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3	SEP 28/05	GUI
4	SEP 28/02	GUI
5	MAY 28/07	GUI
6	SEP 28/07	GUI
7	MAY 28/06	GUI
8	SEP 28/06	GUI
9	MAY 28/06	GUI
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24-FAULT CODE DIAGRAM		
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2	JUN 20/96	01
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9	SEP 20/98	01
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3	SEP 20/08	05
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5	SEP 20/08	02
6	SEP 20/08	02
7	SEP 20/08	02
8	SEP 20/08	11
9	SEP 20/08	17
10	SEP 20/08	15
11	SEP 20/08	06
12	SEP 20/08	05
13	SEP 20/08	06
14	SEP 20/08	03
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180I	JAN 20/08	01
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180L	SEP 28/02	01
180M	SEP 28/02	01
180N	JAN 28/03	01
180O	JAN 28/03	01
R 180P	MAY 20/09	01.1
R 180Q	MAY 20/09	01.1
180R	SEP 28/04	01
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24-54-00		
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102	SEP 20/94	01

CHAPTER 24 – ELECTRICAL POWER

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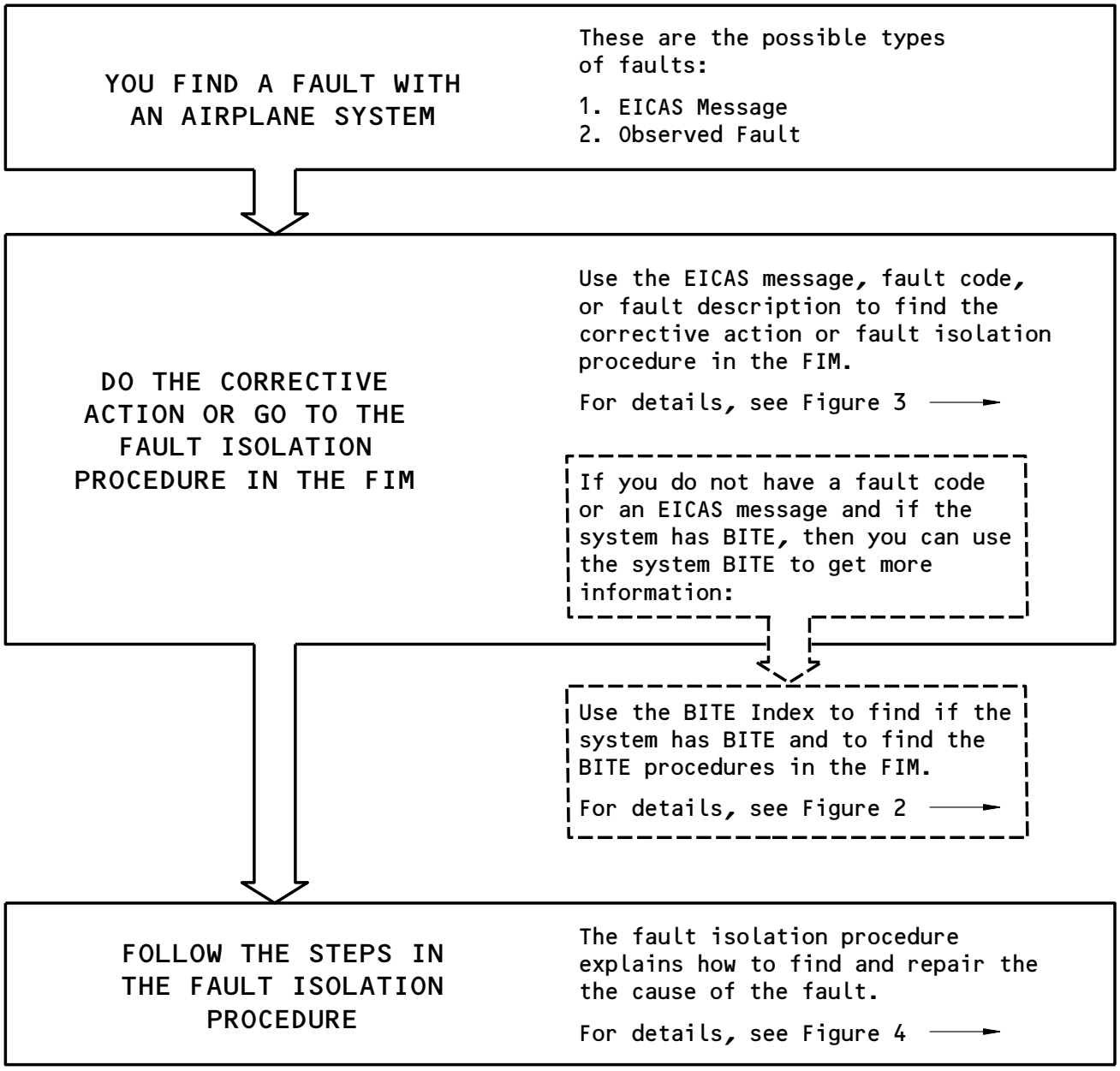
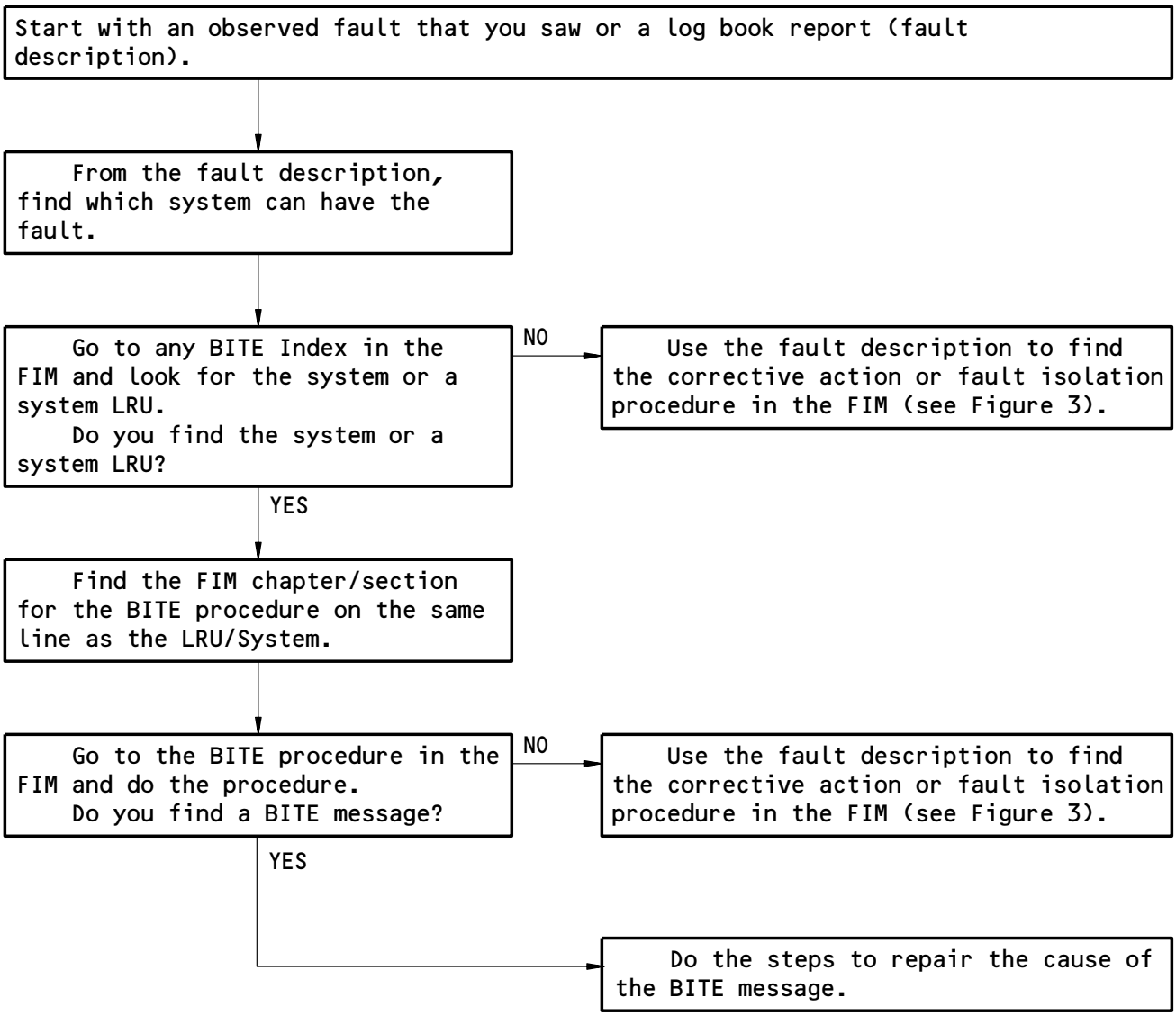


Basic Fault Isolation Process
Figure 1



How to Get Fault Information from BITE
Figure 2

H54345

IF YOU HAVE:	THEN DO THIS TO FIND THE CORRECTIVE ACTION OR FAULT ISOLATION PROCEDURE IN THE FIM:
FAULT CODE	1. The first two digits of the fault code are the FIM chapter that you need. Go to the Fault Code Index in that chapter and find the fault code. 2. Find the Fault Isolation Reference for the fault code and do the corrective action. If there is a FIM reference, then go to that fault isolation procedure in the FIM and do the steps in the procedure (see Figure 4).
EICAS MESSAGE TEXT (with no fault code)	1. If you know the chapter of the EICAS message, then go to the EICAS Messages section in that chapter and find the EICAS message. If you do not know the chapter of the EICAS message, then do these steps: A. Go to FIM EICAS MESSAGE LIST and find the EICAS message in the table. NOTE: The list follows the INTRODUCTION to the FIM. B. Find the chapter number on the same line as the EICAS message. Go to the EICAS Messages section in that chapter and find the EICAS message. 2. Do the corrective action in the "Procedure" column for the EICAS message. If there is a FIM reference, then go to that fault isolation procedure in the FIM and do the steps in the procedure (see Figure 4).
OBSERVED FAULT DESCRIPTION	1. Go to the Fault Code Diagram for the problem in the applicable chapter. 2. Do the fault analysis on the diagram and find the fault code. 3. The first two digits of the fault code are the FIM chapter that you need. Go to the Fault Code Index in that chapter and find the fault code. 4. Find the Fault Isolation Reference for the fault code and do the corrective action. If there is a FIM reference, then go to that fault isolation procedure in the FIM and do the steps in the procedure (see Figure 4).

How to Find the Corrective Action or Fault Isolation Procedure in the FIM
Figure 3

ASSUMED CONDITIONS AT START OF TASK

- External electrical power is OFF
- Hydraulic power and pneumatic power are OFF
- Engines are shut down
- Circuit breakers for the system are closed
- No equipment in the system is deactivated

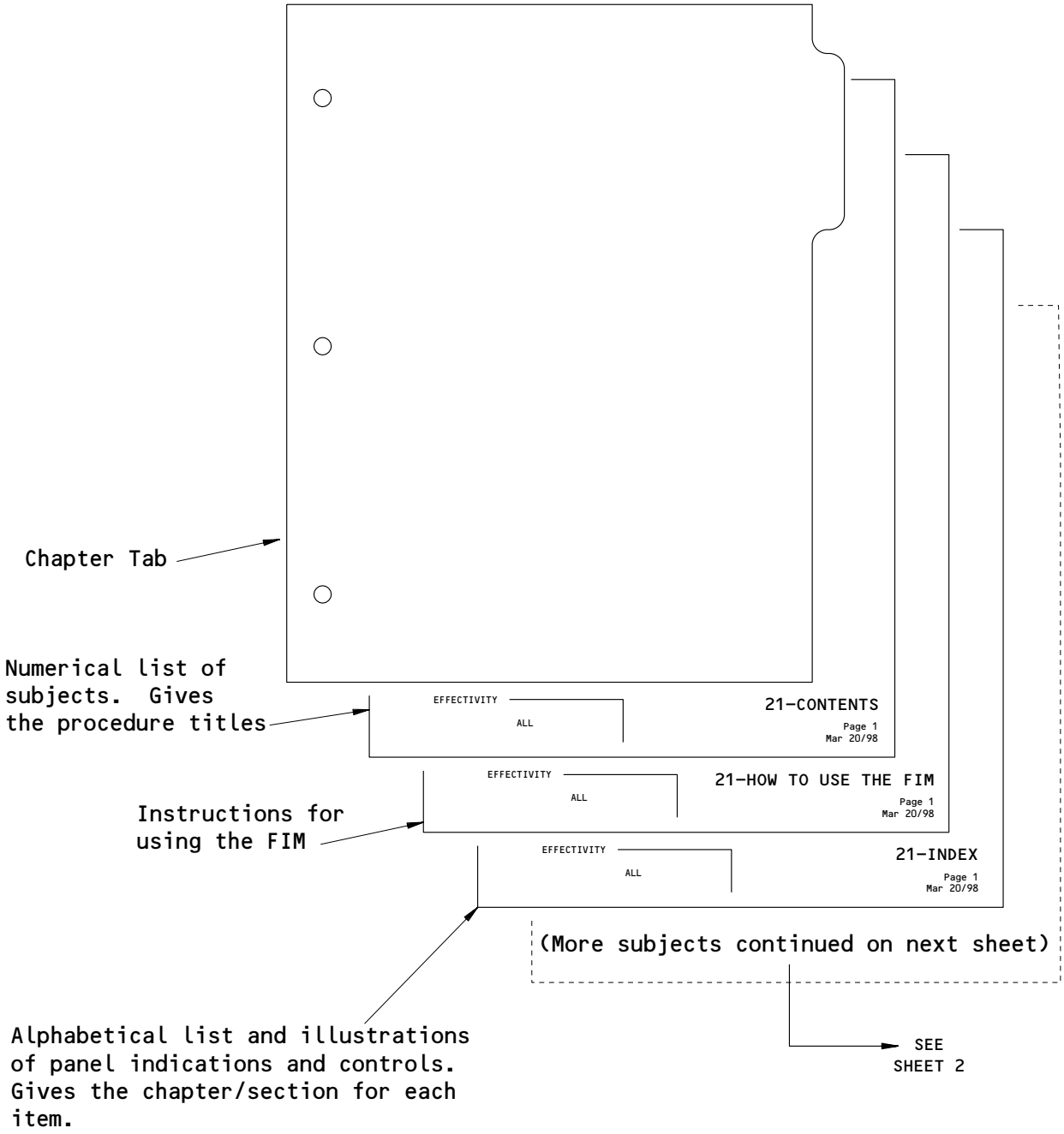
PREREQUISITES

- This box gives the steps to get the airplane from the normal shutdown condition to the configuration necessary to do the fault isolation procedure.
- The Prerequisites give procedure references, circuit breakers, and special tools and equipment requirements.

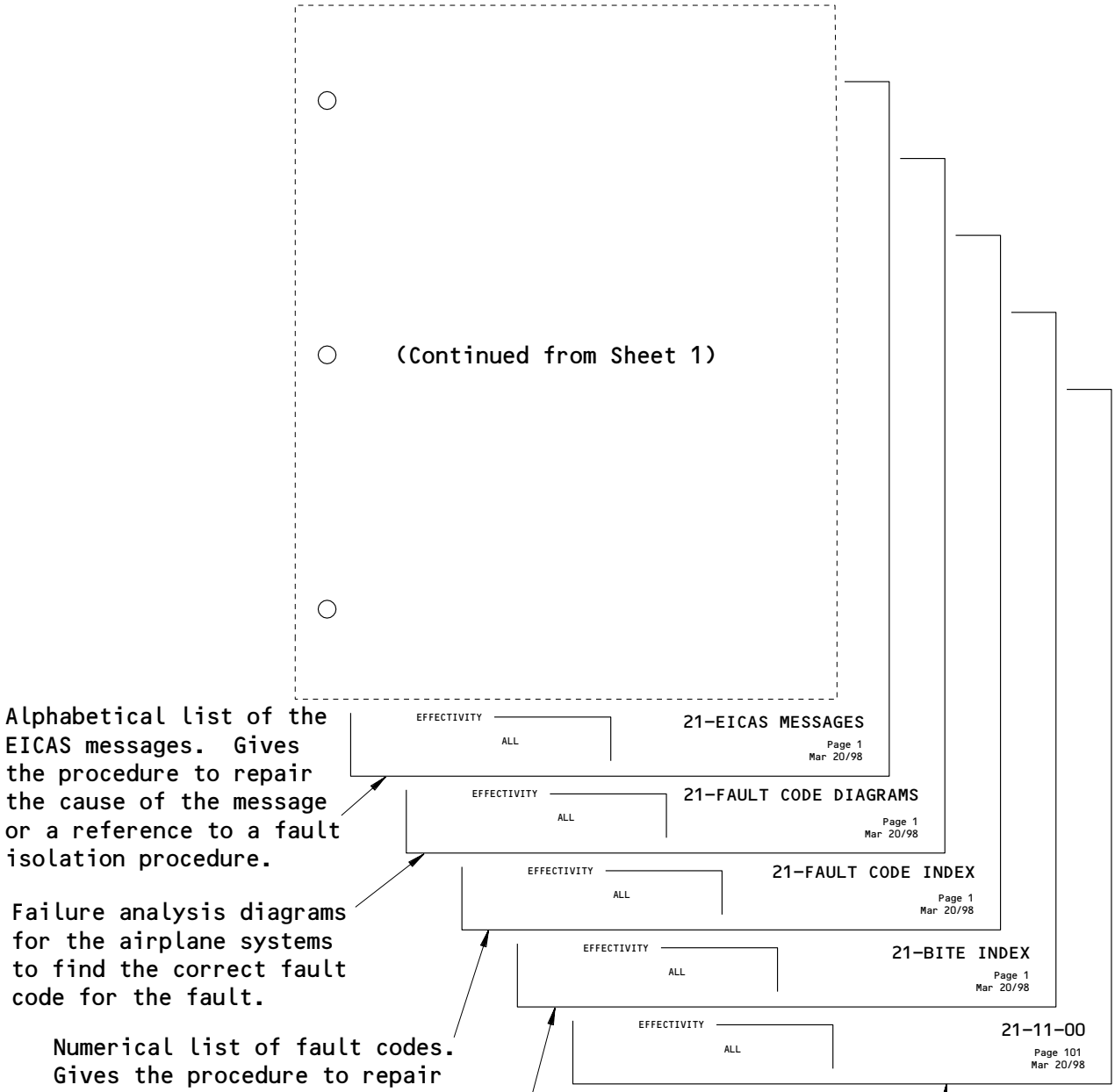
FAULT ISOLATION BLOCKS

- Start the fault isolation procedure at block 1 unless specified differently.
- Do the check to get an answer to the question in the box. Follow the arrow that applies to your answer. This will go to the next check.
- When you get to a box in the column at the right of the page, you have isolated that fault. Do the steps in that box to repair the cause of the fault.
- Make sure that fault is corrected to complete the procedure.

Do the Fault Isolation Procedure
Figure 4



Subjects in Each FIM Chapter
Figure 5 (Sheet 1)



Subjects in Each FIM Chapter
Figure 5 (Sheet 2)

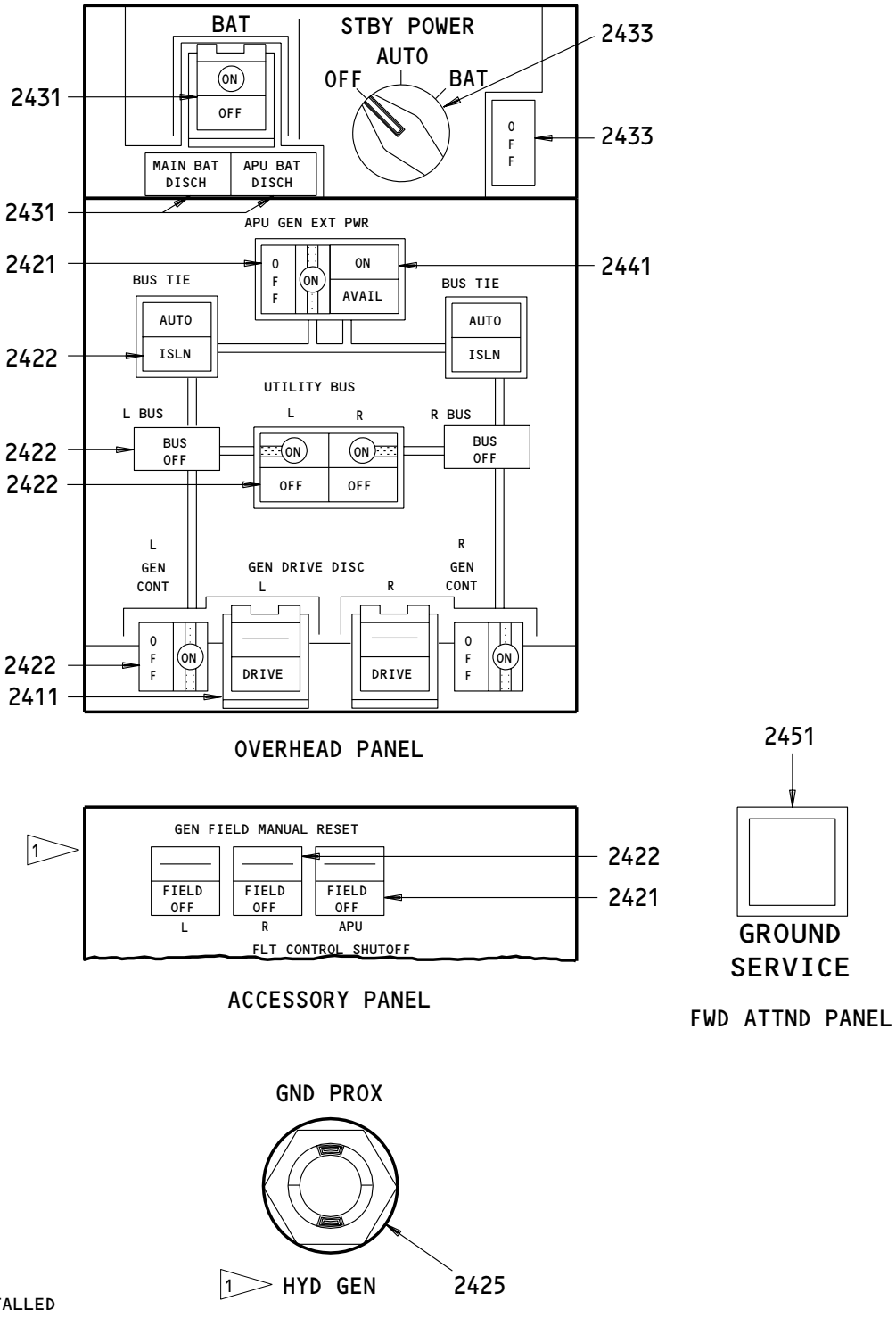
H54349

[1] IF INSTALLED

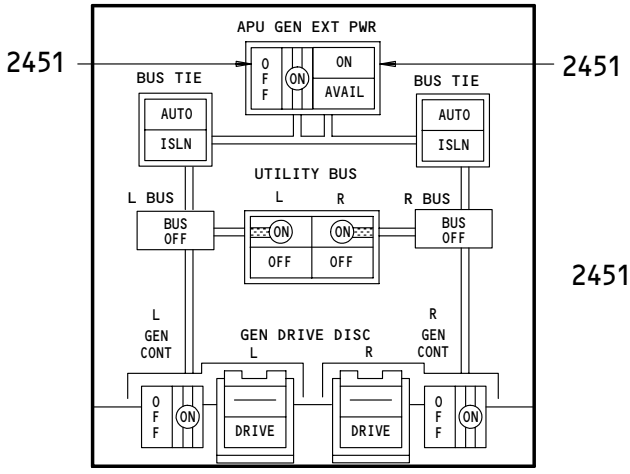
ELECTRICAL POWER - INDEX
Figure 1 (Sheet 1)

EFFECTIVITY
ALL

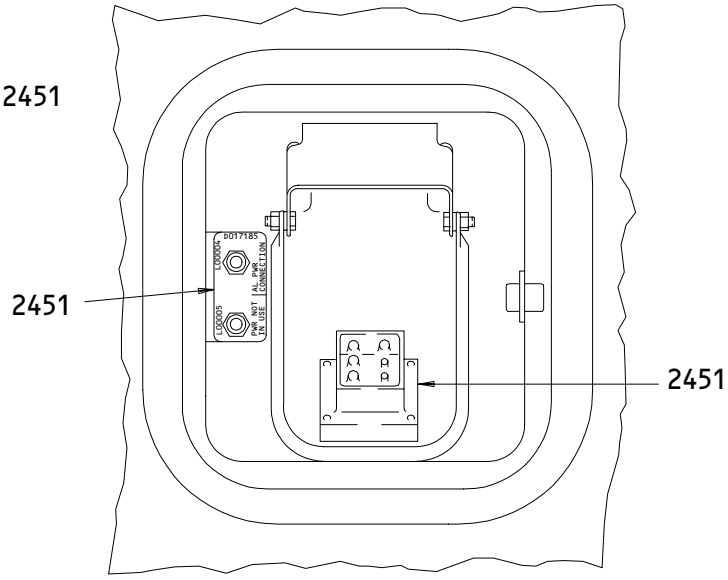
B15847



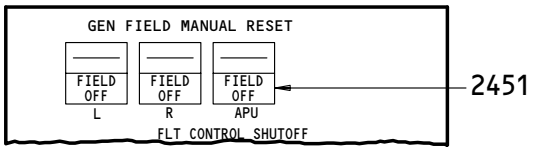
ELECTRICAL POWER – INDEX
Figure 1 (Sheet 2)



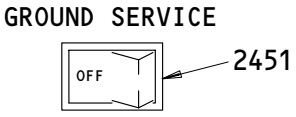
OVERHEAD PANEL



EXTERNAL POWER PANEL



RIGHT SIDE PANEL

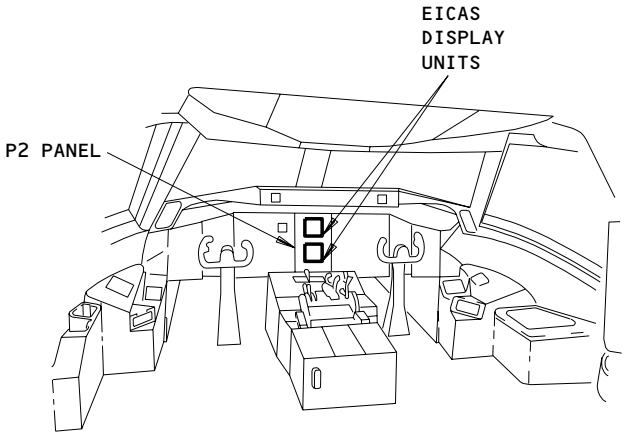


FWD ATTND PANEL

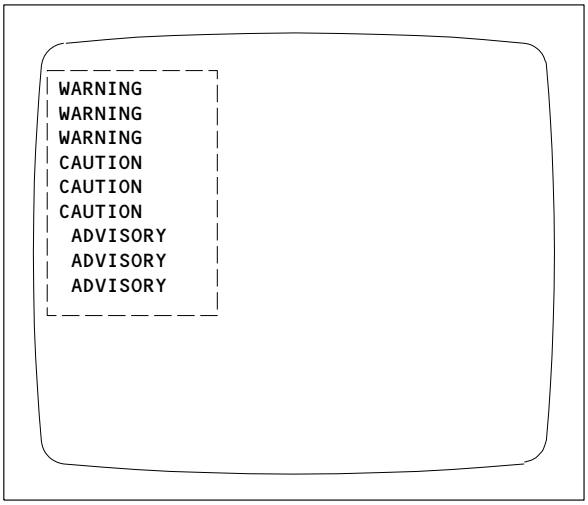
ELECTRICAL POWER - INDEX (GROUND)
Figure 2

ELECTRICAL POWER - EICAS MESSAGE LIST

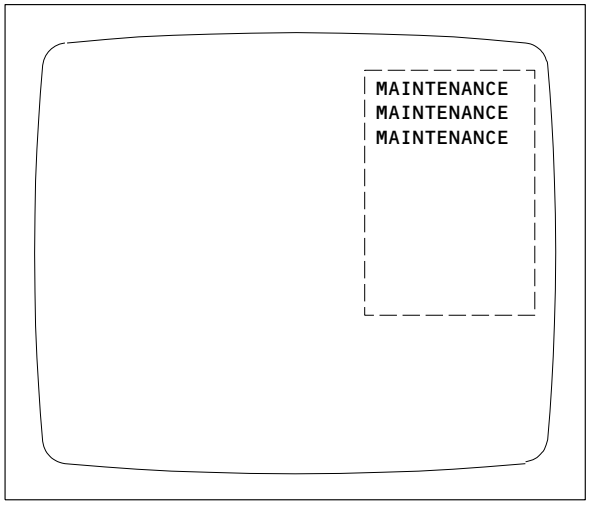
1. General
   A. This procedure shows the EICAS message locations and gives a list of procedures to find the solution for each message.
      (1) EICAS Message Locations (Fig. 1)
         (a) Figure 1 shows the location of the EICAS display units and the area where the messages show on the display units.
         (b) Each message level has a different location. The location and color of each message level is also shown.
      (2) The EICAS MESSAGE LIST gives the message, level, and procedure for each message.
         (a) The EICAS MESSAGE column lists the messages alphabetically. Messages which start with L, R, or C are put together and alphabetized at L.
         (b) The LEVEL column gives all levels for each message as follows:
            A - Warning messages
            B - Caution messages
            C - Advisory messages
            S - Status messages
            M - Maintenance messages
         (c) The PROCEDURE column gives the steps that are necessary to remove the message and includes one or more of the procedures that follow:
            1) A Fault Isolation Manual procedure reference
            2) A Maintenance Manual procedure and reference
            3) Wiring checks and a Wiring Diagram Manual reference
            4) A reference to an EICAS message list in a different chapter.
            5) A reference to a FAULT CODE INDEX and specified fault codes
            6) A step to change the airplane configuration



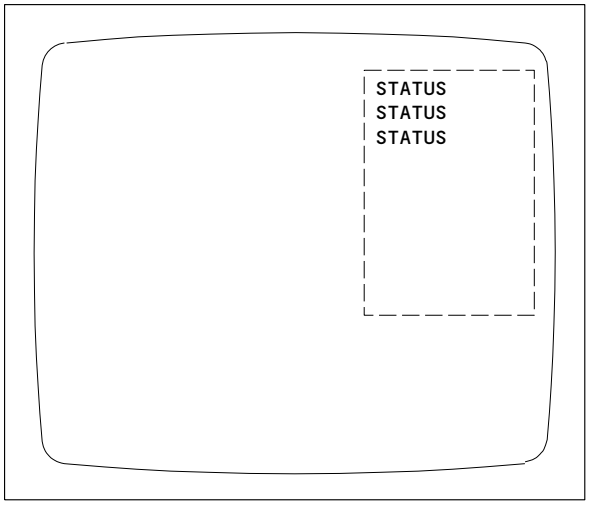
FLIGHT COMPARTMENT



ENGINE PRIMARY PAGE OR COMPACTED PAGE
(TOP DISPLAY UNIT)



ECS/MSG PAGE
(BOTTOM DISPLAY UNIT)



STATUS PAGE
(BOTTOM DISPLAY UNIT)

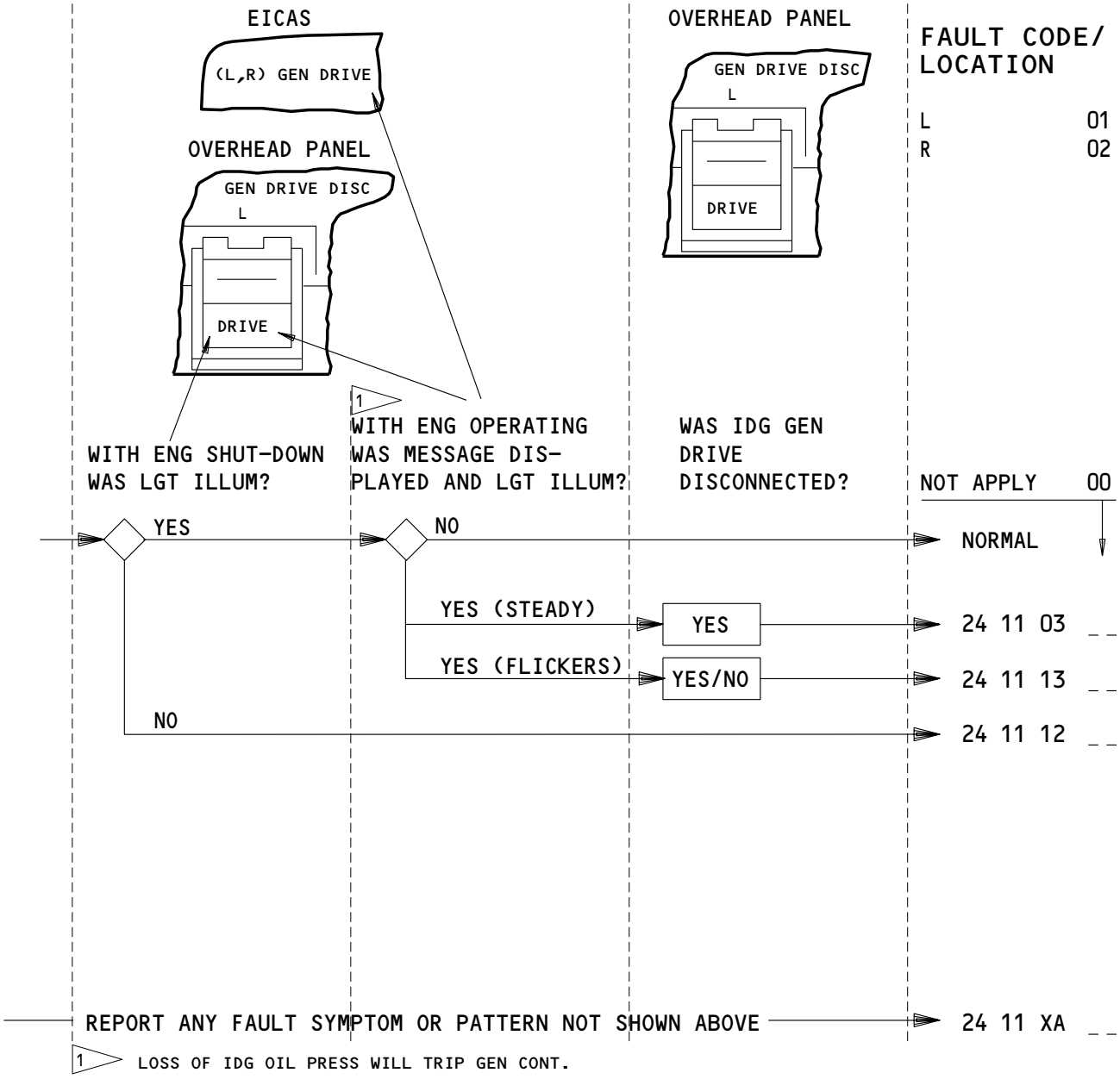
LEVEL	COLOR
A–WARNING	RED
B–CAUTION	YELLOW
C–ADVISORY	YELLOW
S–STATUS	WHITE
M–MAINTENANCE	WHITE

EICAS Message Locations
Figure 1

EICAS MESSAGE LIST		
EICAS MESSAGE	LEVEL	PROCEDURE
APU BAT CHGR	S,M	Replace the APU battery charger, M207 (AMM 24-31-04/401). Do the Maintenance Message Erase Procedure (FIM 31-41-00/101, Fig. 109). If the problem continues, FIM 24-31-00/101, Fig. 104 Block 1
APU BAT DISCH	C	Supply electrical power (AMM 24-22-00/201). Turn the STBY POWER switch, on the pilots' overhead panel P5, to the AUTO position. If the problem continues, replace the APU battery current monitor, M1172 (AMM 24-31-07/401).
APU BAT NO STBY	S,M	FIM 24-31-00/101, Fig. 105, Block 1
APU GEN OFF	C	Do the BPCU BITE Procedure (FIM 24-20-00/101, Fig. 101, Block 1)
BATTERY OFF	C	Push the BAT switch, on the pilots' overhead panel P5, to the ON position.
CAPT INSTR XFER	S,M	Replace the captain's instrument bus voltage sensing unit, M10374 (AMM 24-51-08/401).
F/O INSTR XFER	S,M	Replace the first officer's instrument bus voltage sensing unit, M10375 (AMM 24-51-08/401).
HYD GEN ON	S,M	FIM 24-25-00/101, Fig. 104, Block 1 If the problem continues, FIM 24-25-00/101, Fig 105, Block 1
HYD GEN VAL	S,M	FIM 24-25-00/101, Fig. 103, Block 1 If the problem continues, FIM 24-25-00/101, Fig 105, Block 1
IDG OUT TEMP	M	FIM 24-20-00/101, Fig. 102, Block 1
IDG RISE TEMP	M	FIM 24-20-00/101, Fig. 102, Block 1

EICAS MESSAGE LIST		
EICAS MESSAGE	LEVEL	PROCEDURE
(L,R) AC BUS OFF	B	Do the BPCU BITE Procedure (FIM 24-20-00/101, Fig. 101, Block 1).
(L,R) BUS ISOLATED	C	Do the BPCU BITE Procedure (FIM 24-20-00/101, Fig. 101, Block 1).
(L,R) GEN DRIVE	C	Do the BPCU BITE Procedure (FIM 24-20-00/101, Fig. 101, Block 1).
(L,R) GEN OFF	C	Do the BPCU BITE Procedure (FIM 24-20-00/101, Fig. 101, Block 1).
(L,R) IDG OIL LEVEL	M	Service the IDG (AMM 12-13-03/301).
(L,R) IDG OIL TEMP	M	FIM 24-20-00/101, Fig. 103, Block 1
(L,R) IDG TEMP SENS	M	FIM 24-20-00/101, Fig. 104, Block 1
(L,R) UTIL BUS OFF	C	Do the BPCU BITE Procedure (FIM 24-20-00/101, Fig. 101, Block 1).
MAIN BAT CHGR	S,M	Turn the STBY POWER switch (P5) to the BAT position for 1-2 seconds, then return the switch to the AUTO position. Do the Maintenance Message Erase Procedure (FIM 31-41-00/101, Fig. 109). If the problem continues, do: FIM 24-31-00/101, Fig. 103, Block 1
MAIN BAT DISCH	C	Supply electrical power (AMM 24-22-00/201). Turn the STBY POWER switch, on the pilots overhead panel P5, to the AUTO position. If the problem continues, replace the main battery current monitor, M10212 (AMM 24-31-05/401).
STANDBY BUS OFF	C	FIM 24-33-00/101, Fig. 104, Block 1

EICAS MESSAGE LIST		
EICAS MESSAGE	LEVEL	PROCEDURE
STBY INVERTER	S,M	FIM 24-33-00/101, Fig. 103, Block 1
T-R UNIT	S,M	FIM 24-32-00/101, Fig. 103, Block 1



APPLICABLE CIRCUIT BREAKERS

6B1	L GEN CONT UNIT
6B2	R GEN CONT UNIT
6B5	L GEN DRIVE DISC
6B6	R GEN DRIVE DISC

GENERATOR DRIVE – FAULT CODES

EFFECTIVITY

ALL

24-FAULT CODE DIAGRAM

01

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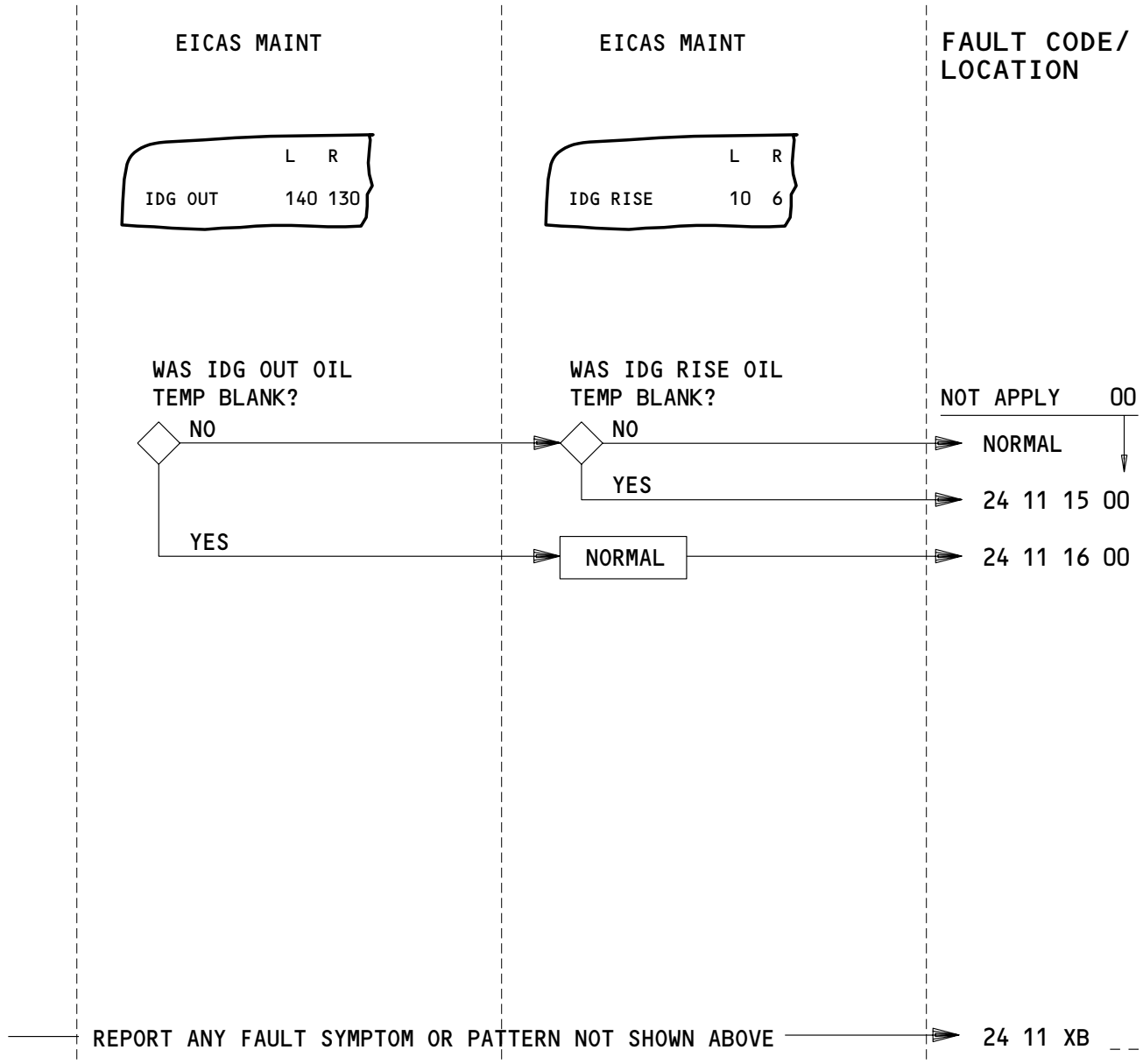


