOP)

D. Related Data

- (1) SSM 23-71-11
- (2) SSM 23-27-35
- (3) WDM 23-71-01
- (4) WDM 23-27-35

E. Initial Evaluation

- (1) Do this task: ACARS - Operational Test, AMM TASK 23-27-00-740-816-010 to make sure that Aircraft Communications Addressing And Reporting System (ACARS) is serviceable.

NOTE: The ACARS must be serviceable with the correct software installed in the ACARS Communications Management Unit (CMU) in order to get the operational test of the Voice Recorder System to pass.

- (2) Set the CVR AUTO/ON Switch to the ON position.

NOTE: Both engines must be off for at least 5 minutes.

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- (a) Make sure that the CVR AUTO/ON Switch stays in the ON position.
- (3) Push the TEST Switch, on the P5-7 Voice Recorder Control Panel, for approximately 5 seconds.
 - (a) If the STATUS or TEST Light comes ON, then there was an intermittent problem.
 - (b) If the STATUS or TEST Light does not come ON, then do the Fault Isolation Procedure below.

F. Fault Isolation Procedure

- (1) Do this check of the wiring (WDM 23-71-01):
 - (a) At the maintenance port connector D10101, use a digital/analog multimeter, COM-1793, to do a continuity check at pin 1.
 - 1) If pin 1 does not read continuity to ground (resistance is open or infinity), then repair the wiring.
 - a) Do the Repair Confirmation at the end of this task.
 - 2) If pin 1 shows continuity to ground (resistance is approximately zero (0) Ω , then continue.
 - 3) Attach the Black (Negative) lead of the multimeter to Pin 1 of connector D10101 as a ground reference when taking measurements in the subsequent steps.
 - (b) At the maintenance port connector D10101, use a digital/analog multimeter, COM-1793, set to the DIODE position and do a continuity check between pin 1 and pin 6.

SIA ALL; AIRPLANES WITH RIPS PART NUMBER 100-3020-400

- 1) If a continuity check between pin 1 and pin 6 does not read a value between 400 to 700 millivolts (ground condition), then replace the Battery Pack of the RIPS, M2862. This is the task: Recorder Independent Power Supply (RIPS) Battery - Replacement, AMM TASK 23-71-22-960-801.
 - a) Supply electrical power. This is the task: Supply Electrical Power, AMM TASK 24-22-00-860-811.
 - <1> Wait for 15 (fifteen) minutes after you supply electrical power to the airplane.

NOTE: If you do not wait fifteen minutes, it is possible the value you see will not be satisfactory because the battery is at a low state of charge.
 - b) Do the Repair Confirmation at the end of this task.
- 2) If continuity check between pin 1 and pin 6 reads a value between 400 to 700 millivolts (ground state), then continue.

SIA ALL; AIRPLANES WITH RIPS PART NUMBER 100-3010-401

- 3) If a continuity check between pin 1 and pin 6 does not read a value less than 700 millivolts (ground condition), then replace the Battery Pack of the RIPS, M2862. This is the task: Recorder Independent Power Supply (RIPS) Battery - Replacement, AMM TASK 23-71-22-960-801.
 - a) Supply electrical power. This is the task: Supply Electrical Power, AMM TASK 24-22-00-860-811.

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SIA ALL; AIRPLANES WITH RIPS PART NUMBER 100-3010-401 (Continued)

<1> Wait for 15 (fifteen) minutes after you supply electrical power to the airplane.

NOTE: If you do not wait fifteen minutes, it is possible the value you see will not be satisfactory because the battery is at a low state of charge.

- b) Do the Repair Confirmation at the end of this task.
- 4) If continuity check between pin 1 and pin 6 reads a value less than 700 millivolts (ground state), then continue.

SIA ALL

(c) At the maintenance port connector D10101, use a digital/analog multimeter, COM-1793, to do a continuity check between pin 1 and pin 8.

1) If a continuity check between pin 1 and pin 8 does not read a value < 100 Ω , then do the steps that follow:

a) Do a wiring check between these pins of connector D177 at the Voice Recorder Rack and connector D10727B at the CMU-1 (WDM 23-27-35):

VOICE RECORDER, M383

D177

pin 33

pin 34

CMU-1, M2127

D10727B

pin D15

pin C15

b) If you find a problem with the wiring, then do these steps:

<1> Repair the wiring.

<2> At the maintenance port connector D10101, use a digital/analog multimeter, COM-1793, to do a continuity check between pin 1 and pin 8.

<a> If a continuity check between pin 1 and pin 8 does not read a value < 100 Ω , then go to the step below that looks at the front panel of the Voice Recorder Unit, M383.

 If continuity check between pin 1 and pin 8 reads a value < 100 Ω , then continue.

2) If continuity check between pin 1 and pin 8 reads a value < 100 Ω , then continue.

(d) At the maintenance port connector D10101, use a digital/analog multimeter, COM-1793, to do a continuity check between pin 1 and pin 12.

1) If a continuity check between pin 1 and pin 12 reads a value < 100 Ω , then replace the Voice Recorder Control Panel, P5-7. These are the tasks:

- Voice Recorder Control Panel Removal, AMM TASK 23-71-12-000-801
- Voice Recorder Control Panel Installation, AMM TASK 23-71-12-400-801

2) If continuity check between pin 1 and pin 12 does not read a value < 100 Ω , then continue.

(2) Replace the Voice Recorder Unit, M383. These are the tasks:

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- Voice Recorder Removal, AMM TASK 23-71-11-000-801
- Voice Recorder Installation, AMM TASK 23-71-11-400-801
- (a) Do the Repair Confirmation at the end of this task.
- (3) Replace the Battery Pack of the RIPS, M2862. This is the task: Recorder Independent Power Supply (RIPS) Battery - Replacement, AMM TASK 23-71-22-960-801.
 - (a) Supply electrical power. This is the task: Supply Electrical Power, AMM TASK 24-22-00-860-811.
 - 1) Wait for 15 (fifteen) minutes after you supply electrical power to the airplane.

NOTE: If you do not wait fifteen minutes, it is possible the value you see will not be satisfactory because the battery is at a low state of charge.
 - (b) Do the Repair Confirmation at the end of this task.
- (4) Replace the RIPS, M2862. These are the tasks:
 - Recorder Independent Power Supply - Removal, AMM TASK 23-71-22-000-801
 - Recorder Independent Power Supply - Installation, AMM TASK 23-71-22-400-801
 - (a) Do the Repair Confirmation at the end of this task.
- (5) Replace the P5-7 Voice Recorder Control Panel. These are the tasks:
 - Voice Recorder Control Panel Removal, AMM TASK 23-71-12-000-801
 - Voice Recorder Control Panel Installation, AMM TASK 23-71-12-400-801
 - (a) Do the Repair Confirmation at the end of this task.
- (6) Replace the CVR Dispatch Relay, R1069 on the J11 Panel as follows (WDM 23-71-01):
 - (a) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	7	C01537	VOICE RCDR RELAY
 - (b) Replace the CVR Dispatch Relay, R1069.
 - (c) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	7	C01537	VOICE RCDR RELAY
 - (d) Do the Repair Confirmation at the end of this task.
- (7) Do this check of the wiring (WDM 23-71-01):
 - (a) Remove the Voice Recorder Unit, M383. This is the task: Voice Recorder Removal, AMM TASK 23-71-11-000-801.
 - (b) Remove the P5-7 Voice Recorder Control Panel. This is the task: Voice Recorder Control Panel Removal, AMM TASK 23-71-12-000-801.
 - (c) Do a wiring check as follows:

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**VOICE
RECORDER
CONT PNL, P5-7
D179**

pin E pin 16

**VOICE
RECORDER,
M383
D177**

- 1) If you find the problem with the wiring, then do these steps:
 - a) Repair the wiring.
 - b) Re-install the P5-7 Voice Recorder Control Panel. This is the task: Voice Recorder Control Panel Installation, AMM TASK 23-71-12-400-801.
 - c) Re-install the Voice Recorder Unit, M383. This is the task: Voice Recorder Installation, AMM TASK 23-71-11-400-801.
 - d) Do the Repair Confirmation at the end of this task.
- 2) If you do not find the problem with the wiring, then do these steps and continue:
 - a) Re-install the P5-7 Voice Recorder Control Panel. This is the task: Voice Recorder Control Panel Installation, AMM TASK 23-71-12-400-801.
 - b) Re-install the Voice Recorder Unit, M383. This is the task: Voice Recorder Installation, AMM TASK 23-71-11-400-801.

(8) Do this voltage check (WDM 23-71-01):

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

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	7	C01537	VOICE RCDR RELAY

- (b) Remove the CVR Dispatch Relay, R1069 from the J11 Panel.
(c) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	7	C01537	VOICE RCDR RELAY

- (d) Do a voltage check as follows:

**RELAY-CVR
DISPATCH,
R1069**

D13187

pin 7 GND

**VOLTAGE
28 VDC**

- 1) If the correct voltage is not present, then do this check of the wiring:
 - a) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	7	C01537	VOICE RCDR RELAY

- b) Do a wiring check as follows:

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RELAY-CVR
DISPATCH,
R1069
D13187

VOICE RCDR
RELAY,
C1537

pin 7 term =L

- <1> If you find a problem with the wiring, then do these steps:
- <a> Repair the wiring.
 - Re-install the CVR Dispatch Relay, R1069.
 - <c> Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	7	C01537	VOICE RCDR RELAY

<d> Do the Repair Confirmation at the end of this task.

- <2> If you do not find a problem with the wiring, then do these steps:

<a> Replace this circuit breaker:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	7	C01537	VOICE RCDR RELAY

 Do the Repair Confirmation at the end of this task.

- 2) If the correct voltage is present, then continue.