APPLICABLE CIRCUIT BREAKERS

6B1	L GEN CONT UNIT
6B2	R GEN CONT UNIT

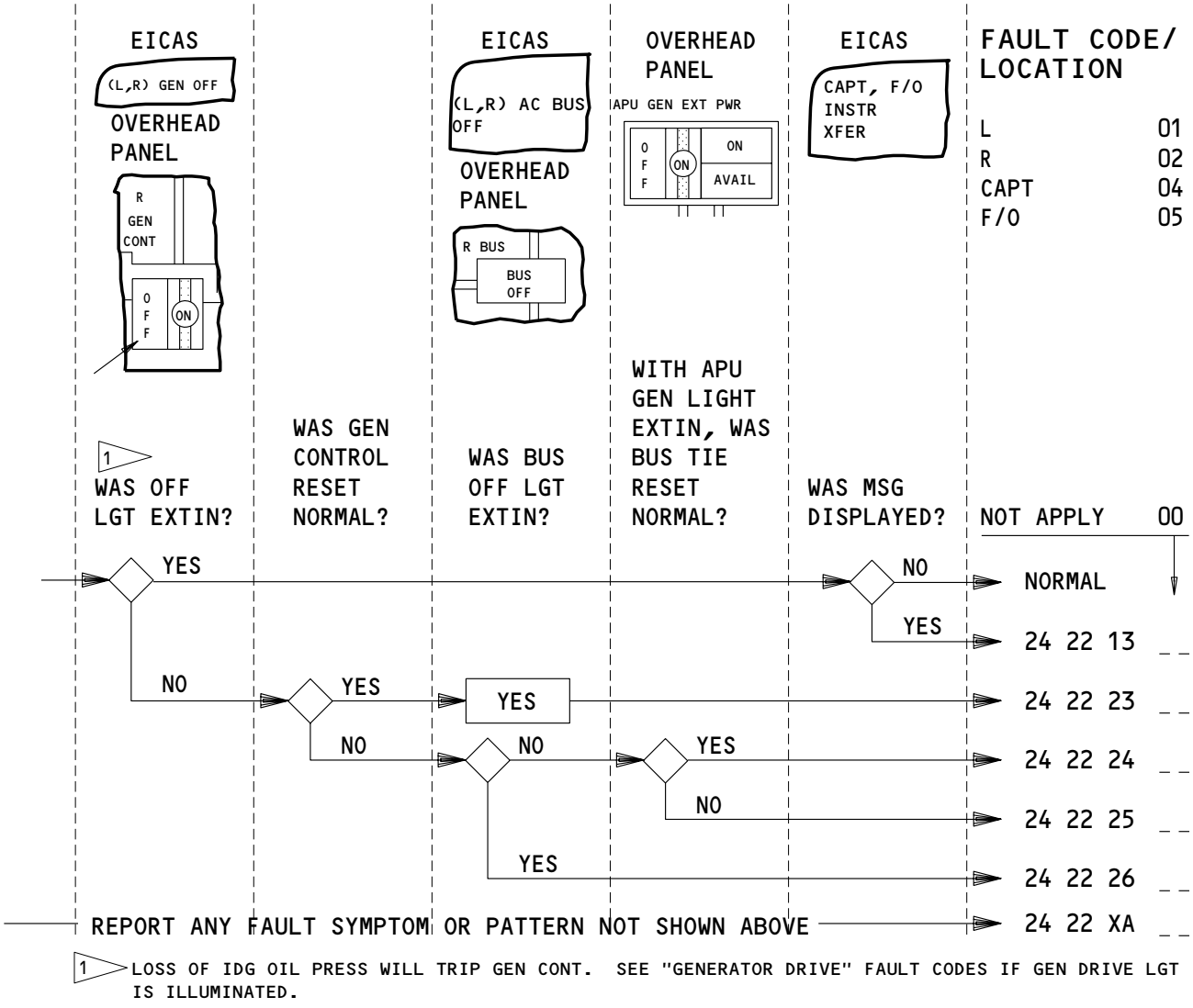
GENERATOR DRIVE TEMPERATURE DISPLAY – FAULT CODES (GROUND)

EFFECTIVITY

ALL

24-FAULT CODE DIAGRAM

F84985



1 LOSS OF IDG OIL PRESS WILL TRIP GEN CONT. SEE "GENERATOR DRIVE" FAULT CODES IF GEN DRIVE LGT IS ILLUMINATED.

APPLICABLE CIRCUIT BREAKERS AS INSTALLED

6A14	115 VAC BUS L SECT 3	6C9	C BUS PWR	6M22	Ø A F/O PRIM INSTR BUS
6A17	115 VAC BUS L SECT 2	6C14	115 VAC BUS L SECT 1	6M23	Ø B F/O PRIM INSTR BUS
6A20	115 VAC BUS R SECT 3	6C20	115 VAC BUS R SECT 1	6M24	Ø C F/O PRIM INSTR BUS
6A23	115 VAC BUS R SECT 2	6K17	CENTER BUS AC	11R32	BPCU SEC
6B1	L GEN CONT UNIT	6M16	Ø A CAPT PRIM INSTR BUS		
6B2	R GEN CONT UNIT	6M17	Ø B CAPT PRIM INSTR BUS		
6B4	BUS PWR CONT UNIT	6M18	Ø C CAPT PRIM INSTR BUS		

GENERATOR AND BUS TIE CONTROL – FAULT CODES

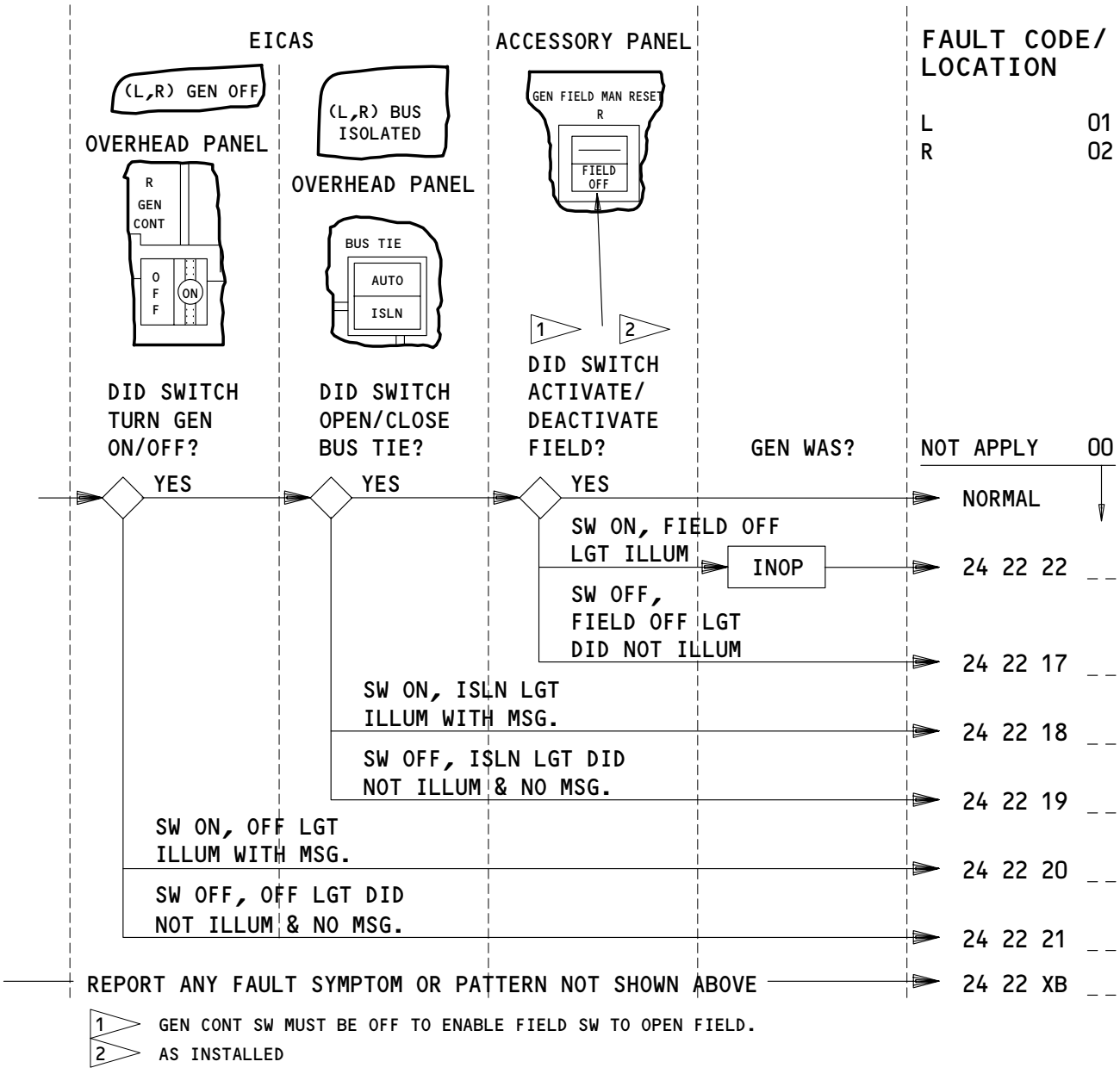
EFFECTIVITY

ALL

24-FAULT CODE DIAGRAM

01

79330



APPLICABLE CIRCUIT BREAKERS

NONE

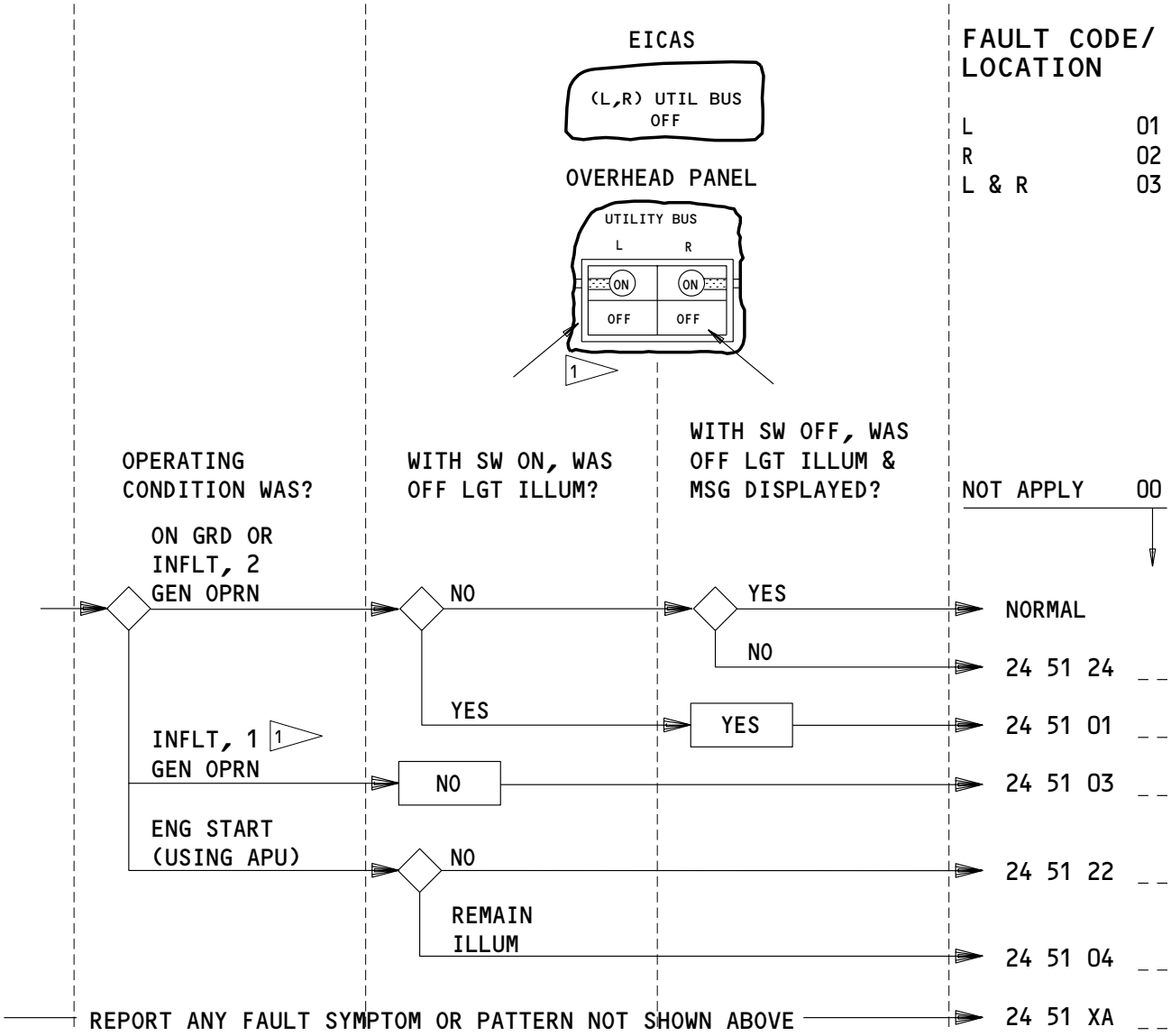
DEFECTIVE GEN CONT, AC BUS TIE & GEN FIELD SWITCHES – FAULT CODES

EFFECTIVITY

ALL

24-FAULT CODE DIAGRAM

E67002



1 UTILITY BUSES WILL TRIP IF A SINGLE SOURCE IS SUPPLYING ELECTRICAL POWER WITH BOTH THRUST LEVERS ADVANCED.

APPLICABLE CIRCUIT BREAKERS AS INSTALLED

APPLICABLE CIRCUIT BREAKERS

6B1	L GEN CONT UNIT	11R4	UTIL BUS LEFT		
6B2	R GEN CONT UNIT	11R4	UTIL BUS L		
6B4	BUS PWR CONT UNIT	11R31	UTIL BUS RIGHT		
		11R31	UTIL BUS R	11R32	BPCU SEC

UTILITY BUS – FAULT CODES

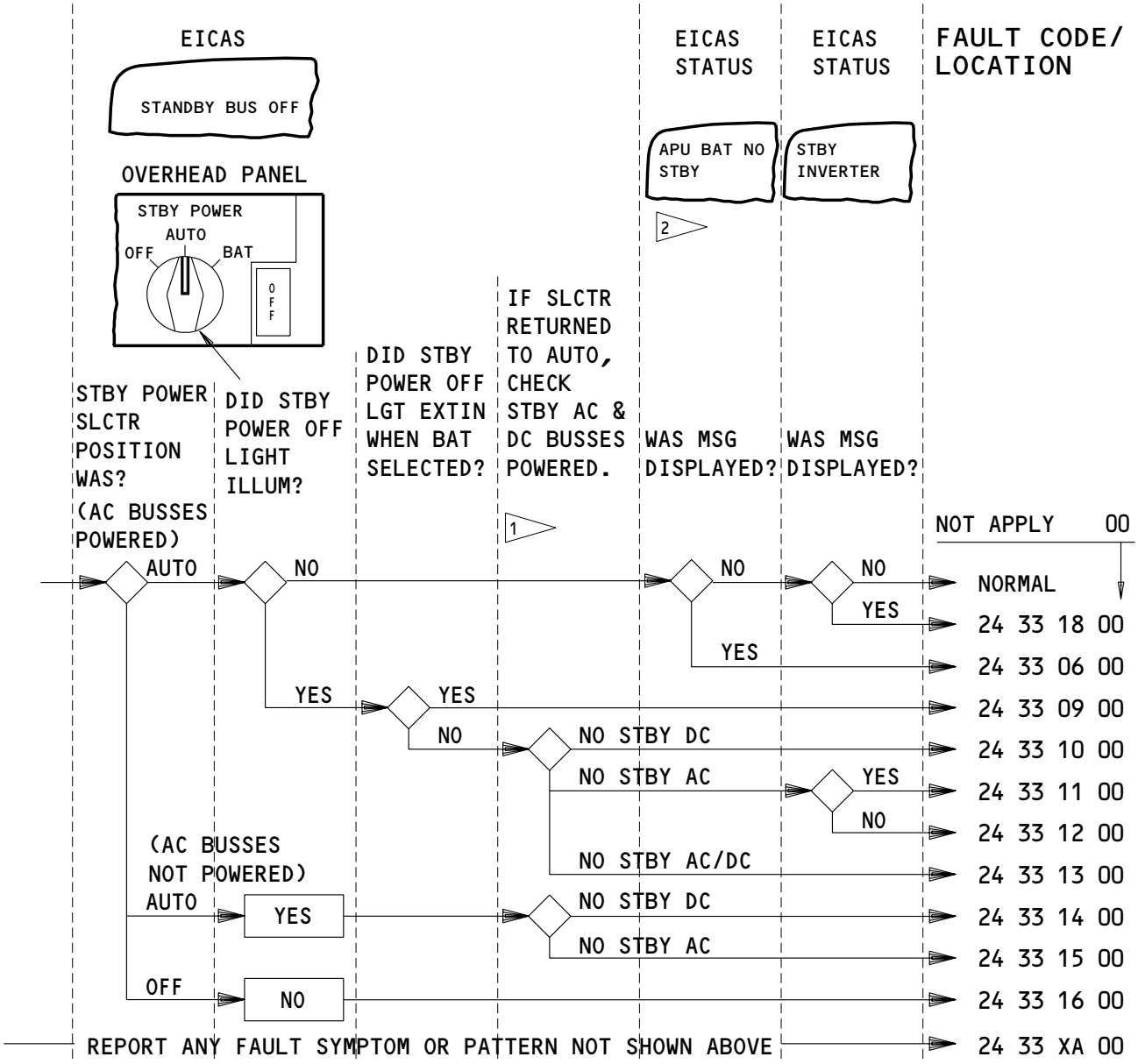
EFFECTIVITY

ALL

24-FAULT CODE DIAGRAM

01

156716



1 WITH LOSS OF DC STBY BUS STBY ATTITUDE FAILS. L VHF INOP & ETC.
WITH LOSS OF AC STBY BUS L AIR DATA COMPUTER FAILS, DIFF PRESS IND INOP & ETC.

2 IF INSTALLED

APPLICABLE CIRCUIT BREAKERS

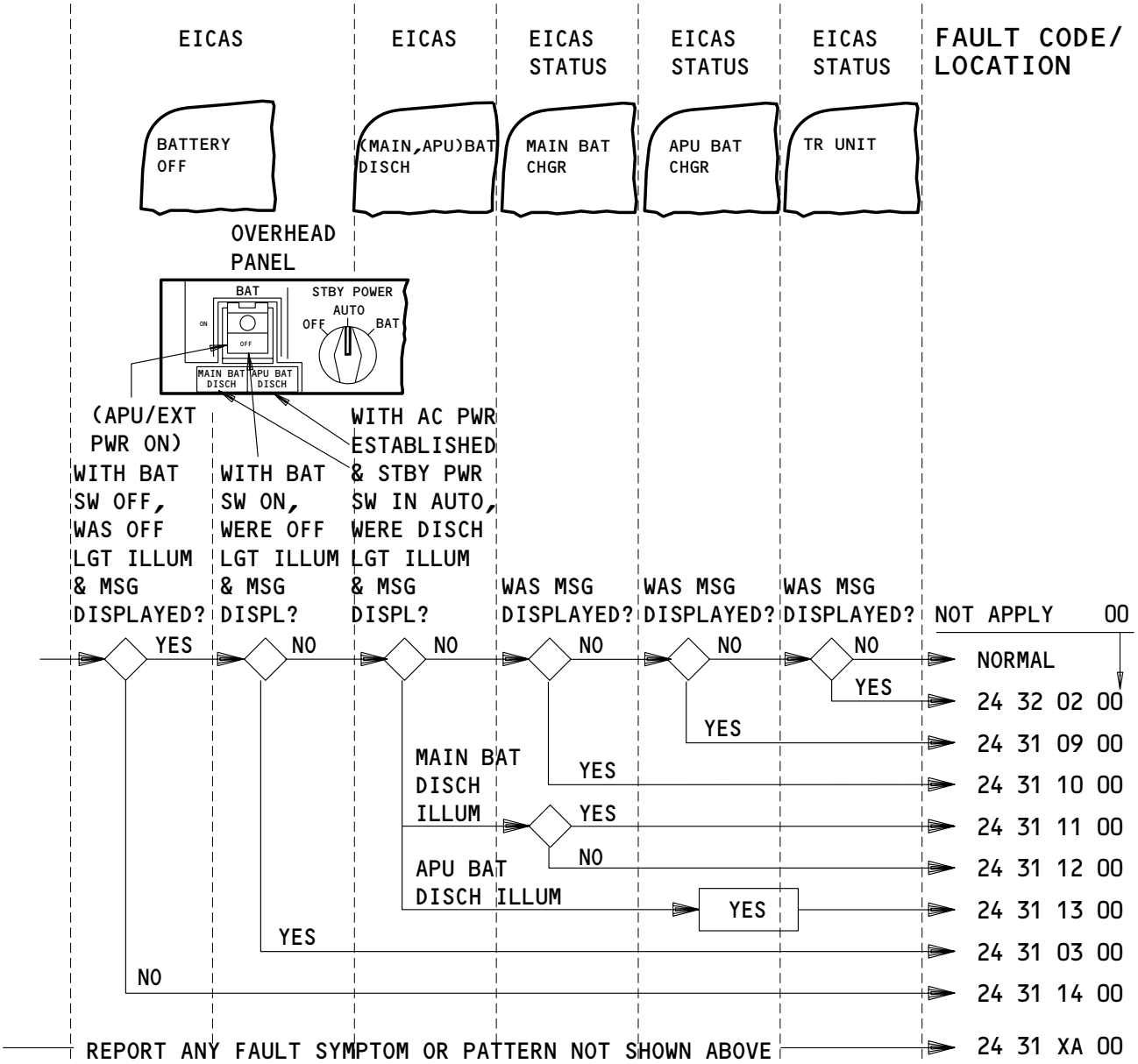
6A2	DC STBY	6K16	AC STBY BUS PWR
6A3	DC STBY BUS OFF	6L11	INV PWR BAT
6A5	STBY PWR CONT	6M13	AC STBY BUS OFF
6D10	INV PWR TRU		

STANDBY POWER – FAULT CODES

EFFECTIVITY
ALL

24-FAULT CODE DIAGRAM

B15849



APPLICABLE CIRCUIT BREAKERS AS INSTALLED

6A1	BAT BUS DISTR	6C17	L TRU	6H10	R DC VOLT SENSE
6A6	DC BUS TIE CONT	6C23	R TRU	6L8	MAIN BAT CHGR
6C10	BAT BUS CONT	6D1	BAT OVHT PROT	6L9	HOT BAT BUS
6C11	L DC VOLT SENSE	6D11	BAT BUS PWR TRU	6L10	BAT BUS PWR

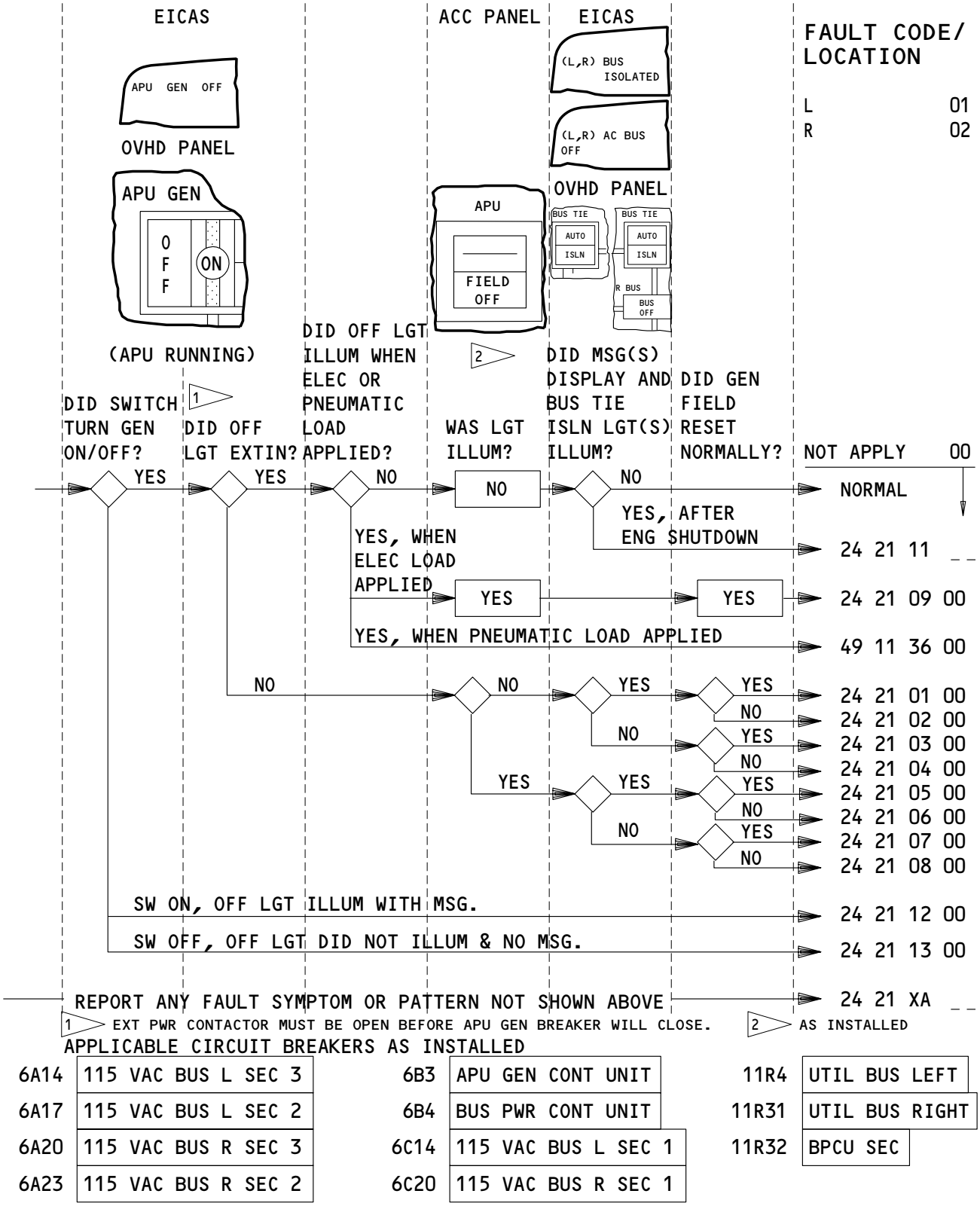
BATTERY AND TR UNITS – FAULT CODES

EFFECTIVITY

ALL

24-FAULT CODE DIAGRAM

GD2251



APPLICABLE CIRCUIT BREAKERS AS INSTALLED

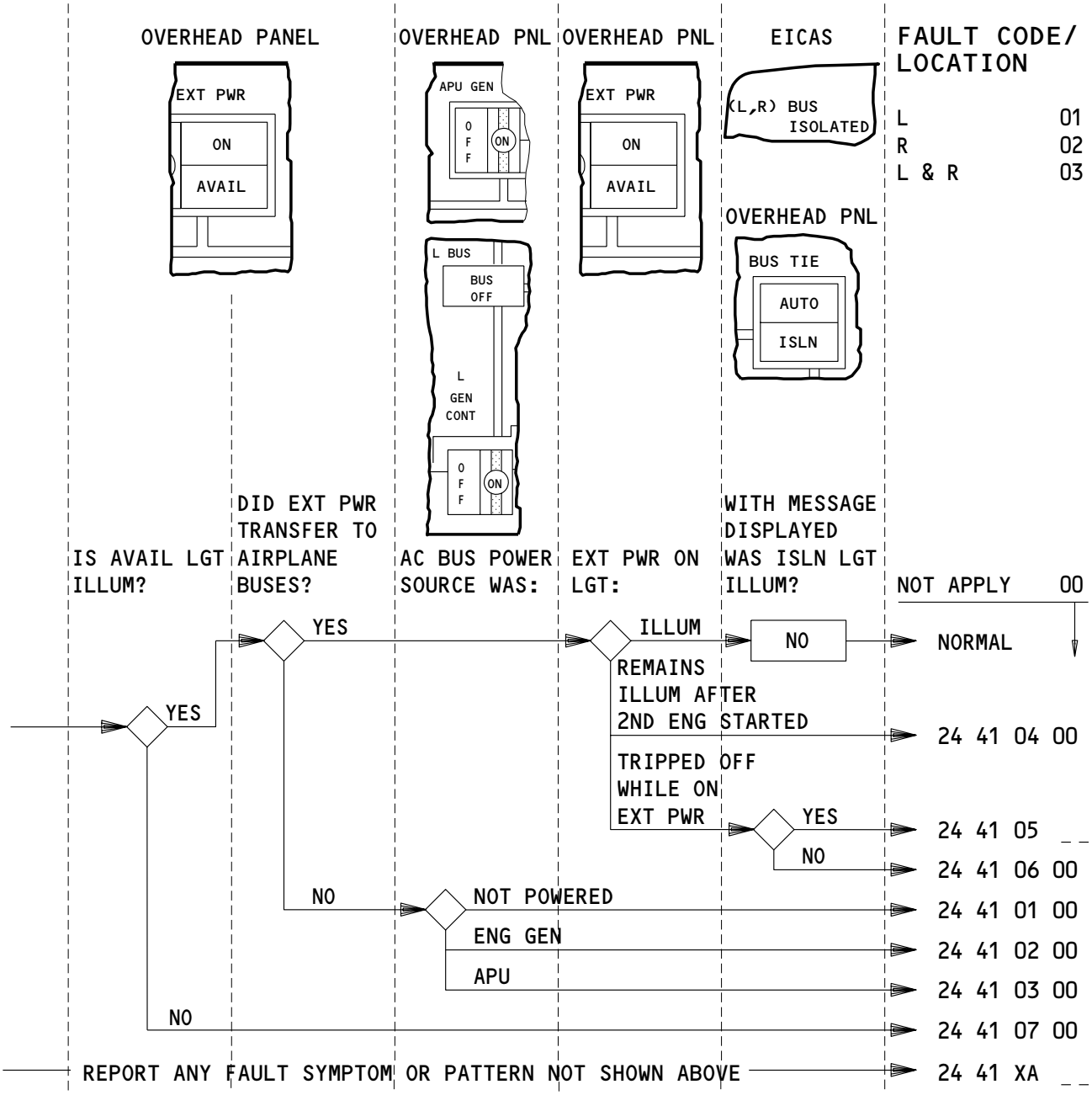
6A14	115 VAC BUS L SEC 3	6B3	APU GEN CONT UNIT	11R4	UTIL BUS LEFT
6A17	115 VAC BUS L SEC 2	6B4	BUS PWR CONT UNIT	11R31	UTIL BUS RIGHT
6A20	115 VAC BUS R SEC 3	6C14	115 VAC BUS L SEC 1	11R32	BPCU SEC
6A23	115 VAC BUS R SEC 2	6C20	115 VAC BUS R SEC 1		

APU GENERATOR – FAULT CODES

EFFECTIVITY
ALL

24-FAULT CODE DIAGRAM

GD2291



APPLICABLE CIRCUIT BREAKERS AS INSTALLED

6A14	115 VAC BUS L SECT 3
6A17	115 VAC BUS L SECT 2
6A20	115 VAC BUS R SECT 3
6A23	115 VAC BUS R SECT 2

6B4	BUS PWR CONT UNIT
6C14	115 VAC BUS L SECT 1
6C20	115 VAC BUS R SECT 1

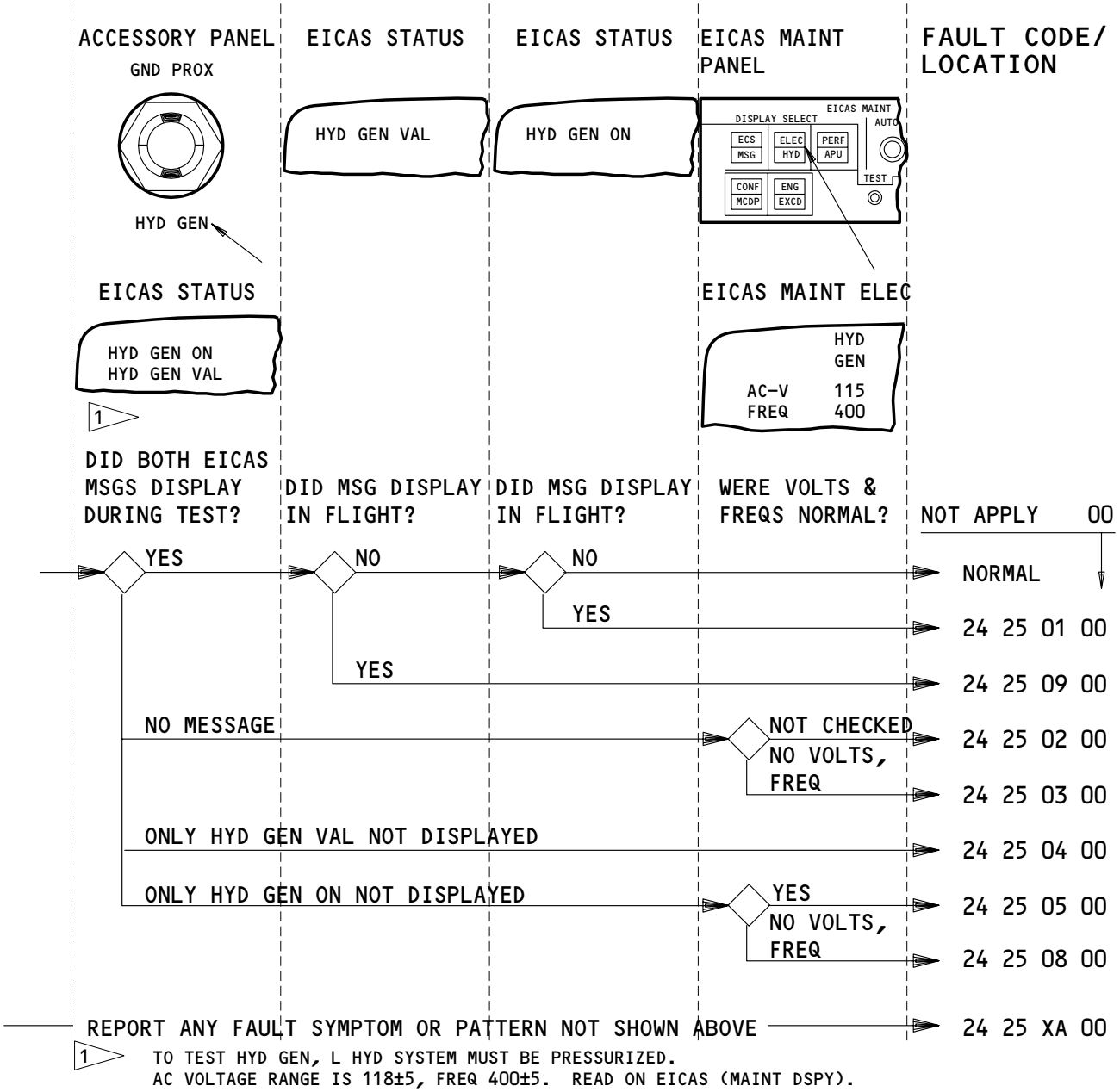
EXTERNAL POWER – FAULT CODES

EFFECTIVITY

ALL

24-FAULT CODE DIAGRAM

55418

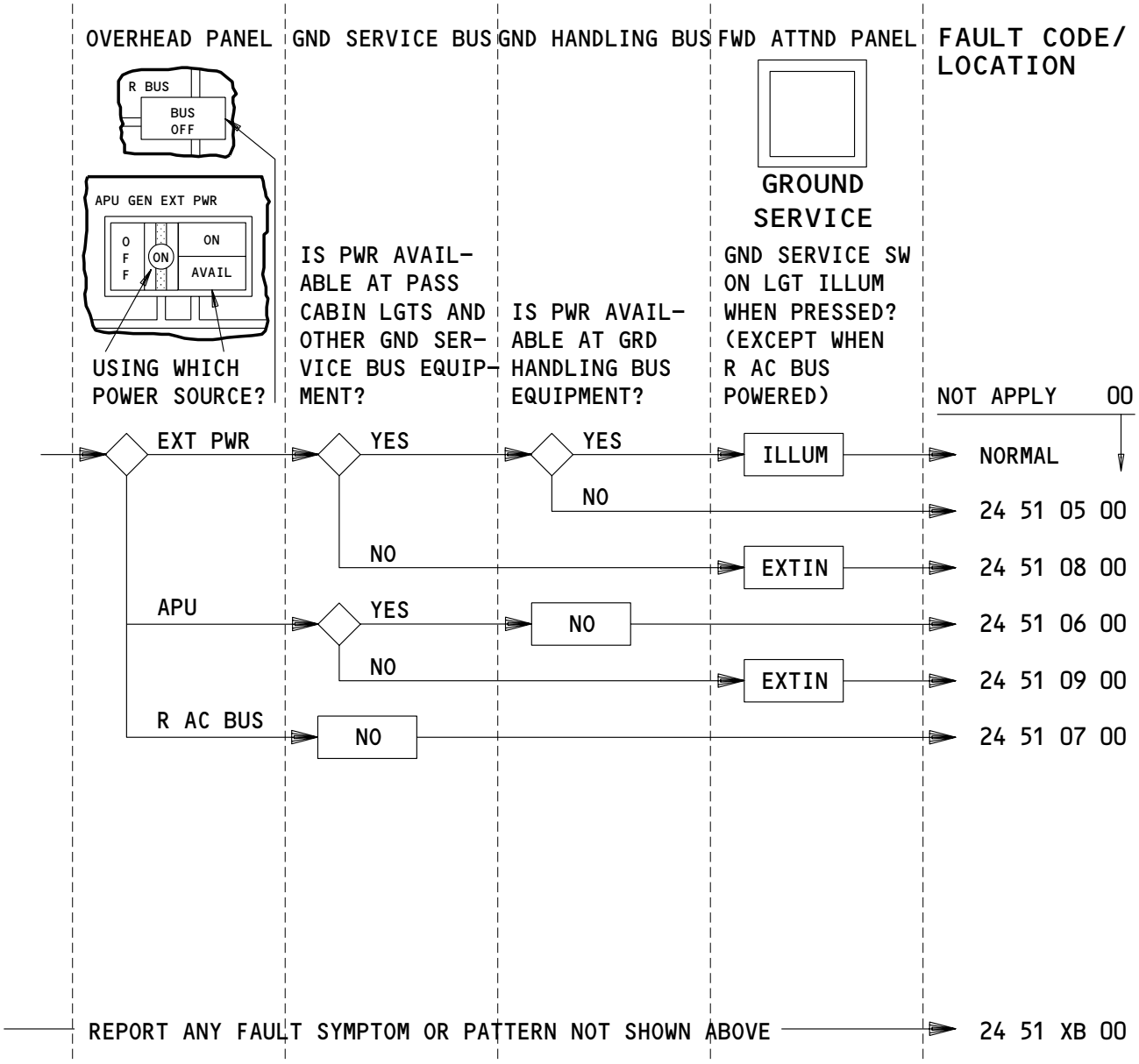


1 TO TEST HYD GEN, L HYD SYSTEM MUST BE PRESSURIZED.
AC VOLTAGE RANGE IS 118±5, FREQ 400±5. READ ON EICAS (MAINT DSPY).

APPLICABLE CIRCUIT BREAKERS AS INSTALLED

6C3	HYD GEN CONT	6L13	28 VAC BUS L XFR
6C7	HYD GEN 28V DC PWR	6L19	28 VAC BUS R XFR
6J17	115V VAC BUS L XFR	6M21	28 VAC BUS R XFR
6J23	115V VAC BUS R XFR	11R6	AC BUS SENSE LEFT
		11R29	AC BUS SENSE RIGHT

HYD GEN ON, TEST – FAULT CODES



APPLICABLE CIRCUIT BREAKERS AS INSTALLED

6B1	L GEN CONT UNIT	6B4	BUS PWR CONT UNIT
6B2	R GEN CONT UNIT	6J20	115 VAC GND SVCE SECT 1
6B3	APU GEN CONT UNIT	6M19	PASS SERVICE OUTLET
		6C20	PASS SERVICE OUTLET

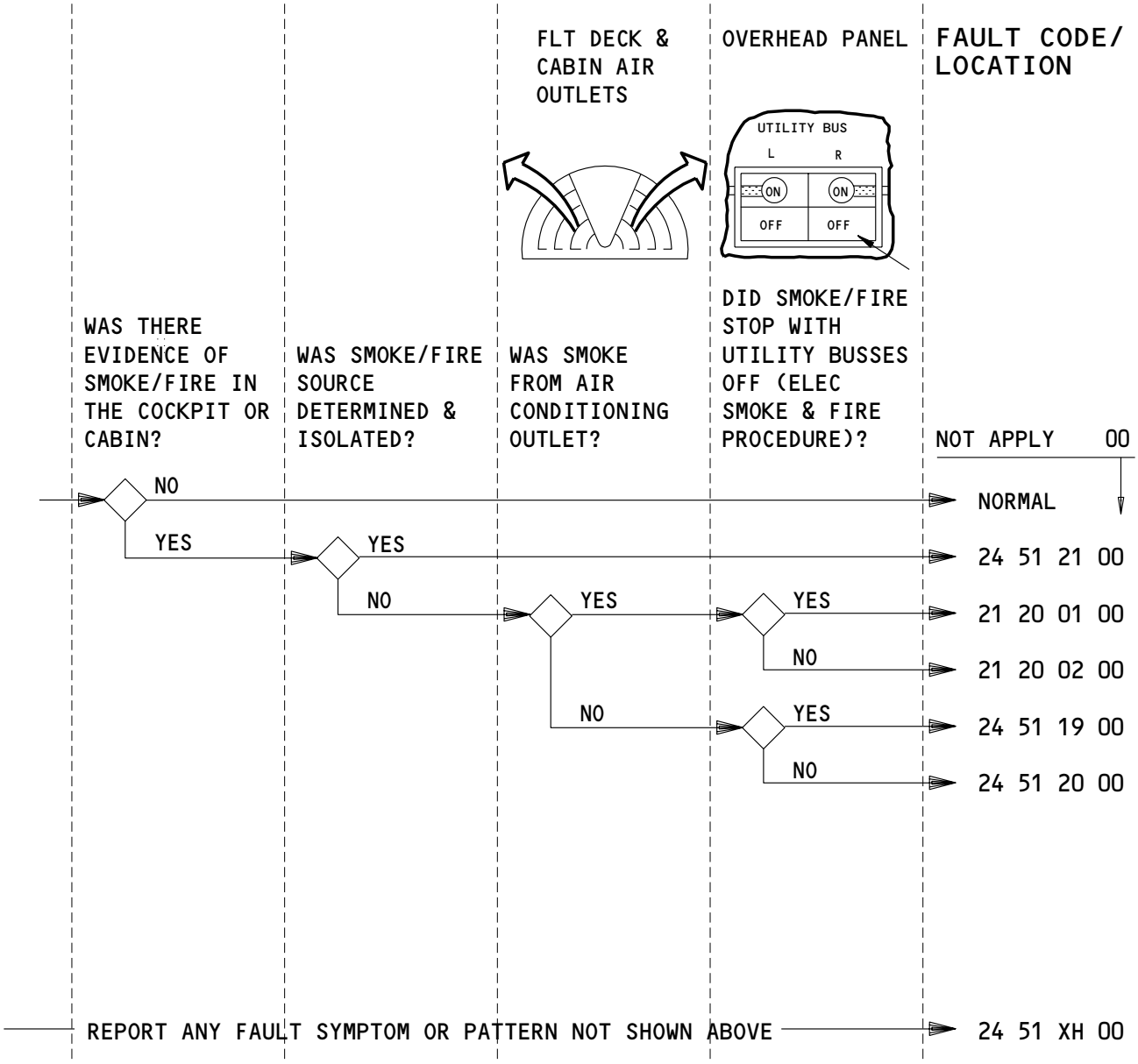
GROUND SERVICE AND GROUND HANDLING – FAULT CODES

EFFECTIVITY

ALL

24-FAULT CODE DIAGRAM

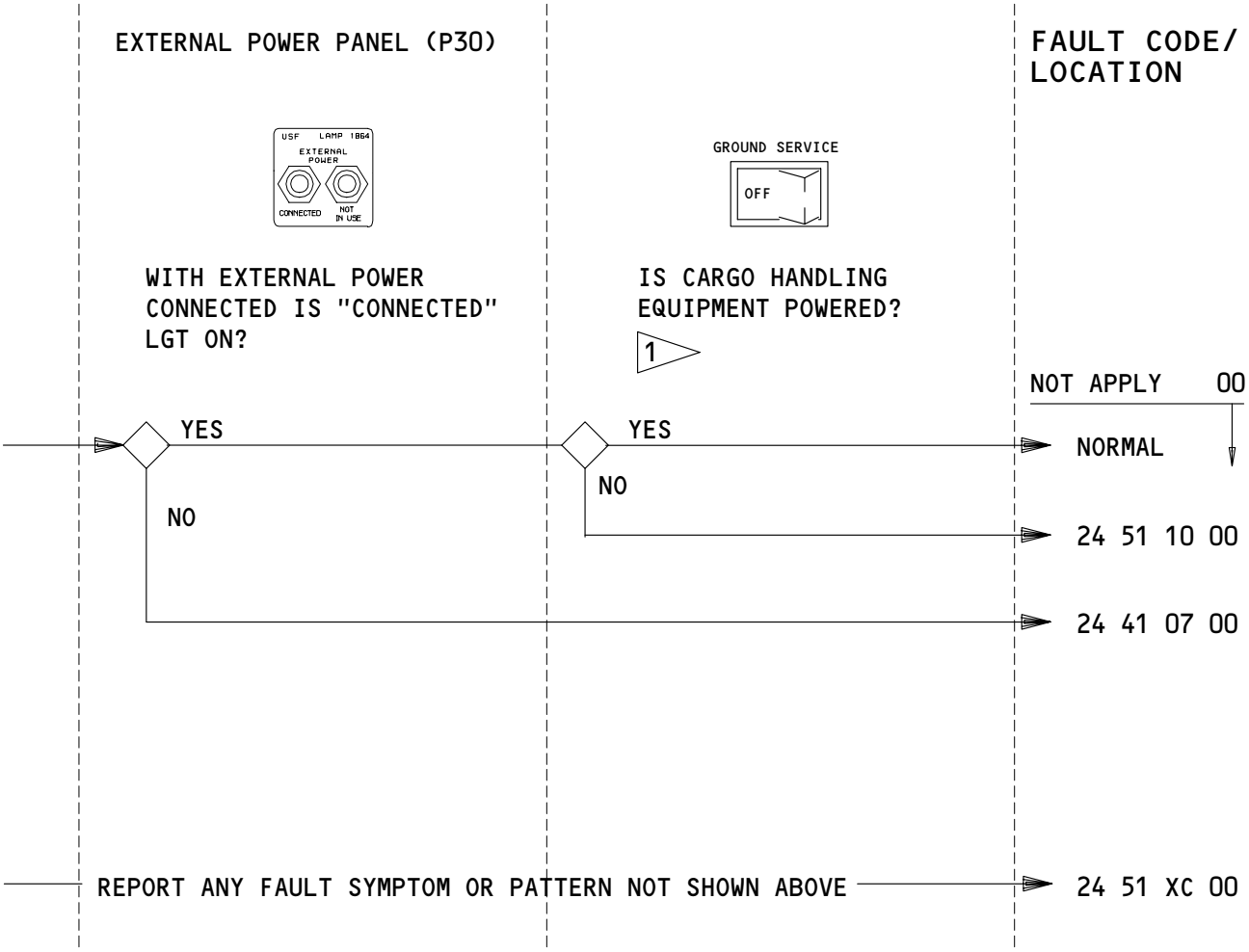
55419



APPLICABLE CIRCUIT BREAKERS

NONE

SMOKE/FIRE - FAULT CODES



1 MOMENTARY OUT-OF-TOLERANCE CONDITIONS MAY CAUSE GROUND HANDLING BUS TO TRIP. RESET GROUND HANDLING BUS BY CYCLING GND SVCE SWITCH ON FORWARD ATTENDANT'S PANEL P21.

APPLICABLE CIRCUIT BREAKERS

SEC A		SEC C	
34B2	GROUND POWER BPCU	34D2	GND HDLG EXT PWR
34B1	GROUND HANDLING TRU		

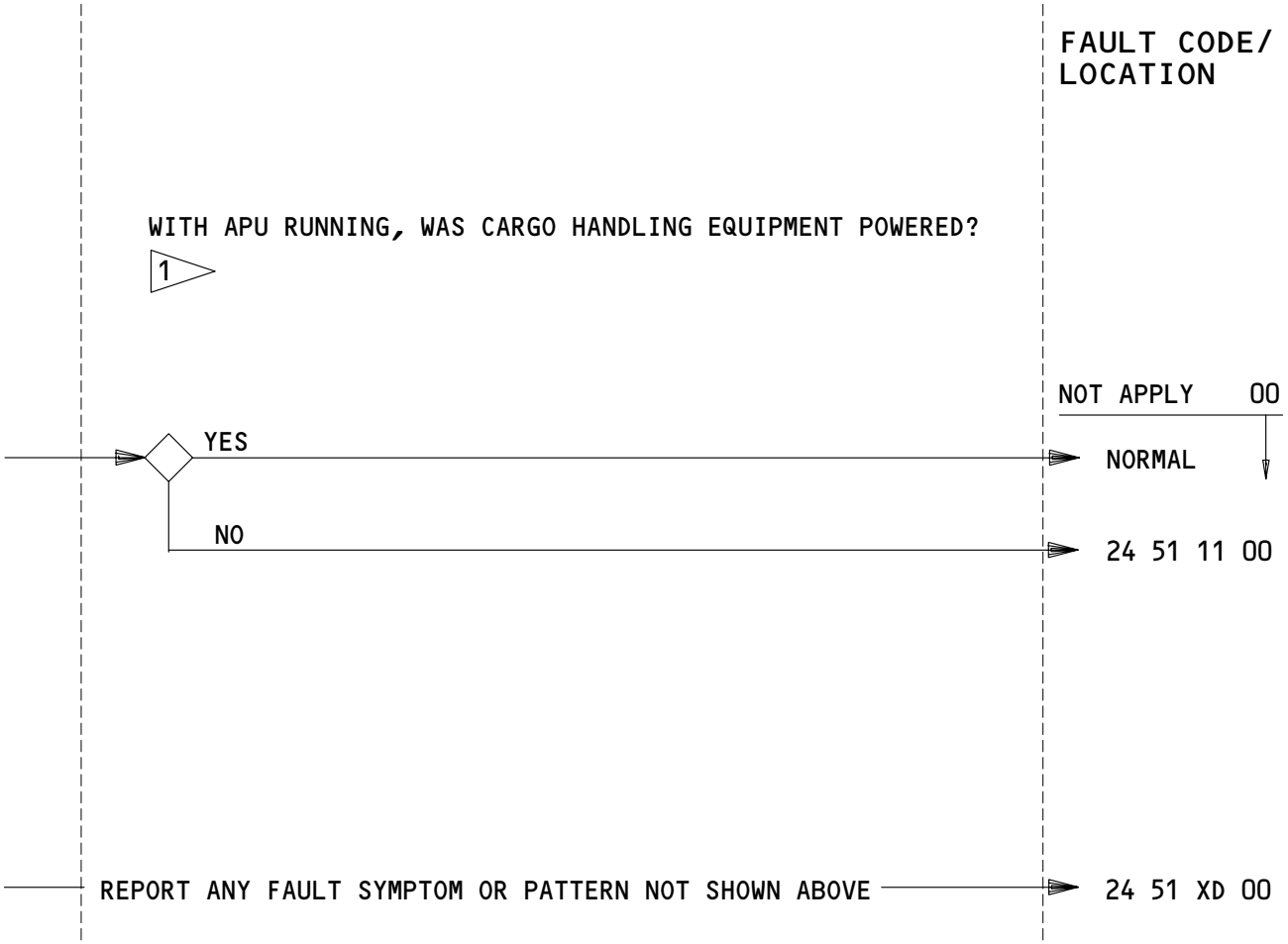
EXTERNAL POWER GROUND HANDLING - FAULT CODES (GROUND)

EFFECTIVITY

ALL

24-FAULT CODE DIAGRAM

79336



1 MOMENTARY OUT-OF-TOLERANCE CONDITIONS MAY CAUSE GROUND HANDLING BUS TO TRIP. CHECK THAT APU GENERATOR FIELD OFF LGT (ON P61) IS NOT ON, AND PRESS GND SVCE SWITCH ON FWD ATTENDANT'S PANEL P21 TO RESET GROUND HANDLING BUS.

APPLICABLE CIRCUIT BREAKERS

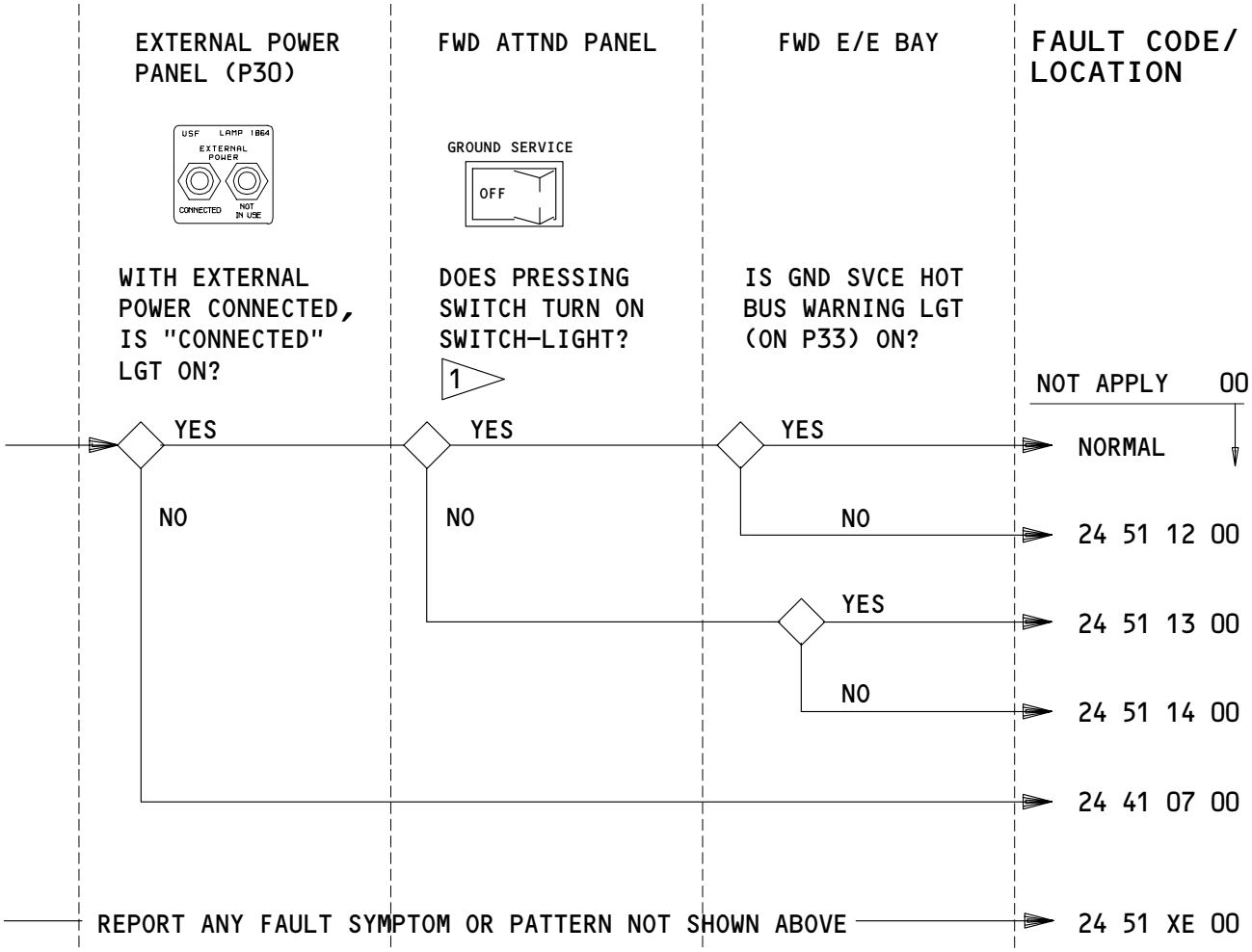
SEC A		SEC C	
6B3	APU GEN CONT UNIT	34D2	GND HDLG EXT PWR
6B4	BUS PWR CONT UNIT		
34B1	GROUND HANDLING TRU		

APU POWER GROUND HANDLING - FAULT CODES (GROUND)

EFFECTIVITY

ALL

24-FAULT CODE DIAGRAM



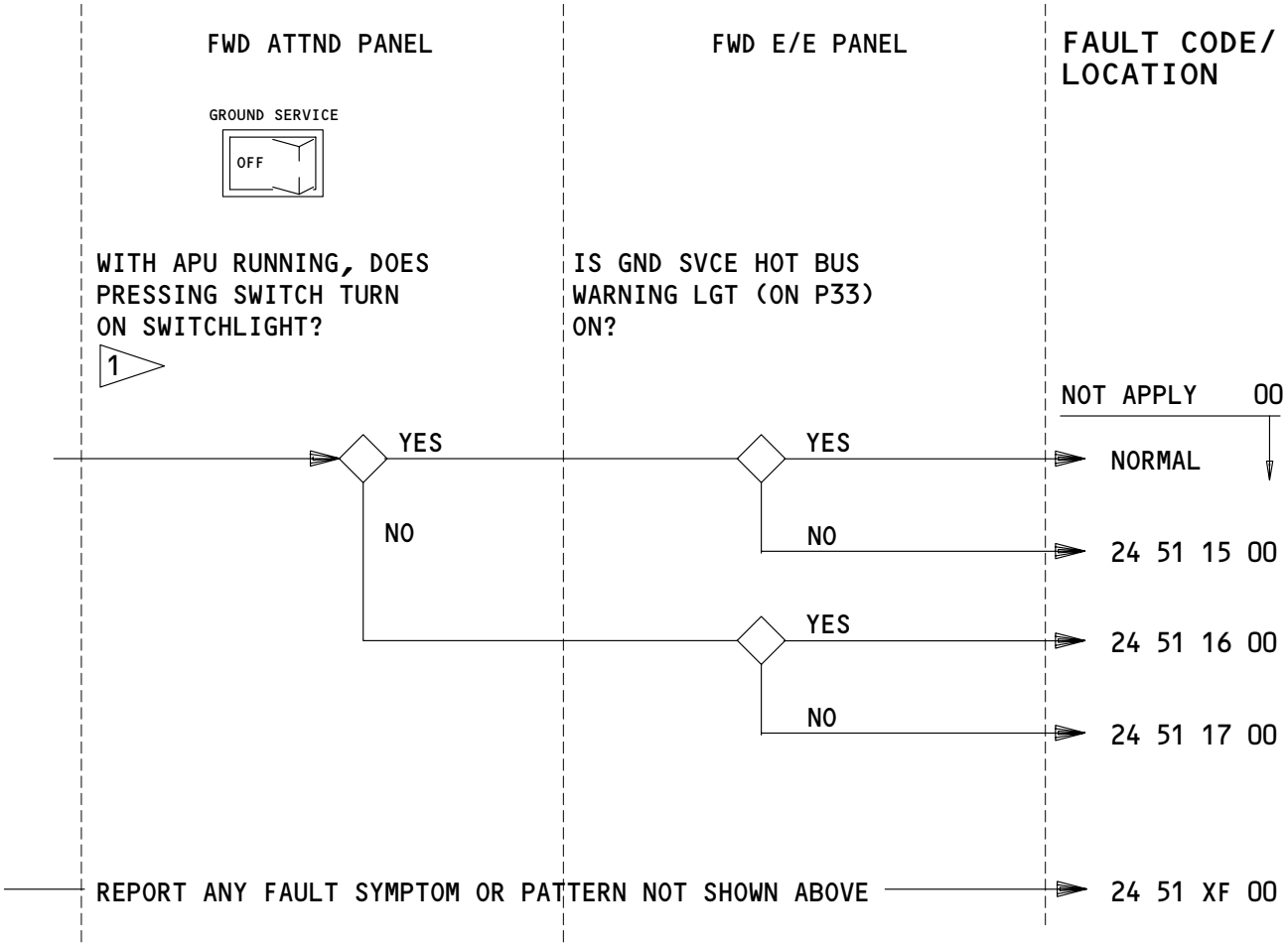
1 MOMENTARY OUT-OF-TOLERANCE CONDITIONS MAY CAUSE GROUND SERVICE BUS TO TRIP. RESET GROUND SERVICE BUS BY CYCLING GND SVCE SWITCH ON FORWARD ATTENDANT'S PANEL P21.

APPLICABLE CIRCUIT BREAKERS

SEC A		SEC C	
34B2	GROUND POWER BPCU	34E2	GND SVCE BUS-EXT PWR

EXTERNAL POWER GROUND SERVICE - FAULT CODES (GROUND)

79341



1 MOMENTARY OUT-OF-TOLERANCE CONDITIONS MAY CAUSE GROUND SERVICE BUS TO TRIP. CHECK THAT APU GENERATOR FIELD OFF LGT (ON P61) IS NOT ON, AND PRESS GND SVCE SWITCH ON FWD ATTENDANT'S PANEL P21 TO RESET GROUND SERVICE BUS.

APPLICABLE CIRCUIT BREAKERS

		SEC C	
6B3	APU GEN CONT UNIT	34A2	GND SVCE BUS-APU
6B4	BUS PWR CONT UNIT		

APU POWER GROUND SERVICE - FAULT CODES (GROUND)

EFFECTIVITY

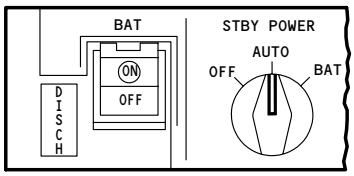
ALL

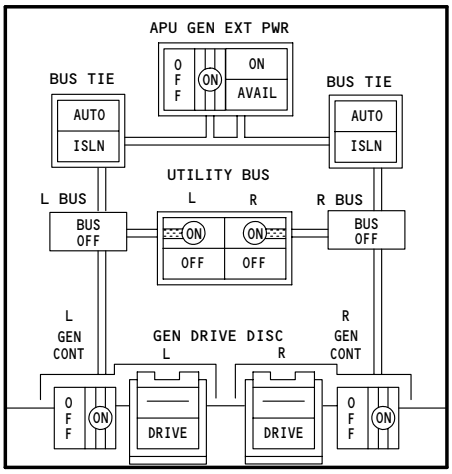
24-FAULT CODE DIAGRAM

79343

OVERHEAD PANEL

FAULT CODE/ LOCATION





WITH EXT PWR SWITCH ON, BAT SWITCH ON, BUS TIE SWITCHES IN AUTO, IS BUS OFF LIGHT ON?

NOT APPLY 00

NO → NORMAL

YES → 24 51 18 00

REPORT ANY FAULT SYMPTOM OR PATTERN NOT SHOWN ABOVE → 24 51 00 XG

APPLICABLE CIRCUIT BREAKERS

6A1	BAT BUS DISTR	6D2	BAT XFR CONT
6B1	GEN CONT UNIT L	6L10	BAT BUS PWR
6B2	GEN CONT UNIT R	SEC A	
6B4	BUS PWR CONT UNIT	34B2	GROUND POWER BPCU

EXTERNAL POWER MAIN AC BUSES – FAULT CODES (GROUND)

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
24 11 XA --	A (01=L,02=R,03=Both) generator drive problem was encountered by the flight crew which is not covered in the fault code diagrams.	FIM 24-20-00/101, Fig. 101, Block 1
24 11 XB 00	An IDG RISE/OUT temp problem was encountered by the ground crew which is not covered in the fault code diagrams.	WDM 24-11-11
24 21 XA 00	An APU generator problem was encountered by the flight crew which is not covered in the fault code diagrams.	FIM 24-20-00/101, Fig. 101, Block 1
24 22 XA --	(01=L,02=R,04=CAPT,05=F/O) Generator and bus tie problems were encountered by the flight crew which were not covered in the fault code diagrams.	FIM 24-20-00/101, Fig. 101, Block 1
24 22 XB --	Report defective gen cont, AC bus tie & gen field switches symptoms or patterns along with fault codes.	Replace defective switch (AMM 33-13-00).
24 25 XA 00	A hydraulic generator problem was encountered by the flight crew which is not covered in the fault code diagrams.	FIM 24-25-00/101, Fig. 105, Block 1
24 31 XA 00	Battery and TR unit problems were encountered by the flight crew which were not covered in the fault code diagrams.	SSM 24-31-01, SSM 24-32-01

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
24 33 XA 00	A standby power problem was encountered by the flight crew which is not covered in the fault code diagrams.	SSM 24-33-01
24 41 XA 00	An external power problem was encountered by the flight crew which is not covered in the fault code diagrams.	FIM 24-41-00/101, Fig. 105, Block 1
24 51 XA --	A (01=L,02=R,03=Both) utility bus problem was encountered by the flight crew which is not covered in the fault code diagrams.	SSM 24-51-10
24 51 XB 00	A ground service or ground handling problem was encountered by the flight crew which is not covered in the fault code diagrams.	SSM 24-51-40, SSM 24-51-50
24 51 XC 00	An external power ground handling problem was encountered by the ground crew which is not covered in the fault code diagrams.	SSM 24-51-50
24 51 XD 00	An APU power ground handling problem was encountered by the ground crew which is not covered in the fault code diagrams.	SSM 24-51-50
24 51 XE 00	An external power ground service problem was encountered by the ground crew which is not covered in the fault code diagrams.	SSM 24-51-40
24 51 XF 00	An APU power ground service problem was encountered by the ground crew which is not covered in the fault code diagrams.	SSM 24-51-40
24 51 XG 00	An external power main ac bus problem was encountered by the ground crew which is not covered in the fault code diagrams.	FIM 24-20-00/101, Fig. 101, Block 1

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
24 51 XH 00	A smoke/fire was encountered by the flight crew which is not covered in the fault code diagrams.	Identify source of smoke and repair. Check for damage to nearby components or wiring and repair as necessary.
24 11 01 --	EICAS msg (01=L,02=R) IDG TEMP SENS displayed.	FIM 24-20-00/101, Fig. 104, Block 1
24 11 03 --	EICAS msg (01=L,02=R) GEN DRIVE displayed. Gen DRIVE light on. Gen drive disconnected.	FIM 24-20-00/101, Fig. 101, Block 1
24 11 05 00	EICAS msg IDG RISE TEMP displayed.	FIM 24-20-00/101, Fig. 102, Block 1
24 11 06 00	EICAS msg L IDG OIL TEMP displayed.	FIM 24-20-00/101, Fig. 103, Block 1
24 11 07 00	EICAS msg R IDG OIL TEMP displayed.	FIM 24-20-00/101, Fig. 103, Block 1
24 11 08 00	EICAS msg L IDG TEMP SENS displayed.	FIM 24-20-00/101, Fig. 104, Block 1
24 11 09 00	EICAS msg R IDG TEMP SENS displayed.	FIM 24-20-00/101, Fig. 104, Block 1
24 11 12 --	(01=L,02=R) Gen DRIVE lgt did not come on with eng shutdown.	FIM 24-20-00/101, Fig. 101, Block 1
24 11 13 --	EICAS msg (01=L,02=R) GEN DRIVE and DRIVE warning lgt flickers. IDG (was, was not) disconnected.	FIM 24-20-00/101, Fig. 101, Block 1
24 11 14 00	EICAS msg IDG OUT TEMP displayed.	AIRPLANES PRE-RR-SB 24-9280; FIM 24-20-00/101, Fig. 102, Block 1 AIRPLANES POST-RR-SB 24-9280; FIM 24-11-00/101, Fig. 103, Block 1

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
24 11 15 00	IDG RISE temperature blank and IDG OUT temperature is normal on the EICAS display.	Replace the HYD Gen Field Control Panel, M10191 (AMM 24-22-04/401). NOTE: Probable cause is the K1 Timer located in M10191 panel. If the problem continues, repair wiring (WDM 24-11-11).
24 11 16 00	IDG OUT temperature blank and IDG RISE temperature is normal on the EICAS display.	Replace the HYD Gen Field Control Panel, M10191 (AMM 24-22-04/401). NOTE: Probable cause is the K1 Timer located in M10191 panel. If the problem continues, repair wiring (WDM 24-11-11).
24 21 01 00	EICAS msg APU GEN OFF displayed and APU gen OFF lgt on with APU running. EICAS msgs L AND R BUS ISOLATED displayed and bus tie ISLN lgts on. Generator reset OK.	FIM 24-20-00/101, Fig. 101, Block 1
24 21 02 00	EICAS msg APU GEN OFF displayed and APU gen OFF lgt on with APU running. EICAS msgs L AND R BUS ISOLATED displayed and bus tie ISLN lgts on. Generator would not reset.	FIM 24-20-00/101, Fig. 101, Block 1
24 21 03 00	EICAS msg APU GEN OFF displayed and APU gen OFF lgt on with APU running. Generator reset OK.	FIM 24-20-00/101, Fig. 101, Block 1
24 21 04 00	EICAS msg APU GEN OFF displayed and APU gen OFF lgt on with APU running. Generator would not reset.	FIM 24-20-00/101, Fig. 101, Block 1
24 21 05 00	EICAS msg APU GEN OFF displayed and APU gen OFF lgt on with APU running. APU FIELD OFF lgt on. EICAS msg L AND R BUS ISOLATED displayed and bus tie ISLN lgts on. Generator reset OK.	FIM 24-20-00/101, Fig. 101, Block 1

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
24 21 06 00	EICAS msg APU GEN OFF displayed and APU gen OFF lgt on with APU running. APU FIELD OFF lgt on. EICAS msg L AND R BUS ISOLATED displayed and bus tie ISLN lgts on. APU generator field would (not reset, reset then retripped).	FIM 24-20-00/101, Fig. 101, Block 1
24 21 07 00	EICAS msg APU GEN OFF displayed and APU gen OFF lgt on with APU running. APU FIELD OFF lgt on. Generator reset OK.	FIM 24-20-00/101, Fig. 101, Block 1
24 21 08 00	EICAS msg APU GEN OFF displayed and APU gen OFF lgt on with APU running. APU FIELD OFF lgt on. APU generator field would (not reset, reset then retripped).	FIM 24-20-00/101, Fig. 101, Block 1
24 21 09 00	APU Gen OFF and FIELD OFF lgts on when electrical load applied. EICAS msg APU GEN OFF was displayed.	FIM 24-20-00/101, Fig. 101, Block 1
24 21 11 00	EICAS msg (01=L,02=R) BUS ISOLATED and AC BUS OFF displayed after eng shutdown with APU running.	FIM 24-20-00/101, Fig. 101, Block 1
24 21 12 00	APU gen failed to sw ON. APU gen OFF lgt on and EICAS msg APU GEN OFF displayed.	Replace APU gen Control Switch YTHS11 (AMM 33-13-00) or replace electrical system control panel M10063 (AMM 24-22-01). If fault persists, replace APU GCU M143 (AMM 24-22-02).
24 21 13 00	APU gen failed to sw OFF. APU gen OFF did not come on and EICAS msg APU GEN OFF did not display.	Replace APU gen Control Switch YTHS11 (AMM 33-13-00) or replace electrical system control panel M10063 (AMM 24-22-01).
24 22 01 --	EICAS msg (L,R) BUS ISOLATED displayed. (01=L,02=R) ISLN lgt on. Operated norm after reset.	FIM 24-20-00/101, Fig. 101, Block 1

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
24 22 02 --	EICAS msg (L,R) BUS ISOLATED displayed. (01=L,02=R) ISLN lgt on and failed to reset.	FIM 24-20-00/101, Fig. 101, Block 1
24 22 03 --	EICAS msg (L,R) GEN OFF displayed. (01=L,02=R) Gen OFF lgt on. Operated norm after reset.	FIM 24-20-00/101, Fig. 101, Block 1
24 22 04 --	EICAS msg (L,R) GEN OFF displayed. (01=L,02=R) Gen OFF lgt on and (failed to reset, gen reset then retripped).	FIM 24-20-00/101, Fig. 101, Block 1
24 22 05 --	EICAS msg (L,R) GEN OFF, BUS ISOLATED & AC BUS OFF displayed. (01=L,02=R) Gen OFF, ISLN & BUS OFF lgt on. Operated norm after gen cont reset. Bus tie reset not attempted.	FIM 24-20-00/101, Fig. 101, Block 1
24 22 06 --	EICAS msg (L,R) GEN OFF, BUS ISOLATED & AC BUS OFF displayed. (01=L,02=R) Gen OFF, ISLN & BUS OFF lgt on. Gen cont would (not reset, reset then retripped). Bus tie reset not attempted.	FIM 24-20-00/101, Fig. 101, Block 1
24 22 07 --	EICAS msg (L,R) GEN OFF displayed. (01=L,02=R) Gen OFF and FIELD OFF lgt on. Operated norm after reset.	FIM 24-20-00/101, Fig. 101, Block 1
24 22 08 --	EICAS msg (L,R) GEN OFF displayed. (01=L,02=R) Gen OFF and FIELD OFF lgt on and (failed to reset, gen reset then retripped).	FIM 24-20-00/101, Fig. 101, Block 1
24 22 09 --	EICAS msg (L,R) GEN OFF, BUS ISOLATED & BUS OFF displayed. (01=L,02=R) Gen OFF, FIELD OFF & ISLN lgt on. Gen cont and field reset norm. Bus tie reset not attempted.	FIM 24-20-00/101, Fig. 101, Block 1

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
24 22 10 --	EICAS msg (L,R) GEN OFF, BUS ISOLATED & BUS OFF displayed. (O1=L,O2=R) Gen OFF, FIELD OFF & ISLN lgt on. Gen cont or field would (not reset, reset then retripped). Bus tie reset not attempted.	FIM 24-20-00/101, Fig. 101, Block 1
24 22 11 00	EICAS msg CAPT INSTR XFER displayed.	FIM 24-22-00/101, Fig. 103, Block 1
24 22 12 00	EICAS msg F/O INSTR XFER displayed.	FIM 24-22-00/101, Fig. 104, Block 1
24 22 13 --	EICAS msg (O4=CAPT,O5=F/O) INSTR XFER displayed (left for CAPT, right for F/O) AC bus was powered.	(O4=CAPT) Replace captain's instrument bus voltage sensing unit M10374 (WDM 24-51-72). (O5=F/O) Replace first officer's instrument bus voltage sensing unit M10375 (WDM 24-51-72).
24 22 17 --	Gen FIELD OFF lgt did not come on with FIELD OFF sw pushed. Gen cont sw was off.	Replace Generator Field Control Switch YQZS1 (YQZS2,YQZS3) (AMM 33-13-00) or replace gen field and hyd panel M10191 (AMM 24-22-04).
24 22 18 --	(O1=L,O2=R) Bus tie sw failed to close (latched in) bus tie breaker. (L,R) Bus tie ISLN lgt on and EICAS msg (L,R) BUS ISOLATED displayed.	Replace L(R) Bus Tie Switch YTHS9 (YTHS10) (AMM 33-13-00) or replace electrical system control panel M10063 (AMM 24-22-01).
24 22 19 --	(O1=L,O2=R) Bus tie sw failed to open (not latched) bus tie breaker. (L,R) Bus tie ISLN lgt did not come on and EICAS msg (L,R) BUS ISOLATED did not display.	Replace L(R) Bus Tie Switch YTHS9 (YTHS10) (AMM 33-13-00) or replace electrical system control panel M10063 (AMM 24-22-01).
24 22 20 --	(O1=L,O2=R) gen sw failed to close (latched in) Gen Breaker. (L,R) gen OFF lgt on and EICAS msg (L,R) GEN OFF displayed.	Replace L(R) gen control switch YTHS3 (YTHS4)(AMM 33-13-00) or replace electrical system control panel M10063 (AMM 24-22-01).

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
24 22 21 --	(O1=L,O2=R) gen sw failed to open (not latched in) Gen Breaker. (L,R) gen OFF lgt did not come on and EICAS msg (L,R) GEN OFF did not display.	Replace L(R) gen control switch YTHS3 (YTHS4)(AMM 33-13-00) or replace electrical system control panel M10063 (AMM 24-22-01).
24 22 22 00	Gen FIELD OFF lgt on with FIELD OFF sw pushed. Gen was inop.	Replace gen field Control Switch YQZS1 (YQZS2,YQZS3) (AMM 33-13-00) or replace gen field and hyd panel M10191 (AMM 24-22-04).
24 22 23 --	EICAS msg (O1=L,O2=R) GEN OFF displayed. (O1=L,O2=R) Gen OFF light on. Condition returned to normal after gen switch reset.	FIM 24-20-00/101, Fig. 101, Block 1
24 22 24 --	EICAS msg (O1=L,O2=R) GEN OFF displayed. (O1=L,O2=R) Gen OFF light on. Generator reset did not correct condition, EICAS msg (O1=L,O2=R) AC BUS OFF remained displayed, (O1=L,O2=R) BUS OFF light remained on, with APU GEN light off, bus tie reset normal.	FIM 24-20-00/101, Fig. 101, Block 1
24 22 25 --	EICAS msg (O1=L,O2=R) GEN OFF displayed. (O1=L,O2=R) gen OFF light on. Generator reset did not correct condition, EICAS msg (O1=L,O2=R) AC BUS OFF remained displayed, (O1=L,O2=R) BUS OFF light remained on, with APU GEN light off, bus tie reset not normal.	FIM 24-20-00/101, Fig. 101, Block 1
24 22 26 --	EICAS msg (O1=L,O2=R) GEN OFF displayed. (O1=L,O2=R) GEN OFF light on. Generator switch reset did not correct condition.	FIM 24-20-00/101, Fig. 101, Block 1
24 25 01 00	EICAS msg HYD GEN ON displayed during flight.	FIM 24-25-00/101, Fig. 104, Block 1
24 25 02 00	EICAS msg HYD GEN VAL and HYD GEN ON did not display during hyd gen test. Volts and frequency not checked.	FIM 24-25-00/101, Fig. 105, Block 1

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
24 25 03 00	EICAS msg HYD GEN VAL and HYD GEN ON did not display during hyd gen test. No volts and freq output.	FIM 24-25-00/101, Fig. 105, Block 1
24 25 04 00	Only EICAS msg HYD GEN VAL not displayed during hyd gen test.	FIM 24-25-00/101, Fig. 105, Block 1
24 25 05 00	Only EICAS msg HYD GEN ON not displayed during hyd gen test. Hyd gen volts & freq were normal.	FIM 24-25-00/101, Fig. 105, Block 1
24 25 06 00	EICAS msg HYD GEN ON displayed.	FIM 24-25-00/101, Fig. 104, Block 1
24 25 07 00	EICAS msg HYD GEN VAL displayed.	FIM 24-25-00/101, Fig. 103, Block 1
24 25 08 00	Only EICAS msg HYD GEN ON not displayed during hyd gen test. No volts or freq output.	FIM 24-25-00/101, Fig. 105, Block 1
24 25 09 00	EICAS msg HYD GEN VAL displayed during flight.	FIM 24-25-00/101, Fig. 103, Block 1
24 31 01 00	EICAS msg MAIN BAT CHGR displayed and bat DISCH lgt off.	FIM 24-31-00/101, Fig. 103, Block 1
24 31 02 00	EICAS msg MAIN BAT DISCH & MAIN BAT CHGR displayed. Bat DISCH lgt on. Stby power sw in AUTO.	Replace battery current monitor (AMM 24-31-05). Perform EICAS status/maintenance message erase procedure (FIM 31-41-00/101, Fig. 109).
24 31 03 00	EICAS msg BATTERY OFF displayed. Bat OFF lgt on with bat sw ON.	Replace standby power control panel (AMM 24-33-04).
24 31 07 00	EICAS msg MAIN BAT CHGR displayed and bat DISCH lgt off.	FIM 24-31-00/101, Fig. 103, Block 1
24 31 08 00	EICAS msg MAIN BAT DISCH displayed and bat DISCH lgt off. STBY power sw in AUTO.	Replace main battery current monitor (AMM 24-31-05).
24 31 09 00	EICAS msg APU BAT CHGR displayed with APU BAT DISCH lgt off.	FIM 24-31-00/101, Fig. 104, Block 1

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
24 31 10 00	EICAS msg APU BAT CHGR displayed with MAIN BAT DISCH lgt off.	FIM 24-31-00/101, Fig. 103, Block 1
24 31 11 00	EICAS msg MAIN BAT DISCH & MAIN BAT CHGR displayed. BAT DISCH light on. STBY power sw in AUTO.	Replace main battery charger (AMM 24-31-02). Perform EICAS erase procedure (FIM 31-41-00/101, Fig. 109) and make sure MAIN BAT CHGR message disappears.
24 31 12 00	EICAS msg MAIN BAT DISCH displayed and BAT DISCH lgt on. STBY power sw in AUTO.	Replace main battery current monitor (AMM 24-31-05).
24 31 13 00	EICAS msg APU BAT DISCH displayed with APU BAT DISCH lgt on. STBY power sw in AUTO.	Replace APU battery charger (AMM 24-31-04).
24 31 14 00	Bat sw failed to turn OFF (not latched in) Bat. EICAS msg BATTERY OFF did not display or Bat OFF lgt on. (APU/EXT) power was ON.	Replace battery switch YTGS2 (AMM 33-13-00) or replace standby power control panel (AMM 24-33-04).
24 32 01 00	EICAS msg TR UNIT displayed.	FIM 24-32-00/101, Fig. 103, Block 1
24 32 02 00	EICAS msg TR UNIT displayed with elec power established.	FIM 24-32-00/101, Fig. 103, Block 1
24 33 06 00	EICAS msg APU BAT NO STBY displayed with stby power sw in AUTO.	FIM 24-31-00/101, Fig. 105, Block 1
24 33 08 00	EICAS msg STBY INVERTER displayed.	FIM 24-33-00/101, Fig. 103, Block 1
24 33 09 00	EICAS msg STBY BUS OFF displayed. Stby power bus OFF lgt on. Both extinguished when stby power selected to bat.	Replace AC standby power relay K105 (AMM 24-33-01). If fault persists, replace main battery transfer relay K106 (WDM 24-33-11).
24 33 10 00	No standby DC power. EICAS msg STANDBY BUS OFF displayed. Stby power bus OFF lgt on. Both indications same when stby power momentarily selected to bat.	Replace standby power relay K109 (AMM 24-33-01).

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
24 33 11 00	No standby AC power. EICAS msg STANDBY BUS OFF and STBY INVERTER displayed. Stby power bus OFF lgt on. Both indications same when STBY POWER momentarily selected to BAT.	Replace static inverter M217 (AMM 24-33-03). Perform EICAS status/maintenance message erase procedure (FIM 31-41-00/101, Fig. 109).
24 33 12 00	No standby AC power. EICAS msg STANDBY BUS OFF displayed. Stby power bus OFF lgt on. Both indications same when STBY POWER momentarily selected to BAT. EICAS msg STBY INVERTER did not display.	Replace AC standby power relay K105 (AMM 24-33-01). If fault persists, replace standby power relay K109 (AMM 24-33-01).
24 33 13 00	Both ac and dc standby power lost. EICAS msg STANDBY BUS OFF displayed. Stby power bus OFF lgt on. Both indications same when STBY POWER momentarily selected to BAT.	Replace standby power relay K109 (AMM 24-33-01). If fault persists, replace standby power control panel M10062 (AMM 24-33-04).
24 33 14 00	No stby dc power with STBY POWER on BAT.	Replace main battery relay K104 (AMM 24-31-06). If fault persists, replace standby power relay K109 (AMM 24-33-01).
24 33 15 00	No stby ac power with STBY POWER on BAT.	Replace AC standby power relay K105 (AMM 24-33-01).
24 33 16 00	Stby power bus OFF lgt did not come on with STBY POWER selector sw OFF.	Replace STBY POWER OFF light in standby power control panel M10062 (WDM 24-33-11). If fault persists, replace standby power relay K109 (AMM 24-33-01).
24 33 18 00	EICAS msg STBY INVERTER displayed with stby selector sw in AUTO and OFF lgt off. EICAS msg APU BAT NO STBY did not display.	FIM 24-33-00/101, Fig. 103, Block 1
24 41 01 00	Ext pwr ON lgt remains off when pushed, with AVAIL lgt on and no AC power on airplane.	FIM 24-41-00/101, Fig. 103, Block 1

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
24 41 02 00	Ext pwr ON lgt remains off when pushed, with AVAIL lgt on and engine gens powering AC buses.	FIM 24-20-00/101, Fig. 101, Block 1
24 41 03 00	Ext pwr ON lgt remains off when pushed, with AVAIL lgt on and APU gen powering AC buses.	FIM 24-20-00/101, Fig. 101, Block 1
24 41 04 00	Ext pwr ON lgt remained on when eng gens come on AC buses.	FIM 24-20-00/101, Fig. 101, Block 1
24 41 05 --	Ext pwr tripped off. Avail lgt remained on and ON lgt off. EICAS msg (R,L) BUS ISOLATED displayed, (01=L,02= R,03=L&R) bus tie ISLN lgt(s) on.	FIM 24-20-00/101, Fig. 101, Block 1
24 41 06 00	Ext pwr tripped off, ext pwr ON lgt off, ext pwr AVAIL lgt on. Bus tie ISLN lgts off.	FIM 24-20-00/101, Fig. 101, Block 1
24 41 07 00	External power AVAIL or CONNECTED lgt off with external power connected to receptacle.	FIM 24-41-00/101, Fig. 104, Block 1
24 51 01 --	EICAS msg (L,R) UTIL BUS OFF displayed. (01=L,02=R,03=L & R) utility bus OFF lgt off. Operated norm after reset. This occurred during (grd oprn, or inflt 2 gen oprn).	(01=L,02=R) FIM 24-51-00/101, Fig. 103, Block 1 (03=L&R) REMOVE BPCU (AMM 24-41-03). CHECK GROUND EXISTS AT GCB AUX CONTACT INTO BPCU D278A A3(B3) ALSO APB AUX CONTACT D278A A4.
24 51 03 --	(01=L,02=R,03=L&R) utility bus OFF lgt failed to come on during one gen oprn inflt.	Replace bus power control unit (AMM 24-41-03).
24 51 04 --	(01=L,02=R,03=L&R) utility bus OFF lgt remained on after eng start using APU.	FIM 24-51-00/101, Fig. 104, Block 1
24 51 05 00	Ground handling bus equipment (cargo doors, loading equipment) inoperative with external power AVAIL lgt on.	FIM 24-20-00/101, Fig. 101, Block 1

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
24 51 06 00	Ground handling bus equipment (cargo doors, loading equipment) inoperative with APU power avail.	FIM 24-20-00/101, Fig. 101, Block 1
24 51 07 00	Ground service bus inoperative with R AC bus powered.	FIM 24-20-00/101, Fig. 101, Block 1
24 51 08 00	Ground service bus inoperative with external power AVAIL lgt on and GRND SERV BUS switch off when pushed on at fwd attnd panel.	FIM 24-20-00/101, Fig. 101, Block 1
24 51 09 00	Ground service bus inoperative with APU power avail and GND SERV BUS switch off when pushed on at fwd attnd panel.	FIM 24-20-00/101, Fig. 101, Block 1
24 51 10 00	Ground handling equipment not powered with external power CONNECTED lgt on.	FIM 24-20-00/101, Fig. 101, Block 1
24 51 11 00	Ground handling equipment unpowered with APU running.	FIM 24-20-00/101, Fig. 101, Block 1
24 51 12 00	Ground service bus unpowered with GROUND SERVICE switch pushed and external power CONNECTED lgt on.	FIM 24-20-00/101, Fig. 101, Block 1
24 51 13 00	GROUND SERVICE switchlight is off with external power on ground service bus.	Replace GROUND SERVICE switch S10296 (WDM 24-51-51).
24 51 14 00	Ground service bus unpowered and GROUND SERVICE switchlight off with external power connected.	FIM 24-20-00/101, Fig. 101, Block 1
24 51 15 00	Ground service bus unpowered with APU running and GROUND SERVICE switchlight on.	FIM 24-20-00/101, Fig. 101, Block 1
24 51 16 00	GROUND SERVICE switchlight off with APU running and ground service bus powered.	Replace GROUND SERVICE switchlight S10296 (WDM 24-51-51).