- (9) Do this check of the wiring (WDM 23-71-01):

- (a) Remove the Voice Recorder Unit, M383. This is the task: Voice Recorder Removal, AMM TASK 23-71-11-000-801.
- (b) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	7	C01537	VOICE RCDR RELAY

- (c) Do a wiring check as follows:

RELAY-CVR
DISPATCH,
R1069
D13187

VOICE
RECORDER,
M383
D177

pin 2 pin 15
pin 3 pin 31

- 1) If you find the problem with the wiring, then do these steps:
- a) Repair the wiring.
 - b) Re-install the CVR Dispatch Relay, R1069.
 - c) Re-install the Voice Recorder Unit, M383. This is the task: Voice Recorder Installation, AMM TASK 23-71-11-400-801.

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

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	7	C01537	VOICE RCDR RELAY

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

- 2) If you do not find the problem with the wiring, then do this step and continue:

- a) Re-install the Voice Recorder Unit, M383. This is the task: Voice Recorder Installation, AMM TASK 23-71-11-400-801.

- (10) Do this check of the wiring (WDM 23-71-01):

- (a) Remove the RIPS, M2862. This is the task: Recorder Independent Power Supply - Removal, AMM TASK 23-71-22-000-801.

- (b) Do a wiring check as follows:

RELAY-CVR

DISPATCH,

R1069

D13187

pin 5 pin 10

RIPS, M2862

D13185

- 1) If you find the problem with the wiring, then do these steps:

- a) Repair the wiring.
b) Re-install the CVR Dispatch Relay, R1069.
c) Re-install the RIPS, M2862. This is the task: Recorder Independent Power Supply - Installation, AMM TASK 23-71-22-400-801.
d) Do the Repair Confirmation at the end of this task.

- 2) If you do not find the problem with the wiring, then do this step and continue:

- a) Re-install the CVR Dispatch Relay, R1069.

- (11) Do this check of the wiring (WDM 23-71-01):

- (a) Remove the P5-7 Voice Recorder Control Panel. This is the task: Voice Recorder Control Panel Removal, AMM TASK 23-71-12-000-801.

- (b) Do a wiring check as follows:

VOICE

RECORDER

CONT PNL, P5-7

D179

pin D pin 11

RIPS, M2862

D13185

- 1) If you find the problem with the wiring, then do these steps:

- a) Repair the wiring.
b) Re-install the P5-7 Voice Recorder Control Panel. This is the task: Voice Recorder Control Panel Installation, AMM TASK 23-71-12-400-801.
c) Re-install the RIPS, M2862. This is the task: Recorder Independent Power Supply - Installation, AMM TASK 23-71-22-400-801.

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

G. Repair Confirmation

- (1) Push the TEST Switch, on the P5-7 Voice Recorder Control Panel, for approximately 5 seconds.
 - (a) If the STATUS or TEST Light comes ON, then you corrected the problem.
 - (b) If the STATUS or TEST Light does not come ON, then continue the Fault Isolation Procedure at the subsequent step.

————— **END OF TASK** —————

805. CVR System Operation Problem (Airplanes With AUTO/ON Switch) - Fault Isolation

A. Description

- (1) Cockpit voice recorder (CVR) system does not operate correctly.

B. Possible Causes

- (1) Voice recorder unit, M383
- (2) Voice recorder control panel, P5-7
- (3) CVR AUTO/ON switch, P5-88
- (4) Recorder Independent Power Supply, M2862
- (5) MOAO RIPS power cutoff relay, R1112
- (6) CVR switch latching relay, R780
- (7) Engine 1 running relay, R737
- (8) Engine 2 running relay, R738
- (9) Wiring problem

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
C	7	C01537	VOICE RCDR RELAY
D	6	C01948	VOICE RCDR/RIPS

This circuit breaker is inoperative and should remain open:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	7	C00107	VOICE RCDR (INOP)

D. Related Data

- (1) (SSM 23-71-11)
- (2) (WDM 23-71-01)

E. Initial Evaluation

- (1) Do these steps to do the Initial Evaluation:
 - (a) Do this task: ACARS - Operational Test, AMM TASK 23-27-00-740-816-010 to make sure that ACARS system is serviceable.

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- (b) Connect the headphone, STD-1390 to the HEADPHONE/HEADSET jack on the voice recorder control panel.
- (c) Set the CVR AUTO/ON switch (P5 overhead panel) to the ON position.
NOTE: Both engines must be off for at least 10 minutes.
 - 1) Make sure that the CVR AUTO/ON switch stays in the ON position.
- (d) Set the left engine start lever to the IDLE position.
 - 1) Make sure that the right engine start lever is in the OFF position.
 - 2) Wait approximately 5 minutes.
NOTE: The CDS will energize the engine running relay 5 minutes after you put the start lever in the IDLE position.
 - 3) Make sure that the CVR AUTO/ON switch moves from the ON position to the AUTO position.
- (e) Push and hold the TEST switch on the CVR control panel (P5 panel) for 5 seconds.
NOTE: The test continues as long as the TEST switch is pushed.
 - 1) Make sure that you hear a test tone in the headphone while you push the TEST switch.
 - 2) Make sure that the light on the CVR control panel comes on while you push the TEST switch.
- (f) Release the TEST switch.
- (g) If the test is not satisfactory, then make a note that there is a problem with the left engine/CVR operation and continue.
- (h) Set the left engine start lever to the OFF position.
 - 1) Wait approximately 10 minutes.
NOTE: The voice recorder will continue to operate for 10 minutes after both engines have stopped running, or engine running simulation has been discontinued.
- (i) Set the CVR AUTO/ON switch (P5 overhead panel) to the ON position.
NOTE: Both engines must be off for at least 10 minutes.
 - 1) Make sure that the CVR AUTO/ON switch stays in the ON position.
- (j) Set the right engine start lever to the IDLE position.
 - 1) Wait approximately 5 minutes.
NOTE: The CDS will energize the engine running relay 5 minutes after you put the start lever in the IDLE position.
 - 2) Make sure that the CVR AUTO/ON switch moves from the ON position to the AUTO position.
- (k) Push and hold the TEST switch on the CVR control panel (P5 panel) for 5 seconds.
NOTE: The test continues as long as the TEST switch is pushed.
 - 1) Make sure that you hear a test tone in the headphone while you push the TEST switch.
 - 2) Make sure that the light on the CVR control panel comes on while you push the TEST switch.
- (l) Release the TEST switch.

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- (m) If the test was not satisfactory, then make a note that there is a problem with the right engine/CVR operation and continue.
 - (n) Set the right engine start lever to the OFF position.
 - (o) Make sure that the left and right engine start levers are each set to the off position.
 - 1) Wait approximately 10 minutes.
 - (p) Set the CVR AUTO/ON switch (P5 overhead panel) to the ON position.

NOTE: Both engines must be off for at least 10 minutes.

 - 1) Make sure that the CVR AUTO/ON switch stays in the ON position.
 - 2) If the CVR AUTO/ON switch does not stay in the ON position, then go to the Fault Isolation Procedure - CVR AUTO/ON Switch Operation Problem, Switch Does Not Stay ON.
 - (q) Push and hold the TEST switch on the CVR control panel (P5 panel) for 5 seconds.

NOTE: The test continues as long as the TEST switch is pushed.

 - 1) Make sure that you hear a test tone in the headphone while you push the TEST switch.
 - 2) Make sure that the light on the CVR control panel comes on while you push the TEST switch.
 - (r) Release the TEST switch.
 - (s) If the test was not satisfactory, then make a note that there is a problem with the CVR AUTO/ON switch operation and continue.
- (2) If the CVR did not operate correctly, then do these steps:
- (a) If the CVR did not operate correctly for all of the conditions above, then do the Fault Isolation Procedure - CVR System Operation Problem.
 - (b) If there was a problem with the left and right engine/CVR operation, then do the Fault Isolation Procedure - Left and Right Engine/CVR Operation Problem.
 - (c) If there was a problem with the left engine/CVR operation, then do the Fault Isolation Procedure - Left Engine/CVR Operation Problem.
 - (d) If there was a problem with the right engine/CVR operation, then do the Fault Isolation Procedure - Right Engine/CVR Operation Problem.
 - (e) If there was a problem with the CVR AUTO/ON switch operation, then do the Fault Isolation Procedure - CVR AUTO/ON Switch Operation Problem.
 - (f) If there was a problem with the CVR AUTO/ON switch operation where the switch did not stay ON, then do the Fault Isolation Procedure - CVR AUTO/ON Switch Operation Problem, Switch Does Not Stay ON.
- (3) If the CVR did operate correctly, then there was an intermittent fault.

F. Fault Isolation Procedure - CVR System Operation Problem

- (1) Replace the voice recorder, M383.
- These are the tasks:
- Voice Recorder Removal, AMM TASK 23-71-11-000-801,
Voice Recorder Installation, AMM TASK 23-71-11-400-801.
- (a) Do the Repair Confirmation at the end of this task.
 - (b) If the Repair Confirmation is not satisfactory, then continue.

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- (2) Replace the voice recorder control panel, P5-7.

These are the tasks:

Voice Recorder Control Panel Removal, AMM TASK 23-71-12-000-801,
Voice Recorder Control Panel Installation, AMM TASK 23-71-12-400-801.