FAULT CODE	LOG BOOK REPORT	FAULT ISOLATION REFERENCE
24 51 17 00	Ground service bus unpowered and GROUND SERVICE switchlight off when pushed. APU is running.	FIM 24-20-00/101, Fig. 101, Block 1
24 15 18 00	With EXT PWR sw ON, BUS TIE switches in AUTO, BAT sw ON, one or both BUS OFF lgts on.	FIM 24-41-00/101, Fig. 105, Block 1
24 51 19 00	Smoke in cabin. Stopped with both utility buses OFF. Smoke did not appear to be from air conditioning outlets.	Identify and repair any utility bus load causing smoke (WDM 24-51-14, WDM 24-51-24). Check for damage to nearby components or wiring and repair as necessary.
24 51 20 00	Smoke in cabin. Continued with both utility buses OFF. Smoke did not appear to be from air conditioning outlets.	Identify source of smoke and repair. Check for damage to nearby components or wiring and repair as necessary.
24 51 21 00	(Fire, Smoke) from (identify item or sys).	Identify source of (fire, smoke) and repair. Check for damage to nearby components or wiring and repair as necessary.
24 51 22 --	(01=L,02=R) utility bus OFF lgt off during eng start using APU.	FIM 24-51-00/101, Fig. 105A, Block 1
24 51 24 --	(01=L,02=R) utility bus sw failed to turn (not latched in) OFF utility bus. (L,R) UTIL BUS OFF did not display or OFF lgt on.	Replace utility bus switch YTHS7 (YTHS8) or replace electrical system control panel M10063 (AMM 24-22-01). If fault persists, replace L(R) util bus relay K119 (K120)(AMM 24-51-02). If fault persists, check and repair circuit between following points: L(R) UTILITY BUS RELAY K119 (K120) TERMINAL 13 AND GROUND. L(R) UTILITY BUS RELAY K119 K120) TERMINAL 14 AND L(R) EICAS COMPUTER M10181 (M10182) CONNECTOR D319A (D321A) PIN E5 (WDM 24-51-23).

BITE Index

1. General
   A. Use this index to find the BITE procedure for the applicable LRU/System.
   B. The BITE procedure will provide the fault isolation instructions for the fault indications/LRU maintenance messages.

LRU/System Name	Acronym	FIM Reference
Air Data Computer	ADC	34-12
Air Data Inertial Reference Unit	ADIRU	34-26
Air Traffic Control Transponder	ATC	34-53
Airborne Vibration Monitor Signal Conditioner	AVM	77-31
Antiskid/Autobrake Control Unit		32-42
APU Fire Detection System		26-15
Automatic Direction Finder Receiver	ADF	34-57
APU Control Unit	ECU	49-11
Brake Temperature Monitor Unit		32-46
Bus Power Control Unit	BPCU	24-20
Cabin Pressure Controller		21-30
Digital Flight Data Acquisition Unit	DFDAU	31-31
Distance Measuring Equipment Interrogator	DME	34-55
Duct Leak (Wing and Body)		26-18
E/E Cooling Control Card (If cards installed)		21-58
ECS Bleed Configuration Card		36-10
Electronic Engine Control (RR Engines)	EEC	73-21
Electronic Engine Control Monitor Unit (PW Engines)	EECM	71-EPCS Message Index
Electronic Flight Instrument System	EFIS	34-22
Electronic Propulsion Control System (PW Engines)	EPCS	71-EPCS Message Index
Engine Fire/Overheat Detection System		26-11
Engine Indication and Crew Alerting System Computer	EICAS	31-41

Bite Index
Figure 1 (Sheet 1)

LRU/System Name	Acronym	FIM Reference
Engine Turbine Cooling Overheat Detection System (RR Engines)		26-13
Enhanced Ground Proximity Warning Computer	EGPWC	34-46
Flap/Slat Accessory Module	FSAM	27-51
Flap/Slat Electronic Unit	FSEU	27-51
Flight Management Computer	FMC	34-61
Fuel Quantity Indicating System Processor	FQIS	28-41
Ground Proximity Warning Computer	GPWC	34-46
HF (High Frequency) Communication		23-11
Inertial Reference Unit	IRU	34-21
Instrument Comparator Unit	ICU	34-25
Instrument Landing System Receiver	ILS	34-31
Lower Cargo Compartment Smoke Detection System		26-16
Maintenance Control Display Panel	MCDP	22-00
PA (Passenger Address) Amplifier		23-31
Pack Standby Temperature Controller		21-51
Pack Temperature Controller		21-51
Passenger Entertainment System	PES	23-34
Power Supply Module (Control System Electronics Units)	PSM	27-09
Propulsion Discrete Interface Unit (PW Engines)	PDIU	73-21
Proximity Switch Electronics Unit	PSEU	32-09
Radio Altimeter Transmitter/Receiver	RA	34-33
Rudder Ratio Changer Module	RRCM	27-09
Spoiler Control Module	SCM	27-09
Stabilizer Position Module	SPM	27-48
Stabilizer Trim/Elevator Asymmetry Limit Module	SAM	27-09
Stall Warning Computer/Module (in Warning Electronic Unit)	SWC	27-32
Strut Overheat Detection System (RR Engines)		26-12

Bite Index
Figure 1 (Sheet 2)

LRU/System Name	Acronym	FIM Reference
Thrust Management Computer/Autothrottle	TMC	22-00
Traffic Alert and Collision Avoidance Computer	TCAS	34-45
VHF (Very High Frequency) Communication		23-12
VOR/Marker Beacon Receiver	VOR/MKR	34-51
Warning Electronic Unit BITE Module (Stall Warning)	WEU	27-32
Weather Radar Transceiver	WXR	34-43
Wheel Well Fire Detection		26-17
Window Heat Control Unit	WHCU	30-41
Yaw Damper Module	YDM	22-21
Yaw Damper/Stabilizer Trim Module	YSM	27-09
Zone Temperature Controller		21-60

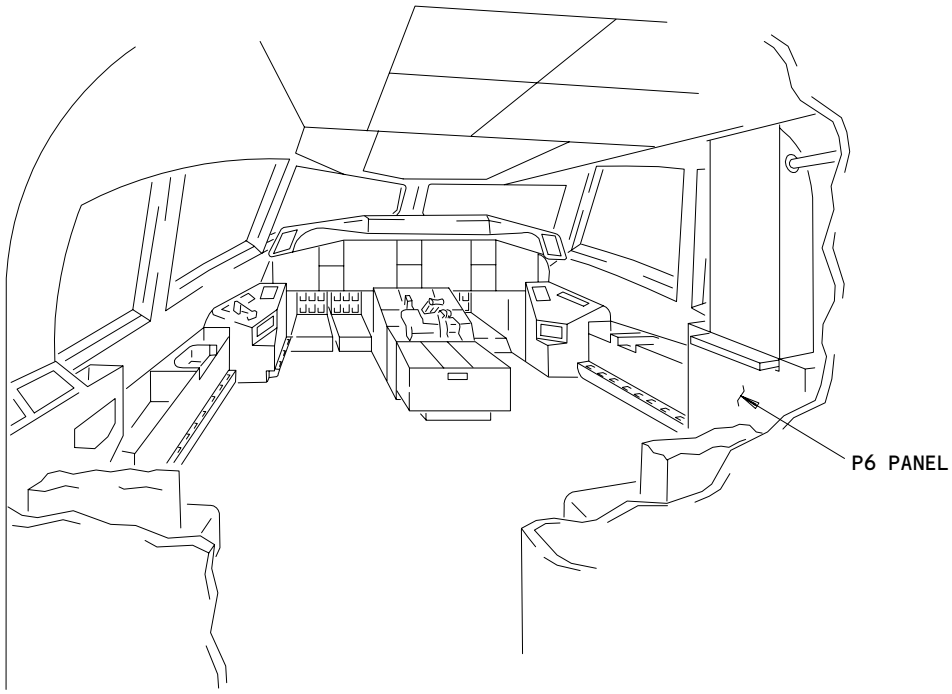
Bite Index
Figure 1 (Sheet 3)

GENERATOR DRIVE SYSTEM

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
CIRCUIT BREAKERS	1		FLIGHT COMPARTMENT, P6	
GEN CONT UNIT L, C804		1	6B1	*
GEN CONT UNIT R, C805		1	6B2	*
GEN DRIVE DISC L, C807		1	6B5	*
GEN DRIVE DISC R, C808		1	6B6	*
COUPLING - QUICK ATTACH/DETACH	2	2	413AL, 423AL FAN COWL PANELS ACCESSORY GEARBOX	24-11-03
EXCHANGER - IDG AIR/OIL HEAT	2	2	413AL, 423AL FAN COWL PANELS	24-11-04
GENERATOR - INTEGRATED DRIVE, M10538	2	2	413AL, 423AL FAN COWL PANELS ACCESSORY GEARBOX	24-11-01

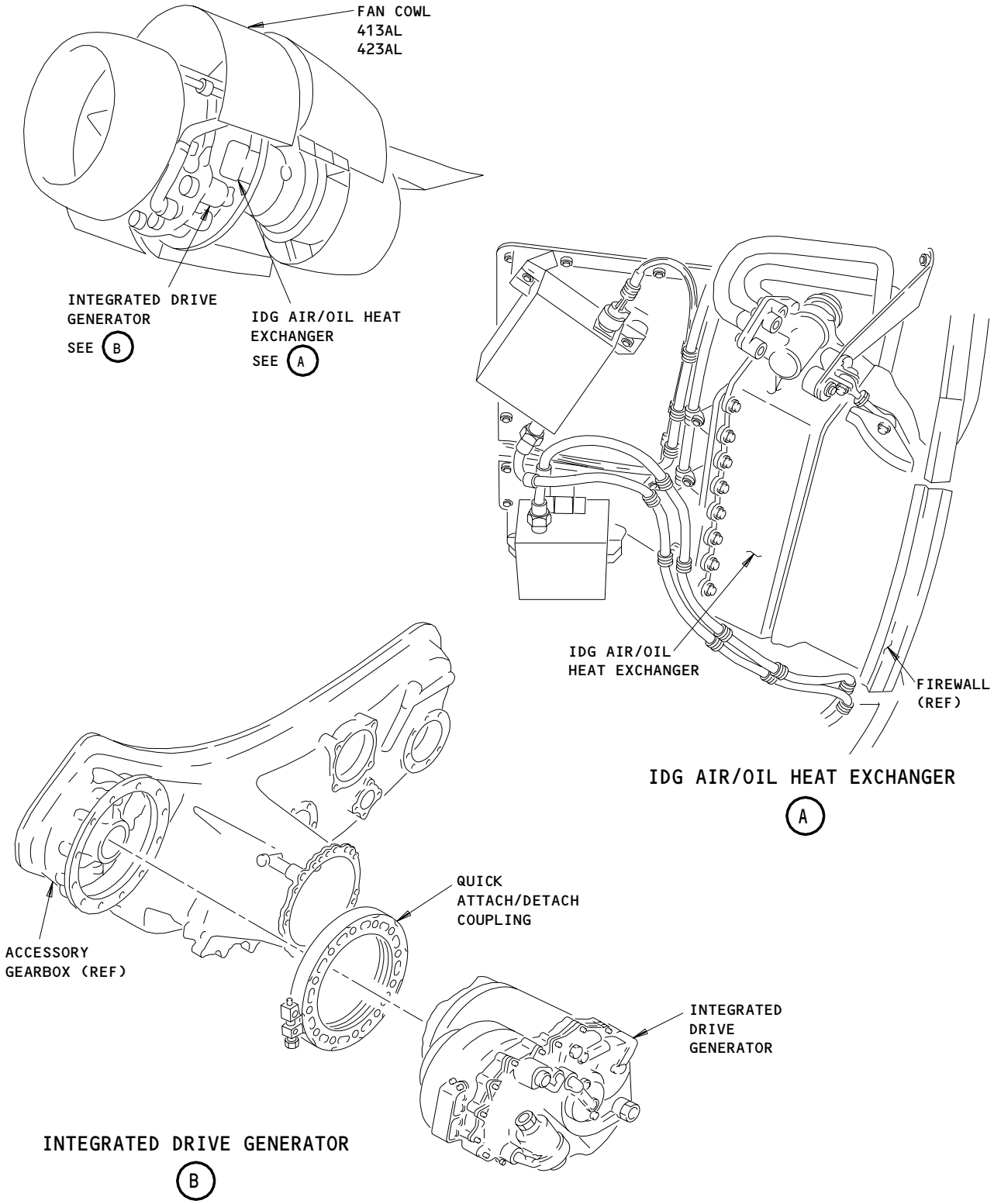
* SEE THE WDM EQUIPMENT LIST

Generator Drive System - Component Index
Figure 101



FLIGHT COMPARTMENT

Generator Drive System - Component Location
Figure 102 (Sheet 1)



Component Location
Figure 102 (Sheet 2)

EICAS MESSAGE "IDG OUT TEMP" DISPLAYED WITH ONE OR BOTH ENGINES WITH SB 24-9280

PREREQUISITES

MAKE SURE THIS SYSTEM WILL OPERATE:
- EICAS (AMM 31-41-00/201)

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
- ELECTRICAL POWER IS ON (AMM 24-22-00/201)
- ELECTRICAL POWER IS LEFT 115V AC BUS
- ELECTRICAL POWER TO RIGHT 115V AC BUS

1 PUSH THE "ELEC/HYD" DISPLAY SELECT SWITCH ON THE EICAS PANEL AT P61.
PUSH THE "AUTO-EVENT READ" SWITCH ON EICAS PANEL.
MAKE A NOTE (FROM THE EICAS DISPLAY) OF THE IDG THAT HAS THE HIGHEST "IDG OUT" TEMPERATURE.
PUSH AND HOLD THE "ERASE" SWITCH ON THE EICAS MAINTENANCE PANEL FOR 3 SECONDS AND MAKE SURE THE AUTO EVENT ERASES.
PUSH THE "BIT" SWITCH ON THE BUS POWER CONTROL UNIT, M116, ON THE E2-4.
DOES ONE OF THESE MESSAGES SHOW ON THE LEFT OR THE RIGHT GENERATOR POWER CHANNEL?

IDG BULB TOLERANCE
OIL IN BULB/WIRING
OIL OUT BULB/WIRING
LOW OIL PRESSURE
IDG HIGH DELTA TEMP
IDG OVERTEMP

YES → 21 CORRECT ALL THE MESSAGES SHOWN WITH THE AC GENERATION BITE PROCEDURE (AMM 24-20-00/401).

NO

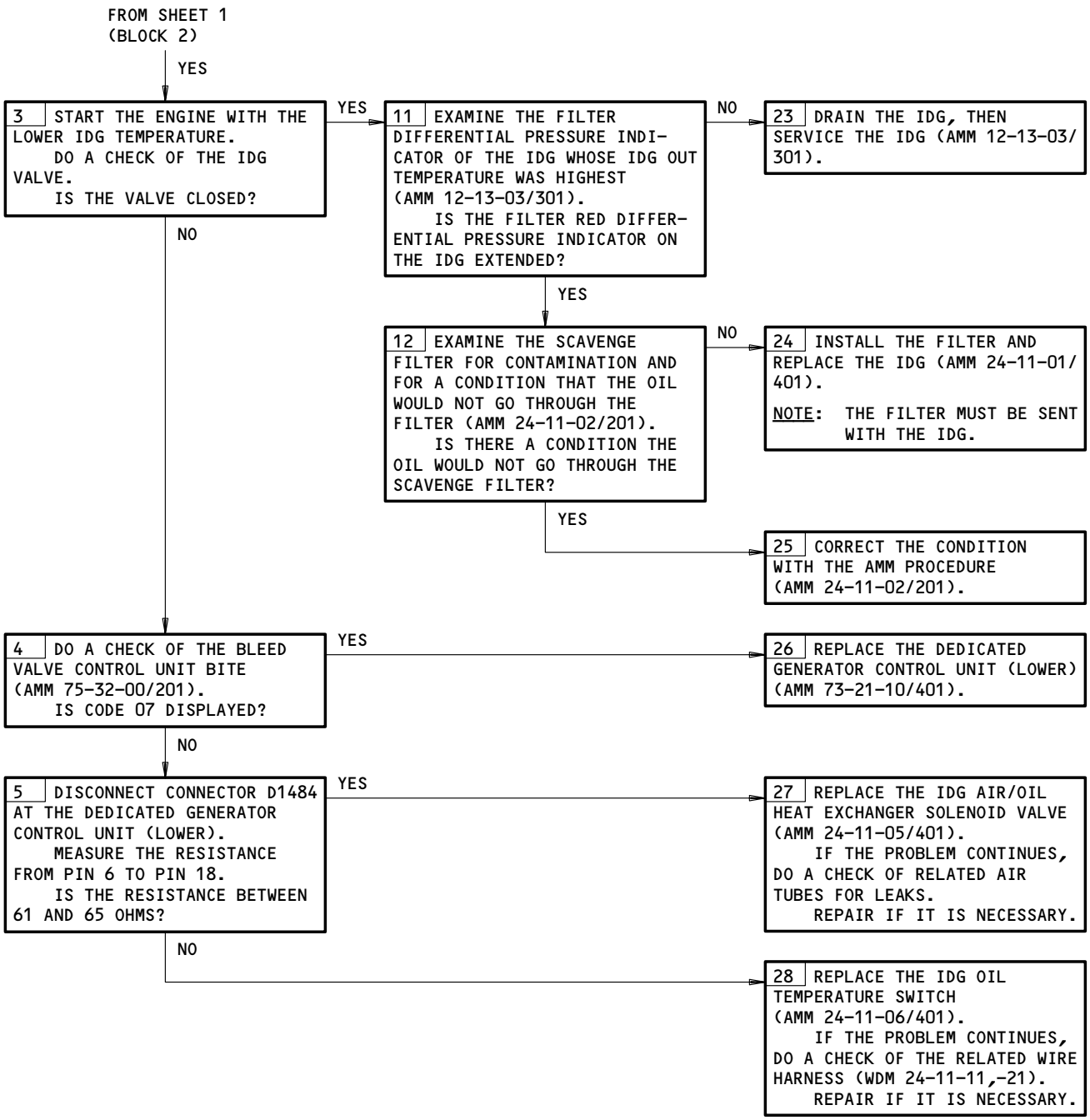
2 IS ROLLS ROYCE SERVICE BULLETIN 24-9280 INSTALLED ON BOTH ENGINES?

NO → 22 IGNORE THE "IDG OUT TEMP" MESSAGE.
DO THE MODULATED IDG COOLER-DEACTIVATION PROCEDURE ON THE ENGINE WITH THE INSTALLED SERVICE BULLETIN.

YES

SEE SHEET 2
(BLOCK 3)

EICAS Message IDG OUT TEMP Displayed with One or Both Engines with SB 24-9280
Figure 103 (Sheet 1)



EICAS Message IDG OUT TEMP Displayed with One or Both Engines with SB 24-9280
Figure 103 (Sheet 2)

1. Modulated IDG Cooler-Deactivation Procedure

   A. If one engine has a functional modulated IDG cooling system, and the other engine does not, and the EICAS message cannot be accepted, then it is permitted to deactivate the serviceable system by this procedure.

      (1) Remove the wire W5003-0165-20 from the position 6F of the modular terminal block.

      (2) Remove the plug from the position 40H of the modular terminal block and install it in position 6F.

      (3) Remove the 6F identification label from the wire W5003-0165-20 and replace with label 40H.

      (4) Install the wire W5003-0165-20 in the position 40h of the modular terminal block.

   B. Activation of the system is the opposite of the above procedure.

AC GENERATION - FAULT ISOLATION

1. General
   A. The built-in-test (BIT) function of the bus power control unit (BPCU) records AC power generation problems.
2. How to do the Bus Power Control Unit (BPCU) BITE
   A. General
      (1) You do the BITE procedure at the front panel of the BPCU.
      (2) The BPCU, M116, is installed on the E5-3 shelf in the main equipment center.
   B. Prepare For Test
      (1) Make sure the left and right engines are shutdown (AMM 71-00-00/501).
      (2) Make sure the APU is shutdown (AMM 49-11-00/501).
      (3) Make sure the L and R GEN CONT switches (P5) are in the OFF position.
      (4) Make sure the APU GEN switch (P5) is in the OFF position.
      (5) Set the BAT switch (P5) to the ON position.

      NOTE: The BPCU BITE procedure can be run with external power. If you are unable to apply external power, the procedure can be run with battery power.

   C. Procedure
      (1) Do the BPCU BITE procedure as follows:
         (a) Open the forward cargo compartment door, 821.
         (b) Remove the forward cargo compartment bulkhead panel.
         (c) Push the BIT switch on the BPCU.
         (d) The below sequence will be displayed on the BPCU if no fault is found. If a fault is found, the fault message will be displayed in place of the OK message. The OK messages are shown for 2 seconds. Fault messages are shown for 15 seconds. If fault messages are displayed, record the power channel and all fault messages for troubleshooting:

```
EXTERNAL POWER SYSTEM
OK
LEFT GEN POWER SYSTEM
OK
RIGHT GEN POWER SYSTEM
OK
APU GEN POWER SYSTEM
OK
LAST FLT O# END OF DATA
FOR PREVIOUS FLT PUSH NOW
```

(e) If you want to do the BPCU BITE procedure again, stop until the "FOR PREVIOUS FLT PUSH NOW" message goes off, then push the "BIT" switch.
(f) If you want to see the BITE information for previous flights, push the BIT switch when you see the "FOR PREVIOUS FLT PUSH NOW" message on the BPCU. Information for up to seven flights is available for display.
(g) If you know a fault message and power channel, you can find the troubleshooting procedure in table 101, 102 or 103.
(h) The messages are divided into three tables (Refer to 24-Contents to find the page for each table, or the page for each message):
    1) External power channel (Table 101).
    2) Left and right power channel (Table 102).
    3) APU power channel (Table 103)
(i) There is an alphabetical list of the messages before each of the tables.
(j) Install the forward cargo compartment bulkhead panel.
(k) Close the forward cargo door, 821.

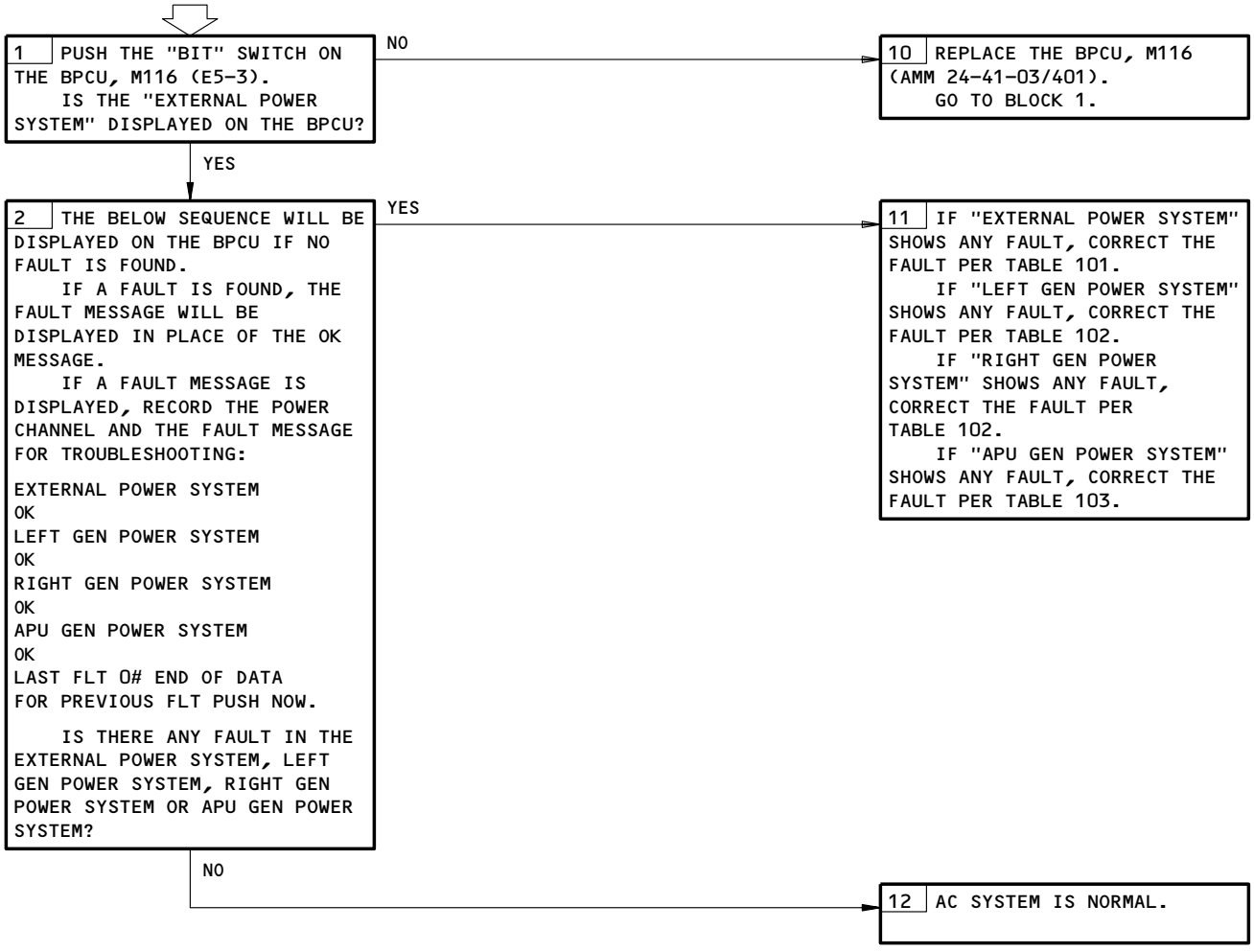
PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6A1, 6B1, 6B2, 6B3, 6B4, 6C10, 6C17, 6C23, 6D1, 6D2, 6D11, 6H8, 6L8, 6L9, 6L10, 11R32, 34A2 (PLATE C), 34E2 (PLATE C), 34B2 (PLATE A), MAIN BATTERY CHARGER (C301-PLATE B, P37), R GEN GND SVCE BUS (C316, P32)

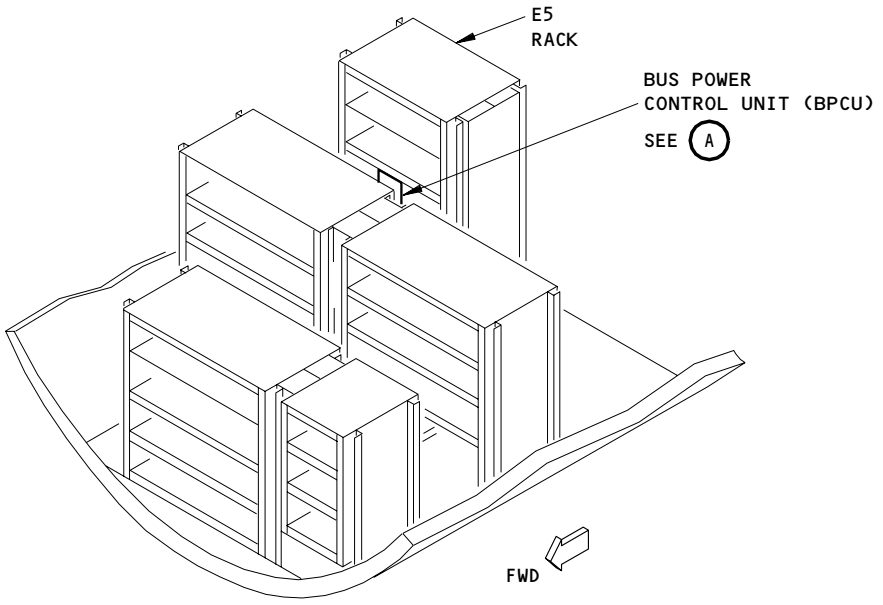
MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
BAT SWITCH IS ON

NOTE: THE BPCU BITE PROCEDURE CAN BE DONE WITH BATTERY POWER.

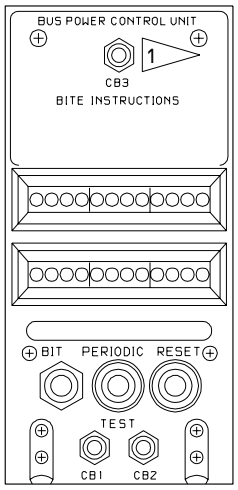
BPCU BITE PROCEDURE



BPCU BITE Procedure
Figure 101 (Sheet 1)



MAIN EQUIPMENT CENTER

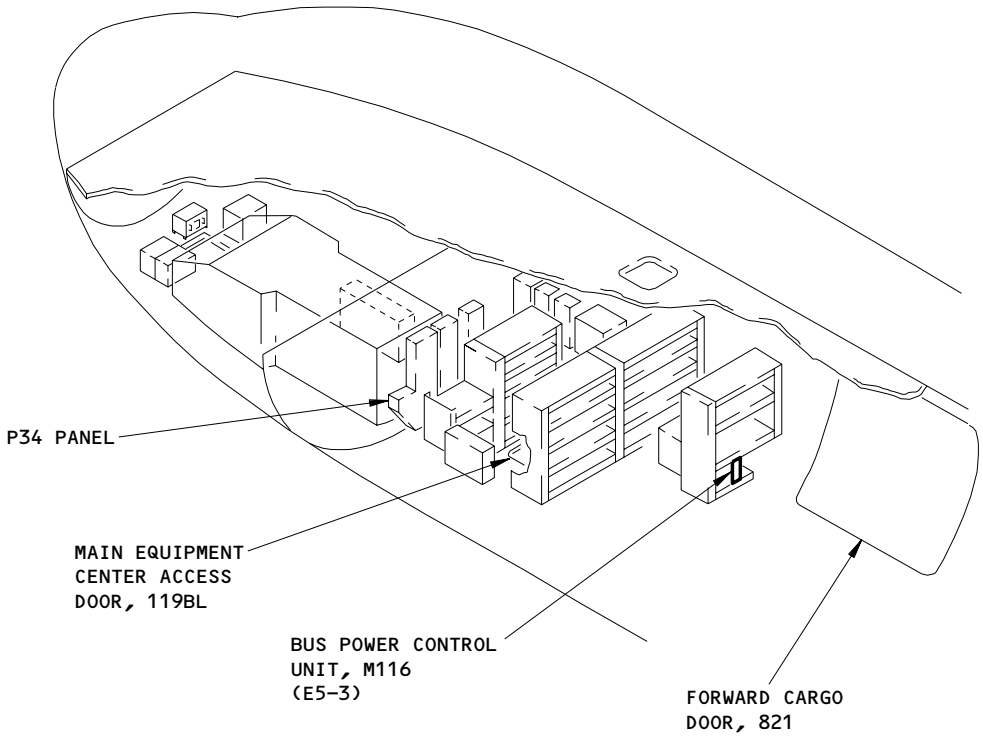


BUS POWER CONTROL UNIT

A

1 AIRPLANES WITH S281T001-40 TO S281T001-99 BPCU

BPCU BITE Procedure
Figure 101 (Sheet 2)



MAIN EQUIPMENT CENTER

Bus Power Control Unit - Component Location
Figure 101 (Sheet 3)

PREREQUISITES

MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (AMM 31-41-00/201)

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
ELECTRICAL POWER TO LEFT 115V AC BUS
ELECTRICAL POWER TO RIGHT 115V AC BUS

NOTE: IDG RECEPTACLE PIN/SOCKET WEAR CAN CAUSE IDG TEMPERATURE AND COOLING VALVE EICAS MESSAGES. THIS MAY ALSO CAUSE THE IDG DRIVE LIGHT TO COME ON. TO CORRECT THIS PROBLEM, DO THIS PROCEDURE: IDG RECEPTACLE, PIN CORROSION/WEAR (FIG. 105).

EICAS MESSAGE "IDG RISE TEMP" OR "IDG OUT TEMP" DISPLAYED

1 PUSH THE "ELEC/HYD" DISPLAY SELECT SWITCH ON THE EICAS PANEL AT P61.
PUSH THE "AUTO EVENT READ" SWITCH ON THE EICAS PANEL.
MAKE A NOTE (FROM THE EICAS DISPLAY) WHICH IDG HAS THE HIGHEST "IDG RISE" OR THE "IDG OUT" TEMPERATURE.
PUSH AND HOLD THE "ERASE" SWITCH ON EICAS MAINTENANCE PANEL FOR 3 SECONDS AND MAKE SURE THE AUTO EVENT ERASES.
PUSH THE "BIT" SWITCH ON THE BUS POWER CONTROL UNIT, M116, ON THE E5-3 SHELF.
ARE THERE ANY OTHER POWER SYSTEM RELATED EICAS MESSAGES OR BPCU BITE MESSAGES?

NO → 21 REGARD THE MESSAGE AS NUISANCE MESSAGES NO ACTION REQUIRED.

YES

2 DOES ONE OF THESE MESSAGES SHOW ON THE LEFT OR THE RIGHT GEN POWER CHANNEL?

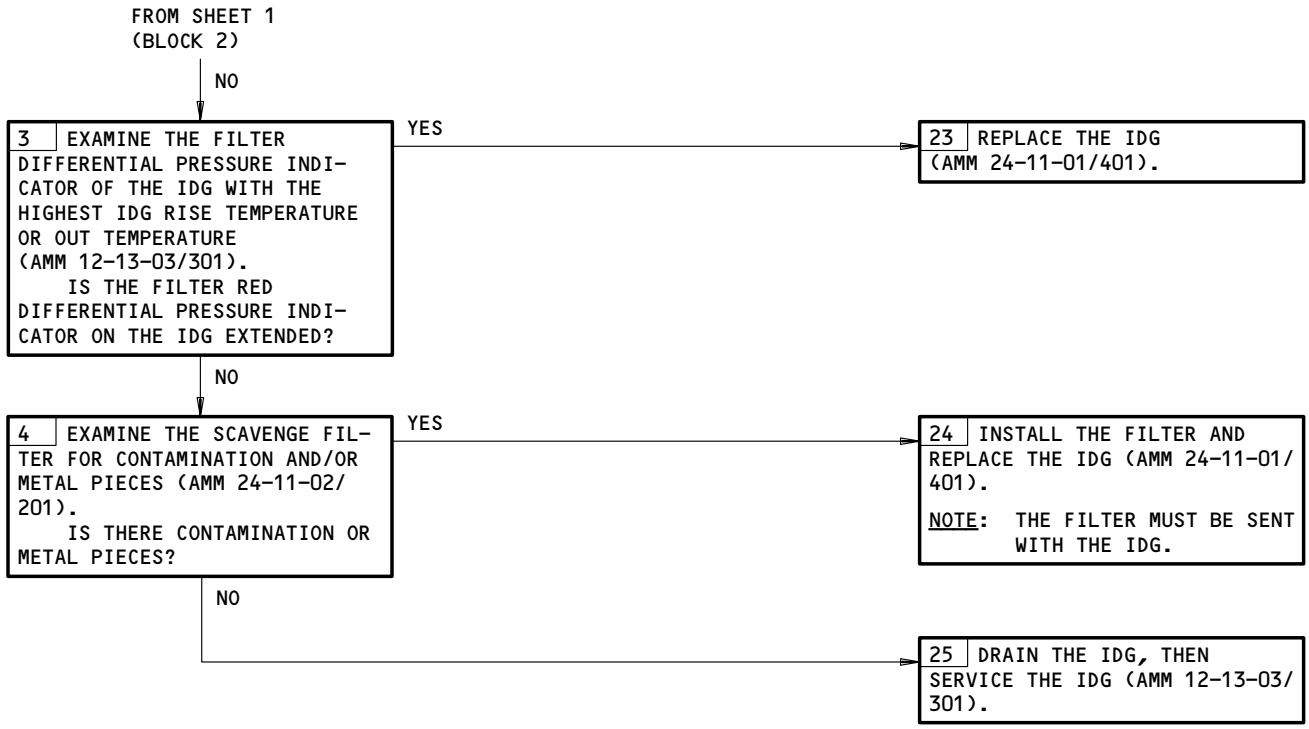
IDG BULB TOLERANCE
OIL IN BULB/WIRING
OIL OUT BULB/WIRING
LOW OIL PRESSURE
IDG HIGH DELTA TEMP
IDG OVERTEMP

YES → 22 CORRECT ANY MESSAGE SHOWN WITH THE AC GENERATION BITE PROCEDURE, AMM 24-20-00, GROUP 2.

NO

SEE SHEET 2
(BLOCK 3)

EICAS Message IDG RISE TEMP or IDG OUT TEMP Displayed
Figure 102 (Sheet 1)



EICAS Message IDG RISE TEMP or IDG OUT TEMP Displayed
Figure 102 (Sheet 2)

B22149

PREREQUISITES

MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (MM 31-41-00/201).

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6 EICAS CIRCUIT BREAKERS ON OVERHEAD CIRCUIT BREAKER PANEL P11

MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:
ELECTRICAL POWER IS ON (MM 24-22-00/201)

EICAS MESSAGE "L (R) IDG OIL TEMP" DISPLAYED

1 DID THE "L (R) IDG TEMP SENS" MESSAGE SHOW ON THE EICAS WITH THE "L (R) IDG OIL TEMP MESSAGE"?

YES → 10 PUSH THE "ELEC/HYD" DISPLAY SELECT SWITCH ON THE EICAS PANEL AT P61.
PUSH THE "AUTO EVENT READ" SWITCH ON EICAS PANEL.
PUSH AND HOLD THE "ERASE" SWITCH ON EICAS MAINTENANCE PANEL FOR 3 SECONDS AND MAKE SURE THE AUTO EVENT ERASES.
DO THE EICAS ERASE PROCEDURE (31-41-00, FIG. 109).
DO THE BPCU BITE PROCEDURE (24-20-00, FIG. 101).

NO

2 PUSH THE "ELEC/HYD" DISPLAY SELECT SWITCH ON THE EICAS PANEL AT P61.
PUSH THE "AUTO EVENT READ" SWITCH ON THE EICAS PANEL.
MAKE A NOTE (FROM THE EICAS DISPLAY) WHICH IDG HAS THE HIGHEST "IDG OUT" TEMPERATURE.
PUSH AND HOLD THE "ERASE" SWITCH ON THE EICAS MAINTENANCE PANEL FOR 3 SECONDS AND MAKE SURE THE AUTO EVENT ERASES.
DO THE EICAS ERASE PROCEDURE (31-41-00, FIG. 109).
EXAMINE THE OIL LEVEL OF THE IDG WITH IDG OIL TEMP MESSAGE (MM 12-13-03/301).
IS THE IDG OIL LEVEL LOW?

YES → 11 FILL THE IDG (MM 12-13-03/301).

NO → 12 DO THE BPCU BITE PROCEDURE (24-20-00, FIG. 101).

EICAS Message L (R) IDG OIL TEMP Displayed
Figure 103

PREREQUISITES

MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (AMM 31-41-00/201)

MAKE SURE THIS AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201).

NOTE: IDG RECEPTACLE PIN/SOCKET WEAR CAN CAUSE IDG TEMPERATURE AND COOLING VALVE EICAS MESSAGES. THIS MAY ALSO CAUSE THE IDG DRIVE LIGHT TO COME ON. TO CORRECT THIS PROBLEM, DO THIS PROCEDURE: IDG RECEPTACLE, PIN CORROSION/WEAR (FIG. 105).

EICAS MSG "L (R) IDG TEMP SENS" DISPLAYED

EICAS Message L (R) IDG TEMP SENS Displayed
Figure 104

IDG RECEPTACLE PIN CORROSION/WEAR

PREREQUISITE

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
REMOVE ELECTRICAL POWER (AMM 24-22-00/201)

1. REMOVE THE CONNECTORS FROM THE IDG. INSPECT THE IDG RECEPTACLE PINS FOR WEAR AND SIGNS OF CORROSION. THE PINS WILL LOOK DARKENED OR HAVE DUST-LIKE CONTAMINATION ON PIN SURFACE.
2. IF IDG RECEPTACLE PIN WEAR OR CORROSION IS FOUND, DO THE FOLLOWING:
   A. TEMPORARY FIX
      (1) REPLACE THE SHIPSIDE CONNECTOR SOCKETS OPPOSITE THE AFFECTED PINS ON THE IDG RECEPTACLE. USE SOCKETS, BOEING P/N BACC47CP2T OR EQUIVALENT (SWPM 20-24-21).
      (2) EXAMINE THE SHIPSIDE CONNECTOR COUPLING RING AND REPLACE THE CONNECTOR IF DAMAGED THREADS ARE FOUND.
      (3) CLEAN THE IDG RECEPTACLE AND SHIPSIDE CONNECTOR WITH ALCOHOL OR ACETONE PER SWPM 20-60-01.
      (4) RECONNECT THE CONNECTORS TO THE IDG.
   B. PERMANENT FIX
      (1) REPLACE THE IDG RECEPTACLE CONNECTOR PER SUNSTRAND SB 90IDGS01-24-55.
      (2) REPLACE ALL SHIPSIDE CONNECTOR SOCKETS. USE BOEING P/N BACC47CP2T OR EQUIVALENT PER SWPM 20-24-21.
      (3) EXAMINE THE SHIPSIDE CONNECTOR COUPLING RING AND REPLACE THE CONNECTOR IF DAMAGED THREADS ARE FOUND.
      (4) CLEAN THE IDG RECEPTACLE AND SHIPSIDE CONNECTOR WITH ALCOHOL OR ACETONE PER SWPM 20-60-01.
      (5) RECONNECT THE CONNECTORS TO THE IDG.
3. MAKE SURE THAT THE RELATED EICAS MESSAGE CLEARS THE EICAS DISPLAY (AMM 31-41-00/201), OR THAT THE DRIVE LIGHT GOES OFF. IF THE PROBLEM CONTINUES, REFER TO THE APPLICABLE FIM PROCEDURE FOR THE EICAS MESSAGE OR DRIVE LIGHT COMING ON.

IDG Receptacle Pin Corrosion/Wear
Figure 105

3. Table 101 - External Power Channel

A. Table 101 has messages and corrections for the external power channel.

NOTE: The isolation messages for the TIE BUS DP TRIP are located after the TIE BUS DP TRIP message.

Messages in table 101 External Power Channel
APB AUX
APU AIR/GND
APU DEAD TIE BUS
APU GHR/EP GHR
APU SERIAL LINK
BPCU AIR/GND SWITCH
BPCU CIRCUIT BREAKER OPEN
BPCU FAILED
BPCU FAILED TRIP
CT LOOP GND
EP PHASE SEQUENCE
EPC COIL/AUX CIRCUIT
EPC COIL CIRCUIT
EXT POWER UNDER VOLT
EXT PWR PIN E-F FAILURE
GHR COIL
GSSR COIL
GSTR COIL

Messages in table 101 External Power Channel
LEFT AIR/GND
LEFT BTB AUX
LEFT DEAD TIE BUS
LEFT GCB AUX
LEFT SERIAL LINK
NO RESPONSE FROM CONTROL
NO EXT POWER
OPEN PHASE TRIP
OVER CURRENT TRIP
OVER FREQ TRIP
OVER VOLT TRIP
POWER ON INTERLOCK
REPLACE BPCU
RIGHT AIR/GND
RIGHT BTB AUX
RIGHT DEAD TIE BUS
RIGHT GCB AUX
RIGHT SERIAL LINK

Messages in table 101 External Power Channel
TIE BUS DP TRIP
LEFT CHANNEL DP TRIP – MAIN BUS/OVERLAP ZONE, RIGHT CHANNEL DP TRIP – TIE BUS, APU CHANNEL DP TRIP – TIE BUS
LEFT CHANNEL DP TRIP – TIE BUS, RIGHT CHANNEL DP TRIP – MAIN BUS/OVERLAP ZONE, APU CHANNEL DP TRIP – TIE BUS
LEFT CHANNEL DP TRIP – TIE BUS, RIGHT CHANNEL DP TRIP – TIE BUS, APU CHANNEL DP TRIP – OVERLAP ZONE
LEFT CHANNEL DP TRIP – TIE BUS, RIGHT CHANNEL DP TRIP – TIE BUS, APU CHANNEL DP TRIP – TIE BUS
UNDER FREQ TRIP
UNDER VOLT TRIP

EXTERNAL POWER CHANNEL - TABLE 101

B. APB AUX Message
(1) Corrective Action
(a) Replace the auxiliary power breaker C905 (MM 24-22-03/401).
(b) If the problem continues, do a check for continuity between these points:

Component	Pin	Component	Pin
APB C905	D1732 pin 4	GROUND	
APB C905	D1732 pin 8	GROUND	
APB C905	D1732 pin 7	BPCU M116	D550A pin 4A
APB C905	D1732 pin 3	APU GCU M143	D1850A pin D6

1) Repair as necessary.

C. APU AIR/GND
(1) Corrective Action
(a) Push the PERIODIC TEST switch on the front of the BPCU M116 on the E5-3 rack.
(b) If the GCU FAILED CODE 16 message shows on the APU GEN POWER SYSTEM, replace the APU GCU M143 on the E5-3 rack. (MM 24-22-02/401).
(c) If the GCU FAILED CODE 16 does not show, remove the APU GCU M143 (MM 24-22-02/401).
1) Set the thrust levers at the idle stop position and make sure there is continuity between these points:

Component	Pin	Component	Pin
APU GCU M143	D1850A pin 1A	GROUND	

a) Repair as necessary.
2) Advance the thrust levers approximately 25% and make sure there is an open circuit between these points:

Component	Pin	Component	Pin
APU GCU M143	D1850A pin 1A	GROUND	

a) Repair as necessary.

EXTERNAL POWER CHANNEL - TABLE 101

3) Install the APU GCU M143 (MM 24-22-02/401).

(d) If the problem continues, replace the APU GCU M143 (MM 24-22-02/401).

D. APU DEAD TIE BUS Message

(1) Corrective Action

(a) Replace the APU generator control unit (M143) (MM 24-22-02/401).

(b) If the problem continues, replace the bus power control unit M116 (MM 24-41-03). If the problem continues, correct any open circuit, short circuit to ground, or short circuit to adjacent wiring between these points (WDM 24-22-41):

Component	Pin	Component	Pin
APB C905	T2	APU GCU M143	D1850A pin C15

(c) If the problem continues, correct any open circuit, short circuit to ground, short circuit to adjacent wiring, or high high resistance connection on the tie bus between these circuit breakers: The Bus Tie Breakers (BTB's), Auxiliary Power Breaker (APB), and External Power Contactor (EPC) (WDM 24-21-51).

E. APU GHR/EP GHR Message

(1) Corrective Action

(a) Replace the ground handling relay K101 (MM 24-51-01/401).

(b) If the problem continues, do a check for continuity between these points (WDM 24-51-61):

Component	Pin	Component	Pin
GHR K101	X1	BPCU M116	D550B pin A11
GHR K101	Y1	BPCU M116	D550B pin B11
GHR K101	X2	GROUND	

1) Repair as necessary.

(c) If the problem continues, do the flight mode simulation procedure for the number 1 air/ground system (MM 32-09-02). Put the air/ground system 1 in the ground mode, and do a check for continuity between these points:

EXTERNAL POWER CHANNEL - TABLE 101

Component	Pin	Component	Pin
GHR K101	Y2	GROUND	

1) Repair as necessary.

F. APU SERIAL LINK Message
(1) Corrective Action
(a) Replace the APU generator control unit M143 (MM 24-22-02/401).
(b) If the problem continues, replace the bus power control unit M116 (MM 24-41-03). If the problem continues, examine and repair any open circuit, short circuit to ground, or short circuit to adjacent wiring between these points (WDM 24-41-11):

Component	Pin	Component	Pin
APU GCU M143	D1850A pin A12	BPCU M116	D550A pin A13
APU GCU M143	D1850A pin B12	BPCU M116	D550A pin B13

(c) If the problem continues, do a check of the shield around the APU GCU-BPCU serial data link (WDM 24-41-11).
1) APU GCU shield-D1850A, pin B11.
2) BPCU shield-D550A, pin A14.

G. BPCU AIR/GND SWITCH Message
(1) Corrective Action
(a) Push the PERIODIC TEST switch on the front of the BPCU M116 on the E5-3 rack.
(b) If the BPCU FAILED CODE 16 message shows, replace the BPCU M116 on the E5-3 rack (AMM 24-41-03/401).
(c) If the BPCU FAILED CODE 16 does not show, set the thrust levers at the idle stop position and put the No. 1 air/ground system in the ground mode (MM 32-09-02). Make sure there is continuity between these points:

Component	Pin	Component	Pin
BPCU M116	D550A pin C3	GROUND	

1) Repair as necessary.

EXTERNAL POWER CHANNEL - TABLE 101

(d) If the problem continues, replace the BPCU M116 (MM 24-41-03/401).

H. BPCU CIRCUIT BREAKER OPEN Message
(1) Corrective Action
(a) Remove the BPCU M116 (MM 24-41-03/401).
(b) If the circuit breaker CB1 on the BPCU M116 is open:
1) Do a check for a short circuit between these points:

Component	Pin	Component	Pin
BPCU M116	D550B pin A1	GROUND	
BPCU M116	D550A pin B10	GROUND	
BPCU M116	D550A pin C10	GROUND	

a) Repair as necessary.
2) If the problem continues replace the BPCU M116 (MM 24-41-03/401)
(c) If the circuit breaker CB2 on the BPCU M116 is open, close CB2 and pust the EXT PWR switch on the electrical system control panel.

1) If the problem continues, remove the BPCU M116 (MM 24-41-03). Do a check for a short circuit between these points:

Component	Pin	Component	Pin
BPCU M116	D550B pin 12	EPC K114	D1734 pin 40

a) Repair as necessary.
2) If the problem continues, replace the external power contactor K114 (MM 24-41-01/401).
a) Install the BPCU (MM 24-41-03/401).
3) If the problem occurred in the last step, remove the BPCU M116 (MM 24-41-03). Do a check for a short circuit between these points:

EXTERNAL POWER CHANNEL - TABLE 101

Component	Pin	Component	Pin
BPCU M116	D55OB pin A11	GHR K1O1	X1
BPCU M116	D55OB pin B11	GHR K1O1	Y1

a) Repair the wiring as necessary (WDM 24-51-61) or replace the GHR K1O1 (Ref MM 24-51-O1/4O1).

4) Install the BPCU M116 (MM 24-41-O3/4O1).
5) If no fault occurred in the last step but the problem con tinues, do a check for a short circuit to ground between these points:

Component	Pin	Component	Pin
BPCU M116	D55OB pin C11	GSTR K1O2	X1

a) Repair the wiring as necessary (WDM 24-51-51) or replace the GSTR K1O2 (MM 24-51-O3/4O1).

6) Install the BPCU M116 (MM 24-41-O3/4O1).
7) If no fault occurred in the last step but the problem continues, do a check for a short circuit to ground between these points:

Component	Pin	Component	Pin
BPCU M116	D55OB pin D11	GSSR K1O3	X1

8) Repair the wiring (WDM 24-51-51) or replace the GSSR K1O3 (MM 24-51-O2/4O1).
9) Install the BBCU M116 (MM 24-41-O3/4O1).
10) If no fault occurred in the last step but the problem continues, do a check for a short circuit to ground between these points: points:

Component	Pin	Component	Pin
BPCU M116	D55OB pin C11	GND SERV BUS switch light	

EXTERNAL POWER CHANNEL - TABLE 101

11) Repair the wiring or change the GND SERV BUS switch light (WDM 24-51-51).
12) Install the BPCU M116 (MM 24-41-03/401).
13) If the problems continues replace the BPCU M116 (MM 24-41-03/401).

(d) AIRPLANES WITH S281T001-40 TO S281T001-99 BPCU; If the circuit breaker CB3 on the BPCU M116 is open, close CB3 and push the EXT PWR switch on the electrical system control panel.

1) If the problem continues, remove the BPCU M116 (MM 24-41-03). Do a check for a short circuit between these points:

Component	Pin	Component	Pin
BPCU M116	D550B pin A11	GHR K101	X1
BPCU M116	D550B pin B11	GHR K101	Y1

2) If the problem continues, remove the BPCU M116 (MM 24-41-0 24-41-03). Do a check for a short circuit between these points:

Component	Pin	Component	Pin
BPCU M116	D550B pin A2	EXT PWR RECEPT	E
BPCU M116	D550B pin B2	EXT PWR RECEPT	F

a) Repair the wiring as necessary (WDM 24-41-11) or replace the external power receptacle (MM 24-41-02/201).

3) Install the BPCU M116 (MM 24-41-03/401).
4) If no fault occurred in the last step, do a check for a short circuit to ground or a short circuit to adjacent wiring between these points:

EXTERNAL POWER CHANNEL - TABLE 101

Component	Pin	Component	Pin
BPCU M116	D550B pin A3	NOT IN USE light	L83
BPCU M116	D550B pin A3	AC CONNECTED light	L82

a) Repair the wiring, or replace the lights L82, L83 as necessary (WDM 24-41-12).

5) Install the BPCU M116 (MM 24-41-03/401).

6) If no fault occurred in the last step, replace the BPCU M116 (MM 24-41-03/401).

I. BPCU FAILED Message

(1) Corrective Action

(a) If the CB1 or the CB2 on the BPCU has not opened, replace the BPCU M116 (MM 24-41-03/401).

(b) If the circuit breaker CB1 on the BPCU M116 is open:

1) Remove the BPCU (MM 24-41-03/401).

2) Do a check for a short circuit to ground in the EXT PWR switch wiring between the BPCU M116 connector D550B pin A1 and the D550A pin B10 (WDM 24-41-11). Repair the wiring or replace the electrical system control panel M10063 as necessary (MM 24-22-01).

3) If the problem continues, do a check for a short circuit to ground in the GRND SERV BUS switch wiring between the BPCU M116 connectors D550B pin A1 and D550A pin C10 (WDM 24-51-51). Repair wiring or replace the GRND SERV BUS switch S27 on the P21 attendant's panel as necessary (WDM 24-51-51).

4) Install the BPCU (MM 24-41-03/401).

(c) If the circuit breaker CB2 on the BPCU M116 is open:

1) Replace the external power contactor K114 (AMM 24-41-01/401).

2) If the problem continues, remove the BPCU M116 and do these checks:

a) Do a check for a short circuit to ground between the BPCU M116 connector D550B pin A11 and the ground handling relay (GHR) K101 pin X1, BPCU M116 connector D550B pin B11 and K101 pin Y1 (WDM 24-51-61). Repair the wiring or replace the GHR K101 as necessary (MM 24-51-01).

EXTERNAL POWER CHANNEL - TABLE 101

b) If you found no fault, do a check for a short circuit to ground between the BPCU connector D550B pin C11 and the ground service transfer relay (GSTR) K102 pin X1 (WDM 24-51-51). Repair the wiring or replace the GSTR K102 as necessary (MM 24-51-03/401).
c) If you found no fault, do a check for a short circuit to ground between the BPCU connector D550B pin D11 and the ground service select relay (GSSR) K103 pin X1 (WDM 24-51-51). Repair the wiring or replace the GSSR if the coil is shorted (AMM 24-51-02/401).
d) If you found no fault, do a check for a short circuit to ground between the BPCU connector D550B pin A12 and External Power Contactor Connector D1734 pin 40 (WDM 24-41-11). Repair the wiring as necessary.
e) If you found no fault, do a check for a short circuit to ground between the BPCU connector D550B pin C11 and GND SERV BUS switch light on P21 (WDM 24-51-51). Repair the wiring or replace the GND SERV BUS light as necessary (WDM 24-51-51).
f) If you found no fault, do a check for a short circuit to ground between the BPCU connector D550B pin A2, B2 and the external power receptacle pins E, F (WDM 24-41-11). Repair the wiring or check and replace the external power receptable as necessary (MM 24-41-02/201).
g) If you found no fault, do a check for a short circuit to ground or short circuit to adjacent wiring between the BPCU connector D550B pin A3 and the NOT IN USE light L5, and the AC CONNECTED light L4 on P30 (WDM 24-41-12). Repair the wiring as necessary.
h) If you found no fault, do a check for a short circuit to ground between the BPCU connector D550B pin D3 and the EXT PWR AVAIL, EXT PWR ON lights on the EXT PWR switch S12 (WDM 24-41-12). Repair the wiring as necessary.
i) Install the BPCU (MM 24-41-03/401).

3) If you found no fault, replace the BPCU M116 (MM 24-41-03/401).

EXTERNAL POWER CHANNEL - TABLE 101

J. BPCU FAILED Message (all codes but 31, 44)
   (1) Corrective Action
      (a) Replace the bus power control unit (BPCU) M116 (AMM 24-41-03/401). Record code that shows with BPCU FAILED message.

K. BPCU FAILED Message code 31
   (1) Corrective Action
   (2) Ignore this message. No action needs to be taken. (Do not replace the BPCU).

L. BPCU FAILED code 44 Message
   (1) Corrective Action
      (a) Do a check of the EP Interlock Fuses B129 and B130 (WDM 24-41-11). If fuses are good, replace the Bus Power Control Unit (BPCU) M116 (AMM 24-41-03/401). If the fuses are bad, replace the EP Interlock Fuses B129 and B130, and repair wiring as required per (WDM 24-41-11). If problem continues, replace the BPCU M116 (AMM 24-41-03/401).

M. BPCU FAILED TRIP Message
   (1) Corrective Action
      (a) Replace the bus power control unit, M116 (AMM 24-41-03/401).

N. CT LOOP GND Message (AIRPLANES WITH L TRU CIRCUIT BREAKER, 31EE2, ON P31 PANEL).
   (1) Corrective Action
      (a) Remove the BPCU (MM 24-41-03/401).
      (b) Do a check for a short circuit to ground at the BPCU connector D550A pin D1 (WDM 24-41-11).
         1) If there is a short circuit, replace the ground power current transformer (CT) T122 (AMM 24-23-01).
         2) If the problem continues after the CT replacement, correct any short circuit to ground from the BPCU connector D550A pins A1, B1, C1, D1 to CT T122 D1852 pins 3, 2, 1, 4 (WDM 24-41-11).

EXTERNAL POWER CHANNEL - TABLE 101

(c) If you found and repaired a short circuit, install the BPCU (AMM 24-41-03/401).
(d) If there was no short circuit, replace the BPCU M116 (AMM 24-41-03/401).

O. CT LOOP GND Message (AIRPLANES WITH L TRU CIRCUIT BREAKER, 6C17, ON P6 PANEL)
(1) Corrective Action
(a) Remove the BPCU (MM 24-41-03/401).
(b) Do a check for a short circuit to ground at the BPCU connector D550A pin D1 (WDM 24-41-11). If there is a short circuit, replace the ground power current transformer (CT) T122 (MM 24-23-01). If the problem continues after the CT replacement, correct any short circuit to ground from the BPCU connector D550A pins A1, B1, C1, D1 to CT T122 D1852 pins 3, 2, 1, 4 (WDM 24-41-11).
(c) If you found no fault in the last step, do a check for a short circuit to ground at the BPCU connector D550A pin D2 (WDM 24-23-12). If there is a short circuit, replace EXT Pwr Bus Tie CT T116 (MM 24-23-01/401). If the problem continues after CT replacement, correct any short circuit to ground from the BPCU connector D550A pins A2, B2, C2, D2 to CT T116 D2236 pins 1, 2, 3, 4, (WDM 24-23-12).
(d) If you found no fault in the last step, do a check for a short circuit to ground at the BPCU connector D550A pin D6 (WDM 24-23-12). If there is a short circuit, replace the APU Bus Tie CT T115 (MM 24-23-01/401). If the problem continues after CT replacement, correct any short circuit to ground from the BPCU connector D550A pins A6, B6, C6, D6 to CT T115 D2234 pins 1, 2, 3, 4, (WDM 24-23-12).
(e) If you found no fault in the last step, do a check for a short circuit to ground at the BPCU connector D550A pin D7 (WDM 24-23-12). If there is a short circuit, replace the R Bus Tie CT T113 (MM 24-23-01). If the problem continues after CT replacement, correct any short circuit to ground from the BPCU connector D550A pins A, B7, C7, D7 to CT T113 D2232 pins 1, 2, 3, 4, (WDM 24-23-12).

EXTERNAL POWER CHANNEL - TABLE 101

(f) If you found no fault in the last step, do a check for a short circuit to ground at the BPCU connector D550A pin D5 (WDM 24-23-12). If there is a short circuit, replace the L Bus Tie CT T112 (MM 24-23-01). If the problem continues after CT replacement, correct any short circuit to ground from the BPCU connector D550A pins A5, B5, C5, D5 to CT T112 D2168 pins 1, 2, 3, 4, (WDM 24-23-12).

(g) If you found a fault, install the BPCU (MM 24-41-03/401). If you found no fault, replace the BPCU M116 (AMM 24-41-03/401).

P. EP PHASE SEQUENCE Message

(1) Corrective Action

(a) Do a check of the cable between the ground power source and external power receptacle for incorrect wiring. Phase A of source should be connected to pin A of the receptacle. Phase B to pin B. Phase C to pin C. Correct the cable wiring if necessary. If the problem continues, change the ground power source.

Q. EPC COIL/AUX CIRCUIT Message

(1) Corrective Action

(a) Replace the external power contactor K114 (MM 24-41-01/401).

(b) If the problem continues, remove the BPCU M116 (MM 24-41-03/401)

(c) Do a check for continuity between these points:

Component	Pin	Component	Pin
BPCU M116	D550A pin D3	EPC K114	D1734 pin 40
GROUND		EPC K114	D1734 pin 41

EXTERNAL POWER CHANNEL - TABLE 101

1) Repair as necessary.

(d) Install the BPCU M116 (MM 24-41-03/401).

R. EPC COIL CIRCUIT Message

(1) Corrective Action

(a) Replace the external power contactor K114 (MM 24-41-01/401).

(b) If the problem continues, remove the BPCU M116 (MM 24-41-03/401)

(c) Do a check for continuity between these points:

Component	Pin	Component	Pin
BPCU M116	D550B pin A12	EPC K114	D1734 pin 40
GROUND		EPC K114	D1734 pin 41

1) Repair as necessary.

(d) Replace the BPCU M116 (MM 24-41-03/401).

S. EXT PWR PIN E-F FAILURE Message

(1) Corrective Action

(a) Do the steps for POWER ON INTERLOCK.

T. EXT POWER UNDER VOLT Message

(1) Corrective Action

(a) An UNDER VOLT TRIP message is also shown with the EXT POWER UNDER VOLT message on the external power channel. These steps should isolate the fault which causes both messages:

1) Make sure the ground power source supplies 115Vac RMS on each phase.

2) Adjust the voltage if necessary or replace the ground power source.

3) Do a check of the cable between the ground power source and the external power receptacle for open or short circuits. Repair or replace the cable as necessary.

EXTERNAL POWER CHANNEL - TABLE 101

4) If the problem continues, remove the BPCU M116 (MM 24-41-03) and do a check for continuity between these points:

Component	Pin	Component	Pin
BPCU M116	D550B pin A7	EXTERNAL POWER RECEPTACLE	A
BPCU M116	D550B pin B7	EXTERNAL POWER RECEPTACLE	B
BPCU M116	D550B pin C7	EXTERNAL POWER RECEPTACLE	C

a) Repair as necessary.

5) Install the BPCU M116 (MM 24-41-03/401).

U. GHR COIL Message

(1) Corrective Action

(a) Replace the ground handling relay (K101) (MM 24-51-01/401).

(b) If the problem continues, do a check for continuity between these points:

Component	Pin	Component	Pin
GHR K101	X1	BPCU M116	D550B pin A11
GHR K101	Y1	BPCU M116	D550A pin B11
GHR K101	X2	GROUND	

EXTERNAL POWER CHANNEL - TABLE 101

1) Repair as necessary.

(c) If the problem continues, do the flight mode simulation procedure for the number 1 air/ground system (MM 32-09-02). Put the air/ground system 1 in the ground mode, and do a check for continuity between these points:

Component	Pin	Component	Pin
GHR K101	Y2	TO GROUND	

1) Repair as necessary.

V. GSSR COIL Message

(1) Corrective Action

(a) Replace the ground service select relay (K103) (MM 24-51-02/401)

(b) If the problem continues, remove the BPCU M116 (MM 24-41-03/401) and do a check for continuity between these points:

Component	Pin	Component	Pin
BPCU M116	D550B pin D11	GSSR K103	X1
GROUND		GSSR K103	X2

1) Repair as necessary.

(c) Install the BPCU M116 (MM 24-41-03/401).

EXTERNAL POWER CHANNEL - TABLE 101

W. GSTR COIL Message
(1) Corrective Action
(a) Replace the ground service transfer relay K102 (MM 24-51-03/401)
(b) If the problem continues, remove the BPCU M116 and do a check for continuity between these points:

Component	Pin	Component	Pin
BPCU M116	D550B pin C11	GSTR K102	X1
GROUND		GSTR K102	X2

1) Repair as necessary.
(c) Install the BPCU M116 (MM 24-41-03/401).

X. LEFT AIR/GND Message
(1) Corrective Action
(a) Push the PERIODIC TEST switch on the front of the BPCU M116 on the E5-3 rack.
(b) If the GCU FAILED CODE 16 message shows on the LEFT GEN POWER SYSTEM, replace the left GCU M144 on the E5-1 (MM 24-22-02/401).
(c) If the GCU FAILED CODE 16 does not show, remove the L GCU M144 (MM 24-22-02/401).
1) Set the thrust levers at the idle stop position and make sure there is continuity between these points:

Component	Pin	Component	Pin
L GCU M144	D550A pin A1	GROUND	

EXTERNAL POWER CHANNEL - TABLE 101

a) Repair as necessary.

2) Advance the thrust levers approximately 25% and make sure there is an open circuit between these points:

Component	Pin	Component	Pin
L GCU M144	D550A pin A	GROUND	

a) Repair as necessary.

(d) Install the L GCU M144 (MM 24-22-02/401).

Y. LEFT BTB AUX Message

(1) Corrective Action

(a) Replace the left bus tie breaker C902 (MM 24-22-03/401). IF the problem continues, correct any open circuit, short circuit to ground, or short circuit to adjacent wiring between these points (WDM 24-22-12):

Component	Pin	Component	Pin
L BTB C902	D1730-3	L GCU M144	D2108A-D5
L BTB C902	D1730-7	BPCU M116	D550A-B4
L BTB C902	D1730-4	GROUND	
L BTB C902	D1730-8	GROUND	

Z. LEFT DEAD TIE BUS Message

(1) Corrective Action

(a) Replace the left generator control unit M144 (AMM 24-22-02/401). If the problem continues, remove the L BTB (AMM 24-22-03/401) and the L GCU (AMM 24-22-02/401). Correct any open circuit, short circuit to ground, or short circuit to adjacent wiring between these points (WDM 24-22-12):

EXTERNAL POWER CHANNEL - TABLE 101

Component	Pin	Component	Pin
L BTB C902	L2	L GCU M144	D2108A pin D15

(b) Install the L BTB (MM 14-22-03) and the L GCU (MM 24-22-02/401).
(c) If the problem continues, correct any open circuit, short circuit to ground, short circuit to adjacent wiring, or high resistance connection on the tie bus between the bus tie breakers (BTBs), auxiliary power breaker (APB), and external power contactor (EPC) (WDM 24-21-51).

AA. LEFT GCB AUX Message
(1) Corrective Action
(a) Replace the left generator circuit breaker C901 (MM 24-22-03).
(b) If the problem continues, correct any open circuit or short circuit to ground between these points:

Component	Pin	Component	Pin
L GCB C901	D1728-3	L GCU M144	D2108A-D6
L GCB C901	D1728-7	BPCU M116	D550A-A3
L GCB C901	D1728-4	GROUND	
L GCB C901	D1728-4	GROUND	

AB. LEFT SERIAL LINK Message
(1) Corrective Action
(a) Replace the left generator control unit M144 (AMM 24-22-02/401).
(b) If the problem continues, remove the L GCU (MM 24-22-02/401).
(c) Correct any open circuit, short circuit to ground, or short circuit to adjacent wiring between these points (WDM 24-22-12):

EXTERNAL POWER CHANNEL - TABLE 101

Component	Pin	Component	Pin
L GCU M144	D2108A pin A12	BPCU M116	D550A pin A12
L GCU M144	D2108A pin B12	BPCU M116	D550A pin B12

(d) Do a check of the shield around the L GCU-BPCU serial data link (WDM 24-22-12, WDM 24-22-22).
1) L GCU shield D2108A pin B11.
2) BPCU shield D550A pin A14.
(e) Install the BPCU (MM 24-41-03/401).

AC. NO RESPONSE FROM CONTROL Message
(1) Corrective Action
(a) Replace the BPCU M116 (AMM 24-41-03/401).

AD. NO EXT POWER Message
(1) Corrective Action
(a) An UNDER VOLT TRIP message is also shown with the EXT POWER UNDER VOLT message on the external power channel. These steps should isolate the fault which causes both messages:
1) Make sure the ground power source supplies 115Vac RMS on each phase.
2) Adjust the voltage if necessary or replace the ground power source.
3) Do a check of the cable between the ground power source and the external power receptacle for open or short circuits.
4) Repair or replace the cable as necessary.
(b) If the problem continues, do a check of the EXT PWR BPCU circuit breaker C320.
(c) If the circuit breaker has opened do a check for open circuit, or short circuit to ground between these points (WDM 24-41-11):

EXTERNAL POWER CHANNEL - TABLE 101

Component	Pin	Component	Pin
BPCU M116	D550B-A7	C320	A2
BPCU M116	D550B-B7	C320	B2
BPCU M116	D550B-C7	C320	C2

1) Repair as necessary.

AE. OPEN PHASE TRIP Message
(1) Corrective Action
(a) Make sure the ground power source supplies 115Vac RMS on each phase. Adjust the voltage if necessary or replace the ground power source.
(b) Make sure there are no open circuits or short circuits in the cable between the ground power source and the external power receptacle on P30.
(c) Do these checks:
1) EXTERNAL POWER FEEDER--ONE OPEN PHASE (WDM 24-41-11) K114 PINS A1, B1, C1 TO D1718 PINS A, B, C.
2) Remove the BPCU (MM 24-41-03/401). CT WIRING--ONE OPEN PHASE OR SHORT TO GROUND (WDM 24-41-11) (T122) D1852-1, 2, 3, 4 TO (M116) D550A-A1, B1, C1, D1
3) OVERLOAD CT--ONE OPEN PHASE (WDM 24-41-11) D1852 1, 2, 3, 4 (T122)
4) GROUND HANDLING BUS FEEDER--ONE OPEN PHASE (WDM 24-51-61) K114 PINS A1, B1, C1 TO K101 PINS A1, B1, C1
5) GROUND HANDLING BUS LOADS--ONE OPEN PHASE (WDM 24-51-61) K101 PINS A2, B2, C2 TO EACH LOAD
6) GROUND SERVICE BUS FEEDER--ONE OPEN PHASE (WDM 24-51-52) K114, pins A1,B1,C1, To K102 pins A1,B1,C1.
7) GROUND SERVICE BUS LOADS--ONE OPEN PHASE (WDM 24-51-52) K102 PINS A2, B2, C2 TO EACH LOAD
8) TIE BUS FEEDER--ONE OPEN PHASE (WDM 24-21-51)
K114 PINS A2, B2, C2 TO C905 PINS L1, L2, L3
K114 PINS A2, B2, C2 TO C904 PINS L1, L2, L3
K114 PINS A2, B2, C2 TO C902 PINS L1, L2, L3
RIGHT BUS LOADS--ONE OPEN PHASE (WDM 24-21-21)
C904 PINS T1, T2, T3 TO EACH LOAD

EXTERNAL POWER CHANNEL - TABLE 101

9) LEFT BUS LOADS--ONE OPEN PHASE (WDM 24-21-11)
C902 PINS T1, T2, T3 TO EACH LOAD
10) Replace the BPCU M116 (AMM 24-41-03/401).

AF. OVER CURRENT TRIP Message (AIRPLANES WITH L TRU CIRCUIT BREAKER, 31EE2, ON P31 PANEL)
(1) Corrective Action
(a) Do these checks:
1) EXTERNAL POWER FEEDER--SHORT TO GROUND OR PHASE TO PHASE SHORT (WDM 24-41-11)
D1718 pins A, B, C to K114 pins A1, B1, C1
2) GROUND HANDLING BUS FEEDER--SHORT TO GROUND OR PHASE TO PHASE SHORT (WDM 24-51-61)
K114 pins A1, B1, C1 to C305 terminals A1, B1, C1
3) GROUND SERVICE BUS FEEDER--SHORT TO GROUND OR PHASE TO PHASE SHORT (WDM 24-51-52)
K114 pins A1, B1, C1 to C306 terminals A1, B1, C1
4) EXTERNAL POWER SENSING WIRING--SHORT TO GROUND OR PHASE TO PHASE SHORT (WDM 24-41-11) K114 pins A1, B1, C1 to C320 terminals A1, B1, C1
5) Replace the BPCU M116 (AMM 24-41-03/401).

AG. OVER CURRENT TRIP Message (AIRPLANES WITH L TRU CIRCUIT BREAKER, 6C17, ON P6 PANEL)
(1) Corrective Action
(a) Do these checks:
1) EXTERNAL POWER FEEDER--SHORT TO GROUND (WDM 24-41-11)
T122 TO T116
2) RIGHT BUS LOADS--SHORT TO GROUND (WDM 24-21-21)
T113 TO EACH LOAD
3) LEFT BUS LOADS--SHORT TO GROUND (WDM 24-21-11)
T112 TO EACH LOAD
4) Replace the BPCU M116 (AMM 24-41-03/401).

AH. OVER FREQ TRIP Message
(1) Corrective Action
(a) Check the ground power source for 400-Hz power. Adjust the frequency if necessary, or use a different ground power source.

EXTERNAL POWER CHANNEL - TABLE 101

AI. OVER VOLT TRIP Message
(1) Corrective Action
(a) Check the ground power source for 115-volt ac RMS power on each phase. Adjust the source voltage if necessary, or use a different ground power source.

AJ. POWER ON INTERLOCK Message
(1) Corrective Action
(a) Do a check of the fuses B129 and B130 located in the P34 panel.
(b) If the fuses are blown, make sure the correct voltage is supplied to the external power receptacle pins E and F.
(c) Supply the correct external power and replace the fuses as necessary (WDM 24-41-11).

AK. REPLACE BPCU (D9) Message
(1) Corrective Action
(a) Do the steps for BPCU FAILED TRIP.

AL. REPLACE BPCU (XX) Message
(1) Corrective Action
(a) Do the steps for BPCU FAILED CODE XX.

NOTE: XX are numeric codes.

AM. RIGHT AIR/GND Message
(1) Corrective Action
(a) Push the PERIODIC TEST switch on the front of the BPCU M116 on the E5-2.
(b) If GCU FAILED CODE 16 message shows on the RIGHT GEN POWER SYSTEM, replace the right GCU M146 on E5-2 (AMM 24-22-02/401).
(c) If GCU FAILED CODE 16 does not show, remove the R GCU M146 (AMM 24-22-02/401).
1) Set the thrust levers at the idle stop position and make sure there is continuity between these points:

Component	Pin	Component	Pin
R GCU M146	D1850A pin A1	GROUND	

a) Repair as necessary.
2) Advance the thrust levers approximately 25% and make sure there is an open circuit between these points:

EXTERNAL POWER CHANNEL - TABLE 101

Component	Pin	Component	Pin
R GCU M146	D1850A pin A1	GROUND	

a) Repair as necessary.

(d) Install the R GCU M146 (MM 24-22-02/401).

AN. RIGHT BTB AUX Message

(1) Corrective Action

(a) Replace the right bus tie breaker C904 (MM 24-22-02/401). If the problem continues, correct any open circuit, short circuit to ground, or short circuit to adjacent wiring between these points (WDM 24-22-22):

Component	Pin	Component	Pin
R BTB C904	D1818-3	BPCU M116	
R BTB C904	D1818-7	BPCU M116	
R BTB C904	D1818-8	GROUND	
R BTB C904	D1818-4	GROUND	

AO. RIGHT DEAD TIE BUS Message

(1) Corrective Action

(a) Replace the right generator control unit M146 (MM 24-22-02). If the problem continues, remove the R BTB (MM 24-22-03) and the R GCU (MM 24-22-02). Correct any open circuit, short circuit to ground, or short circuit to adjacent wiring between these points (WDM 24-22-22):

Component	Pin	Component	Pin
R BTB C904	L2	R GCU M146	D2070A-D15

EXTERNAL POWER CHANNEL - TABLE 101

(b) Install the R BTB (MM 24-22-03) and the R GCU (MM 24-22-02). If the problem continues, correct any open circuit, short circuit to ground, short circuit to adjacent wiring, or high resistance connection on the tie bus between the bus tie breakers (BTBs), auxiliary power and the external power contactor (EPC) (WDM 24-21-51).

AP. RIGHT GCB AUX Message

(1) Corrective Action

(a) Replace the right generator circuit breaker C903 (MM 24-22-03/401).

(b) If the problem continues, correct any open circuit or short circuit to ground between these points:

Component	Pin	Component	Pin
L GCB C903	D1816-3	R GCU M146	D20708-D6
L GCB C903	D1816-7	BPCU M116	D550A-B3
L GCB C903	D1816-4	GROUND	
L GCB C903	D1816-8	GROUND	

AQ. RIGHT SERIAL LINK Message

(1) Corrective Action

(a) Replace the right generator control unit M146 (MM 24-22-02/401).

(b) If the problem continues, remove the R GCU (MM 24-22-02/401) and BPCU (MM 24-41-03/401):

(c) Correct any open circuit, short circuit to ground, or short circuit to adjacent wiring between these points (WDM 24-22-22):

Component	Pin	Component	Pin
R GCU M146	D2070A pin A12	BPCU M116	D550A pin C12
R GCU M146	D2070A pin B12	BPCU M116	D550A pin D12

(d) Do a check of the shield around the R GCU-BPCU serial data link (WDM 24-22-22).

1) R GCU shield - D2070A pin B11.

2) BPCU shield - D550A pin A14.

EXTERNAL POWER CHANNEL - TABLE 101

(e) Install the R GCU (MM 24-22-02/401), and the BPCU (MM 24-41-03/401).

AR. TIE BUS DP TRIP Message
(1) Corrective Action
(a) Replace the bus power control unit M116 if the BPCU FAILED and CODE 60 message shows on the external power channel, (AMM 24-41-03/401). If the BPCU FAILED CODE 60 message does not show, do a check of the messages on the other power channels of BPCU display:

AS. LEFT CHANNEL DP TRIP - MAIN BUS/OVERLAP ZONE Message,
RIGHT CHANNEL DP TRIP - TIE BUS Message,
APU CHANNEL DP TRIP - TIE BUS Message
(1) Corrective Action
(a) LEFT TIE BUS FEEDER--SHORT TO GROUND (WDM 24-21-51).
T105 TO C902 PINS L1, L2, L3
(b) PHASE B TIE BUS VOLT SENSING WIRE--SHORT TO GROUND
(WDM 24-22-22)
C902 PIN L2 TO M144, D2108A-D15
(c) Replace the left GCU M144 (AMM 24-22-02/401).

AT. LEFT CHANNEL DP TRIP - TIE BUS Message,
RIGHT CHANNEL DP TRIP - MAIN BUS/OVERLAP ZONE Message,
APU CHANNEL DP TRIP - TIE BUS Message
(1) Corrective Action
(a) RIGHT TIE BUS FEEDER--SHORT TO GROUND (WDM 24-21-51).
T107 TO C904 PINS L1, L2, L3.
(b) PHASE B TIE BUS VOLT SENSING WIRE--SHORT TO GROUND
(WDM 24-22-22)
C904 PIN L2 TO M146 D2070A pin D15.
(c) Replace the right GCU M146 (AMM 24-22-02/401).

AU. LEFT CHANNEL DP TRIP - TIE BUS Message,
RIGHT CHANNEL DP TRIP - TIE BUS Message,
APU CHANNEL DP TRIP - OVERLAP ZONE Message
(1) Corrective Action
(a) APU TIE BUS FEEDER--SHORT TO GROUND (WDM 24-21-41,
WDM 24-21-51) T111 TO T115
(b) PHASE B LOAD BUS VOLT SENSING WIRE--SHORT TO GROUND
(WDM 24-22-41)
C905 PIN L2 TO M143 D1850A-C15
(c) REPLACE THE APU GCU (M143) (MM 24-22-02/401).

EXTERNAL POWER CHANNEL - TABLE 101

AV. LEFT CHANNEL DP TRIP - TIE BUS Message,
RIGHT CHANNEL DP TRIP - TIE BUS Message,
APU CHANNEL DP TRIP - TIE BUS Message
(1) Corrective Action
(a) TIE BUS FEEDER--SHORT TO GROUND (WDM 24-21-41,
WDM 24-21-51, WDM 24-41-11)
T116 TO C902, C904, C905
(b) CT WIRING--OPEN (WDM 24-23-12). Remove the BPCU
(MM 24-41-03/401).
T116 D2236-1,2,3,4 TO M116 D550A-A2, B2, C2, D2
T112 D2168-1,2,3,4 TO M116 D550A-A5, B5, C5, D5
T113 D2232-1,2,3,4 TO M116 D550A-A7, B7, C7, D7
T115 D2234-1,2,3,4 TO M116 D550A-A6, B6, C6, D6
Install the BPCU (MM 24-41-03/401).
(c) EP VOLTAGE SENSE WIRING--SHORT TO GROUND (WDM 24-41-11).
K114 PINS A1, B1, C1, TO M116 D550A-A7, B7, C7.
Install the BPCU (AMM 24-41-03/401).
(d) REPLACE the BPCU M116 (MM 24-41-03/401).
(e) DPCTs--OPEN (WDM 24-23-12)
T116 D2236-1,2,3 TO T116 D2236-4
T112 D2168-1,2,3 TO T112 D2168-4
T113 D2232-1,2,3 TO T113 D2232-4
T115 D2234-1,2,3 TO T115 D2234-4

AW. If one or more of the CHANNEL DP TRIP messages do not show when TIE BUS DP TRIP shows, do these checks:
(1) Corrective Action
(a) TIE BUS FEEDER--SHORT TO GROUND (WDM 24-21-51,
WDM 24-41-11) (T116) TO (C902) (C904) (C905)
(b) CT WIRING--OPEN (WDM 24-23-12).
Remove the BPCU (MM 24-41-03/401).
T116 D2236-1,2,3,4 TO M116 D550A-A2,B2,C2,D2
T112 D2168-1,2,3,4 TO M116 D550A-A5,B5,C5,D5
T113 D2232-1,2,3,4 TO M116 D550A-A7,B7,C7,D7
T115 D2234-1,2,3,4 TO M116 D550A-A6,B6,C6,D6
Install the BPCU (MM 24-41-03/401).
(c) EP VOLTAGE SENSE WIRING--SHORT TO GROUND (WDM 24-41-11).
Remove the BPCU (MM 24-41-03/401).
K114 PINS A1,B1,C1 TO M116 D550B-A7,B7,C7
Install the BPCU (MM 24-41-03/401).
(d) REPLACE the BPCU (MM 24-41-03/401).

EXTERNAL POWER CHANNEL - TABLE 101

(e) DPCTs--OPEN (WDM 24-23-12)
T116 D2236-1,2,3 TO T116 D2236-4
T112 D2168-1,2,3 TO T112 D2168-4
T113 D2232-1,2,3 TO T113 D2232-4
T115 D2234-1,2,3 TO T115 D2234-4

AX. UNDER FREQ TRIP Message
(1) Corrective Action
(a) Make sure the ground power source supplies 400-Hz power. adjust frequency if necessary or use a different ground power source.

AY. UNDER VOLT TRIP Message
(1) Corrective Action
(a) Make sure the ground power source supplies 115-volt ac RMS in each phase. Adjust the source voltage if necessary. If the problem continues, use a different ground power source.