- (a) Do the Repair Confirmation at the end of this task.
(b) If the Repair Confirmation is not satisfactory, then continue.
- (3) Do this check of the wiring to the voice recorder:
- (a) Remove the voice recorder, M383. To remove it, do this task: Voice Recorder Removal, AMM TASK 23-71-11-000-801.
(b) Set one of the two engine start levers to the IDLE position.
(c) Remove the safety tag and close this circuit breaker:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	6	C01948	VOICE RCDR/RIPS

- (d) Do a check for 28 VDC between pin 9 and pin 3 (ground) of connector D177 for the voice recorder.
- (e) If there is not 28 VDC between pin 9 and pin 3 of connector D177, then do these steps:
- 1) Do a check for 28 VDC between the load terminal of VOICE RCDR circuit breaker, C1948 and structure ground.
- 2) If there is not 28 VDC at the load terminal, then do these steps:
- a) Replace the following circuit breaker:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	6	C01948	VOICE RCDR/RIPS

- b) Open this circuit breaker and install safety tag:

CAPT Electrical System Panel, P18-2

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
D	6	C01948	VOICE RCDR/RIPS

- c) Re-install the voice recorder, M383. To install it, do this task: Voice Recorder Installation, AMM TASK 23-71-11-400-801.
- d) Do the Repair Confirmation at the end of this task.
- 3) If there is 28 VDC at the load terminal, then do these steps:
- a) Do a check for 28 VDC between pin A2 and pin X2 (ground) of connector D13401 at the MOAO RIPS power cutoff relay, R1112.
- b) If there is 28 VDC at pin A2 of MOAO RIPS power cutoff relay, R1112, then do these steps:
- <1> Replace the MOAO RIPS power cutoff relay, R1112.
- <a> Do the Repair Confirmation at the end of this task.
- If the Repair Confirmation is not satisfactory, then continue.

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- <2> Repair the wiring between pin A1 of MOAO RIPS power cutoff relay, R1112 and pin 9 of the voice recorder, M383.
 - <a> Do the Repair Confirmation at the end of this task.
 - If the Repair Confirmation is not satisfactory, then continue.
- c) If there is not 28 VDC at pin A2 of MOAO RIPS power cutoff relay, R1112, then do these steps:
 - <1> Do a check for 28 VDC between pin 4 and structure ground of connector D13185 at the RIPS, M2862.
 - <2> If there is 28 VDC input to the RIPS, M2862, then do these steps:
 - <a> Replace the battery pack of the RIPS, M2862.

This is the task:
Recorder Independent Power Supply (RIPS) Battery - Replacement, AMM TASK 23-71-22-960-801
 - Wait for 15 minutes to continue next the step.

NOTE: It is necessary to wait 15 minutes for the battery to charge up after the power supplied to the airplane. If you do not wait for 15 minutes, it is possible that the test will not be satisfactory.
 - <c> Do the Repair Confirmation at the end of this task.
 - <d> If the Repair Confirmation is not satisfactory, then continue.
 - <e> Replace the RIPS unit, M2862.

These are the tasks:
Recorder Independent Power Supply - Removal, AMM TASK 23-71-22-000-801,
Recorder Independent Power Supply - Installation, AMM TASK 23-71-22-400-801.
 - <f> Do the Repair Confirmation at the end of this task.
 - <g> If the Repair Confirmation is not satisfactory, then continue.
 - <h> Repair the wiring between pin 8 of connector D13185 at the RIPS, M2862 and pin A2 of connector D13401 at relay, R1112.
 - <i> Do the Repair Confirmation at the end of this task.
 - <3> If there is no 28 VDC input to the RIPS, M2862, then do these steps:
 - <a> Repair the wiring between pin 4 of connector D13185 and the circuit breaker, C1948.
 - Do the Repair Confirmation at the end of this task.
- (f) If there is 28 VDC between pin 9 and pin 3 of connector D177, then continue.
- (4) Do this check of the wiring to the CVR AUTO/ON switch:
 - (a) Disconnect connector D11125 from the CVR AUTO/ON switch.
 - (b) Make sure that this circuit breaker is closed:

CAPT Electrical System Panel, P18-2

Row	Col	Number	Name
C	7	C01537	VOICE RCDR RELAY

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- (c) Do a check for 28 VDC between pin 4 of connector D11125 and structure ground.
- (d) If there is not 28 VDC at pin 4 of connector D11125, then do these steps:
 - 1) Do a check for 28 VDC between the load terminal of VOICE RCDR RELAY circuit breaker, C1537 and structure ground.
 - 2) If there is not 28 VDC at the load terminal of VOICE RCDR RELAY circuit breaker C1537, then do these steps:
 - a) Replace the circuit breaker C1537.
 - b) Re-connect connector D11125 to the CVR AUTO/ON switch.
 - c) Re-install the voice recorder, M383. To install it, do this task: Voice Recorder Installation, AMM TASK 23-71-11-400-801.
 - d) Do the Repair Confirmation at the end of this task.
 - 3) If there is 28 VDC at the load terminal of VOICE RCDR RELAY circuit breaker C1537, then do these steps:
 - a) Repair the wiring between pin 4 of connector D11125 and the circuit breaker, C1537.
 - b) Re-connect connector D11125 to the CVR AUTO/ON switch.
 - c) Re-install the voice recorder, M383. To install it, do this task: Voice Recorder Installation, AMM TASK 23-71-11-400-801.
 - d) Do the Repair Confirmation at the end of this task.
- (e) If there is 28 VDC at pin 4 of the CVR AUTO/ON switch, then re-connect connector D11125 to the CVR AUTO/ON switch and continue.
- (5) Do this check of the wiring between the voice recorder control panel and the voice recorder:
 - (a) Remove the voice recorder control panel, P5-7. To remove it, do this task: Voice Recorder Control Panel Removal, AMM TASK 23-71-12-000-801.
 - (b) Do a wiring check between these pins of connector D179, at the P5 overhead panel, and connector D177, for the voice recorder.

D179	D177
pin A	pin 12
pin E	pin 16
pin D	pin 15
pin W	pin 6
pin V	pin 5
pin C	pin 14
pin L	pin 47
pin K	pin 45
pin B	pin 13
pin F	pin 17

- (c) If you find a problem with the wiring, then do these steps:
 - 1) Repair the wiring.
 - 2) Re-install the voice recorder, M383. To install it, do this task: Voice Recorder Installation, AMM TASK 23-71-11-400-801.

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- 3) Re-install the voice recorder control panel, P5-7. To install it, do this task: Voice Recorder Control Panel Installation, AMM TASK 23-71-12-400-801.
- 4) Do the Repair Confirmation at the end of this task.

G. Fault Isolation Procedure - Left and Right Engine/CVR Operation Problem

- (1) Set one of the two engine start levers to the IDLE position.
- (2) Do this task: Proximity Switch Electronics Unit (PSEU) BITE Procedure, 32-09 TASK 801.
 - (a) If the PSEU BITE test shows an ENGINE RUN fault, then go to the fault isolation task for the applicable maintenance message to correct the fault.
 - 1) Do the Repair Confirmation at the end of this task.
 - 2) If the Repair Confirmation is not satisfactory, then continue.
 - (b) If the PSEU BITE test does not show an ENGINE RUN fault, then continue.

- (3) Replace the MOAO RIPS power cutoff relay, R1112.

NOTE: R1112 is in the J11 junction box.

- (a) Do the Repair Confirmation at the end of this task.
 - (b) If the Repair Confirmation is not satisfactory, then continue.
- (4) Do this check of the wiring:
 - (a) Remove the MOAO RIPS power cutoff relay, R1112.
 - (b) Do a check for 28 VDC at pin A2 of connector D13401 for the relay, R1112.
 - (c) If there is not 28 VDC at pin A2 of connector D13401 at relay, R1112, then do these steps:
 - 1) Replace the RIPS, M2862.

These are the tasks:
Recorder Independent Power Supply - Removal, AMM TASK 23-71-22-000-801,
Recorder Independent Power Supply - Installation, AMM TASK 23-71-22-400-801.

 - a) Do the Repair Confirmation at the end of this task.
 - b) If the Repair Confirmation is not satisfactory, then continue.
 - 2) Do a check for 28 VDC between the load terminal of VOICE RECORDER circuit breaker, C1948 and structure ground.
 - a) If there is not 28 VDC at the load terminal of VOICE RECORDER circuit breaker C1948, then do these steps:
 - <1> Replace the circuit breaker C1948.
 - <2> Do the Repair Confirmation at the end of this task.
 - <3> If the Repair Confirmation is not satisfactory, then continue.
 - b) If there is 28 VDC at the load terminal of VOICE RECORDER circuit breaker C1948, then continue.
 - 3) Examine the wiring between the RIPS, M2862 and the MOAO RIPS power cutoff relay, R1112:
 - a) Do a continuity check of the wiring:



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RIPS, M2862

D13185

pin 8

Relay, R1112

D13401

pin A2

- b) Repair the wiring problem that you find.
 - c) Do the Repair Confirmation at the end of this task.
 - d) If the Repair Confirmation is not satisfactory, then continue.
- 4) Examine the wiring between the RIPS, M2862 and the VOICE RCDR/RIPS circuit breaker, C1948:
- a) Do a continuity check of the wiring:

RIPS, M2862

D13185

pin 4

CB, C1948

C1948

pin Load Terminal

- b) Do a continuity check of the wiring:
 - c) Repair the wiring problem that you find.
 - d) Do the Repair Confirmation at the end of this task.
 - e) If the Repair Confirmation is not satisfactory, then continue.
- (d) If there is 28 VDC at pin A2 of connector D13401, then continue.
- (5) Do this check of the wiring:
- (a) Do a check for 28 VDC between pin X1 and pin X2 (ground) of connector D13401 at relay, R1112.
 - (b) If there is not 28 VDC between pin X1 and pin X2 of connector D13401, then do these steps:
 - 1) Repair the wiring between pin X1 of connector D13401 at relay, R1112 and pin 8 of connector D13185 at the RIPS, M2862.
 - 2) Do the Repair Confirmation at the end of this task.
 - (c) If there is 28 VDC from X1 to X2 of D13401, then continue.
- (6) Do this check of the ground circuit for the MOAO RIPS power cutoff relay, R1112:
- (a) Make sure pin C1 of connector D13401 at relay, R1112 goes to ground.
 - (b) If pin C1 goes does not go to ground, then do these steps:
 - 1) Replace the CVR Manual On/Auto Off switch.
 - a) Do the Repair Confirmation at the end of this task.
 - b) If the Repair Confirmation is not satisfactory, then continue.
 - 2) Repair the wiring between pin C1 of connector D13401 and pin 3 of CVR Manual On/Auto Off switch.
 - a) Do the Repair Confirmation at the end of this task.
 - b) If the Repair Confirmation is not satisfactory, then continue.
 - 3) Repair the wiring between pin 1 of CVR Manual On/Auto Off switch and structure ground.
 - a) Do the Repair Confirmation at the end of this task.