4. Table 102 - Left and Right Power Channels

A. Table 102 has messages and corrections for the left and right power channels.

Messages in table 102 Left and Right Power Channels
+28V TO CONTROL SW
AIR/GND FAILURE
AUX CONTACTS/BPCU/GCU
BTB AUX/WIRING
BTB COIL/BTB SW/GCU
BTB SW/WIRING/GCU
BTB WIRING/GCU
BUS VOLT WIRING/GCU
COOLER
COOLER +28V WIRING/GCU
COOLER VALVE/WIRING
CT LOOP GND
DISCONNECT TRIP
DP TRIP
EXCITATION TRIP
FAILED IDG DISCONNECT
FIELD/WIRING
FIRE TRIP

Messages in table 102 Left and Right Power Channels
GCB AUX/WIRING
GCB/BTB WIRING/GCU
GCB/WIRNG GCU
GCU CIRCUIT BREAKER OPEN
GCU FAILED
GCU FAILED TRIP
GCU/FIELD/WIRING
GEN CONT SW/GCB COIL/GCU
GEN CONT SW/WIRE/GCU
GEN DIODE
GEN
GEN DIODE TRIP
GEN TRIP
GEN/FDR
GEN/FIELD WIRING/GCU
GEN/WIRING/GCU
IDG BULB TOLERANCE
IDG/GEN CT WIRING
IDG HIGH DELTA TEMP
IDG HIGH RISE TEMP
IDG LOW OIL PRESSURE

Messages in table 102 Left and Right Power Channels
IDG/MPU WIRING
IDG NOT DISCONNECTED
IDG/OIL IN BULB WIRING
IDG/OIL OUT BULB WIRING
IDG OVERTEMP
IDG/PMG/WIRING
IDG PRESSURE SWITCH/WIRING
INTRMT LINK
L GEN CONT SW/WIRE/GCU
LOW OIL PRESSURE
MAIN BUS
MAIN BUS/OVERLAP ZONE
MPU/WIRING
NO RESPONSE FROM CONTROL
NO VALID MESSAGE AF
OIL IN BULB/WIRING
OIL OUT BULB/WIRING
OIL PRESSURE SW/WIRING
OPEN PHASE TRIP
OPEN POR/FDR/GEN
OPPOSITE BUS OVERLOAD
OVER CURRENT TRIP
OVER FREQ TRIP

Messages in table 102 Left and Right Power Channels
OVER VOLT TRIP
OVERLAP CT WIRING/GCU
OVERLAP ZONE
OVERLOAD
PMG/FIELD/WIRING/GCU
REPLACE GEN (DIODE)
REPLACE GCU
REPLACE IDG OVERTEMP
SERIAL DATA LINK FAILED
SERVICE IDG
SHORTED PMG TRIP
SPEED LOSS IN FLIGHT
TIE BUS
UNDER FREQ TRIP
UNDER VOLT TRIP

LEFT AND RIGHT POWER CHANNELS - TABLE 102

B. +28V TO CONTROL SW
   (1) Corrective Action
      (a) Replace the electrical system control panel M10063. (MM 24-22-01/401).
      (b) If the problem continues, replace the generator field and hydraulic control panel M1087 (MM 24-22-04/401).
      (c) If the problem continues, replace L or R engine fire switch (MM 26-21-01/401).

C. AIR/GND FAILURE Message
   (1) Corrective Action
      (a) If the problem continues, replace the L GCU M144 (AMM 24-22-02/401).
      (b) If the problem continues, replace the R GCU M146 (AMM 24-22-02/401).
      (c) If the problem continues, replace the A GCU M143 (AMM 24-22-02/401).

D. AUX CONTACTS/ BPCU/GCU Message
   (1) Corrective Action
      (a) If the message shows on one L or R power channel, replace the appropriate L or R generator circuit breaker L=C901, R=C903 (MM 24-22-03/401).
      (b) If the problem continues:
      (c) Replace the L or R generator control unit L = M144, R = M146 (MM 24-22-02/401).
      (d) If the message shows on both L or R power channels:
         1) Do a check for continuity between the pins 22 and 21 of the Auxiliary Power Breaker C905. If there is no continuity, replace the auxiliary power breaker (MM 24-22-03/401).
         2) Do a check for continuity between the pins 22 and 21 of the external power contactor K114. If there is no continuity, replace the external power contactor K114 (MM 24-41-01/401).
         3) If the problem continues, replace the Standby Power Control Panel (MM 24-33-04/401).
         4) If the problem continues, do a check for continuity through the TB0134B BTB inhibit pull-up resistor assembly (R531) P34 (WDM 24-41-11).
         5) If there is no continuity, replace the resistor assembly.
      (e) If the problem continues, replace the APU generator control unit M143 (MM 24-22-02/401).

LEFT AND RIGHT POWER CHANNELS - TABLE 102

(f) If you found no fault, or if the problem continues after correction; replace the bus power control unit M116 (MM 24-41-03/401).

E. BTB AUX/ WIRING Message
(1) Corrective Action
(a) Replace the bus tie breaker L BTB C902 or the R BTB C904 (MM 24-22-03/401).
(b) If the problem continues correct any open circuit, short circuit to ground, or short circuit to adjacent wiring between these points: (WDM 24-22-12, WDM 24-22-22).

Component	Pin	Component	Pin
L BTB C902	D1730-3	L GCU M144	D2108A-5
L BTB C902	D1730-4	GROUND	
R BTB C904	D1818-3	R GCU M146	D2070A-5
R BTB C904	D1818-4	GROUND	

(c) If the problem continues:
1) Replace the L GCU M144, or the R GCU M146 (MM 24-22-02/401).

F. BTB COIL/BTB SW/GCU Message
(1) Corrective Action
(a) Replace the electrical system control panel M10063 (MM 24-22-01/401).
(b) If the problem continues:
1) Replace the L BTB C902 or the R BTB C904 (MM 24-22-03/401).

LEFT AND RIGHT POWER CHANNELS - TABLE 102

(c) If the problem continues:
1) Replace the L GCU M144, or the R GCU M146 (MM 24-22-02/401).

G. BTB SW/ WIRING/GCU Message
(1) Corrective Action
(a) Replace the electrical system control panel M10063 (MM 24-22-01/401).
(b) If the problem continues:
1) Replace the L (R) generator control unit (GCU) M144 (M146) (MM 24-22-02/401).

H. BTB WIRING/ GCU Message
(1) Corrective Action
(a) Replace the L (R) bus tie breaker (BTB) C902 (C904) (MM 24-22-03/401).
(b) If the problem continues:
1) Replace the L (R) generator control unit (GCU) M144 (M146) (MM 24-22-02/401).

I. BUS VOLT WIRING/GCU Message
(1) Corrective Action
(a) Replace the L (R) generator control unit (GCU) M144 (M146) (MM 24-22-02/401).
(b) If the problem continues, correct any open circuit, short circuit to ground, or short circuit to adjacent wiring between these points:
(c) For the left power channel (WDM 24-22-11, WDM 24-22-12), use this table:

Component	Pin	Component	Pin
L GCU M144	D2108A pin C15	L GCB	L2
L GCU M144	D2108A pin D15	L BTB	L2

LEFT AND RIGHT POWER CHANNELS - TABLE 102

(d) For the right power channel (WDM 24-22-21, WDM 24-22-22), use this table:

Component	Pin	Component	Pin
R GCU M146	D2070A pin C15	L GCB	L2
R GCU M146	D2070A pin D15	L BTB	L2

J. CT LOOP GND Message (AIRPLANES WITH L TRU CIRCUIT BREAKER, 31EE2, ON P31 PANEL)
(1) Corrective Action
(a) For the left power channel, do these steps:
1) Remove the L GCU (MM 24-22-02/401). Correct any short circuit to ground between these points (WDM 24-21-11):

Point	Component	Pin
A	L GCU M144	D2108B pin D13
B	L GCU M144	D2108B pin D12

2) If you found no short circuit to ground at the two points in the last step, replace the left generator control unit M144 (MM 24-22-02/401).
3) AIRPLANES WITH RB211 ENGINES;
If you found a short circuit to ground at the pin at point A, do a check for a short circuit to ground on the left IDG connector D1396A pin 3 (WDM 24-21-11).
a) If you found a short circuit to ground, replace the left IDG (MM 24-11-01/401).

LEFT AND RIGHT POWER CHANNELS - TABLE 102

b) AIRPLANES WITH RB211 ENGINES;
If you found no short circuit to ground at the left IDG pin, correct any open circuit or short circuit between these points (WDM 24-21-11):

Component	Pin	Component	Pin
L GCU M144	D2108B pin A13	L IDG	D1396A pin 12
L GCU M144	D2108B pin B13	L IDG	D1396A pin 13
L GCU M144	D2108B pin C13	L IDG	D1396A pin 14
L GCU M144	D2108B pin D13	L IDG	D1396A pin 3

c) Install the L GCU (MM 24-22-02/401).

4) If you found a short circuit to ground at the pin at point B, do a check for a short circuit to ground on the L GEN DPCT No. 1 T105 pin D2162, pin 4 (WDM 24-23-11).
a) If you found a short circuit to ground, replace the L GEN DPCT No. 2 T105 (MM 24-23-01/401).
b) If you found no short circuit to ground, on the L GEN DPCT No. 1 pin, correct any open circuit or short circuit between these points (WDM 24-21-11):

Component	Pin	Component	Pin
DPCT T105	D2162 pin 1	L GCU M144	D2108B pin A12
DPCT T105	D2162 pin 2	L GCU M144	D2018B pin B12
DPCT T105	D2162 pin 3	L GCU M144	D2108B pin C12
DPCT T105	D2162 pin 4	L GCU M144	D2108B pin D12

LEFT AND RIGHT POWER CHANNELS - TABLE 102

c) Install the L GCU (MM 24-22-02/401).

(b) For the right power channel, do these steps:

1) Do a check for a short circuit to ground at these points (WDM 24-21-21):

Point	Component	Pin
A	R GCU M146	D2070B pin D13
B	R GCU M146	D2070B pin D12

2) If you found no short circuit to ground at the two points in the last step, replace the right generator control unit M146 (MM 24-22-02/401).

3) AIRPLANES WITH RB211 ENGINES;
If you found a short circuit to ground at the pin at point A, do a check for a short circuit to ground on the right IDG connector D1396A pin 3 (WDM 24-23-11).

a) If you found a short circuit to ground, replace the right IDG (MM 24-11-01/401).

b) AIRPLANES WITH RB211 ENGINES;
If you found no short circuit to ground at the right IDG pin D1396A pin 3, correct any open circuit or short circuit between these points (WDM 24-21-21):

Component	Pin	Component	Pin
R GCU M146	D2070B pin A13	R IDG	D1396A pin 12
R GCU M146	D2070B pin B13	R IDG	D1396A pin 13
R GCU M146	D2070B pin C13	R IDG	D1396A pin 14
R GCU M146	D2070D pin D13	R IDG	D1396A pin 3

LEFT AND RIGHT POWER CHANNELS - TABLE 102

c) Install the R GCU (MM 24-22-02/401).

4) If you found a short circuit to ground at the pin at point B, do a check for continuity to ground on the R GEN DPCT No.1 T107 connector D2224 pin 4. (WDM 24-21-21).
   a) If you found a short circuit to ground, replace the R GEN DPCT No.1 T107 (AMM 24-23-01/401).
   b) If you found no short circuit to ground on R GEN DPCT No.1 T107 connector D2224 pin 4, correct any open circuit or short between these points (WDM 24-23-21):

Component	Pin	Component	Pin
R GCU M146	D2070B pin A12	DPCT T107	D2224 pin 1
R GCU M146	D2070B pin B12	DPCT T107	D2224 pin 2
R GCU M146	D2070B pin C12	DPCT T107	D2224 pin 3
R GCU M146	D2070B pin D12	DPCT T107	D2224 pin 4

c) Install the R GCU (AMM 24-22-02/401).

K. CT LOOP GND Message (AIRPLANES WITH L TRU CIRCUIT BREAKER, 6C17, ON P6 PANEL)

(1) Corrective Action

(a) For the left power channel, do these steps:

1) Remove the L GCU (MM 24-22-02/401).
Correct any short circuit to ground between these points (WDM 24-23-11, WDM 24-21-11):

Component	Pin	Component	Pin
L GCU M144	D2108B pin D13	GROUND	
L GCU M144	D2108B pin D12	GROUND	
L GCU M144	D2108B pin D11	GROUND	
L GCU M144	D2108B pin D10	GROUND	

LEFT AND RIGHT POWER CHANNELS - TABLE 102

2) If you found no short circuit to ground at the four points in the last step, replace the left generator control unit M144 (MM 24-22-02/401).
3) AIRPLANES WITH RB211 ENGINES;
If you found a short circuit to ground at the pin at point A, do a check for a short circuit to ground on the left IDG pin D1396A pin 3 (WDM 24-21-11).
   a) If you found a short circuit to ground, replace the left IDG (AMM 24-11-01/401).
   b) AIRPLANES WITH RB211 ENGINES;
   If you found no short circuit to ground at the left IDG pin, correct any open circuit or short circuit between these points (WDM 24-21-11):

Component	Pin	Component	Pin
L GCU M144	D2108B pin A13	L IDG	D1396A pin 12
L GCU M144	D2108B pin B13	L IDG	D1396A pin 13
L GCU M144	D2108B pin C13	L IDG	D1396A pin 14
L GCU M144	D2108B pin D13	L IDG	D1396A pin 3

   c) Install the L GCU (MM 24-22-02/401).
4) If you found a short circuit to ground at the pin at point B, do a check for a short circuit ground on the L GEN DPCT No. 1 T105 pin D2162, pin 4 (WDM 24-23-11).
   a) If you found a short circuit to ground, replace the L GEN DPCT No. 2 T105 (AMM 24-23-01/401).
   b) If you found no short circuit to ground, on the L GEN DPCT No. 1 pin, correct any open circuit or short circuit between these points (WDM 24-23-11):

LEFT AND RIGHT POWER CHANNELS - TABLE 102

Component	Pin	Component	Pin
DPCT T105	D2162 pin 1	L GCU M144	D2108B pin A12
DPCT T105	D2162 pin 2	L GCU M144	D21108 pin B12
DPCT T105	D2162 pin 3	L GCU M144	D2108B pin C12
DPCT T105	D2162 pin 4	L GCU M144	D2108B pin D12

c) Install the L GCU (MM 24-22-02/401).

5) If you found a short circuit to ground, at the pin at point C, do a check for a short circuit to ground on the L GEN DPCT No. 2 T106 pin D2164 pin 4.
   a) If you found a short circuit to ground, replace L GEN DPCT No. 2 (MM 24-23-01/401).
   b) If you found no short circuit to ground, on the L GEN DPCT No. 2 pin, correct any open circuit or short circuit between these points (WDM 24-23-11):

Component	Pin	Component	Pin
DPCT T106	D2164 pin 1	L GCU M144	D2108B pin A11
DPCT T106	D2164 pin 2	L GCU M144	D21108 pin B11
DPCT T106	D2164 pin 3	L GCU M144	D2108B pin C11
DPCT T106	D2164 pin 4	L GCU M144	D2108B pin D11

LEFT AND RIGHT POWER CHANNELS - TABLE 102

c) Install the L GCU (MM 24-22-02/401).

6) If you found a short circuit to ground at the pin at point D, do a check for a short circuit to ground on the L overlap current transformer T127 pin D2166 pin 4 (WDM 24-23-11).

a) If you found a short circuit to ground, replace the L overlap current transformer T127 (MM 24-23-01/401).

b) If you found no short circuit to ground, on the L overlap current transformer T127 pin D2166 pin 4, correct any open circuit or short circuit between these points (WDM 24-23-11).

Component	Pin	Component	Pin
XFMER T127	D2166 pin 1	L GCU M144	D2108B pin A10
XFMER T127	D2166 pin 2	L GCU M144	D2108B pin B10
XFMER T127	D2166 pin 3	L GCU M144	D2108B pin C10
XFMER T127	D2166 pin 4	L GCU M144	D2108B pin D10

c) Install the L GCU (MM 24-22-02/401).

(b) For the right power channel, do these steps:

1) Do a check for a short circuit to ground at these points (WDM 24-23-11, WDM 24-21-21):

Point	Component	Pin
A	R GCU M146	D2070B pin D13
B	R GCU M146	D2070B pin D10
C	R GCU M146	D2070B pin D11
D	R GCU M146	D2070B pin D12

LEFT AND RIGHT POWER CHANNELS - TABLE 102

2) If you found no short circuit to ground at the four points in the last step, replace the right generator control unit M146 (MM 24-22-02/401).
3) AIRPLANES WITH RB211 ENGINES;
If you found a short circuit to ground at the pin at point A, do a check for a short circuit to ground on the right IDG pin D1396A pin 3 (WDM 24-23-11).
   a) If you found a short circuit to ground, replace the right IDG (MM 24-11-01/401).
   b) AIRPLANES WITH RB211 ENGINES;
   If you found no short circuit to ground at the right IDG pin D1396A pin 3, correct any open circuit or short circuit between these points (WDM 24-21-21):

Component	Pin	Component	Pin
R GCU M146	D2070B pin A13	R IDG	D1396A pin 12
R GCU M146	D2070B pin B13	R IDG	D1396A pin 13
R GCU M146	D2070B pin C13	R IDG	D1396A pin 14
R GCU M146	D2070D pin D13	R IDG	D1396A pin 3

   c) Install the R GCU (MM 24-22-02/401).
4) If you found a short circuit to ground at the pin at point B, do a check for a short circuit to ground on the right overlap current transformer T128 pin D2230 pin 4 (WDM 24-23-11).
   a) If you found a short circuit to ground, replace the right overlap current transformer T128 (MM 24-23-01/401).

LEFT AND RIGHT POWER CHANNELS - TABLE 102

b) If you found no short circuit to ground, on the right overlap current transformer T128 pin D2230 pin 4, correct any open circuit or short circuit between these points (WDM 24-23-11):

Component	Pin	Component	Pin
XFMER T128	D2230 pin 1	R GCU M146	D2070B pin A10
XFMER T128	D2230 pin 2	R GCU M146	D2070B pin B10
XFMER T128	D2230 pin 3	R GCU M146	D2070B pin C10
XFMER T128	D2230 pin 4	R GCU M146	D2070B pin D10

c) Install the R GCU (MM 24-22-02/401).

5) If you found a ground at the pin at point C, do a check for continuity to ground on the R GEN DPCT No. 2 T108 pin D2226 pin 4 (WDM 24-23-11).
   a) If you found a ground, replace the R GEN DPCT No. 2 T108 (MM 24-23-01/401).
   b) If you found no ground on the R GEN DPCT No. 2 T108 pin D2226 pin 4, correct the open circuit or short circuit between these points (WDM 24-23-11):

Component	Pin	Component	Pin
DPCT T108	D2226 pin 1	R GCU M146	D2070B pin A11
DPCT T108	D2226 pin 2	R GCU M146	D2070B pin B11
DPCT T108	D2226 pin 3	R GCU M146	D2070B pin C11
DPCT T108	D2226 pin 4	R GCU M146	D2070B pin D11

LEFT AND RIGHT POWER CHANNELS - TABLE 102

c) Install the R GCU (MM 24-22-02/401).

6) If you found a ground at the pin at point D, do a check for continuity to ground on the R GEN DPCT No. 1 T107 pin D2224 pin 4 (WDM 24-23-11).
   a) If you found a ground, replace the R GEN DPCT No. 1 T107 (MM 24-23-01/401).
   b) If you found no ground on R GEN DPCT No. 1 T107 pin D2224 pin 4, correct any open circuit or short circuit between these points (WDM 24-23-21):

Component	Pin	Component	Pin
R GCU M146	D2070B pin A12	DPCT T107	D2224 pin 1
R GCU M146	D2070B pin B12	DPCT T107	D2224 pin 2
R GCU M146	D2070B pin C12	DPCT T107	D2224 pin 3
R GCU M146	D2070B pin D12	DPCT T107	D2224 pin 4

c) Install the R GCU (AMM 24-22-02/401).

L. DISCONNECT TRIP Message
(1) Corrective Action

NOTE: Do not allow a disconnected IDG to remain on the airplane for more than 50 flight hours.

(a) If none of these messages:
GCU FAILED CODE 61
IDG HIGH DEL TEMP
IDG OVERTEMP
LOW OIL PRESSURE
show on the same channel as the DISCONNECT TRIP message, do a check to see if the other LEFT (RIGHT) GEN DRIVE DISC switch S1 (S2)(WDM 24-11-11, WDM 24-11-21) lamp was replaced.

1) If the lamp was replaced, connect the IDG input shaft (MM 24-11-01/401). Push the ELEC/HYD and the AUTO READ switches P61. Push and hold the ERASE switch for 3 seconds and make sure the AUTO EVENT erases. No further action is necessary.

LEFT AND RIGHT POWER CHANNELS - TABLE 102

2) If the lamp was not replaced, examine the flight log and other BITE messages to see why the IDG was discon- nected. Connect the IDG input shaft (MM 24-11-01/401). Push the ELEC/HYD and the AUTO READ switches. Push and hold the ERASE switch for 3 seconds and make sure that the AUTO EVENT erases.

(b) If the IDG OVERTEMP message shows on the same channel as the DISCONNECT TRIP message, replace the L (R) IDG (MM 24-11-01/401). Push the ELEC/HYD and the AUTO READ switches. Push and hold the ERASE switch for 3 seconds and make sure that the AUTO EVENT erases.

(c) If the GCU FAILED CODE 61 message shows on the same channel as the DISCONNECT TRIP message, replace the L (R) GCU M144 (M146)(MM 24-22-02/401).
Connect the IDG input shaft (AMM 24-11-01/401).
Push the ELEC/HYD, and the AUTO READ switches.
Push and hold the ERASE for 3 seconds and make sure that the AUTO EVENT erases.

(d) If the COOLER, IDG HIGH DELTA TEMP, or the LOW OIL PRESSURE message shows on the same channel as the DISCONNECT TRIP message, correct for that message.
Connect the IDG input shaft (MM 24-11-01/401).
Push the ELEC/HYD and the AUTO READ switches.
Push and hold the ERASE switch for 3 seconds and make sure that the AUTO EVENT erases.

M. DP TRIP Message (AIRPLANES WITH L TRU CIRCUIT BREAKER, 31EE2, ON P31 PANEL)

(1) Corrective Action

(a) The DP TRIP message is accompanied by additional messages. Review the list below to find these messages and the approppriate troubleshooting steps.

(b) If the left or right channel shows messages DP TRIP and GEN/FDR, do these checks:

1) AIRPLANES WITH RB211 ENGINES;
GENERATOR FEEDER-- SHORT TO GROUND (WDM 24-21-11, WDM 24-21-21).

LEFT AND RIGHT POWER CHANNELS - TABLE 102

Component	Pin	Component	Pin
L C901	T1,T2,T3	IDG M10160	T1,T2,T3
R C903	T1,T2,T3	IDG M10160	T1,T2,T3

2) POR SENSE WIRING--SHORT TO GROUND (WDM 24-21-11, WDM 24-21-21).

Component	Pin	Component	Pin
L C901	T1,T2,T3	M144	D2108B-A15, B15,C15
R C903	T1,T2,T3	M146	D2070B-A15, B15,C15

3) AIRPLANES WITH RB211 ENGINES;
IDG MAIN STATOR WINDING--INTERNAL SHORT TO GROUND (WDM 24-21-11, WDM 24-21-21).

Component	Pin	Component	Pin
L IDG M10160	T1,T2,T3	IDG M10160	N
R IDG M10160	T1,T2,T3	IDG M10160	N

LEFT AND RIGHT POWER CHANNELS - TABLE 102

4) HOT BUS WARN LIGHT CIRCUIT--SHORT TO GROUND (WDM 24-21-11, WDM 24-21-21).

Component	Pin	Component	Pin
L C901	T3	L11	
R C903	T3	L14	

5) REPLACE THE LEFT GCU M144 OR THE RIGHT GCU M146 (MM 24-22-02/401).

(c) If the left or right channel show messages DP TRIP and MAIN BUS/ OVERLAP ZONE, do the following checks:

For the left power channel, do these steps:

1) MAIN FEEDER CHANNEL--SHORT TO GROUND (WDM 24-21-11).

Component	Pin	Component	Pin
C901	T1,T2,T3		

2) CT WIRING--OPEN (WDM 24-21-11).

Component	Pin	Component	Pin
T105	D2162-1,-2,-3,-4	M144	D2108B-A12, B12,C12,D12

LEFT AND RIGHT POWER CHANNELS - TABLE 102

3) IDG CT WIRING RESISTANCE (WDM 24-21-11), do a check of the resistance between these points:

Component	Pin	Component	Pin
GCU M144	D2108B-A13, B13,C13	GCU M144	D2108B-D13

a) The resistance value should be 28.5 +/- 2 ohms. The resistance difference between each phase should not exceed 4 ohms. Repair wiring or replace IDG (AMM 24-11-01/401).

4) PHASE B LOAD BUS VOLT SENSE WIRING--SHORT TO GROUND (WDM 24-22-11).

Component	Pin	Component	Pin
C901	L2	M144	D2108A-C15

5) PHASE B TIE BUS VOLT SENSE WIRING--SHORT TO GROUND (WDM 24-22-12).

Component	Pin	Component	Pin
C902	L2	M144	D2108A-D15

6) HOT BUS WARNING LIGHT CIRCUIT--SHORT TO GROUND (WDM 24-21-11).

Component	Pin	Component	Pin
C902	T3	L12	
C902	L3	L7	

LEFT AND RIGHT POWER CHANNELS - TABLE 102

7) MAIN BUS FEEDER--SHORT TO GROUND (WDM 24-51-11)

Component	Pin	Component	Pin
C902	T1,T2,T3	C3015	A1,B1,C1
C902	T1,T2,T3	C310	A2,B2,C2
C902	T1,T2,T3	C308	A2,B2,C2
C902	T1,T2,T3	C313	A2,B2,C2
C902	T1,T2,T3	C312	A2,B2,C2
C902	T1,T2,T3	C876	BUS SIDE
C902	T1,T2,T3	C877	BUS SIDE
C902	T1,T2,T3	C369	A1,B1,C1
C902	T1,T2,T3	C874	BUS SIDE

8) REPLACE THE LEFT GCU M144 OR THE RIGHT GCU M146 (AMM 24-22-02/401).

(d) For the right power channel, do these steps:

1) RIGHT CHANNEL FEEDER--SHORT TO GROUND (WDM 24-21-21).

Component	Pin	Component	Pin
T107		C903	T1,T2,T3

LEFT AND RIGHT POWER CHANNELS - TABLE 102

2) CT WIRING--OPEN (WDM 24-21-11,).

Component	Pin	Component	Pin
T107	D2224-1,-2,-3,-4	M146	D2070B-A12, B12,C12,D12

3) IDG CT WIRING RESISTANCE (WDM 24-21-11), do a check of the resistance between these points:

Component	Pin	Component	Pin
GCU M146	D2070B-A13, B13,C13	GCU M146	D2070B-D13

a) The resistance value should be 28.5 +/- 2 ohms. The resistance difference between each phase should not exceed 4 ohms. Repair wiring or replace IDG (AMM 24-11-01/401).

4) PHASE B LOAD BUS VOLT SENSE WIRING--SHORT TO GROUND (WDM 24-22-21).

Component	Pin	Component	Pin
C903	L2	M146	D2070A-C15

5) PHASE B TIE BUS VOLT SENSE WIRING--SHORT TO GROUND (WDM 24-22-22).

LEFT AND RIGHT POWER CHANNELS - TABLE 102

Component	Pin	Component	Pin
C904	L2	M146	D2070A-D15

6) HOT BUS WARNING LIGHT CIRCUIT--SHORT TO GROUND (WDM 24-21-21).

Component	Pin	Component	Pin
C904	T3	L13	
C904	L3	L8	

7) MAIN BUS FEEDER--SHORT TO GROUND (WDM 24-51-21)

Component	Pin	Component	Pin
C904	T1,T2,T3	C317	A2,B2,C2
C904	T1,T2,T3	C307	A2,B2,C2
C904	T1,T2,T3	C319	A2,B2,C2
C904	T1,T2,T3	C318	A2,B2,C2
C904	T1,T2,T3	C3016	A1,B1,C1
C904	T1,T2,T3	C316	A1,B1,C1
C904	T1,T2,T3	C3000	A1,B1,C1 (if instl)
C904	T1,T2,T3	C878	BUS SIDE

LEFT AND RIGHT POWER CHANNELS - TABLE 102

8) REPLACE THE LEFT GCU M144 OR THE RIGHT GCU M146 (AMM 24-22-02/401).

(e) If the left or right channel show messages DP TRIP and IDG/GEN CT WIRING, do the following checks:

1) AIRPLANES WITH RB211 ENGINES;
IDG CT--OPEN OR SHORT (WDM 24-21-11, WDM 24-21-21).

Component	Pin	Component	Pin
L IDG	D1396A-12,13, 14	L IDG	D1396A-3
R IDG	D1396A-12,13, 14	R IDG	D1396A-3

2) AIRPLANES WITH RB211 ENGINES;
CT WIRING--OPEN OR SHORT (WDM 24-21-11, WDM 24-21-21).

Component	Pin	Component	Pin
L IDG	D1396A-3,12, 13,14	M144	D2108B-A13, B13,C13,D13
R IDG	D1396A-3,12, 13,14	M146	D2070B-A13, B13,C13,D13

N. DP TRIP Message (AIRPLANES WITH L TRU CIRCUIT BREAKER, 6C17, ON P6 PANEL)

(1) Corrective Action

(a) The DP TRIP message is accompanied by additional messages. Review the list below to find these messages and the approppriate troubleshooting steps.

LEFT AND RIGHT POWER CHANNELS - TABLE 102

(b) If the left or right channel shows messages DP TRIP and GEN/FDR, do these steps:

1) AIRPLANES WITH RB211 ENGINES;
GENERATOR FEEDER-- SHORT TO GROUND (WDM 24-21-11, WDM 24-21-21).

Component	Pin	Component	Pin
L C901	T1,T2,T3	IDG M10160	T1,T2,T3
R C903	T1,T2,T3	IDG M10160	T1,T2,T3

2) AIRPLANES WITH RB211 ENGINES;
CT WIRING--OPEN (WDM 24-21-11, WDM 24-21-21).

Component	Pin	Component	Pin
L IDG	D1396A-12,13, 14,3	M144	D2108B-A13, B13,C13,D13
R IDG	D1396A-12,13, 14,3	M146	D2070B-A13, B13,C13,D13

3) POR SENSE WIRING--SHORT TO GROUND (WDM 24-21-11, WDM 24-21-21).

Component	Pin	Component	Pin
L C901	T1,T2,T3	M144	D2108B-A15, B15,C15
R C903	T1,T2,T3	M146	D2070B-A15, B15,C15

LEFT AND RIGHT POWER CHANNELS - TABLE 102

4) AIRPLANES WITH RB211 ENGINES;
IDG MAIN STATOR WINDING--INTERNAL SHORT TO GROUND
(WDM 24-21-11, WDM 24-21-21).

Component	Pin	Component	Pin
L IDG M10160	T1,T2,T3	IDG M10160	N
R IDG M10160	T1,T2,T3	IDG M10160	N

5) AIRPLANES WITH RB211 ENGINES;
IDG CT--OPEN OR SHORT (WDM 24-21-11, WDM 24-21-21).

Component	Pin	Component	Pin
L IDG	D1396A-12,13, 14	IDG	D1396A-3
R IDG	D1396A-12,13, 14	IDG	D1396A-3

6) REPLACE THE LEFT GCU M144 OR THE RIGHT GCU M146
(MM 24-22-02/401).

(c) If the APU channel shows messages DP TRIP and GEN/FDR, do these steps:

1) GENERATOR FEEDER--SHORT TO GROUND (WDM 24-21-41).

Component	Pin	Component	Pin
M281	T1,T2,T3	C905	T1,T2,T3

LEFT AND RIGHT POWER CHANNELS - TABLE 102

2) CT WIRING--OPEN (WDM 24-21-11, WDM 24-21-41).

Component	Pin	Component	Pin
M281	D2238-12,13, 14,3	M143	D1850B-A13, B13,C13,D13

3) POR SENSE WIRING--SHORT TO GROUND (WDM 24-21-41).

Component	Pin	Component	Pin
C905	T1,T2,T3 14,3	M143	D1850B-A15, B15,C15

4) APU GEN MAIN STATOR WINDING--OPEN OR SHORT (WDM 24-21-41).

Component	Pin	Component	Pin
M281	T1,T2,T3	M281	N

5) APU GEN CT--OPEN OR SHORT (WDM 24-21-41).

Component	Pin	Component	Pin
M281	D2238-12,13	M2238	D316-3

LEFT AND RIGHT POWER CHANNELS - TABLE 102

6) REPLACE THE APU GCU M143 (MM 24-22-02/401).

(d) If the left, right and APU channels all show messages DP TRIP and TIE BUS, do these steps,

1) TIE BUS FEEDER--SHORT TO GROUND (WDM 24-21-51, WDM 24-41-11).

Component	Pin	Component	Pin
T116	T105,T107,T111		

2) CT WIRING--OPEN (WDM 24-23-12).

Component	Pin	Component	Pin
T112	D2168-1,2,3,4	M116	D550A-A5,B5, C5,D5
T113	D2232-1,2,3,4	M116	D550A-A7,B7, C7,D7
T115	D2234-1,2,3,4	M116	D550A-A6,B6, C6,D6

3) EP SENSE WIRING--SHORT TO GROUND (WDM 24-41-11).

Component	Pin	Component	Pin
K114	A1,B1,C1	M116	D550B-A7,B7, C7

LEFT AND RIGHT POWER CHANNELS - TABLE 102

4) REPLACE THE BPCU M116 (MM 24-41-03/401).

(e) If the left and right channels show messages DP TRIP and TIE BUS, and the APU channels shows messages DP TRIP and OVERLAP ZONE, do these steps:

1) APU GEN FEEDER--SHORT TO GROUND (WDM 24-21-41, WDM 24-21-51).

Component	Pin	Component	Pin
T111		T115	

2) PHASE B LOAD BUS VOLT SENSE WIRING--SHORT TO GROUND (WDM 24-22-41).

Component	Pin	Component	Pin
C905	T2	M143	D1850A-C15

3) APU GEN CT WIRING--SHORT TO GROUND (WDM 24-23-11).

Component	Pin	Component	Pin
M143	D1850B pin A12	DPCT T111	D2228 pin 1
M143	D1850B pin B12	DPCT T111	D2228 pin 2
M143	D1850B pin C12	DPCT T111	D2228 pin 3
M143	D1850B pin D12	DPCT T111	D2228 pin 4

LEFT AND RIGHT POWER CHANNELS - TABLE 102

4) APU GEN CT WIRING--SHORT (WDM 24-23-11).

Component	Pin	Component	Pin
DPCT T111	D2228 pin 1	DPCT T111	D2228 pin 4
DPCT T111	D2228 pin 2	DPCT T111	D2228 pin 4
DPCT T111	D2228 pin 3	DPCT T111	D2228 pin 4

5) APU GEN CT RESISTANCE CHECK (WDM 24-21-41)

NOTE: RESISTANCE VALUES SHOULD BE 26 +/- 2 OHMS.

Component	Pin	Component	Pin
M143	D1850B-A13, B13,C13	M143	D1850B-D13

6) REPLACE THE APU GCU M143 (AMM 24-22-02/401).
7) REPLACE THE BPCU M116 (AMM 24-41-03/401).

(f) If the left and APU channels show messages DP TRIP and TIE BUS, and the right channel shows messages DP TRIP and MAIN BUS/ OVERLAP ZONE, do these steps:
1) RIGHT CHANNEL FEEDER--SHORT TO GROUND (WDM 24-21-51).

Component	Pin	Component	Pin
C904	L1,L2,L3	T107	

LEFT AND RIGHT POWER CHANNELS - TABLE 102

2) PHASE B TIE BUS VOLT SENSE WIRING--SHORT TO GROUND (WDM 24-22-22).

Component	Pin	Component	Pin
C904	L2	R GCU M146	D2070A-D15

a) REPAIR THE WIRING AS NECESSARY AND INSTALL THE GCU (MM 24-22-02/401).

3) REPLACE THE RIGHT GCU M146 (MM 24-22-02/401).

(g) If the right and APU channels show messages DP TRIP and TIE BUS, and the left channel shows messages DP TRIP and MAIN BUS/ OVERLAP ZONE, do these steps:

1) LEFT CHANNEL FEEDER--SHORT TO GROUND (WDM 24-21-51).

Component	Pin	Component	Pin
C902	L1,L2,L3	T105	

2) PHASE B TIE BUS VOLT SENSE WIRING--SHORT TO GROUND (WDM 24-22-12).

Component	Pin	Component	Pin
C902	L2	L GCU M144	D2108A-D15

a) REPAIR THE WIRING AS NECESSARY AND INSTALL THE GCU (MM 24-22-02/401).

3) REPLACE THE LEFT GCU M144 (MM 24-22-02/401).

LEFT AND RIGHT POWER CHANNELS - TABLE 102

(h) If the left and right, or left and APU, or right and APU channels show messages DP TRIP and TIE BUS, (the messages must not be shown on all three channels) do these steps:
1) EP FEEDER--SHORT TO GROUND (WDM 24-21-51, WDM 24-41-11).

Component	Pin	Component	Pin
T116		C902	L1,L2,L3
T116		C904	L1,L2,L3
T116		C905	L1,L2,L3

2) CT WIRING--OPEN (WDM 24-23-12).

Component	Pin	Component	Pin
T112	D2168-1,2,3,4	BPCU M116	D550A-A5,B5, C5,D5
T113	D2232-1,2,3,4	BPCU M116	D550A-A7,B7, C7,D7
T115	D2234-1,2,3,4	BPCU M116	D550A-A6,B6, C6,D6

a) REPAIR THE WIRING AS NECESSARY AND INSTALL THE BPCU (MM 24-41-03/401).

3) EP SENSE WIRING--SHORT TO GROUND (WDM 24-41-11).

Component	Pin	Component	Pin
K114	A1,B1,C1	BPCU M116	D550B-A7,B7, C7

a) REPAIR THE WIRING AS NECESSARY AND INSTALL THE BPCU (MM 24-41-03/401).

LEFT AND RIGHT POWER CHANNELS - TABLE 102

4) REPLACE THE BPCU M116 (MM 24-41-03/401).

(i) If the left or right channel shows messages DP TRIP and MAIN BUS/OVERLAP ZONE, do these steps:

1) VERIFY THAT THE MAIN CHANNEL FEEDERS ARE NOT SHORTED TO SHORTED TO GROUND (WDM 24-21-11, WDM 24-21-21)

Component	Pin	Component	Pin
L C901	L1,L2,L3	C902	T1,T2,T3
R C903	L1,L2,L3	C904	T1,T2,T3

2) VERIFY THAT THE CT WIRING IS NOT OPEN (WDM 24-23-11)

a) DO A CHECK BETWEEN THESE POINTS

Component	Pin	Component	Pin
L T106	D2164-1,2,3,4	M144	D2108B-A11, B11,C11,D11
L T105	D2162-1,2,3,4	M144	D2108B-A12, B12,C12,D12
R T108	D2226-1,2,3,4	M146	D2070B-A11, B11,C11,D11
R T107	D2224-1,2,3,4	M146	D2070B-A12, B12,C12,D12

3) IDG CT WIRING RESISTANCE (WDM 24-21-11, WDM 24-21-21)

NOTE: THE RESISTANCE VALUE SHOULD BE 28.5 +/- 2 OHMS. THE RESISTANCE VALUE BETWEEN EACH PHASE SHOULD NOT EXCEED 4 OHMS. REPAIR WIRING OR REPLACE THE IDG AS NECESSARY.

a) DO A CHECK OF RESISTANCE BETWEEN THESE POINTS

LEFT AND RIGHT POWER CHANNELS - TABLE 102

Component	Pin	Component	Pin
GCU M144	D2108B-A13, B13,C13	GCU M144	D2108B-D13
GCU M146	D2070-A13, B13,C13	GCU M146	D2070-D13

4) VERIFY THAT THE PHASE B LOAD BUS VOLT SENSE WIRING IS NOT SHORTED TO GROUND (WDM 24-22-11, WDM 24-22-21)

Component	Pin	Component	Pin
L C901	L2	M144	D2108A-C15
R C903	L2	M146	D2070A-C15

5) AIRPLANES WITH RB211 ENGINES;
VERIFY THAT THE DIFFERENTIAL PROTECTION CURRENT LIMIT LOAD METERING WIRING IS NOT SHORTED TO GROUND OR OPEN CIRCUITED (WDM 24-21-11, WDM 24-21-21)

Component	Pin	Component	Pin
L GCU M144	D2108B A13	L IDG	D1396-12
L GCU M144	D2108B B13	L IDG	D1396-13
L GCU M144	D2108B C13	L IDG	D1396-14
L GCU M144	D2108B D13	L IDG	D1396-3
R GCU M146	D2070B A13	L IDG	D1396-12
R GCU M146	D2070B B13	L IDG	D1396-13
R GCU M146	D2070B C13	L IDG	D1396-14
R GCU M146	D2070B D13	L IDG	D1396-3

LEFT AND RIGHT POWER CHANNELS - TABLE 102

6) IDG CT RESISTANCE CHECK (WDM 24-21-11, 24-21-21)

NOTE: TYPICAL RESISTANCE VALUES ARE 24-28 OHMS.

a) AIRPLANES WITH RB211 ENGINES;
DO A CHECK OF RESISTANCE BETWEEN THESE POINTS:

Component	Pin	Component	Pin
L IDG	D1396-12,13,14	L IDG	D1396-3
R IDG	D1396-12,13,14	R IDG	D1396-3

7) REPLACE THE LEFT GCU M144 OR THE RIGHT GCU M146 (MM 24-22-02/401).

(j) If the left channel shows messages DP TRIP and OVERLAP ZONE, and the right channel shows the messages UNDER VOLT TRIP and OPPOSITE BUS OVERLOAD, do these steps: (The APU channel may also show the messages UNDER VOLT TRIP and OVERLOAD)

1) LEFT CHANNEL FEEDER--SHORT TO GROUND (WDM 24-21-51).

Component	Pin	Component	Pin
T105		C902	L1,L2,L3

2) CT WIRING--OPEN (WDM 24-23-11).

Component	Pin	Component	Pin
T105	D2162-1,2,3,4	M144	D2108B-A12, B12,C12,D12

LEFT AND RIGHT POWER CHANNELS - TABLE 102

3) PHASE B TIE BUS VOLT SENSE WIRING--SHORT TO GROUND (WDM 24-22-12).

Component	Pin	Component	Pin
C902	L2	M144	D2108A-D15

4) SERIAL DATA LINK--OPEN, FAULTY SHIELD, SHORT TO ADJACENT WIRING OR SHORT TO GROUND (WDM 24-22-12, WDM 24-22-22, WDM 24-41-11).

Component	Pin	Component	Pin
M116	D550A-A12,B12, A14	M144	D2108A-A12, B12,B11
M116	D550A-C12,B12, A14	M146	D2070A-A12, B12,B11
M116	D550A-A13,B13, A14	M143	D1850A-A12, B12,B11

a) REPAIR THE WIRING AS NECESSARY AND INSTALL THE BPCU (MM 24-41-03/401).

5) Replace the BPCU M116 (MM 24-41-03/401).

6) Replace the left GCU M144 (MM 24-22-02/401).

(k) If the right channel shows messages DP TRIP and OVERLAP ZONE, and the left channel shows the messages UNDER VOLT TRIP, and OPPOSITE BUS OVERLOAD, do these steps: (The APU channel may also show the messages UNDER VOLT TRIP and OVERLOAD)

1) RIGHT CHANNEL FEEDER--SHORT TO GROUND (WDM 24-21-51).

LEFT AND RIGHT POWER CHANNELS - TABLE 102

Component	Pin	Component	Pin
T107		C904	L1,L2L3

2) CT WIRING--OPEN (WDM 24-23-11).

Component	Pin	Component	Pin
T107	D2224-1,2,3,4	M146	D2070B-A12, B12,C12,D12

3) PHASE B TIE BUS VOLT SENSE WIRING--SHORT TO GROUND (WDM 24-22-22).

Component	Pin	Component	Pin
C904	L2	M146	D2070A-D15

4) SERIAL DATA LINK--OPEN, FAULTY SHIELD, SHORT TO ADJACENT WIRING OR SHORT TO GROUND (WDM 24-22-12, WDM 24-22-22, WDM 24-41-11).

Component	Pin	Component	Pin
M116	D550A-A12,B12, A14	M144	D2108A-A12, B12,B11
M116	D550A-C12,D12, A14	M146	D2070A-A12, B12,B11
M116	D550A-A13,B13, A14	M143	D1850A-A12, B12,B11

LEFT AND RIGHT POWER CHANNELS - TABLE 102

a) Repair the wiring as necessary and install the BPCU (MM 24-41-03/401).

5) Replace the BPCU M116 (MM 24-41-03/401).

6) Replace the right GCU M146 (MM 24-22-02).

(l) If the left, right, or APU channel shows the message GCU FAILED CODE 60, do these steps:

1) Replace the left GCU M144, the right GCU M146, or the APU GCU M143 (MM 24-22-02/401).

(m) If the left, right, or APU channel shows the message GCU FAILED CODE 40, 42, 51, 53, 54, 57, 58, 63 or REPLACE GCU 40, 42, 51, 53, 54, 57, 58, or 63, do these steps:

1) Replace the GCU and continue to troubleshoot the additional BPCU messages according to the assigned corrective actions.

O. EXCITATION TRIP Message

(1) Corrective Action

(a) Remove the GCUs (MM 24-22-02) and do a check for continuity between these points of the generator control unit rack connector (lead goes through the IDG field winding):

Resistance = 7.5 ±0.75 ohms at 77°F:

1) For the left power channel (WDM 24-21-11), use this table:

Component	Pin	Component	Pin
L GCU M144	D2108B pin A1	L GCU M144	D2070B pin B1

2) For the right power channel (WDM 24-21-21), use this table:

Component	Pin	Component	Pin
R GCU M146	D256B pin A1	R GCU M146	D256B pin B1

LEFT AND RIGHT POWER CHANNELS - TABLE 102

a) If you find continuity, skip the next step and go to step "Do a check for an open circuit between these points:".

(b) Do a check for continuity between these points on the IDG (lead goes through IDG field winding):

Resistance = 7.5 ±0.75 ohms at 77°F:

1) AIRPLANES WITH RB211 ENGINES;
For the left power channel (WDM 24-21-11), use this table:

Component	Pin	Component	Pin
L IDG	D1396A pin 9	L IDG	D1396A pin 10

2) AIRPLANES WITH RB211 ENGINES;
For the right power channel (WDM 24-21-21), use this table:

Component	Pin	Component	Pin
R IDG	D13965 pin 9	R IDG	D13965 pin 10

3) If you find no continuity, replace the IDG (MM 24-11-01/401).

4) If you find continuity, correct any open circuit or short circuit between these points:

a) AIRPLANES WITH RB211 ENGINES;
For the left power channel (WDM 24-21-11), use this table:

Component	Pin	Component	Pin
L GCU M144	D2108B pin A1	L IDG	D1396A pin 9
L GCU M144	D2108B pin B1	L IDG	D1396A pin 10

LEFT AND RIGHT POWER CHANNELS - TABLE 102

b) AIRPLANES WITH RB211 ENGINES;
For the right power channel (WDM 24-21-21), use this table:

Component	Pin	Component	Pin
R GCU M146	D2070B pin A1	R IDG	D1396A pin 9
R GCU M146	D2070B pin B1	R IDG	D1396A pin 10

(c) Do a check for an open circuit between these points:
1) For the left power channel (WDM 24-21-11), use this table:

Component	Pin	Component	Pin
L GCU M144	D2108B pin A15	GROUND	---
L GCU M144	D2108B pin B15	GROUND	---
L GCU M144	D2108B pin C15	GROUND	---

2) For the right power channel (WDM 24-21-21), use this table:

Component	Pin	Component	Pin
R GCU M146	D2070B pin A15	GROUND	---
R GCU M146	D2070B pin B15	GROUND	---
R GCU M146	D2070B pin C15	GROUND	---

LEFT AND RIGHT POWER CHANNELS - TABLE 102

a) If you found no open circuit, replace the L (R) generator control unit M144, (M146)(MM 24-22-02/401).

(d) If you found an open circuit in the last step "Do a check for an open circuit between these points:", do a check for open circuit between these IDG points and ground:

1) For the left power channel (WDM 24-21-11), use this table:

Component	Pin	Component	Pin
L IDG	T1	GROUND	---
L IDG	T2	GROUND	---
L IDG	T3	GROUND	---

2) For the right power channel (WDM 24-21-21), use this table:

Component	Pin	Component	Pin
R IDG	T1	GROUND	---
R IDG	T2	GROUND	---
R IDG	T3	GROUND	---

3) If you found an open circuit, replace the L (R) IDG (MM 24-11-01/401).

4) If you found no open circuit, remove the GCU (MM 24-22-01/401).

LEFT AND RIGHT POWER CHANNELS - TABLE 102

5) Do a check for an open circuit between these points:
   a) For the left power channel (WDM 24-21-11), use this table:

Component	Pin	Component	Pin
L GCU	T1	L IDG	T1
L GCU	T2	L IDG	T2
L GCU	T3	L IDG	T3
L GCU	T1	L IDG M144	D2108B pin A15
L GCU	T2	L IDG M144	D2108B pin B15
L GCU	T3	L IDG M144	D2108B pin C15

   b) For the right power channel (WDM 24-21-21), use this table:

Component	Pin	Component	Pin
R GCB	T1	R IDG	T1
R GCB	T2	R IDG	T2
R GCB	T3	R IDG	T3
R GCB	T1	R GCU M146	D2070B pin A15
R GCB	T2	R GCU M146	D2070B pin B15
R GCB	T3	R GCU M146	D2070B pin C15

LEFT AND RIGHT POWER CHANNELS - TABLE 102

6) If you found no open circuit, replace the L (R) generator control unit, M144 (M146) (AMM 24-22-02/401).

P. FAILED IDG DISCONNECT Message

(1) Corrective Action

(a) Correct any open circuit, short circuit to ground, or short circuit to adjacent wiring between these points:

1) AIRPLANES WITH RB211 ENGINES;
For the left power channel (WDM 24-11-11), use this table:

Component	Pin	Component	Pin
L GCU M144	D2108A pin D2	L IDG	D1396 pin 4

2) AIRPLANES WITH RB211 ENGINES;
For the right power channel (WDM 24-11-21), use this table:

Component	Pin	Component	Pin
R GCU M146	D2070A pin D2	R IDG	D1396 pin 4

(b) If the problem continues, do a check of the resistance between these points on the IDG. The resistance of the IDG disconnect solenoid should be approximately 5 ±2 ohms:

1) AIRPLANES WITH RB211 ENGINES;
For the left power channel (WDM 24-11-11), use this table:

Component	Pin	Component	Pin
L IDG	D1396 pin 4	L IDG	D1396 pin 6

LEFT AND RIGHT POWER CHANNELS - TABLE 102

2) AIRPLANES WITH RB211 ENGINES;
For the right power channel (WDM 24-11-21), use this table:

Component	Pin	Component	Pin
R IDG	D1396A pin 4	R IDG	D1396A pin 6

(c) If the resistance is outside the 5 ±2 ohm range, replace the IDG (MM 24-11-01/401).
(d) If the problem continues, do a check for continuity to ground at these points:
1) AIRPLANES WITH RB211 ENGINES;
For the left power channel (WDM 24-11-11), use this table:

Component	Pin	Component	Pin
L IDG	D1396 pin 6	GROUND	---

2) AIRPLANES WITH RB211 ENGINES;
For the right power channel (WDM 24-11-21), use this table:

Component	Pin	Component	Pin
R IDG	D1396A pin 6	GROUND	---

Q. FIELD/WIRING Message
(1) Corrective Action
(a) Do a check of the resistance between these points on the IDG:

NOTE: The resistance is 7.5 ±0.75 ohms at 77°F

1) AIRPLANES WITH RB211 ENGINES;
For the left power channel (WDM 24-21-11), use this table:

LEFT AND RIGHT POWER CHANNELS - TABLE 102

Component	Pin	Component	Pin
L IDG	D1396A pin 9	L IDG	D1396A pin 10

2) AIRPLANES WITH RB211 ENGINES;
For the right power channel (WDM 24-21-21), use this table:

Component	Pin	Component	Pin
R IDG	D1396A pin 9	R IDG	D1396A pin 10

(b) If resistance is not satisfactory, replace the L (R) IDG (MM 24-11-01/401).

(c) If resistance is satisfactory, correct any short circuit to ground or open circuit between these points:

1) AIRPLANES WITH RB211 ENGINES;
For the left power channel (WDM 24-21-11), use this table:

Component	Pin	Component	Pin
L GCU	D2108B pin A1	L IDG	D1396A pin 9
L GCU	D2108B pin B1	L IDG	D1396A pin 10

2) AIRPLANES WITH RB211 ENGINES;
For the right power channel (WDM 24-21-21), use this table:

Component	Pin	Component	Pin
R GCU	D2070B pin A1	R IDG	D1396A pin 9
R GCU	D2070B pin B1	R IDG	D1396A pin 10

LEFT AND RIGHT POWER CHANNELS - TABLE 102

(d) If the problem continues, replace the L (R) generator control unit M144 (M146) (AMM 24-22-02/401).

R. FIRE TRIP Message
(1) Corrective Action
(a) This indication shows when the L (R) fire switch on P8 is armed, and not always indicates an electrical problem. Examine the log book to find why the fire switch was armed.
(b) If a fire occurred, do a check for damage to electrical the components in that area.
(c) If the fire switch was not armed, replace the L (R) engine fire switch (AMM 26-21-01/401).

S. GCB AUX/ WIRING Message
(1) Corrective Action
(a) Replace the L (R) generator circuit breaker L GCB C901, R GCB C903 (WDM 24-22-03).
1) If the problem continues, replace the L (R) generator control control unit L GCU M144, R GCU M146 (MM 24-22-02/401).

T. GCB/BTB WIRING/GCU Message
(1) Corrective Action
(a) Supply external power to the ground handling bus (MM 24-22-00/201).
(b) If there is a left power channel fault, do these steps:
1) Push the BAT switch (P5) to the ON position.
2) Push the left BUS TIE switch (P5) to the AUTO position.
3) Push the EXT PWR switch (P5). Make sure the white ON light in the switch is on.
4) Make sure the left BUS OFF light (P5) is off.
a) If the yellow left BUS OFF light is on, replace the left bus tie breaker C902 (MM 24-22-03/401).
b) If the problem continues, replace the left generator control unit M144 (MM 24-22-02/401).
5) If there is no fault in the last step "Make sure the left BUS OFF light (P5) is off.", push the left BUS TIE switch (P5) to the ISLN position. Make sure the yellow left BUS OFF light (P5) is on.
a) If the yellow left BUS OFF light is off, replace the left bus tie breaker C902 (MM 24-22-03/401).
b) If the problem continues, replace the left generator control unit M144 (MM 24-22-02/401).

LEFT AND RIGHT POWER CHANNELS - TABLE 102

6) If no fault is found in the last step, replace the left generator circuit breaker C901 (MM 24-22-03/401).
7) If the problem continues, replace the left generator control unit M144 (MM 24-22-02/401).

(c) If there is a right power channel fault, do these steps:
1) Push the BAT switch (P5) to th ON position.
2) Push the right BUS TIE switch (P5) to the AUTO position.
3) Push the EXT PWR switch (P5). Make sure the white ON light in the switch is on.
4) Make sure the right BUS OFF light (P5) is off.
a) If the yellow right BUS OFF light is on, replace the right bus tie breaker C904 (MM 24-22-03/401).
b) If the problem continues, replace the right generator control unit M146 (MM 24-22-02/401).
5) If you find no fault in the last step "Make sure the right BUS OFF light (P5) is off.", push the right BUS TIE switch (P5) to the ISLN position. Make sure the yellow right BUS OFF light (P5) is on.
a) If the yellow right BUS OFF light is off, replace the right BUS TIE breaker C904 (MM 24-22-03/401).
b) If the problem continues, replace the right generator control unit M146 (MM 24-22-02/401).
6) If you find no fault in the last step, replace the right generator circuit breaker C903 (MM 24-22-03/401).
7) If the problem continues, replace the right generator control unit M146 (MM 24-22-02).

U. GCB/WIRING GCU Message
(1) Corrective Action
(a) Replace the L (R) generator circuit breaker L GCB C901, R GCB C903 (MM 24-22-03/401).
(b) If the problem continues, replace the L (R) generator control unit L GCU M144, R GCU M146 (MM 24-22-02/401).

V. GCU CIRCUIT BREAKER OPEN Message
(1) Corrective Action
(a) Make sure a circuit breaker on the GCU is open. If neither circuit breaker is open, replace the L (R) generator control unit L GCU M144, R GCU M146 (MM 24-22-02/401).
1) If the circuit breaker CB1 on the GCU is open, replace the electrical systems control panel (MM 24-22-01/401).
2) If the problem continues, replace the generator field and hydraulic control panel (MM 24-22-04/401).

LEFT AND RIGHT POWER CHANNELS - TABLE 102

3) If the problem continues, do these steps:
   a) Do a check of the resistance between pins 39 and 40 of the L (R) generator circuit breaker L GCB C901, R GCB C903 (WDM 24-22-11, WDM 24-22-21). The resistance must be 3.8 ±0.8 ohms.
   b) If the coil has a short circuit, replace L (R) GCB (MM 24-22-03/401).
4) If the problem continues or you found no fault, do these steps:
   a) Do a check of the resistance between pins 39 and 40 of the L (R) bus tie breaker L BTB C902, R BTB C904 (WDM 24-22-12, WDM 24-22-22). The resistance must be 3.8 ±0.8 ohms.
   b) If the coil has a short circuit, replace L (R) BTB (MM 24-22-03/401).
5) If the problem continues, or you found no fault, replace the L (R) AUTOLAND RELAY L K526, R K527 (WDM 24-22-12, WDM 24-22-22).
6) If the problem continues, replace the L (R) engine fire switch (MM 26-21-02/401).
7) If the circuit breaker CB2 on GCU is open, do these steps:
   a) Do a check of the resistance between pins 41 and 40 of the L (R) generator circuit breaker C901 (C903) (WDM 24-22-11, WDM 24-22-21). The resistance must be 2.8 ±0.5 ohms.
   b) If the coil has a short circuit, replace the GCB (MM 24-22-03/401).
8) If the problem continues or you found no fault, do these steps:
   a) Do a check of the resistance between pins 41 and 40 of the L (R) bus tie breaker C902 (C904) (WDM 24-22-12, WDM 24-22-22) (WDM 24-22-11, WDM 24-22-21). Nominal resistance = 2.8 ±0.5 ohms.
   b) If the coil shorted, replace the BTB (MM 24-22-03/401).
9) If the problem continues or you found no fault, replace the L (R) generator control unit M144 (M146) (MM 24-22-02/401).

W. GCU FAILED CODE 6A and 6E Message
   (1) Corrective Action
      (a) Ignore this message. No action is necessary. (Do not replace the GCU.)

LEFT AND RIGHT POWER CHANNELS - TABLE 102

X. GCU FAILED CODE 58 Message
(1) Corrective Action
(a) Operate the L (R) BUS TIE switch, then push the PERIODIC TEST switch on the BPCU (FIM 24-20-00/101).
(b) If the GCU FAILED CODE 1E shows, replace the L (R) generator control unit M144 (M146) (MM 24-22-02/401).
(c) If the GCU FAILED CODE 1E does not show, ignore the GCU FAILED CODE 58 message.

Y. GCU FAILED CODE (ALL CODES EXCEPT 6A, 6E AND 58) Message
(1) Corrective Action
(a) Replace the L (R) GCU M144 (M146)(AMM 24-22-02/401).

Z. GCU FAILED Message
(1) Corrective Action
(a) Replace the L (R) generator control unit M144 (M146) (MM 24-22-02/401).

AA. GCU FAILED TRIP Message
(1) Corrective Action
(a) Replace the L (R) generator control unit M144 (M146) (MM 24-22-02/401).

AB. GCU/FIELD/WIRING Message
(1) Corrective Action
(a) Remove the GCUs (MM 24-22-02/401).
1) Do a check for a short circuit to ground or short circuit to adjacent wiring at these points of generator control unit rack connector.
a) For the left power channel (WDM 24-21-11), use this table:

Component	Pin	Component	Pin
L GCU M144	D2108B pin A1	L GCU M144	D2108B pin B1

b) For the right power channel (WDM 24-21-21), use this table:

LEFT AND RIGHT POWER CHANNELS - TABLE 102

Component	Pin	Component	Pin
R GCU M146	D2070B pin A1	R GCU M146	D2070B pin B1

2) If there is no short circuit, replace the L (R) generator control unit M144 (M146)(MM 24-22-02/401).
3) If you find a short circuit to ground in the last step, do a check for continuity between these points on the IDG. The lead goes through IDG field winding. The resistance must be 7.5 ±0.75 ohms (at 77°F):
   a) AIRPLANES WITH RB211 ENGINES;
      For the left power channel (WDM 24-21-11), use this table:

Component	Pin	Component	Pin
L IDG	D1396A pin 9	L IDG	D1396A pin 10

   b) AIRPLANES WITH RB211 ENGINES;
      For the right power channel (WDM 24-21-21), use this table:

Component	Pin	Component	Pin
R IDG	D1396A pin 9	R IDG	D1396A pin 10

4) If you find no continuity, replace the L (R) IDG (MM 24-11-01/401).
5) If you find continuity, correct any short circuit or open circuit between these points:
   a) AIRPLANES WITH RB211 ENGINES;
      For the left power channel (WDM 24-21-11), use this table:

LEFT AND RIGHT POWER CHANNELS - TABLE 102

Component	Pin	Component	Pin
L GCU	D2108B pin A1	L IDG	D1396A pin 9
L GCU	D2108B pin B1	L IDG	D1396A pin 10

b) AIRPLANES WITH RB211 ENGINES;
For the right power channel (WDM 24-21-21), use this table:

Component	Pin	Component	Pin
R GCU	D2070B pin A1	R IDG	D1396A pin 9
R GCU	D2070B pin B1	R IDG	D1396A pin 10

(b) Install the GCUs (MM 24-22-02/401).

AC. GEN CONT SW/GCB COIL/GCU Message
(1) Corrective Action
(a) Replace the electrical system control panel (MM 24-22-01/401).
(b) If the problem continues, replace the L (R) generator circuit breaker L GCB C901, R GCB C903 (MM 24-22-03/401).
(c) If the problem continues, replace the L (R) generator control unit L GCU M144, R GCU = M146 (MM 24-22-02/401).

AD. GEN DIODE Message
(1) Corrective Action
(a) Replace the L (R) integrated drive generator (MM 24-11-01/401).

NOTE: You must replace the IDG although you can set it with the appropriate GEN CONT switch.

AE. GEN Message
(1) Corrective Action
(a) Do the steps for GEN DIODE.

LEFT AND RIGHT POWER CHANNELS - TABLE 102

AF. GEN DIODE TRIP Message
(1) Corrective Action
(a) Look for a related message (on the same power channel) to isolate the cause of the GEN DIODE TRIP. Related messages include:
- GCU FAILED
- GCU/FIELD/WIRING
- GEN/WIRING/GCU
- GEN DIODE
- GEN
- REPLACE GEN (DIODE)
1) Action due to these related messages (above) should then be taken.
2) If one of the above messages is not displayed, replace the L (R) generator control unit L GCU M144, R GCU M146 (MM 24-22-02/401).

AG. GEN TRIP Message
(1) Corrective Action
(a) Do the steps for GEN DIODE TRIP.

AH. GEN/FDR Message (related message of DP TRIP)
(1) Corrective Action
(a) Isolate the fault with the DP TRIP message.

NOTE: A DP TRIP message will be generated on the same channel as the GEN/FDR message.

AI. GEN/FDR Message (related message of OPEN PHASE TRIP)
(1) Corrective Action
(a) An OPEN PHASE TRIP message will be generated on the same channel as the GEN/FDR message.
1) GENERATOR FEEDER--ONE OPEN PHASE (WDM 24-21-11, WDM 24-21-21).

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Component	Pin	Component	Pin
L IDG	T1,T2,T3	C901	T1,T2,T3
R IDG	T1,T2,T3	C903	T1,T2,T3

2) POR SENSE WIRING--ONE OPEN PHASE OR SHORT TO GROUND (WDM 24-21-11, WDM 24-21-21)

Component	Pin	Component	Pin
L C901	T1,T2,T3	L GCU M144	D2108B-A15, B15,C15
R C903	T1,T2,T3	R GCU M146	D2070B-A15, B15,C15

a) Repair the wiring as necessary and install the GCU (MM 24-22-02/401).

3) GENERATOR MAIN STATOR--ONE OPEN PHASE (WDM 24-21-11, WDM 24-21-21).

Component	Pin	Component	Pin
L IDG	T1,T2,T3	IDG	N
R IDG	T1,T2,T3	IDG	N

LEFT AND RIGHT POWER CHANNELS - TABLE 102

4) Replace the left GCU M144 or the right GCU M146 (MM 24-22-02/401).

AJ. GEN/FIELD/WIRING/GCU Message

(1) Corrective Action

(a) A SHORTED PMG TRIP message will show on the same channel as the GEN/FIELD/WIRING/GCU message. You can isolate the failure that caused the two messages with this procedure.

1) Remove the GCU (AMM 24-22-02/401).
Do a check for continuity, a short circuit to ground, or a short circuit to adjacent wiring between these points:

a) AIRPLANES WITH RB211 ENGINES;
For the left power channel (WDM 24-21-11), use this table:

Component	Pin	Component	Pin
L GCU	D2108C pin 2	L IDG	D1394 pin 1
L GCU	D2108C pin 3	L IDG	D1394 pin 2
L GCU	D2108C pin 4	L IDG	D1394 pin 3

b) AIRPLANES WITH RB211 ENGINES;
For the right power channel (WDM 24-21-21), use this table:

Component	Pin	Component	Pin
R GCU	D2070C pin 2	R IDG	D1394 pin 1
R GCU	D2070C pin 3	R IDG	D1394 pin 2
R GCU	D2070C pin 4	R IDG	D1394 pin 3

LEFT AND RIGHT POWER CHANNELS - TABLE 102

2) If you found a failure in the last step, repair as necessary and install the GCU (AMM 24-22-02/401).
3) If you found no failure in the last step, do a resistance check of the PMG stator between these points on the IDG:

NOTE: The resistance between theses points on the IDG must be 1.33 to 1.84 ohms at 77 degrees F, and no greater than 2% difference between the readings.

a) AIRPLANES WITH RB211 ENGINES;
Refer to the table that follows:

Component	Pin	Component	Pin
L (R) IDG	D1394 pin 1	L (R) IDG	D1394 pin 2
L (R) IDG	D1394 pin 1	L (R) IDG	D1394 pin 3
L (R) IDG	D1394 pin 2	L (R) IDG	D1394 pin 3

4) If the resistance in the last step is not 1.33 to 1.84 ohms or the difference between the measurements is greater than 2%, replace the L (R) IDG (AMM 24-11-01/401) and install the GCU (AMM 24-22-02/401).
5) If you found no failure in the last steps, do a check for a ground fault between these points:
a) AIRPLANES WITH RB211 ENGINES;
For the left power channel (WDM 24-21-11), use this table:

Component	Pin	Component	Pin
L GCU	D2108B pin A1	L IDG	D1396A pin 9

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b) AIRPLANES WITH RB211 ENGINES;
For the right power channel (WDM 24-21-21), use this table:

Component	Pin	Component	Pin
R GCU	D2070B pin A1	R IDG	D1396A pin 9

6) If you found no failure, replace the L (R) generator control unit L M144, R M146 (AMM 24-22-02/401).
7) If you find no continuity, correct the short circuit or open circuit between the points in step 4 and install the GCU (AMM 24-22-02/401).

AK. GEN/WIRING/GCU Message
(1) Corrective Action
(a) Do the steps for GCU/FIELD/WIRING message.

AL. IDG BULB TOLERANCE Message
(1) Corrective Action
(a) Examine the flight log to determine if the IDG RISE TEMP message showed on the maintenance page of EICAS.
(b) If no IDG RISE TEMP message showed, ignore the IDG BULB TOLERANCE message on the BPCU. No action needs to be taken.
(c) If the IDG RISE TEMP showed on EICAS, do a check of the resistance between these points on the IDG. The bulb resistance must be 70-140 ohms (WDM 24-11-11, 24-11-21):
1) AIRPLANES WITH RB211 ENGINES;
For the left power channel (WDM 24-21-11), use this table:

Component	Pin	Component	Pin
L GCU	D1394 pin 4	L IDG	D1394 pin 5
L GCU	D1394 pin 6	L IDG	D1394 pin 7

LEFT AND RIGHT POWER CHANNELS - TABLE 102

2) AIRPLANES WITH RB211 ENGINES;
For the right power channel (WDM 24-21-21), use this table:

Component	Pin	Component	Pin
R IDG	D1394B pin 4	R IDG	D1394B pin 5
R IDG	D1394B pin 6	R IDG	D1394B pin 7

(d) If the resistance is not in the 70-140 ohms range, replace the IDG (MM 24-11-01/401).

(e) If the resistance between pins 4 and 5 is greater than the resistance between pins 6 and 7, replace the IDG (AMM 24-11-01/401).

(f) If the problem continues, remove the GCU (AMM 24-22-02/401) and correct open circuit or short circuit between these points (WDM 24-11-11, 24-11-21):

1) AIRPLANES WITH RB211 ENGINES;
For the left power channel (WDM 24-21-11), use this table:

Component	Pin	Component	Pin
L GCU M144	D2108A pin A9	L IDG	D1394 pin 4
L GCU M144	D2108A pin B9	L IDG	D1394 pin 5
L GCU M144	D2108A pin D3	L IDG	D1394 pin 6
L GCU M144	D2108A pin D1	L IDG	D1394 pin 7

LEFT AND RIGHT POWER CHANNELS - TABLE 102

2) AIRPLANES WITH RB211 ENGINES;
For the right power channel (WDM 24-21-21), use this table:

Component	Pin	Component	Pin
R GCU M146	D2070A pin A9	R IDG	D1394B pin 4
R GCU M146	D2070A pin B9	R IDG	D1394B pin 5
R GCU M146	D2070A pin D3	L IDG	D1394B pin 6
R GCU M146	D2070A pin D1	L IDG	D1394B pin 7

3) If the problem continues, replace the generator control unit (MM 24-22-02/401).

AM. IDG HIGH DELTA TEMP Message
(1) Corrective Action
(a) Do a check of the differential pressure indicator (DPI) on the IDG scavenge filter.
1) If the DPI is extended, do the "Examine the Pressure Differential Indicator and the Scavenge filter" (AMM 24-11-01/601).
2) If the DPI is not extended, remove the scavenge filter and do a check for contamination (MM 24-11-02/201).
a) If the scavenge filter is contaminated, replace the IDG (MM 24-11-01/401).
b) If the scavenge filter is not contaminated, do the IDG Oil Change (AMM 12-13-03/301).
(b) If the problem continues, replace the IDG (MM 24-11-01/401)

LEFT AND RIGHT POWER CHANNELS - TABLE 102

AN. IDG HIGH RISE TEMP Message
(1) Corrective Action
(a) Do the steps for IDG HIGH DELTA TEMP.

AO. IDG LOW OIL PRESSURE Message
(1) Corrective Action
(a) Do the steps for LOW OIL PRESSURE.

AP. IDG NOT DISCONNECTED Message
(1) Corrective Action
(a) Do the steps for FAILED IDG DISCONNECT.

AQ. IDG OVERTEMP Message
(1) Corrective Action
(a) Replace the L (R) integrated drive generator (MM 24-11-01/401).
(b) Push the ELEC/HYD and the AUTO READ switches in. (Switches on the EICAS MAINT PANEL at P61.)
(c) Push and hold the ERASE switch for 3 seconds and make sure that the AUTO EVENT erases.

AR. IDG/GEN CT WIRING Message
(1) Corrective Action
(a) Do a check of the wiring between the L GCU M144 and the left IDG (WDM 24-21-11):

Component	Pin	Component	Pin
L GCU M144	D2108B A13	L IDG	D5134-12
L GCU M144	D2108B B13	L IDG	D5134-13
L GCU M144	D2108B C13	L IDG	D5134-14
L GCU M144	D2108B D13	L IDG	D5134-3

LEFT AND RIGHT POWER CHANNELS - TABLE 102

(b) Do a check of the wiring between the R GCU M146 and the right IDG (WDM 24-21-21):

Component	Pin	Component	Pin
R GCU M146	D2070B A13	R IDG	D5134-12
R GCU M146	D2070B B13	R IDG	D5134-13
R GCU M146	D2070B C13	R IDG	D5134-14
R GCU M146	D2070B D13	R IDG	D5134-3

(c) If the problem continues, replace the L GCU M144 or R GCU M146 (AMM 24-22-02/401).

AS. IDG/MPU WIRING Message
(1) Corrective Action
(a) Do the steps for MPU/WIRING.

AT. IDG/OIL IN BULB/WIRING Message
(1) Corrective Action
(a) Do the steps for OIL IN BULB/WIRING.

AU. IDG/OIL OUT BULB/WIRING Message
(1) Corrective Action
(a) Do the steps for OIL OUT BULB/WIRING.

AV. IDG/PMG/WIRING Message
(1) Corrective Action
(a) If the IDG OVERTEMP or OVER FREQ TRIP message shows on the same channel as IDG/PMG/WIRING message, replace the L (R) integrated drive generator (MM 24-11-01/401).
(b) If the problem continues, or if no IDG OVERTEMP or OVER FREQ TRIP message shows, do these steps:
1) Do a check of the IDG oil level (MM 12-13-03/301).
a) If the oil level is low, do a check of the IDG and external oil cooling circuit for leaks. If there is a leak, repair or replace components as required but do not service the IDG until the checks that follow are completed.
2) Do a check of the differential pressure indicator (DPI) on the IDG scavenge filter.
a) If the DPI is extended, do the "Examine the Pressure Differential Indicator and the Scavenge Filter" (AMM 24-11-01/601).

LEFT AND RIGHT POWER CHANNELS - TABLE 102

b) If the DPI is not extended, remove the scavenge filter and do a check for contamination (MM 24-11-02/201).
c) If the scavenge filter is contaminated, do the "Examine the oil in the IDG" (AMM 24-11-01/601).
d) If the scavenge filter is not contaminated, install the filter (MM 24-11-02/201).
e) Drain and service the IDG (MM 12-13-03/301).

(c) If the problem continues, remove the GCU (MM 24-22-02/401) and do a check of the wiring:
1) AIRPLANES WITH RB211 ENGINES;
PMG WIRING--OPEN OR SHORT TO GROUND (WDM 24-21-11, WDM 24-21-21).

Component	Pin	Component	Pin
L IDG	D1394B-1,2,3	M144	D2108C-2,3,4
R IDG	D1394B-1,2,3	M146	D2070C-2,3,4

(d) If you found a problem with the wiring, repair the wiring as necessary.
(e) If you did not find any problem with the wiring, do these checks:
1) AIRPLANES WITH RB211 ENGINES;
IDG PMG--RESISTANCE OUT OF TOLERANCE (1.4 OHMS L-L AT 77°F) (WDM 24-21-11, WDM 24-21-21).

Component	Pin	Component	Pin
L IDG	D1394B-1	IDG	D1394B-2,3
R IDG	D1394B-1	IDG	D1394B-2,3

(f) If the problem continues, replace the L (R) GCU M144 (M146) (MM 24-22-02/401).

AW. IDG PRESSURE SWITCH/WIRING Message
(1) Corrective Action
(a) Do the steps for OIL PRESSURE SW/WIRING.

AX. INTERMITTENT LINK Message
(1) Corrective Action
(a) Replace the L (R) generator control unit M144 (M146) (MM 24-22-02/401).

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(b) If the problem continues, remove the GCU (MM 24-22-02/401) and correct any open circuit, or short to ground, or short to adjacent wiring between these points:

(c) For the left power channel (WDM 24-22-12), use this table:

Component	Pin	Component	Pin
L GCU	D2108A pin A12	BPCU	D550A pin A12
L GCU	D2108A pin B12	BPCU	D550A pin B12

(d) For the right power channel (WDM 24-22-22), use this table:

Component	Pin	Component	Pin
R GCU	D2070A pin A12	BPCU	D550A pin C12
R GCU	D2070A pin B12	BPCU	D550A pin D12

(e) Make sure the shield is properly grounded at these points:

Component	Pin	Component	Pin
L GCU	D2108A pin B11	BPCU	D550A pin A14
R GCU	D2070A pin B11	BPCU	D550A pin A14

(f) Do a check of the +28V backup wiring for an intermittent circuit between these points:

Component	Pin	Component	Pin
L GCU	D2108A pin A3	C804	
R GCU	D2070A pin A3	C805	

AY. L GEN CONT SW/WIRE/GCU Message

(1) Corrective Action

(a) Replace the electrical system control panel (AMM 24-22-01).

LEFT AND RIGHT POWER CHANNELS - TABLE 102

(b) If the problem continues, Replace (L or R) generator control unit (L GCU=M144, R GCU=M146) (AMM 24-22-02).

AZ. LOW OIL PRESSURE Message

(1) Corrective Action

(a) Push the ELEC/HYD and the AUTO-READ switches. On the EICAS MAINT PANEL (P61).

(b) Push and hold the ERASE switch for 3 seconds and make sure the AUTO EVENT erases.

(c) After you erase the AUTO EVENT:

1) Do a check of the IDG oil level (MM 12-13-03/301).

a) If the oil level is low, do a check of the IDG and external oil cooling circuit for leaks.

b) If you find leaks, repair or replace components as required but do not service the IDG until the checks that follow are completed.

2) Do a check of the differential pressure indicator (DPI) scavenge filter.

a) If the DPI is extended, do the "Examine the Pressure Differential Indicator and the Scavenge Filter" (AMM 24-11-01/601).

b) If the DPI is not extended, remove the scavenge filter and do a check for contamination (MM 24-11-02/201).

c) If the scavenge filter is contaminated, do the "Examine the oil in the IDG" (AMM 24-11-01/601).

d) If the scavenge filter is not contaminated, install the filter (MM 24-11-02/201).

e) Drain and service the IDG (MM 12-13-03/301).

(d) Push ELEC/HYD, AUTO-READ switches on EICAS MAINT PANEL (P61). Push and hold ERASE for 3 seconds and make sure the AUTO EVENT erases.

(e) If you find no problem, do these wiring checks:

1) AIRPLANES WITH RB211 ENGINES;
LOP SW WIRING--SHORT TO GROUND (WDM 24-11-11, WDM 24-11-21):

LEFT AND RIGHT POWER CHANNELS - TABLE 102

Component	Pin	Component	Pin
L IDG	D3194-9	L GCU M144	D2108A-C6
R IDG	D3194-9	R GCU M146	D2070A-C6

2) GEN DRIVE LIGHT WIRING--SHORT TO GROUND (WDM 24-11-11, WDM 24-11-21).

Component	Pin	Component	Pin
ELEC PNL M10063	D3500-13	L GCU M144	D2108A-C4
ELEC PNL M10063	D3502-28	R GCU M146	D1070A-C4

a) Repair the wiring as necessary and install the GCU (MM 24-22-02/401).
3) MASTER DIM TEST MODULE--SHORTED DIODE
4) If you find no fault, do these steps:
a) Replace the L (R) GCU M144 (M146) (AMM 24-22-02/401).
b) If the problem continues, replace the IDG (AMM 24-11-01/401).

BA. MAIN BUS Message
(1) Corrective Action
(a) FEEDER--ONE OPEN PHASE (WDM 24-21-11, WDM 24-21-21)

LEFT AND RIGHT POWER CHANNELS - TABLE 102

Component	Pin	Component	Pin
L C901	L1,L2,L3	C902	T1,T2,T3
R C903	L1,L2,L3	C904	T1,T2,T3

(b) FEEDER TO LOADS--ONE OPEN PHASE (WDM 24-21-11, WDM 24-21-21)

Component	Pin	Component	Pin
L C901	L1,L2,L3	LOADS	
L C902	T1,T2,T3	LOADS	
R C903	L1,L2,L3	LOADS	
R C904	T1,T2,T3	LOADS	

(c) REPLACE L GCB C901 OR R GCB C902
(d) Replace the left GCU M144 or the right GCU M146 (AMM 24-22-02/401). The OPEN PHASE TRIP message will be generated on the same channel as the MAIN BUS message.)

BB. MAIN BUS/ OVERLAP ZONE Message
(1) Corrective Action
(a) Isolate the fault with the DP TRIP message. (A DP TRIP message will show on the same channel as the MAIN BUS/OVERLAP ZONE message.)

LEFT AND RIGHT POWER CHANNELS - TABLE 102

BC. MPU/WIRING Message
(1) Corrective Action
(a) Do a check for open circuit or short circuit to ground between these points:
1) AIRPLANES WITH RB211 ENGINES;
For the left power channel (WDM 24-11-11), use this table:

Component	Pin	Component	Pin
L GCU M144	D2108A pin A4	L IDG	D1396 pin 1
L GCU M144	D2108A pin B4	L IDG	D1396 pin 2

2) AIRPLANES WITH RB211 ENGINES;
For the right power channel (WDM 24-11-21), use this table:

Component	Pin	Component	Pin
R GCU M146	D2070A pin A4	R IDG	D1396A pin 1
R GCU M146	D2070A pin B4	R IDG	D1396A pin 2

a) Repair as necessary and install the GCU (MM 24-22-02/401).
(b) If you found no problem in the last step, check for continuity between these points on the IDG (the resistance must be 35 ±5 ohms):
1) AIRPLANES WITH RB211 ENGINES;
For the left power channel (WDM 24-11-11), use this table:

LEFT AND RIGHT POWER CHANNELS - TABLE 102

Component	Pin	Component	Pin
L IDG	D1396 pin 1	L IDG	D1396 pin 2

2) AIRPLANES WITH RB211 ENGINES;
For the right power channel (WDM 24-11-21), use this table:

Component	Pin	Component	Pin
R IDG	D1396A pin 1	R IDG	D1396A pin 2

(c) If you found no problem in the last step, replace the L (R) generator control unit M144 (M146) (MM 24-22-02/401).

BD. NO RESPONSE FROM CONTROL Message

(1) Corrective Action

(a) If the message shows on more than one channel, make sure the L and the R GCU's are supplied with power. Put the L & R Bus Tie Switches (P5) to ISLN and back to AUTO and observe the associated ISLN light comes on momentarily. If neither light comes on, do a check for 28V DC at C829, Bat Bus Distribution breaker 6A1. If there is no voltage, correct the open circuit or the short circuit to ground (WDM 24-33-11, WDM 24-54-71).

(b) If the problem continues, remove the BPCU M116 (MM 24-41-03/401)

(c) Remove the GCU's M144, M146 and M143 (MM 24-22-02/401).

(d) If the problem continues, correct any open circuit, short circuit to ground, or short circuit to adjacent wiring between these points (WDM 24-22-12, WDM 24-22-22, WDM 24-41-11):

LEFT AND RIGHT POWER CHANNELS - TABLE 102

Component	Pin	Component	Pin
BPCU M116	D550A-A12	GCU M144	D2108A A12
BPCU M116	D550A-B12	GCU M144	D2108A B12
BPCU M116	D550A-A14	GCU M144	D2108A B11
BPCU M116	D550A-C12	GCU M146	D2070A A12
BPCU M116	D550A-D12	GCU M146	D2070A B12
BPCU M116	D550A-A14	GCU M146	D2070A B11
BPCU M116	D550A-A13	GCU M143	D1850A A12
BPCU M116	D550A-B13	GCU M143	D1850A B12
BPCU M116	D550A-A14	GCU M143	D1850A B11

(e) Install the BPCU M116 (MM 24-41-03/401).
(f) Install the GCU's M144, M146 and M143 (MM 24-22-02/401).
(g) If the message shows on the left channel only, operate the L Bus Tie switch.
(h) If the L bus does not isolate, remove the GCU M144 (MM 24-22-02/401).
(i) Correct the open circuit or short circuit to ground between these points, M144 D2108B-A3 to C804.
(j) Correct the open circuit between M144 D2108B-D15 to ground.
(k) If the L bus does isolate, remove the GCU M144 (MM 24-22-02/401) and the BPCU M116 (MM 24-41-03/401).

LEFT AND RIGHT POWER CHANNELS - TABLE 102

(l) Correct any open circuit, short circuit to ground, or short circuit to adjacent wiring between these points (WDM 24-22-12).

Component	Pin	Component	Pin
BPCU M116	D550A-A12	GCU M144	D2070A-A12
BPCU M116	D550A-B12	GCU M144	D2108A-B12
BPCU M116	D550A-A14	GCU M144	D2108A-B11

(m) Install the BPCU M116 (MM 24-41-03/401).
(n) Install the GCU M144 (MM 24-22-02/401).
(o) If the message shows on the right channel only, operate the R Bus Tie switch.
(p) If the right bus does not isolate, remove the GCU M146 (MM 24-22-02/401).
(q) Correct open circuit or short circuit to ground between these points, M146 D20708-A3 to C805.
(r) Correct the open circuit between M146 D20708-D15 to ground.
(s) If the right bus does isolate, remove the GCU M146 (MM 24-22-02) and the BPCU M116 (MM 24-41-03/401).
(t) Correct any open circuit, short circuit to ground, or short circuit to adjacent wiring between these points (WDM 24-22-22):

Component	Pin	Component	Pin
BPCU M116	D550A-C12	GCU M146	D2070A-A12
BPCU M116	D550A-D12	GCU M146	D2070A-B12
BPCU M116	D550A-A14	GCU M146	D2070A-B11

LEFT AND RIGHT POWER CHANNELS - TABLE 102

(u) Install the BPCU M116 (MM 24-41-03/401).
(v) Install the GCU M146 (MM 24-22-02/401).