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H. Fault Isolation Procedure - Left Engine/CVR Operation Problem

- (1) Replace the engine 1 running relay, R737.

NOTE: R737 is in the J22 junction box.

- (a) Do the Repair Confirmation at the end of this task.
 - (b) If the Repair Confirmation is not satisfactory, then continue.
- (2) Do this check of the wiring:
- (a) Remove the engine 1 running relay, R737.
 - (b) Make sure that pin C2 of connector D12538 for the relay R737, goes to ground.
 - (c) If pin C2 of connector D12538 does not go to ground, then do these steps:
 - 1) Repair the wiring between pin C2 of connector D12538 and structure ground.
 - 2) Re-install the engine 1 running relay, R737.
 - 3) Do the Repair Confirmation at the end of this task.
 - (d) If pin C2 of connector D12538 goes to ground, then continue.
- (3) Do this check of the wiring between the MOAO RIPS power cutoff relay, R1112 and the engine 1 running relay, R737:

NOTE: R1112 is in the J11 junction box and R737 is in the J22 junction box.

- (a) Do a continuity check of wiring between these pins of connector D13401 for relay R1112 and connector D12538 for relay R737:

Relay, R1112

D13401

pin C1

Relay, R737

D12538

pin C1

- 1) Repair the wiring problem that you find.
- 2) Do the Repair Confirmation at the end of this task.

I. Fault Isolation Procedure - Right Engine/CVR Operation Problem

- (1) Replace the engine 2 running relay, R738.

NOTE: R738 is in the J24 junction box.

- (a) Do the Repair Confirmation at the end of this task.
 - (b) If the Repair Confirmation is not satisfactory, then continue.
- (2) Do this check of the wiring:
- (a) Remove the engine 2 running relay, R738.
 - (b) Make sure that pin C2 of connector D12540 for the relay R738, goes to ground.
 - (c) If pin C2 of connector D12540 does not go to ground, then do these steps:
 - 1) Repair the wiring between pin C2 of connector D12540 and structure ground.
 - 2) Re-install the engine 2 running relay, R738.
 - 3) Do the Repair Confirmation at the end of this task.
 - (d) If pin C2 of connector D12540 goes to ground, then continue.
- (3) Do this check of the wiring between the MOAO RIPS power cutoff relay, R1112 and the engine 2 running relay, R738:

NOTE: R1112 is in the J11 junction box and R787 is in the J24 junction box.

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- (a) Do a continuity check of the wiring between these pins of connector D13401 for relay R1112 and connector D12540 for relay R738:

Relay, R1112

D13401

pin C1

Relay, R787

D12540

pin C1

- 1) Repair the wiring problem that you find.
- 2) Do the Repair Confirmation at the end of this task.

J. Fault Isolation Procedure - CVR AUTO/ON Switch Operation Problem

- (1) Do this check for 28 VDC to the CVR AUTO/ON switch:
 - (a) Disconnect connector D11125 from the CVR AUTO/ON switch, P5-88.
 - (b) Do a check for 28 VDC at pin 4 of connector D11125.
 - (c) If there is not 28 VDC at pin 4 of connector D11125, then do these steps:
 - 1) Do a check for 28 VDC at the load terminal of circuit breaker, C1537.
 - 2) If there is 28 VDC at the load terminal of circuit breaker C1537, then do these steps:
 - a) Repair the wiring between pin 4 of connector D11125 and the circuit breaker.
 - b) Re-connect connector D11125 to the CVR AUTO/ON switch, P5-88.
 - c) Do the Repair Confirmation at the end of this task.
 - 3) If there is not 28 VDC at the load terminal of circuit breaker C1537, then do these steps:
 - a) Replace the circuit breaker, C1537.
 - b) Re-connect connector D11125 to the CVR AUTO/ON switch, P5-88.
 - c) Do the Repair Confirmation at the end of this task.
 - (d) If there is 28 VDC at pin 4 of connector D11125, then continue.
- (2) Replace the CVR AUTO/ON switch, P5-88.
 - (a) Do the Repair Confirmation at the end of this task.
 - (b) If the Repair Confirmation is not satisfactory, then continue.
- (3) Replace the MOAO RIPS power cutoff relay, R1112.
 - (a) Do the Repair Confirmation at the end of this task.
 - (b) If the Repair Confirmation is not satisfactory, then continue.
- (4) Do this check of the wiring between the CVR AUTO/ON switch and the voice recorder:
 - (a) Do a check of the wiring between these pins of connector D13401 for the MOAO RIPS power cutoff relay, R1112 and connector D11125 for the CVR AUTO/ON switch:

Relay, R1112

D13401

pin C1

CVR AUTO/ON

switch

D11125

pin 3

- (b) Do a check of the wiring between these pins of connector D13401 for the MOAO RIPS power cutoff relay, R1112 and connector D177 for the voice recorder:

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Relay, R1112	Voice Recorder,
D13401	M383
pin A1	D177
	pin 9

- (c) Do a check of the wiring between these pins of connector D13401 for the MOAO RIPS power cutoff relay, R1112 and connector D13185 for the RIPS, M2862:

Relay, R1112	RIPS, M2862
D13401	D13185
pin A2	pin 8
pin X1	pin 8

- (d) Repair the wiring problem that you find.
(e) Do the Repair Confirmation at the end of this task.

K. Fault Isolation Procedure - CVR AUTO/ON Switch Operation Problem, Switch Does Not Stay ON

- (1) Do this check for 28 VDC at the CVR AUTO/ON switch:
- Make sure that the engines have been off for at least 5 minutes.
 - Disconnect connector D11125 from the CVR AUTO/ON switch, P5-88.
 - Do a check for 28 VDC at pin 4 of connector D11125.
 - If there is not 28 VDC at pin 4 of connector D11125, then do these steps:
 - Do a check for 28 VDC from the load terminal of VOICE RCDR RELAY circuit breaker C1537 to structure ground.
 - If there is not 28 VDC at the load terminal of VOICE RCDR RELAY circuit breaker C1537, then do these steps:
 - Replace the circuit breaker, C1537.
 - Re-connect connector D11125 to the CVR AUTO/ON switch, P5-88.
 - Do the Repair Confirmation at the end of this task.
 - If there is 28 VDC at the load terminal of circuit breaker C1537, then do these steps:
 - Repair the wiring between pin 4 of connector D11125 and the circuit breaker.
 - Re-connect connector D11125 to the CVR AUTO/ON switch, P5-88.
 - Do the Repair Confirmation at the end of this task.
 - If there is 28 VDC at pin 4 of connector D11125, then continue.
- (2) Do this check of the CVR AUTO/ON switch:
- Make sure that pin 5 of connector D11125 for the CVR AUTO/ON switch goes to ground.
 - If pin 5 of connector D11125 goes to ground, then do these steps:
 - Replace the CVR AUTO/ON switch, P5-88.
 - Do the Repair Confirmation at the end of this task.
 - If pin 5 of connector D11125 does not go to ground, then re-connect connector D11125 to the CVR AUTO/ON switch and continue.
- (3) Do this check for 28 VDC at the CVR switch latching relay, R780:

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- (a) Remove the CVR switch latching relay, R780.

NOTE: R780 is in the J22 junction box.

- (b) Do a check for 28 VDC between pin X1 of connector D11131 for the relay, R780 and structure ground.

- (c) If there is not 28 VDC at pin X1 of connector D11131, then do these steps:

- 1) Repair the wiring between these pins of connector D11131 for the relay, R780 and load terminal of the VOICE RCDR RELAY circuit breaker, C1537:

Relay, R780	CB, C1537
D11131	C1537
pin X1	pin Load Terminal

- 2) Re-connect connector D11125 to the CVR AUTO/ON switch, P5-88.

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

- (d) If there is 28 VDC at pin X1 of D11131, then continue.

- (4) Do this check of the wiring between the CVR switch latching relay, R780 and the engine 2 running relay, R738:

- (a) Make sure that pin X2 of D11131 goes to ground.

- (b) If pin X2 of D11131 does not go to ground, then do these steps:

- 1) Replace the engine 2 running relay, R738.
2) Re-install the CVR latching relay, R780.
3) Do the Repair Confirmation at the end of this task.
4) If the Repair Confirmation is not satisfactory, then do these steps:
a) Remove the engine 2 running relay, R738.
b) Remove the CVR switch latching relay, R780.
c) Do a wiring check between these pins of connector D12540 for relay R738 and connector D11131 for relay R780:

D12540	D11131
pin C3	pin X2

- d) Repair the problem in the wiring.
e) Re-install the engine 2 running relay, R738.
f) Re-install the CVR switch latching relay, R780.
g) Do the Repair Confirmation at the end of this task.

- (c) If pin X2 of D11131 goes to ground, then continue.

- (5) Do this check of the wiring between the CVR switch latching relay, R780 and the engine 1 running relay, R737:

- (a) Make sure that pin A2 of D11131 goes to ground.

- (b) If pin A2 of D11131 does not go to ground, then do these steps:

- 1) Replace the engine 1 running relay, R737.
2) Re-install the CVR latching relay, R780.
3) Do the Repair Confirmation at the end of this task.

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- 4) If the Repair Confirmation is not satisfactory, then do these steps:
 - a) Remove the engine 1 running relay, R737
 - b) Remove the CVR switch latching relay, R780.
 - c) Do a wiring check between these pins of connector D12538 for relay R737 and connector D11131 for relay R780:

D12538	D11131
pin C3	pin A2
 - d) Repair the problem in the wiring.
 - e) Re-install the engine 1 running relay, R737.
 - f) Re-install the CVR switch latching relay, R780.
 - g) Do the Repair Confirmation at the end of this task.
- 5) If pin A2 of D11131 goes to ground, then continue.
- (6) Do this check of the CVR switch latching relay, R780:
 - (a) Do a check for 28 VDC between pin A1 of D11131 and structure ground.
 - (b) If there is not 28 VDC at pin A1 of D11131, then do these steps:
 - 1) Disconnect connector D11125 from the CVR AUTO/ON switch, P5-88.
 - 2) Do a check of the wiring between these pins of connector D11125 and connector D11131:

D11125	D11131
pin 5	pin A1
 - 3) Repair the wiring.
 - 4) Re-install the CVR switch latching relay, R780.
 - 5) Re-connect connector D11125 to the CVR AUTO/ON switch, P5-88.
 - 6) Do the Repair Confirmation at the end of this task.
 - (c) If there is 28 VDC at pin A1 of D11131 then do these steps:
 - 1) Install a new CVR switch latching relay, R780.
 - 2) Do the Repair Confirmation at the end of this task.

L. Repair Confirmation

- (1) Do this check of the CVR operation:
 - (a) Connect the headphone, STD-1390 to the HEADPHONE/HEADSET jack on the voice recorder control panel.
 - (b) Set the CVR AUTO/ON switch (P5 overhead panel) to the ON position.

NOTE: Both engines must be off for at least 10 minutes.

 - 1) Make sure that the CVR AUTO/ON switch stays in the ON position.
 - (c) Set the left engine start lever to the IDLE position.
 - 1) Make sure that the right engine start lever is in the OFF position.
 - 2) Wait approximately 5 minutes.

NOTE: The CDS will energize the engine running relay 5 minutes after you put the start lever in the IDLE position.

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- 3) Make sure that the CVR AUTO/ON switch moves from the ON position to the AUTO position.
- (d) Push and hold the TEST switch on the CVR control panel (P5 panel) for 5 seconds.
NOTE: The test continues as long as the TEST switch is pushed.
 - 1) Make sure that you hear a test tone in the headphone while you push the TEST switch.
 - 2) Make sure that the light on the CVR control panel comes on while you push the TEST switch.
- (e) Release the TEST switch.
- (f) Set the left engine start lever to the OFF position.
 - 1) Wait approximately 10 minutes.
NOTE: The voice recorder will continue to operate for 5 minutes after both engines have stopped running, or engine running simulation has been discontinued.
- (g) Set the CVR AUTO/ON switch (P5 overhead panel) to the ON position.
NOTE: Both engines must be off for at least 10 minutes.
 - 1) Make sure that the CVR AUTO/ON switch stays in the ON position.
- (h) Set the right engine start lever to the IDLE position.
 - 1) Wait approximately 5 minutes.
NOTE: The CDS will energize the engine running relay 5 minutes after you put the start lever in the IDLE position.
 - 2) Make sure that the CVR AUTO/ON switch moves from the ON position to the AUTO position.
- (i) Push and hold the TEST switch on the CVR control panel (P5 panel) for 5 seconds.
NOTE: The test continues as long as the TEST switch is pushed.
 - 1) Make sure that you hear a test tone in the headphone while you push the TEST switch.
 - 2) Make sure that the light on the CVR control panel comes on while you push the TEST switch.
- (j) Release the TEST switch.
- (k) Set the right engine start lever to the OFF position.
- (l) Make sure that the left and right engine start levers are each set to the off position.
 - 1) Wait approximately 10 minutes.
- (m) Set the CVR AUTO/ON switch (P5 overhead panel) to the ON position.
NOTE: Both engines must be off for at least 10 minutes.
 - 1) Make sure that the CVR AUTO/ON switch stays in the ON position.
- (n) Push and hold the TEST switch on the CVR control panel (P5 panel) for 5 seconds.
NOTE: The test continues as long as the TEST switch is pushed.
 - 1) Make sure that you hear a test tone in the headphone while you push the TEST switch.
 - 2) Make sure that the light on the CVR control panel comes on while you push the TEST switch.
- (o) Release the TEST switch.

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- (p) Set the CVR AUTO/ON switch back to the AUTO position.
- (q) If the CVR operates correctly, then you corrected the fault.

———— **END OF TASK** ————

806. RIPS Maintenance Status Check Failed - Fault Isolation

A. Description

- (1) Use this task when the results of the RIPS Maintenance Status Check at the RIPS Maintenance Port are not satisfactory.

NOTE: The RIPS Maintenance Status Check in the Aircraft Maintenance Manual (AMM) is a part of the RIPS System Test task. It is also a part of the RIPS Maintenance Discrete Check task.

B. Possible Causes

- (1) RIPS Battery
- (2) RIPS Unit, M2862

C. Related Data

- (1) SSM 23-71-11
- (2) WDM 23-71-01

D. Initial Evaluation

- (1) Use a digital/analog multimeter, COM-1793 and make sure it is set to the DIODE position.
- (2) Do a check for continuity at the RIPS Maintenance Port connector D10101 between pin 1 and pin 6 (WDM 23-71-01).

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- (a) If you see a value between 400 to 700 millivolts (ground state), do the No Fault Status Check Within Limits Fault Isolation Procedure.
- (b) If you see a value that is not between 400 to 700 millivolts (ground state), do the No Fault Status Check Not Within Limits Fault Isolation Procedure.

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- (c) If a continuity check between pin 1 and pin 6 does not read a value less than 700 millivolts (ground condition), then do the Fault Isolation Procedure below for No Fault Status Check Within Limits.
- (d) If continuity check between pin 1 and pin 6 reads a value less than 700 millivolts (ground state), then do the Fault Isolation Procedure below for No Fault Status Check Not Within Limits.

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E. No Fault Status Check Within Limits - Fault Isolation Procedure

- (1) Replace the RIPS Battery. This is the task: Recorder Independent Power Supply (RIPS) Battery - Replacement, AMM TASK 23-71-22-960-801.
 - (a) Supply electrical power. This is the task: Supply Electrical Power, AMM TASK 24-22-00-860-811.

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- 1) Wait for 15 (fifteen) minutes after you supply electrical power to the airplane before you do the tests that follow.

NOTE: If you do not wait fifteen minutes, it is possible the value you see will not be satisfactory because the battery is at a low state of charge.

- (b) Use a digital/analog multimeter, COM-1793 and set it to the DIODE position.
- (c) Do a check for continuity at connector D10101 between pin 1 and pin 10 (WDM 23-71-01).
 - 1) If you see a value of "OL" (out-of-limit), then you corrected the problem.
 - 2) Install the protective dust-cap cover on the Maintenance Port (Connector D10101).

F. No Fault Status Check Not Within Limits - Fault Isolation Procedure

- (1) Replace the RIPS Unit, M2862. These are the tasks:
 - Recorder Independent Power Supply - Removal, AMM TASK 23-71-22-000-801
 - Recorder Independent Power Supply - Installation, AMM TASK 23-71-22-400-801
- (a) Supply electrical power. This is the task: Supply Electrical Power, AMM TASK 24-22-00-860-811.
 - 1) Wait for 15 (fifteen) minutes after you supply electrical power to the airplane before you do the tests that follow.

NOTE: If you do not wait fifteen minutes, it is possible the value you see will not be satisfactory because the battery is at a low state of charge.
 - (b) Use a digital/analog multimeter, COM-1793 and set it to the DIODE position.
 - (c) Do a check for continuity at connector D10101 between pin 1 and pin 10 (WDM 23-71-01).
 - 1) If you see a value of "OL" (out-of-limit), then you corrected the problem.
 - 2) Install the protective dust-cap cover on the Maintenance Port (Connector D10101).

———— **END OF TASK** ————

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807. No Surveillance Video For One Camera - Fault Isolation

A. Description

- (1) This task is for these Observed Faults:
 - (a) There is no Surveillance Video for Camera 1.
 - (b) There is no Surveillance Video for Camera 2.
 - (c) There is no Surveillance Video for Camera 3.

B. Possible Causes

- (1) Video Camera:
 - Camera 1, M3002, or
 - Camera 2, M3026, or
 - Camera 3, M3004
- (2) Video Interface Unit (VIU):
 - VIU, M3001 or
 - VIU, M3029
- (3) Wiring

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C01641	SURVEILLANCE CAMERA

D. Related Data

- (1) WDM 23-70-11

E. Initial Evaluation

- (1) Do this task: Flight Deck Entry Video Surveillance System - System Test, AMM TASK 23-75-00-730-804.
 - (a) If the MFD shows Surveillance Video for all three cameras, then there was an intermittent fault.
 - (b) If the MFD does not show Surveillance Video for one camera only, and the airplane has VIU P/N M3029 installed, then do the "Fault Isolation Procedure - Airplanes with VIU, M3029" below.

F. Fault Isolation Procedure - Airplanes with VIU, M3029

- (1) Make sure that there is Input Power from the VIU to the applicable Camera 1 (2, 3), M3002 (M3026, M3004) as follows:

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

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C01641	SURVEILLANCE CAMERA

- (b) Disconnect the applicable CAM 1 (2, 3) connector D12325 (D11423, D12329) (WDM 23-70-11).

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- (c) Close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C01641	SURVEILLANCE CAMERA

- (d) Do a voltage check at the applicable CAM 1 (2, 3) connector as follows (WDM 23-70-11):

CAMERA 1

CONNECTOR		CONNECTOR		VOLTAGE
D12325		D12325		
pin D	.....	pin G		+12V DC
pin E	.....	pin G		-12V DC

CAMERA 2

CONNECTOR		CONNECTOR		VOLTAGE
D11423		D11423		
pin D	.....	pin G		+12V DC
pin E	.....	pin G		-12V DC

CAMERA 3

CONNECTOR		CONNECTOR		VOLTAGE
D12329		D12329		
pin D	.....	pin G		+12V DC
pin E	.....	pin G		-12V DC

- 1) If the voltage check is as specified above, then replace the applicable CAM 1 (2, 3), M3002 (M3026, M3004). These are the tasks:
 - Video Camera - Removal, AMM TASK 23-75-02-000-804
 - Video Camera - Installation, AMM TASK 23-75-02-400-804
 - a) Do the Repair Confirmation at the end of this task.
 - 2) If the voltage check is not as specified above, then replace the VIU, M3029. These are the tasks:
 - Video Interface Unit - Removal, AMM TASK 23-75-10-000-801
 - Video Interface Unit - Installation, AMM TASK 23-75-10-400-801
 - a) Do the Repair Confirmation at the end of this task.
- (2) Do this wiring check (WDM 23-70-11):
- (a) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C01641	SURVEILLANCE CAMERA

- (b) Disconnect the applicable CAM 1 (2, 3) connector D12325 (D11423, D12329).
- (c) Disconnect connector D12859 from the VIU.
- (d) Examine the wiring between the applicable CAM 1 (2, 3) and the VIU, M3029 as follows:

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CAMERA 1

CAM 1	VIU
D12325	D12859
pin A	pin A
pin B	pin C-
pin D	pin C
pin E	pin B

CAM 1	
D12325	
pin G	GD11100-ST

CAMERA 2

CAM 2	VIU
D11423	D12859
pin A	pin E
pin B	pin D
pin D	pin G
pin E	pin F

CAM 2	
D11423	
pin G	GD3734-ST

CAMERA 3

CAM 3	VIU
D12329	D12859
pin A	pin J
pin B	pin H
pin D	pin L
pin E	pin K

CAM 3	
D12329	
pin G	GD3924-ST

- 1) If you find a problem with the wiring do these steps:
 - a) Repair the wiring.
 - b) Reconnect the applicable CAM 1 (2, 3) connector D12325 (D11423, D12329).
 - c) Reconnect connector D12859 to the VIU.
 - d) Do the Repair Confirmation at the end of this task.

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G. Repair Confirmation

- (1) Do this task: Flight Deck Entry Video Surveillance System - System Test, AMM TASK 23-75-00-730-804.
 - (a) If the video shows correctly on the Common Display System (CDS) from all three cameras, then you corrected the problem.
 - (b) If the video does not show correctly on the CDS from all three cameras, then continue the Fault Isolation Procedure at the subsequent step.

————— **END OF TASK** —————

808. Distorted Surveillance Video for One Camera - Fault Isolation

A. Description

- (1) This task is for these Observed Faults:
 - (a) The Surveillance Video shows, but the display is dark for one camera.
 - (b) Lines show on the Video Display for one camera.
 - (c) Surveillance Video is jittery or jumpy or the picture appears to roll.
 - (d) Other Surveillance Video Display problems for one camera.

B. Possible Causes

- (1) Video Camera:
 - Camera 1, M3002, or
 - Camera 2, M3026, or
 - Camera 3, M3004
- (2) VIU:
 - VIU, M3001 or
 - VIU, M3029
- (3) Wiring

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	12	C01373	DISPLAY CTR LWR

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C01641	SURVEILLANCE CAMERA

D. Related Data

- (1) WDM 23-70-11
- (2) WDM 31-62-42

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E. Initial Evaluation

- (1) Do this task: Flight Deck Entry Video Surveillance System - System Test, AMM TASK 23-75-00-730-804.
 - (a) If the MFD shows Surveillance Video correctly for all three cameras, then there was an intermittent fault.

NOTE: Only the Lower-Center MFD can show Flight Deck Entry Video.

The Inboard Left, and Inboard Right MFD Units are connected to FDEVSS.

However to successfully show video, the optional video-capable MFDs are required.
 - (b) If Surveillance Video shows for all three cameras, but on one camera the video is dark, the display is jumpy, lines show or there are other display problems then do these steps:
 - 1) Make a record of the Camera Control Panel (CP) position (R-C-L) with the problem.

NOTE: Position C on the Control Panel, M3000, is Camera 1, M3002 on the Wiring Diagram Manual (WDM).

Position L on the Control Panel is Camera 2, M3026.

Position R is Camera 3, M3004.

NOTE: Only the Lower-Center MFD can show Flight Deck Entry Video.

The Inboard Left, and Inboard Right MFD Units are connected to FDEVSS.

However to successfully show video, the optional video-capable MFDs are required.
 - (c) If the Surveillance Video on one camera is dark, the display is jumpy, lines show or there are other display problems, and the airplane has VIU P/N M3029 installed, then do the "Fault Isolation Procedure - Airplanes with VIU, M3029" below.

F. Fault Isolation Procedure - Airplanes with VIU, M3029

- (1) Examine the camera and lens.
 - (a) Make sure that the lens is not covered, and the view is not blocked.
- (2) Replace the applicable CAM 1 (2, 3), M3002 (M3026, M3004). These are the tasks:
 - Video Camera - Removal, AMM TASK 23-75-02-000-804
 - Video Camera - Installation, AMM TASK 23-75-02-400-804
 - (a) Do the Repair Confirmation at the end of this task.
- (3) Replace the VIU, M3029. These are the tasks:
 - Video Interface Unit - Removal, AMM TASK 23-75-10-000-801
 - Video Interface Unit - Installation, AMM TASK 23-75-10-400-801
 - (a) Do the Repair Confirmation at the end of this task.
- (4) Do this wiring check (WDM 23-70-11):
 - (a) Open this circuit breaker and install safety tag:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C01641	SURVEILLANCE CAMERA
 - (b) Disconnect the applicable CAM 1 (2, 3) connector D12325 (D11423, D12329).
 - (c) Disconnect connector D12859 from the VIU.

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- (d) Examine the wiring between the applicable CAM 1 (2, 3) and the VIU, M3029 as follows:

CAMERA 1

CAM 1	VIU
D12325	D12859
pin A	pin A
pin B	pin C-

CAM 1
D12325
pin G GD11100-ST

CAMERA 2

CAM 2	VIU
D11423	D12859
pin A	pin E
pin B	pin D

CAM 2
D11423
pin G GD3734-ST

CAMERA 3

CAM 3	VIU
D12329	D12859
pin A	pin J
pin B	pin H

CAM 3
D12329
pin G GD3924-ST

- 1) If you find a problem with the wiring do these steps:
 - a) Repair the wiring.
 - b) Reconnect the applicable CAM 1 (2, 3) connector D12325 (D11423, D12329).
 - c) Reconnect connector D12859 to the VIU.
 - d) Do the Repair Confirmation at the end of this task.
- (5) Replace the VIU, M3001. These are the tasks:
 - Video Interface Unit - Removal, AMM TASK 23-75-10-000-801
 - Video Interface Unit - Installation, AMM TASK 23-75-10-400-801
- (a) Do the Repair Confirmation at the end of this task.

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G. Repair Confirmation

- (1) Do this task: Flight Deck Entry Video Surveillance System - System Test, AMM TASK 23-75-00-730-804.
 - (a) If the video shows correctly on the CDS from all three cameras, then you corrected the problem.
 - (b) If the video does not show correctly on the CDS from all three cameras, then continue the Fault Isolation Procedure at the subsequent step.

————— **END OF TASK** —————

809. Surveillance Video Problems for All Cameras - Fault Isolation

A. Description

- (1) This task is for this (these) Observed Fault(s):
 - (a) There is no video for all three Video Surveillance Cameras.

B. Possible Causes

- (1) VIU:
 - VIU, M3001 or
 - VIU, M3029
- (2) Camera CP, M3000
- (3) Wiring
- (4) Impedance Transformer:
 - Impedance Transformer, T3022 or
 - Impedance Transformer, T3029

NOTE: The Transformer is located between the Lower Center Display Unit, N00190 and the Video Surveillance System (WDM 23-70-11, WDM 31-62-42).

C. Circuit Breakers

- (1) These are the primary circuit breakers related to the fault:

F/O Electrical System Panel, P6-1

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
E	12	C01373	DISPLAY CTR LWR

F/O Electrical System Panel, P6-11

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	8	C01627	CABIN UTIL RLY PWR

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C01641	SURVEILLANCE CAMERA

D. Related Data

- (1) WDM 23-70-11
- (2) WDM 31-62-42

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E. Initial Evaluation

- (1) Do this task: Flight Deck Entry Video Surveillance System - System Test, AMM TASK 23-75-00-730-804.
 - (a) If the Multi-Function Display (MFD) shows Surveillance Video for all three cameras correctly, then there was an intermittent fault.
 - (b) If the MFD does not show Surveillance Video for all three cameras, and the airplane has VIU P/N M3001 installed, then do the "Fault Isolation Procedure - Airplanes with VIU, M3001" below.
 - (c) If the MFD does not show Surveillance Video for all three cameras, and the airplane has VIU P/N M3029 installed, then do the "Fault Isolation Procedure - Airplanes with VIU, M3029" below.

SIA ALL; Airplanes with VIU M3001

F. Fault Isolation Procedure - Airplanes with VIU, M3001

- (1) On the Electric Meters, Battery and Galley Power Module, P5-13, make sure that the In-Flight Entertainment (IFE)/PASS SEAT Switch is set to ON.
- (2) Make sure that the VIU has power as follows:

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

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C01641	SURVEILLANCE CAMERA

- (b) Disconnect connector D12323 from the VIU, M03001 (WDM 23-70-11).
 - (c) Close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C01641	SURVEILLANCE CAMERA

- (d) Do a check for 115V Alternating Current (AC) on connector D12323 between pins A and F (WDM 23-70-11).
 - (e) If you do not find 115V AC at the VIU connector, then do the steps that follow:
 - 1) Examine and repair the wiring between the VIU, M3001, and circuit breaker C01641 (WDM 23-70-11).
 - 2) Reconnect connector D12323 to the VIU.
 - 3) Do the Repair Confirmation at the end of this task.
 - (f) If you find 115V AC at the VIU connector, then continue.
- (3) Replace the VIU. These are the tasks: .
 - Video Interface Unit - Removal, AMM TASK 23-75-10-000-801
 - Video Interface Unit - Installation, AMM TASK 23-75-10-400-801
 - (a) Do the Repair Confirmation at the end of this task.
- (4) Replace the Impedance Transformer, T3022 (or T3029) for the Lower Center MFD (WDM 23-70-11, WDM 31-62-41).
 - (a) Do the Repair Confirmation at the end of this task.

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- (5) Do a continuity check of the camera CP circuitry at the VIU connector as follows (WDM 23-70-11):

- (a) Disconnect connector D12321 from the VIU, M3001.
- (b) Do a check to make sure that each position of the 3-position Rotary Switch, on the Camera Control Panel, has continuity to the VIU.

NOTE: You must set the Rotary Switch to the specified position to complete each of the three circuits.

CP CAM SEL-POS L

VIU Connector	VIU Connector	
D12321	D12321	RESISTANCE
pin X	pin HH (RTN)	CONTINUITY

CP CAM SEL-POS C

VIU Connector	VIU Connector	
D12321	D12321	RESISTANCE
pin U	pin HH (RTN)	CONTINUITY

CP CAM SEL-POS R

VIU Connector	VIU Connector	
D12321	D12321	RESISTANCE
pin R	pin HH (RTN)	CONTINUITY

- (c) Do a continuity check of the DSPL (Display) push-button on the Camera CP from the Video Switch (VS) connector:

NOTE: To complete the circuit, you must push DSPL on the Camera Control Panel. The position of the Rotary Switch does not affect this check.

CP DSPL SEL

VIU Connector	VIU Connector	
D12321	D12321	RESISTANCE
pin M	pin GG (RTN)	CONTINUITY (with DSPL Pushed)

- (d) If the continuity checks are not as specified above, then do these steps:
- 1) Replace the Camera CP. These are the tasks:
 - Flight Deck Camera Select Panel - Removal, AMM TASK 23-75-03-000-802
 - Flight Deck Camera Select Panel - Installation, AMM TASK 23-75-03-400-802
 - a) Do the Repair Confirmation at the end of this task.
 - 2) Do the continuity checks again.
 - a) If you still find a problem, then repair the wiring.
 - b) Reconnect connector D12321 to the VIU.
 - c) Do the Repair Confirmation at the end of this task.

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G. Fault Isolation Procedure - Airplanes with VIU, M3029

- (1) On the Electric Meters, Battery and Galley Power Module, P5-13, make sure that the IFE/PASS SEAT Switch is set to ON.
- (2) Make sure the VIU has power as follows:

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

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C01641	SURVEILLANCE CAMERA

- - (b) Disconnect connector D12865 from the VIU, M3029 (WDM 23-70-11).
 - (c) Close this circuit breaker:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	1	C01641	SURVEILLANCE CAMERA

- -
 -
 - (d) Do a check for 115V AC on connector D12865 between pins A and F (WDM 23-70-11).
 - (e) If you do not find 115V AC at the VIU connector, then do the steps that follow:
 - 1) Examine and repair the wiring between the VIU, M3029, and circuit breaker C01641 (WDM 23-70-11).
 - 2) Reconnect connector D12865 to the VIU.
 - 3) Do the Repair Confirmation at the end of this task.
 - (f) If you find 115V AC at the VIU connector, then continue.
- (3) Replace the VIU. These are the tasks: .
 - Video Interface Unit - Removal, AMM TASK 23-75-10-000-801
 - Video Interface Unit - Installation, AMM TASK 23-75-10-400-801
- -
 -
 -
 - (a) Do the Repair Confirmation at the end of this task.
- (4) Replace the Impedance Transformer, T3022 (or T3029) for the Lower Center MFD (WDM 23-70-11, WDM 31-62-42).
 -
 -
 -
 -
 - (a) Do the Repair Confirmation at the end of this task.
- (5) Do a continuity check of the Camera CP circuitry at the VIU connector as follows (WDM 23-70-11):
 -
 -
 -
 -
 -
 - (a) Disconnect connector D12863 from the VIU, M3029.
 - (b) Do a check to make sure that each position of the 3-position Rotary Switch, on the Camera CP, has continuity to the VIU.

NOTE: You must set the Rotary Switch to the specified position to complete each of the three circuits.

CP CAM SEL-POS L

VIU Connector	VIU Connector	
D12863	D12863	RESISTANCE
pin X	pin HH (RTN)	CONTINUITY

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CP CAM SEL-POS C

VIU Connector	VIU Connector	
D12863	D12863	RESISTANCE
pin U	pin HH (RTN)	CONTINUITY

CP CAM SEL-POS R

VIU Connector	VIU Connector	
D12863	D12863	RESISTANCE
pin R	pin HH (RTN)	CONTINUITY

- (c) Do a continuity check of the DSPL (Display) push-button on the Camera CP from the VS connector:

NOTE: To complete the circuit, you must push DSPL on the Camera Control Panel. The position of the Rotary Switch does not affect this check.

CP DSPL SEL

VIU Connector	VIU Connector	
D12863	D12863	RESISTANCE
pin M	pin GG (RTN)	CONTINUITY (with DSPL Pushed)

- (d) If the continuity checks are not as specified above, then do these steps:
- 1) Replace the Camera CP. These are the tasks:
 - Flight Deck Camera Select Panel - Removal, AMM TASK 23-75-03-000-802
 - Flight Deck Camera Select Panel - Installation, AMM TASK 23-75-03-400-802
 - a) Do the Repair Confirmation at the end of this task.
 - 2) Do the continuity checks again.
 - a) If you still find a problem, then repair the wiring.
 - b) Reconnect connector D12863 to the VIU.
 - c) Do the Repair Confirmation at the end of this task.

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H. Repair Confirmation

- (1) Do this task: Flight Deck Entry Video Surveillance System - System Test, AMM TASK 23-75-00-730-804.
 - (a) If the MFD shows Surveillance Video for all three cameras correctly, then you corrected the problem.
 - (b) If the MFD does not show Surveillance Video for all three cameras, then continue the Fault Isolation Procedure at the subsequent step.

———— **END OF TASK** ————

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801. Outlet Unit Status LED Problems - Fault Isolation

A. General

- (1) Use this task when the PC Power System Outlet Unit (OU) STATUS LED is Red in color or does not come ON.
 - (a) If the OU STATUS LED is Green in color, this indicates normal OU operation. Power is available and the outlet is enabled.
 - (b) If the OU STATUS LED is Red in color, or does not come ON, this indicates that there is no power available or there is a problem in the OU or ISPS.
 - 1) If power is not available because the system has reached the specified Maximum Power-use Limit, the new user must wait for another user to disconnect. At that time, the STATUS LED will change to Green in color. This is also normal operation.

B. Initial Evaluation

- (1) Make sure that the Power Input Cable is securely connected to the OU.
 - (a) At the FWD Attendant Control Panel (ACP), access the LCD Touchscreen Passenger Services Menu and cycle the PC Power soft button Switch to test the system again.
 - (b) If the LED is Green in color, there was an intermittent fault.
 - (c) If the LED does not come ON or is Red in color, do the Fault Isolation Procedure below.

C. Fault Isolation Procedure

- (1) If the OU Status LED does not come ON or is Red in color, do the steps that follow:
 - (a) Examine all OU Status LEDs in the same seat group.
 - (b) If only one OU Status LED in the seat group does not come ON or is Red in color, then do the steps that follow:
 - 1) Replace the applicable OU. These are the tasks:
 - Outlet Unit Removal, AMM TASK 23-81-04-000-801
 - Outlet Unit Installation, AMM TASK 23-81-04-400-801
 - 2) If the OU Status LED changes to Green in color, then you corrected the problem.
 - 3) If the problem continues, examine the wiring harness between the ISPS and the OU.
 - a) If you find a problem, repair or replace the applicable harness.
 - 4) If the OU Status LED changes to green in color, then you corrected the fault.
 - (c) If all the OU Status LEDs in the same seat group do not come ON or are Red in color, then do the steps that follow:
 - 1) Replace the ISPS for the seat group. These are the tasks:
 - In-Seat Power Supply - Removal, AMM TASK 23-81-05-000-801
 - In-Seat Power Supply - Installation, AMM TASK 23-81-05-400-801
 - 2) If the OU Status LEDs change to Green in color, then you corrected the problem.
 - (d) Examine the OU LEDs in other seat groups.
 - (e) If the OU Status LEDs in other seat groups do not come ON or are Red in color, then do the steps that follow:
 - 1) Replace the MCU. These are the tasks:
 - Master Control Unit Removal, AMM TASK 23-81-01-000-801

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- Master Control Unit Installation, AMM TASK 23-81-01-400-801
- 2) If the OU Status LEDs change to Green in color, then you corrected the problem.

————— **END OF TASK** —————

803. MCU Status LED Problems - Fault Isolation

A. General

- (1) Use this task when the PC power system does not operate correctly or when one or more of the status LEDs on the MCU are not green.

B. Initial Evaluation

- (1) Apply electrical power to the PC Power system at the forward attendant control panel and look at the status LEDs on the MCU.
- (a) If all the status LEDs on the MCU are green, then there was an intermittent fault.
 - (b) If the INPUT POWER LED(s) is not green, then do the fault isolation procedure below for MCU Input Power Fault Indication.
 - (c) If the BITE LED is not green, then do the fault isolation procedure below for MCU BITE Fault Indication.
 - (d) If the GFI LED(s) is not green, then do the fault isolation procedure below for MCU GFI Fault Indication.
 - (e) If the OUTPUT POWER LED(s) is not green, then do the fault isolation procedure below for MCU Output Power Fault Indication.

C. MCU Input Power Fault Indication - Fault Isolation Procedure

- (1) For an MCU-1 problem, do these steps:
- (a) Open these circuit breakers and install safety tags:

F/O Electrical System Panel, P6-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	2	C01605	PC POWER CONTROL

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	5	C01602	PC POWER 1
A	8	C01603	PC POWER 2

- (b) Disconnect the input power connector from the MCU-1, M02700.

NOTE: Refer to the Wiring Diagram Manual (WDM) for the correct connector number (WDM 25-25-31).

- (c) Close these circuit breakers:

F/O Electrical System Panel, P6-3

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
B	2	C01605	PC POWER CONTROL

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	5	C01602	PC POWER 1
A	8	C01603	PC POWER 2

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- (d) Put the PC Power soft button on the LCD Touchscreen Passenger Services menu to ON.
- (e) Examine the wiring that follows at the MCU input power connector for correct voltage and continuity to ground (WDM 25-25-31):

NOTE: Refer to the WDM for the correct connector number.

CONNECTOR	EXPECTED RESULTS
D14272	
pin A	115VAC
pin B	115VAC
pin C	115VAC
pin D	CONTINUITY
pin E	CONTINUITY

- (f) If you find 115VAC at pins A, B and C and pins D and E read continuity to ground, then replace the MCU. These are the tasks:
 - Master Control Unit Removal, AMM TASK 23-81-01-000-801
 - Master Control Unit Installation, AMM TASK 23-81-01-400-801
 - 1) If all of the status LEDs on the MCU are green and power is available at all OUs, then you corrected the fault.
- (g) If pin D or pin E do not read continuity to ground, repair the wiring.
- (h) If the problem continues, examine and repair the wiring between circuit breaker 6A8, PC POWER, at the P6 power distribution panel and the MCU power input connector. (WDM 25-25-31)
- (i) Reconnect the connector to J8 at MCU 1.
 - 1) If the green status LED on the MCU is on, the red status LED on the MCU is not on, all ACOU status LEDs are green and power is available at all ACOUs, then you corrected the fault.

D. MCU BITE Fault Indication - Fault Isolation Procedure

- (1) Do the BITE Fault Isolation procedure as follows:
 - (a) If the BITE LED is amber, wait for 5 minutes.
 - 1) Then remove and supply power to the system by cycling the PC Power soft button on the LCD Touchscreen Passenger Services menu at the forward attendant control panel.
 - 2) If all the status LEDs on the MCU are green and power is available at all the OUs, then you corrected the fault.
 - 3) If the problem continues, replace the MCU. These are the tasks:
 - Master Control Unit Removal, AMM TASK 23-81-01-000-801,
 - Master Control Unit Installation, AMM TASK 23-81-01-400-801.
 - (b) If the BITE LED is red, replace the MCU. These are the tasks:
 - Master Control Unit Removal, AMM TASK 23-81-01-000-801,
 - Master Control Unit Installation, AMM TASK 23-81-01-400-801.
 - 1) If all the status LEDs on the MCU are green and power is available at all the OUs, then you corrected the fault.

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E. MCU GFI Fault Indication - Fault Isolation Procedure

- (1) Do the GFI Fault Isolation procedure as follows:
 - (a) If the GFI LED is amber, the GFI Trip limit has been exceeded on the corresponding column.
 - 1) Remove and apply power to the system by cycling the PC Power soft button on the LCD Touchscreen Passenger Services menu at the forward attendant control panel.
 - 2) If the status LEDs on the MCU are green and power is available at all the OUs, then it was an intermittent fault.
 - 3) If the GFI LED is still amber, then do the steps that follow:
 - a) Disconnect the corresponding column in half by disconnecting the ISPS in the middle of the column, (WDM 25-25-31).
 - b) Remove and apply power to the system by cycling the PC Power soft button on the LCD Touchscreen Passenger Services menu at the forward attendant control panel..
 - c) If the GFI LED on the MCU is green, then the fault is located in the disconnected half of the column.
 - d) If the GFI LED on the MCU is amber, then the fault is located in the connected half of the column.
 - e) Reconnect the column and disconnect the ISPS in the middle of the part of the column with the fault.
 - f) Do the steps above again until you identify the unit with the fault.
 - g) Examine and repair the wiring that connects to the unit with the fault, (WDM 25-25-31).
 - h) Remove and apply power to the system by cycling the PC Power soft button on the LCD Touchscreen Passenger Services menu at the forward attendant control panel..
 - i) If the problem continues, replace the ISPS with the fault. These are the tasks:
In-Seat Power Supply - Removal, AMM TASK 23-81-05-000-801,
In-Seat Power Supply - Installation, AMM TASK 23-81-05-400-801.
 - j) Remove and apply power to the system by cycling the PC Power soft button on the LCD Touchscreen Passenger Services menu at the forward attendant control panel..
 - k) If the corresponding GFI LED on the MCU is green, then you corrected the fault.
 - (b) If the GFI LED on the MCU is red, do a check of the status LEDs on the outlet units (OUs).
 - 1) If all the LEDs on the OUs are green, then replace the MCU. These are the tasks:
Master Control Unit Removal, AMM TASK 23-81-01-000-801,
Master Control Unit Installation, AMM TASK 23-81-01-400-801.
 - 2) If not all the status LEDs on the OUs are green, do this task: Outlet Unit Status LED Problems - Fault Isolation, 23-81 TASK 801.
 - 3) Remove and apply power to the system by cycling the PC Power soft button on the LCD Touchscreen Passenger Services menu at the forward attendant control panel.

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4) If the LEDs on the OUs and the MCU are green, then you corrected the fault.

F. Output Power Fault Indication - Fault Isolation Procedure

- (1) Do the Output Power Fault Isolation procedure as follows:
 - (a) Remove and apply power to the system by cycling the PC Power soft button on the LCD Touchscreen Passenger Services menu at the forward attendant control panel.
 - (b) If all the Output Power status LEDs on the MCU are green, then it was an intermittent fault.
 - (c) If the Output Power LED(s) is red, then replace the MCU. These are the tasks:
Master Control Unit Removal, AMM TASK 23-81-01-000-801,
Master Control Unit Installation, AMM TASK 23-81-01-400-801.
 - (d) Remove and apply power to the system by cycling the PC Power soft button on the LCD Touchscreen Passenger Services menu at the forward attendant control panel.
 - (e) If all the Output Power LEDs on the MCU are green, then you corrected the fault.

———— **END OF TASK** ————

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802. Flight Compartment Outlet Unit Does Not Operate - Fault Isolation

A. Description

- (1) The Outlet Unit (OU) in the flight compartment does not provide power to a Portable Electronic Device (PED).

NOTE: Make sure that the PED operates normally at another location before doing this test.

B. Possible Causes

- (1) Outlet Unit
- (2) In-Seat Power Supply
- (3) Circuit Breaker
- (4) Wiring problem

C. Circuit Breakers

- (1) This is the primary circuit breaker related to the fault:

F/O Electrical System Panel, P6-12

<u>Row</u>	<u>Col</u>	<u>Number</u>	<u>Name</u>
A	3	C01643	FD - PC POWER

D. Related Data

- (1) WDM 25-29-11

E. Initial Evaluation

- (1) Make sure that power is applied to the Flight Compartment PC power system.
 - (a) Test the system again by cycling the applicable circuit breaker.
 - (b) Do this task on the applicable OU: Flight Compartment PC Power System - Operational Test, AMM TASK 23-82-00-710-801.
 - (c) If the OU provides power to the PED, there was an intermittent fault.
 - (d) If one OU is operational, do the fault isolation task below for "One OU is Operational".
 - (e) If both OUs are not operational, do the fault isolation task below for "Both OUs are Not Operational".

F. One OU is Operational - Fault Isolation Procedure

- (1) Replace the applicable OU. These are the tasks:
 - Outlet Unit Removal, AMM TASK 23-82-01-000-801
 - Outlet Unit Installation, AMM TASK 23-82-01-400-801.
 - (a) If the OU is operational, then you corrected the fault.
 - (b) If the problem continues, examine the wiring between the ISPS and the OU.
 - 1) If you find a problem, repair or replace the applicable wiring.
 - 2) If the OU is operational, then you corrected the fault.

G. Both OUs are Not Operational - Fault Isolation Procedure

- (1) Replace the ISPS. These are the tasks:
 - In-Seat Power Converter Removal, AMM TASK 23-82-03-000-801
 - In-Seat Power Converter Installation, AMM TASK 23-82-03-400-801.
 - (a) If the OUs are operational, then you corrected the fault.

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- (b) If the OUs are not operational, replace the circuit breaker.
- (c) If the OUs are operational, then you corrected the fault.

———— **END OF TASK** ————

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