BE. OIL IN BULB/WIRING Message
(1) Corrective Action
(a) Remove the L (R) generator control unit (GCU) M144 (M146) (MM 24-22-02/401).
(b) Make sure the resistance between pins A9 and B9 of L (R) GCU connector D2108A (D2070A) is between 75 and 145 ohms (WDM 24-11-11, WDM 24-11-21).
(c) If the resistance between pins A9 and B9 is 75-145 ohms, replace the L(R) GCU M144 (M146) (AMM 24-22-02/401).
(d) AIRPLANES WITH RB211 ENGINES;
If the resistance between pins A9 and B9 is not 75-145 ohms, disconnect the connector D1394 from the L (R) IDG (WDM 24-11-11, WDM 24-11-21).
(e) Make sure the oil temperature bulb resistance measured between pins 4 and 5 of the IDG receptacle is between 70 and 140 ohms (WDM 24-11-11, WDM 24-11-21).
(f) If the oil temperature bulb resistance is not 70-140 ohms, replace the L (R) IDG (MM 24-11-01).
(g) AIRPLANES WITH RB211 ENGINES;
If the oil temperature bulb resistance is 70-140 ohms, install a jumper from pin 4 to 5 on the L (R) IDG connector D1394 (WDM 24-11-11, WDM 24-11-21).
(h) Make sure the resistance between pins A9 and B9 of the L (R) GCU connector D2108A (D2070A) is less than six ohms.
(i) AIRPLANES WITH RB211 ENGINES;
If the resistance between pins A9 and B9 is less than 6 ohms, do a check of the IDG connector D1394 pins and sockets for contamination and clean as required.
(j) Remove the jumper from pin 4 to 5 on the L (R) IDG connector.
(k) Connect the L (R) IDG connector to the L (R) IDG.

LEFT AND RIGHT POWER CHANNELS - TABLE 102

(l) Make sure the resistance between pins A9 and B9 of the L (R) GCU connector D2108A (D2070) is between 75 and 145 ohms.
(m) Install the L (R) GCU M144 (M146)(MM 24-22-02/401)

BF. OIL OUT BULB/WIRING Message
(1) Corrective Action
(a) Remove the L (R) generator control unit (GCU) M144 (M146) (MM 24-22-02/401).
(b) Make sure the resistance between pins D1 and D3 of the L (R) GCU connector D2108A (D2070A) is between 75 and 145 ohms (WDM 24-11-11, WDM 24-11-21)
(c) If the resistance between pins D1 and D3 is 75-145 ohms, replace the L (R) GCU M144 (M146) (MM 24-22-02/401).
(d) AIRPLANES WITH RB211 ENGINES;
If the resistance between pins D1 and D3 is not 75-145 ohms, disconnect the connector D1394 from the L (R) IDG (WDM 24-11-11, WDM 24-11-21).
(e) Make sure the oil temperature bulb resistance measured between pins 6 and 7 on the IDG receptacle is between 70 and 140 ohms (WDM 24-11-11, WDM 24-11-21).
(f) If the oil temperature bulb resistance is not 70-140 ohms, replace the L (R) IDG (AMM 24-11-01/401).
(g) AIRPLANES WITH RB211 ENGINES;
If the oil temperature bulb resistance is 70-140 ohms, install a jumper from pin 6 to 7 on L (R) IDG connector D1394 (WDM 24-11-11, WDM 24-11-21).
(h) Make sure the resistance between pins D1 and D3 of the L (R) GCU connector D2108A (D2070A) is less than six ohms.
(i) AIRPLANES WITH RB211 ENGINES;
If the resistance between pins D1 and D3 is less than 6 ohms, do a check of the IDG connector D1394 pins and sockets for contamination and clean as required.
(j) Remove the jumper from pin 6 to 7 on the L (R) IDG connector.

LEFT AND RIGHT POWER CHANNELS - TABLE 102

(k) Connect the L (R) IDG connector to the L (R) IDG.
(l) Make sure the resistance between pins D1 and D3 of the L (R) GCU connector D2108A (D2070A) is between 75 and 145 ohms.
(m) Install the L(R) GCU M144 (M146)(MM 24-22-02/401).

BG. OIL PRESSURE SW/WIRING Message
(1) Corrective Action
(a) Do a check for continuity to ground from this point of the generator control unit rack connector:
1) For the left power channel (WDM 24-11-11), use this table:

Component	Pin	Component	Pin
L GCU	D2108A pin C6	GROUND	

2) For the right power channel (WDM 24-11-21), use this table:

Component	Pin	Component	Pin
R GCU	D2070A pin C6	GROUND	

(b) If you find continuity in the last step, replace the L (R) generator control unit M144 (M146) (MM 24-22-02/401).
(c) AIRPLANES WITH RB211 ENGINES;
If you find no continuity in the last step, do a check for continuity between these points on the IDG (WDM 24-11-11, WDM 24-11-21):

Component	Pin	Component	Pin
L (R) IDG	D1394 pin 9	L (R) IDG	D1394 pin 10

LEFT AND RIGHT POWER CHANNELS - TABLE 102

(d) If you find no continuity in the last step, replace the L (R) IDG (MM 24-11-01/401).
(e) If you find continuity in the last step, correct any problems between these points:
1) AIRPLANES WITH RB211 ENGINES;
For the left power channel (WDM 24-11-11), use this table:

Component	Pin	Component	Pin
L GCU M144	D2108A pin C6	L IDG	D1394 pin 9
L IDG	D1394 pin 10	GROUND	---

2) AIRPLANES WITH RB211 ENGINES;
For the right power channel (WDM 24-11-21), use this table:

Component	Pin	Component	Pin
R GCU M146	D2070A pin C6	R IDG	D1394 pin 9
R IDG	D1394 pin 10	GROUND	---

BH. OPEN PHASE TRIP Message
(1) Corrective Action
(a) Look for a related message on the same power channel to isolate the cause of the OPEN PHASE TRIP. Related messages include:
- GCU FAILED
- GEN/FDR
- MAIN BUS
1) Correct the problem for these related messages.

LEFT AND RIGHT POWER CHANNELS - TABLE 102

(b) If one of the related messages does not show, replace the L (R) generator control unit L GCU M144, R GCU M146 (MM 24-22-02/401).

BI. OPEN POR/FDR/GEN Message

(1) Corrective Action

(a) Do a check for continuity to ground from these points of generator control unit rack connector:

1) For the left power channel (WDM 24-21-11), use this table:

Component	Pin	Component	Pin
L GCU M144	D2108B pin A15	GROUND	---
L GCU M144	D2108B pin B15	GROUND	---
L GCU M144	D2108B pin C15	GROUND	---

2) For the right power channel (WDM 24-21-21), use this table:

Component	Pin	Component	Pin
R GCU M146	D2070B pin A15	GROUND	---
R GCU M146	D2070B pin B15	GROUND	---
R GCU M146	D2070B pin C15	GROUND	---

(b) If you find continuity in the last step, replace the L (or R) generator control unit L M144, R M146 (MM 24-22-02/401).

LEFT AND RIGHT POWER CHANNELS - TABLE 102

(c) If you find no continuity in the last step, do a check for continuity between these points on the IDG (WDM 24-21-11, WDM 24-21-21).

Component	Pin	Component	Pin
L (R) IDG	T1	L (R) IDG	N
L (R) IDG	T2	L (R) IDG	N
L (R) IDG	T3	L (R) IDG	N

(d) If you find no continuity in the last step, replace the L (R) IDG (MM 24-11-01/401).

(e) If you find continuity in the last step, correct any open circuit or short circuit between points:

1) For the left power channel (WDM 24-21-11), use this table:

Component	Pin	Component	Pin
L GCB C901	T1	L IDG	T1
L GCB C901	T2	L IDG	T2
L GCB C901	T3	L IDG	T3
L IDG G12	N	GROUND	---
L GCB C901	T1	L GCU M144	D2108B pin A15
L GCB C901	T2	L GCU M144	D2108B pin B15
L GCB C901	T3	L GCU M144	D2108B pin C15

LEFT AND RIGHT POWER CHANNELS - TABLE 102

2) For the right power channel (WDM 24-21-21), use this table:

Component	Pin	Component	Pin
R GCB C903	T1	R IDG	T1
R GCB C903	T2	R IDG	T2
R GCB C903	T3	R IDG	T3
R IDG G12	N	GROUND	---
R GCB C903	T1	R GCU M146	D2070B pin A15
R GCB C903	T2	R GCU M146	D2070B pin B15
R GCB C903	T3	R GCU M146	D2070B pin C15

BJ. OPPOSITE BUS OVERLOAD Message
(1) Corrective Action
(a) An UNDER VOLT TRIP message will be generated on the same channel as the OPPOSITE BUS OVERLOAD message. Do these checks:
1) The Opposite Main Channel's GALLEY BUS, UTILITY BUS, MAIN BUS, or GROUND SERVICE BUS LOAD--SHORT TO GROUND (WDM 24-21-11, WDM 24-21-21, WDM 24-51-52).

BK. OVERCURRENT TRIP Message (AIRPLANES WITH L TRU CIRCUIT BREAKER, 31EE2, ON P31 PANEL)
(1) Corrective Action
(a) If the left or right channel shows messages DP TRIP and IDG/GEN CT WIRING, do these checks:
1) AIRPLANES WITH RB211 ENGINES;
IDG CT--OPEN OR SHORT (WDM 24-21-11, WDM 24-21-21)

LEFT AND RIGHT POWER CHANNELS - TABLE 102

Component	Pin	Component	Pin
L IDG	D1396A-12,13, 14	IDG	D1396A-3
R IDG	D1396A-12,13, 14	IDG	D1396A-3

2) AIRPLANES WITH RB211 ENGINES;
CT WIRING--OPEN OR SHORT (WDM 24-21-11, WDM 24-21-21)

Component	Pin	Component	Pin
L IDG	D1396A-3,12, 13,14	M144	D2108B-A13, B13,C13,D13
R IDG	D1396A-3,12, 13,14	M146	D2070B-A13, B13,C13,D13

BL. OVER FREQ TRIP Message
(1) Corrective Action
(a) If the IDG/PMG/WIRING message shows on the same channel as the OVER FREQ TRIP, replace L (R) IDG (MM 24-11-01/401).
(b) If GCU FAILED CODE 6D message shows on the same channel as the OVER FREQ TRIP, replace the L (R) GCU M144 (M146) (MM 24-22-02/401).

BM. OVER VOLT TRIP Message
(1) Corrective Action
(a) Look for the related messages on the same power channel to isolate the cause of the OVER VOLT TRIP. Related messages include:
- FIELD/WIRING
- GEN WIRING
- GCU FAILED
- GCU/FIELD/WIRING
- GEN/WIRING/GCU

LEFT AND RIGHT POWER CHANNELS - TABLE 102

(b) Correct the problem for these related messages. If the OVER VP:T TRIP and the GCU FAILED shows, do a check for open circuit between IDG terminal N and ground (WDM 24-21-11, WDM 24-21-21). Repair as necessary. If one of the related messages is not shown, replace (R) generator control unit L GCU, M144, R GCU, M146 (MM 24-22-02/401).

BN. OVERLAP CT WIRING/GCU Message

(1) Corrective Action

(a) Remove the GCU (MM 24-22-02/401).
Do a check for continuity between these points of the generator control unit rack connector.
Each lead goes through a current transformer winding and has a resistance of approximately 9 ohms.

NOTE: This message will show on the left or right power channel if the channel left or right bus tie breaker is closed, while the left or right 115v ac bus total load is less than 10 amps. There is no failure.

1) For the left power channel (WDM 24-23-11), use this table:

Component	Pin	Component	Pin
L GCU M144	D2108B pin A10	L GCU M144	D2108B pin D10
L GCU M144	D2108B pin B10	L GCU M144	D2108B pin D10
L GCU M144	D2108B pin C10	L GCU M144	D2108B pin D10

2) For the right power channel (WDM 24-23-11), use this table:

LEFT AND RIGHT POWER CHANNELS - TABLE 102

Component	Pin	Component	Pin
R GCU M146	D2070B pin A10	R GCU M146	D2070B pin D10
R GCU M146	D2070B pin B10	R GCU M146	D2070B pin D10
R GCU M146	D2070B pin C10	R GCU M146	D2070B pin D10

(b) If you find continuity in the last step, replace the L (R) generator control unit L M144, R M146 (MM 24-22-02/401).
(c) If you find no continuity in the last step, replace the L (R) overlap current transformer L T127, R T128 (MM 24-23-01/401).

BO. OVERLAP ZONE Message
(1) Corrective Action
(a) A DP TRIP message will be generated on the same channel as the OVERLAP ZONE message.
(b) Isolate the failure with the DP TRIP message.

BP. OVERLOAD Message
(1) Corrective Action
(a) An UNDER VOLT TRIP message will be generated on the same channel as the OVERLOAD message.
(b) Isolate the failure with the UNDER VOLT TRIP message.
(c) If the problem continues, do a check for a short circuit to ground at the MAIN CHANNEL's GALLEY BUS, UTILITY BUS, MAIN BUS, or GROUND SERVICE BUS LOAD (WDM 24-21-11, WDM 24-21-21, WDM 24-51-52).

BQ. REPLACE GCU (all codes except 6A, 6E, and 58) Message
(1) Corrective Action
(a) Do the steps for GCU FAILED (all codes except 6A, 6E, and 58)

LEFT AND RIGHT POWER CHANNELS - TABLE 102

BR. REPLACE GCU 3E Message
(1) Corrective Action
(a) Do the steps for GCU FAILED CODE 3E.

BS. REPLACE GCU 6A Message
(1) Corrective Action
(a) Do the steps for GCU FAILED CODE 6A.

BT. REPLACE GCU 58 Message
(1) Corrective Action
(a) Do the steps for GCU FAILED CODE 58.

BU. REPLACE GCU D9 Message
(1) Corrective Action
(a) Do the steps for GCU FAILED TRIP.

BV. REPLACE GCU (XX) Message
(1) Corrective Action
(a) Do the steps for GCU FAILED CODE XX.

NOTE: XX are numeric codes.

BW. REPLACE GEN (DIODE) Message
(1) Corrective Action
(a) Do the steps for GEN DIODE.

BX. REPLACE IDG OVERTEMP Message
(1) Corrective Action
(a) Do the steps for IDG OVERTEMP.

BY. SERIAL DATA LINK FAILED Message
(1) Corrective Action
(a) Do the steps for INTRMT LINK.

LEFT AND RIGHT POWER CHANNELS - TABLE 102

BZ. SERVICE IDG Message
(1) Corrective Action
(a) Service the left (right) IDG (AMM 12-13-03/301).

CA. SHORTED PMG TRIP Message
(1) Corrective Action
(a) Look for a related message on the same power channel to isolate the cause of the SHORTED PMG TRIP. Related messages include:
- GCU FAILED (except ignore GCU FAILED 6c if GCU/WIRING/GCU is displayed).
- PMG/FIELD/WIRING/GCU
- GEN/FIELD WIRING/GCU
(b) Correct any of these related messages. If one of the above messages does not show, replace the L (R) generator control unit L GCU M144, R GCU M146 (MM 24-22-02/401).

CB. SPEED LOSS IN FLIGHT Message
(1) Corrective Action
(a) Remove the L (R) GCU (MM 24-22-02) and correct any open circuit between these points:
1) For the left power channel (WDM 24-22-11), use this table:

Component	Pin	Component	Pin
L GCU M144	D2108A pin A11	GROUND	---

2) For the right power channel (WDM 24-22-21), use this table:

Component	Pin	Component	Pin
R GCU M146	D2070A pin A11	GROUND	---

a) Install the L (R) GCU (MM 24-22-02/401).

LEFT AND RIGHT POWER CHANNELS - TABLE 102

b) If the problem continues, replace the IDG (MM 24-11-01/401).

CC. TIE BUS Message
(1) Corrective Action
(a) A DP TRIP message will show on the same channel as the TIE BUS message.
(b) Isolate the problem with the DP TRIP message.

CD. UNDER FREQ TRIP Message
(1) Corrective Action
(a) If the IDG OVERTEMP message shows on the same channel as the UNDER FREQ TRIP, replace the L(R) IDG (MM 24-11-01/401)
(b) If the GCU FAILED CODE 6D, 6F, 63 or 74 message shows on the same channel as the UNDER FREQ TRIP, replace L (R) GCU M144 (M146) (MM 24-22-02/401).
(c) If any of these messages:
- IDG/PMG/WIRING
- LOW OIL PRESSURE
- SPEED LOSS IN FLIGHT
shows on the same channel as the UNDER FREQ TRIP message, correct that message.
(d) If none of the above messages are shown, replace the L (R) GCU (MM 24-22-02).

CE. UNDER VOLT TRIP Message
(1) Corrective Action
(a) Look for a related message on the same power channel to isolate the cause of the UNDER VOLT TRIP message. Related messges include:
- FIELD/WIRING
- GEN/WIRING
- GCU FAILED
- GCU/FIELD/WIRING
- GEN/WIRING/GCU
- OPEN/POR/FDR/GEN
- OPPOSITE BUS OVERLOAD
- OVERLOAD
(b) Correct any of these related messages. If the UNDER VOLT TRIP and GCU FAILED show, do a check for open circuit between the IDG terminal N and ground (WDM 24-21-11, WDM 24-21-21). Repair as necessary. If one the above messages does not show, replace the L (R) generator control unit L GCU M144, R GCU M146 (MM 24-22-02/401).

5. TABLE 103 - APU Power Channel

A. Table 103 has messages and corrections for the APU Power Channel.

Messages in table 103 APU Power Channel
+28V TO CONTROL SW
APU GEN/PMG WIRING
APU/PMG WIRING
APU READY/WIRING
CT LOOP GND
DP TRIP
EXCITATION TRIP
FIELD/WIRING GEN/WIRING
FIRE TRIP
GCB AUX/WIRING
GCB/BTB/WIRING/GCU
GCB/WIRING/GCU
GCU CIRCUIT BREAKER OPEN
GCU FAILED
GCU FAILED TRIP
GCU/FIELD/WIRING
GEN
GEN CONT SW/GCB COIL/GCU

Messages in table 103 APU Power Channel
GEN CONT SW/WIRE/GCU
GEN DIODE
GEN DIODE TRIP
GEN TRIP
GEN/FDR
GEN/WIRING/GCU
IDG/PMG/WIRING
INTERMITTENT LINK
MAIN BUS
NO RESPONSE FROM CONTROL
OPEN PHASE TRIP
OPEN POR/FDR/GEN
OVER CURRENT TRIP
OVER FREQ TRIP
OVER VOLT TRIP
OVERLAP ZONE
OVERLOAD
PMG/FIELD/WIRING/GCU
REPLACE GCU
SHORT PMG TRIP
SPEED LOSS IN FLIGHT
TIE BUS
UNDER FREQ TRIP
UNDER VOLT

Messages in table 103
APU Power Channel

APU POWER CHANNEL - TABLE 103

B. +28V TO CONTROL SW Message
(1) Corrective Action
(a) Replace the electrical system control panel M10063 (MM 24-22-01/401).
(b) If the problem continues, replace the generator field and hydraulic control panel M1087 (MM 24-22-04/401).

C. APU GEN/PMG WIRING Message
(1) Corrective Action
(a) Do the steps for APU/PMG WIRING.

D. APU/PMG WIRING Message
(1) Corrective Action
(a) If the OVER FREQ TRIP message also shows on APU power channel, replace the APU generator (MM 24-21-01/401).
(b) If the problem continues, do these steps:
1) Remove the APU GCU (MM 24-22-02/401). and do a check for continuity between these pins of APU generator control unit rack connector. The resistance must be 1.4 ohms line to line at 77°F (WDM 24-21-41):

Component	Pin	Component	Pin
APU GCU	D1850C pin 2	APU GCU	D1850C pin 3
APU GCU	D1850C pin 2	APU GCU	D1850C pin 4
APU GCU	D1850C pin 3	APU GCU	D1850C pin 4

2) If you find continuity in the last step, replace the APU generator control unit APU GCU M143 (MM 24-22-02/401).
3) If you find no continuity in the last step, do a check for continuity between these points on the APU generator. The resistance must be 1.4 ohms line to line at 77°F (WDM 24-21-41):

Component	Pin	Component	Pin
APU Gen	D2238 pin 1	APU Gen	D2238 pin 6
APU Gen	D2238 pin 1	APU Gen	D2238 pin 7
APU Gen	D2238 pin 6	APU Gen	D2238 pin 7

APU POWER CHANNEL - TABLE 103

4) If you find no continuity in the last step, replace the APU generator (MM 24-21-01/401).
5) If you find continuity in the last step, correct the open circuit or short circuit between these points (WDM 24-21-41):

Component	Pin	Component	Pin
APU Gen	D2238 pin 1	APU GCU	D1850C pin 2
APU Gen	D2238 pin 6	APU GCU	D1850C pin 3
APU Gen	D2238 pin 7	APU GCU	D1850C pin 4

E. APU READY/WIRING Message
(1) Corrective Action
(a) If the problem continues, replace the APU fire switch (MM 26-22-01/401).
(b) Replace the auxiliary power control unit (AMM 49-61-05/201).
(c) If the problem continues, replace the APU generator control unit (M143) (MM 24-22-02/401).

F. CT LOOP GND Message
(1) Corrective Action
(a) Replace the APU generator control unit M143 (MM 24-22-02/401).
1) If the problem continues, remove the APU GCU (MM 24-22-02/401).
Do a check to see if there is a short circuit to ground at these points (WDM 24-23-11, WDM 24-21-41):

Point	Component	Pin
A	APU GCU	D1850B pin D13
B	APU GCU	D1850B pin D12

2) If you found no ground at the two points in the last step, replace the APU GCU M143 (MM 24-22-02/401).
3) If you found a ground at point A, check to see if there is a short circuit to ground on the APU generator pin D2238B pin 3 (WDM 24-21-41).
a) If you found a ground, replace the APU generator (MM 24-21-01/401).
b) If you found no ground at the APU generator, correct any short circuit to ground or short circuit to adjacent wiring between these points (WDM 24-21-41):

APU POWER CHANNEL - TABLE 103

Component	Pin	Component	Pin
APU GCU	D1850B pin A13	APU Gen	D2238 pin 12
APU GCU	D1850B pin B13	APU Gen	D2238 pin 13
APU GCU	D1850B pin C13	APU Gen	D2238 pin 14
APU GCU	D1850B pin D13	APU Gen	D2238 pin 3

c) Install the APU GCU (MM 24-22-02/401).

4) If you found a ground at point B, check to see if there is a short circuit to ground at D2228 pin 4 of the APU Gen DPCT assembly T111 (WDM 24-23-11).
   a) If you find a short circuit to ground at the DPCT assembly, replace the APU Gen DPCT T111 (MM 24-23-01/401).
   b) If you find no ground, correct any short circuit to ground or short circuit to adjacent wiring between these points (WDM 24-23-11).

Component	Pin	Component	Pin
APU GCU	D1850B pin A12	DPCT T111	D2228 pin 1
APU GCU	D1850B pin B12	DPCT T111	D2228 pin 2
APU GCU	D1850B pin C12	DPCT T111	D2228 pin 3
APU GCU	D1850B pin D12	DPCT T111	D2228 pin 4

c) Install the APU GCU (AMM 24-22-02/401).

G. DP TRIP Message (AIRPLANES WITH L TRU CIRCUIT BREAKER, 31EE2, ON P31 PANEL)
   (1) Corrective Action
      (a) The DP TRIP message is accompanied by additional messages. Review the list below to find these messages and the appropriate troublshooting steps.
      (b) If the APU channel shows the message DP TRIP and GEN/FDR, do these checks:
         1) GENERATOR FEEDER--SHORT TO GROUND (WDM 24-21-41)

APU POWER CHANNEL - TABLE 103

Component	Pin	Component	Pin
M281	T1,T2,T3	C905	T1,T2,T3

2) CT WIRING--OPEN (WDM 24-21-41)

Component	Pin	Component	Pin
M281	D2238-3,12, 13,14	M143	D1850B-A13, B13,C13,D13

3) POR SENSE WIRING--SHORT TO GROUND (WDM 24-21-41)

Component	Pin	Component	Pin
C905	T1,T2,T3	M143	D1850B-A15, B15,C15

4) APU GEN MAIN STATOR WINDING--OPEN OR SHORT (WDM 24-21-41)

Component	Pin	Component	Pin
M281	T1,T2,T3	M281	N

5) APU GEN CT--OPEN OR SHORT (WDM 24-21-41)

Component	Pin	Component	Pin
M281	D2238-12,13,14	M281	D2238-3

6) GROUND HANDLING FEEDER--SHORT TO GROUND (WDM 24-51-61)

APU POWER CHANNEL - TABLE 103

Component	Pin	Component	Pin
C905	T1,T2,T3	C321	TERMINALS A1, B1,C1

7) GROUND SERVICE BUS FEEDER--SHORT TO GROUND (WDM 24-51-52)

Component	Pin	Component	Pin
C905	T1,T2,T3	C322	TERMINALS A1, B1,C1

8) REPLACE THE APU GCU M143 (AMM 24-22-02/401)

(c) If the APU channel shows the messages DP TRIP and OVERLAP ZONE, do the following check:

1) GENERATOR FEEDER--SHORT TO GROUND (WDM 24-21-41)

Component	Pin	Component	Pin
C905	L1,L2,L3	T111	

2) PHASE B LOAD BUS VOLT SENSE WIRING--SHORT TO GROUND (WDM 24-22-41)

Component	Pin	Component	Pin
C905	L2	M143	D1850A-C15

H. DP TRIP Message (AIRPLANES WITH L TRU CIRCUIT BREAKER, 6C17, ON P6 PANEL)

(1) Corrective Action

(a) Do the steps for DP TRIP message in Table 102.

APU POWER CHANNEL - TABLE 103

I. EXCITATION TRIP Message
(1) Corrective Action
(a) Remove the APU GCU (MM 24-22-02/401), and do a check for continuity between these pins of the APU generator control unit rack connector. The resistance must be 7.5 ±0.75 ohms at 77°F (WDM 24-21-41):

Component	Pin	Component	Pin
APU GCU	D1850B pin A1	APU GCU	D1850B pin B1

(b) If you find no continuity, do a check for continuity between these points on the APU generator. The resistance must be 7.5 ±0.75 ohms at 77°F (WDM 24-21-41):

Component	Pin	Component	Pin
APU Gen	D2238 pin 9	APU Gen	D2238 pin 10

1) If you find no continuity, replace the APU generator (MM 24-21-01/401).
2) If you find continuity, correct the open circuit or short between these points (WDM 24-21-41):

Component	Pin	Component	Pin
APU GCU	D1850B pin A1	APU Gen	D2238 pin 9
APU GCU	D1850B pin B1	APU Gen	D2238 pin 10

APU POWER CHANNEL - TABLE 103

a) Install the APU GCU (MM 24-22-02/401).

(c) If you find continuity in the first step "Remove the APU GCU (MM 24-22-02/401), and do a check . . .", do a check for continuity to ground from these points of the APU generator control unit rack connector. The resistance must be less than 1 ohm (WDM 24-21-41):

Component	Pin	Component	Pin
APU GCU	D1850B pin A15	GROUND	---
APU GCU	D1850B pin B15	GROUND	---
APU GCU	D1850B pin C15	GROUND	---

1) Install the APU GCU (MM 24-22-02/401).

(d) If you find no continuity in the last step, do a check for continuity between these points on the APU generator. The resistance must be less than 1 ohm (WDM 24-21-41):

Component	Pin	Component	Pin
APU Gen	T1	APU Gen	N
APU Gen	T2	APU Gen	N
APU Gen	T3	APU Gen	N

1) If you find no continuity, replace the APU generator (MM 24-21-01/401).

APU POWER CHANNEL - TABLE 103

2) If you find continuity, correct any open circuit or short circuit between these points (WDM 24-21-41):

Component	Pin	Component	Pin
APU Gen	N	Ground	---
APU Gen	T1	APB C905	L3
APU Gen	T2	APB C905	L2
APU Gen	T3	APB C905	L1
APB C905	L3	APB Gen	D1850 pin A15
APB C905	L2	APB Gen	D1850 pin B15
APB C905	L1	APB Gen	D1850 pin C15

(e) If you found no failure, replace the APU generator control unit M143 (MM 24-22-02/401).

J. FIELD/WIRING Message
(1) Corrective Action
(a) Do a check for resistance between these points on the APU generator. The resistance must be 7.5 ±0.75 ohms at 77°F (WDM 24-21-41):

Component	Pin	Component	Pin
APU Gen	D2238 pin 9	APU Gen	D2238 pin 10

APU POWER CHANNEL - TABLE 103

(b) If the resistance is not satisfactory, replace the APU generator (MM 24-21-01/401).
(c) If the resistance is satisfactory, correct any short circuit to ground or open circuit between these points (WDM 24-21-41):

Component	Pin	Component	Pin
APU GCU	D1850B pin A1	APU Gen	D2238 pin 9
APU GCU	D1850B pin B1	APU Gen	D2238 pin 10

(d) If the problem continues:
1) Replace the GCU M143 (MM 24-22-02).

K. FIRE TRIP Message
(1) Corrective Action
(a) This indication shows when the APU fire switch on P8 is armed. Refer to the log book to determine why the fire switch was activated. This message by itself does not mean there is an electrical system problem.
(b) If a fire occurred, do a check for damage to the electrical components in that area.
(c) If the fire switch was not armed, replace the APU fire switch (MM 26-22-01/401).

L. GCB AUX/ WIRING Message
(1) Corrective Action
(a) Replace the auxiliary power breaker C905 (MM 24-22-03/401).
(b) If the problem continues, replace the APU generator control unit M143 (MM 24-22-02/401).

M. GCB/BTB/ WIRING/GCU Message
(1) Corrective Action
(a) Replace the auxiliary power breaker C905 (MM 24-22-03/401).
(b) If the problem continues, replace the APU generator control unit M143 (MM 24-22-02/401).
(c) If the problem continues, correct any short circuit to ground which exists at these pins of the APU GCU rack connector (WDM 24-22-41).
1) D1850A pin B1

2) D1850A pin C1
3) D1850A pin C5
a) Install the APU GCU (MM 24-22-02/401).

N. GCB/WIRING/GCU Message
(1) Corrective Action
(a) Replace the auxiliary power breaker C905 (MM 24-22-03/401).
(b) If the problem continues, replace the APU generator control unit M143 (MM 24-22-02/401).

O. GCU CIRCUIT BREAKER OPEN Message
(1) Corrective Action
(a) Do a check to see if a circuit breaker on APU generator control unit M143 is open. If neither circuit breaker on the APU GCU is open, replace the APU GCU M143 (MM 24-22-02/401).
(b) If CB1 on the APU GCU is open, replace the electrical system control panel (MM 24-22-01/401).
(c) If the problem continues, replace the generator field and hydraulic control panel (MM 24-22-04/401).
(d) If the problem continues, measure the resistance between pins 39 and 40 of the auxiliary power breaker C905. The resistance must be 3.8 ±0.8 ohms.
(e) If necessary, replace the APB C905 (MM 24-22-03/401).
(f) If the problem continues or you find no failure, replace the APU fire switch (MM 26-22-01/401).
(g) If the problem continues or you find no failure, replace the APU GCU (MM 24-22-02/401).
(h) If the CB2 on the APU GCU is open, replace the auxiliary power breaker C905 (MM 24-22-03/401).
(i) If the problem continues, replace the APU GCU (MM 24-22-02/401).

P. GCU FAILED CODE 6A OR 6E Message
(1) Corrective Action
(a) Ignore this message. No action is necessary.

APU POWER CHANNEL - TABLE 103

Q. GCU FAILED CODE 58 Message
(1) Corrective Action
(a) Operate the L (R) BUS TIE switch, then push the PERIODIC TEST switch on the BPCU (FIM 24-20-00/101).
(b) If the GCU FAILED CODE 1E shows, replace the APU generator control unit M143 (AMM 24-22-02/401).
(c) If the GCU FAILED CODE 1E does not show, ignore the GCU FAILED CODE 58 message.

R. GCU FAILED CODE (ALL CODES EXCEPT 6A, 6E AND 58) Message
(1) Corrective Action
(a) Replace the APU GCU M143 (MM 24-22-02/401).

S. GCU FAILED TRIP Message
(1) Corrective Action
(a) Replace the APU GCU M143 (MM 24-22-02/401).

T. GCU/FIELD/ WIRING Message
(1) Corrective Action
(a) Remove the APU GCU (MM 24-22-02/401).
Do a check for a short circuit to ground between these pins of the APU generator control unit rack connector. Also do a continuity check between these pins.
The resistance must be 7.5 ±0.75 ohms at 77° (WDM 24-21-41)

Component	Pin	Component	Pin
APU GCU	D1850B pin A1	APU GCU	D1850B pin B1

(b) If you find a short circuit, do a check for short circuit to ground between these points on the APU generator. The resistance must be 7.5 ±0.75 ohms at 77°F (WDM 24-21-41):

APU POWER CHANNEL - TABLE 103

Component	Pin	Component	Pin
APU Gen	D2238 pin 9	APU Gen	D2238 pin 10

1) If you find a short circuit to ground, replace the APU generator (MM 24-21-01/401).
2) If you find no short circuit in the last step, correct any short circuit between these points (WDM 24-21-41):

Component	Pin	Component	Pin
APU GCU	D1850B pin A1	APU Gen	D2238 pin 9
APU GCU	D1850B pin B1	APU Gen	D2238 pin 10

(c) Install the APU GCU (MM 24-22-02/401).
(d) If you find no short circuit in first step "Remove the APU GCU (MM 24-22-02/401). Do a check for a short circuit to ground . . .", replace the APU generator control unit M143 (MM 24-22-02/401).

U. GEN Message
(1) Do the steps for GEN DIODE.

V. GEN CONT SW/GCB COIL/GCU Message
(1) Corrective Action
(a) Replace the electrical system control panel M10063 (MM 24-22-01/401).

APU POWER CHANNEL - TABLE 103

(b) If the problem continues, replace the auxiliary power breaker C905 (MM 24-22-03/401).
(c) If the problem continues, replace the APU generator control unit M143 (MM 24-22-02/401).

W. GEN CONT SW/WIRE/GCU Message
(1) Corrective Action
(a) Replace the electrical system control panel M10063 (MM 24-22-01/401).
(b) If the problem continues, replace the APU generator control unit M143 (MM 24-22-02/401).

X. GEN DIODE Message
(1) Corrective Action
(a) Replace the APU generator (MM 24-21-01/401).

NOTE: You must replace the APU generator although you can set it with the APU GEN switch.

Y. GEN DIODE TRIP Message
(1) Corrective Action
(a) Look for a related message on the same power channel to isolate the cause of the GEN DIODE TRIP. Related messages include:
- GCU FAILED
- GCU/FIELD/WIRING
- GEN/WIRING GCU
- GEN DIODE GEN
(b) Correct for any message shown. If one of the above messages do not show, replace the APU generator control unit M143 (MM 24-22-02/401).

Z. GEN TRIP Message
(1) Do the steps for GEN DIODE TRIP.

APU POWER CHANNEL - TABLE 103

AA. GEN/FDR (RELATED MESSAGE OF DP TRIP) Message
(1) Corrective Action
(a) If a DP TRIP message shows on the same channel as the GEN/FDR message isolate the failure with the DP TRIP message Table 102.

AB. GEN/FDR (RELATED MESSAGE OF OPEN PHASE TRIP) Message
(1) Corrective Action
(a) If an OPEN PHASE TRIP message shows on the same channel as the GEN/FDR message, do these checks:
1) GENERATOR FEEDER--ONE OPEN PHASE (WDM 24-21-41).
M281 PINS T1,T2,T3 TO C905 PINS L1,L2,L3
2) POR SENSE WIRING--ONE OPEN PHASE OR SHORT TO GROUND (WDM 24-21-41).
C905 PINS L1,L2,L3 TO M143 D185oB-A15,B15,C15
a) Repair the wiring as necessary and install the APU GCU (MM 24-22-02/401).
3) GENERATOR MAIN STATOR--ONE OPEN PHASE (WDM 24-21-41) (MM 24-21-01/401).
4) Replace the APU GCU (AMM 24-21-01/401).

AC. GEN/WIRING/GCU Message
(1) Corrective Action
(a) Do the steps for GCU/FIELD/WIRING.

AD. INTERMITTENT LINK Message
(1) Corrective Action
(a) Make sure 28V DC backup power is available at the APU GCU M143 D185OB pin A3 (WDM 24-22-41).
1) If you find no 28V DC, repair the circuit.
(b) Make sure 28V DC backup power is available at the BPCU M116 D55OB pin B1 (WDM 24-41-11).
1) If you find no 28V DC, repair the circuit.
(c) If the problem continues, replace the APU generator control unit M143 (MM 24-22-02/401).
(d) If the problem continues, replace the bus power control unit M116 (MM 24-41-03/401).
(e) If the problem continues, repair any open circuit or short circuit to ground between these points (WDM 24-41-11):

Component	Pin	Component	Pin
APU GCU	D185OA pin A12	BPCU	D55OA pin A13
APU GCU	D185OA pin B12	BPCU	D55OA pin B13

APU POWER CHANNEL - TABLE 103

AE. MAIN BUS Message
(1) Corrective Action
(a) If an OPEN PHASE TRIP message shows on the same channel as the MAIN BUS message, do these checks:
1) FEEDER TO LOADS--ONE OPEN PHASE (WDM 24-21-41, WDM 24-21-51) C905 PINS T1,T2,T3 TO LOADS
2) REPLACE THE APB C905 (MM 24-22-03/401).
3) Replace the APU GCU M143 (AMM 24-22-02/401).

AF. NO RESPONSE FROM CONTROL Message
(1) Corrective Action
(a) If the message shows on more than one channel, continue with the wiring check.
(b) Remove the BPCU M116 (MM 24-41-03/401).
(c) Remove the GCU's M144, M146 and M143 (MM 24-22-02/401).
(d) Correct any open circuit, short circuit to ground, or short circuit to adjacent wiring between these points (WDM 24-22-12, WDM 24-22-22, WDM 24-41-11):

Component	Pin	Component	Pin
BPCU M116	D550A A12	GCU M144	D2108A pin A12
BPCU M116	D550A B12	GCU M144	D2108A pin B12
BPCU M116	D550A A14	GCU M144	D2108A pin B11
BPCU M116	D550A C12	GCU M146	D2070A pin A12
BPCU M116	D550A D12	GCU M146	D2070A pin B12
BPCU M116	D550A A14	GCU M146	D2070A pin B11
BPCU M116	D550A A13	GCU M143	D1850A pin A12
BPCU M116	D550A B13	GCU M143	D1850A pin B12
BPCU M116	D550A A14	GCU M143	D1850A pin B11

APU POWER CHANNEL - TABLE 103

(e) Install the BPCU M116 (MM 24-41-03/401).
(f) Install the GCU's M144, M146 and M143 (MM 24-22-02/401).
(g) If the problem continues, and the message shows on APU channel only, replace APU generator control unit M143 (MM 24-22-02/401).
(h) If the problem continues, remove the GCU M143 (MM 24-22-02/401).
(i) Correct the open circuit or short circuit to ground between M143 D1850B-A3 to C806.
(j) Correct the open circuit between M143 D1850B-D15 to ground.
(k) Remove the BPCU M116 (MM 24-41-03/401).
(l) Correct any open circuit, short circuit to ground, or short circuit to adjacent wiring between these points (WDM 24-41-11):

Component	Pin	Component	Pin
BPCU M116	D550A A13	GCU M143	D1850A pin A12
BPCU M116	D550A B13	GCU M143	D1850A pin B12
BPCU M116	D550A A14	GCU M143	D1850A pin B11

(m) Install the BPCU M116 (MM 24-41-03/401).
(n) Install the GCU M144 (MM 24-22-02/401).

AG. OPEN PHASE TRIP message
(1) Corrective Action
(a) Look for related messages on the APU power channel to isolate the cause of the OPEN PHASE TRIP. Related messages include:
- GCU FAILED
- GEN/FDR
- MAIN BUS

APU POWER CHANNEL - TABLE 103

(b) Correct these related messages shown. If one of the above messages does not show, replace the APU generator control unit M143 (MM 24-22-02/401).

AH. OPEN POR/ FDR/GEN Message

(1) Corrective Action

(a) An UNDER VOLT TRIP message will be show on the same channel as the OPEN POR/FDR/GEN message.

1) Remove the APU GCU (MM 24-22-02/401) and do a check for continuity to ground from these points of the APU generator control unit M143 rack connector. The resistance must be approximately 0.01 ohms/winding (WDM 24-21-41).

Component	Pin	Component	Pin
APU GCU	D1850B pin A15	Ground	---
APU GCU	D1850B pin B15	Ground	---
APU GCU	D1850B pin C15	Ground	---

2) If you find continuity in the last step, replace the APU GCU M143 (MM 24-22-02/401).

3) If you find no continuity in the last step, do a check for continuity between these points on the APU generator. The resistance must be approximately 0.01 ohms/winding. (WDM 24-21-41).

Component	Pin	Component	Pin
APU Gen	T1	APU Gen	N
APU Gen	T2	APU Gen	N
APU Gen	T3	APU Gen	N

APU POWER CHANNEL - TABLE 103

4) If you find no continuity in the last step, replace the APU generator (MM 24-21-01/401).
5) If you find continuity in the last step, correct any open circuit or short circuit to ground between these points (WDM 24-21-41):

Component	Pin	Component	Pin
APB C905	L1	APU Gen	T3
APB C905	L2	APU Gen	T2
APB C905	L3	APU Gen	T1
APB C905	L1	APU GCU	D18508 pin C15
APB C905	L2	APU GCU	D18508 pin B15
APB C905	L3	APU GCU	D18508 pin A15

6) Install the APU GCU (AMM 24-22-02/401).

AI. OVER CURRENT TRIP Message (AIRPLANES WITH L TRU CIRCUIT BREAKER, 31EE2, ON P31 PANEL)
(1) Corrective Action
(a) If the APU channel shows messages OVER CURRENT TRIP and TIE BUS, do this check:
1) TIE BUS FEEDERS--SHORT TO GROUND (WDM 24-21-11, WDM 24-21-21, WDM 24-21-41)

Component	Pin	Component	Pin
K114	A2,B2,C2	T105,T107, T111	

APU POWER CHANNEL - TABLE 103

AJ. OVER FREQ TRIP Message
(1) Corrective Action
(a) Look for related messages on the APU power channel to isolate the cause of the OVER FREQ TRIP. Related messages include:
- GCU FAILED
- IDG/PMG/WIRING
- APU/PMG/WIRING
(b) Correct these related messages. If none of the above messages show, replace the APU generator control unit M143 (MM 24-22-02/401).

AK. OVER VOLT TRIP Message
(1) Corrective Action
(a) Look for related messages on the APU power channel to isolate the cause of the OVER VOLT TRIP. Related messages include:
- FIELD/WIRING
- GEN WIRING
- GCU FAILED
- GCU/FIELD/WIRING
- GEN/WIRING/GCU
(b) Correct these related messages. If none of the messages show, replace the APU generator control unit M143 (MM 24-22-02/401).

AL. OVERLAP ZONE Message
(1) Corrective Action
(a) A DP TRIP message will show on the same channel as the OVERLAP ZONE message.
(b) Isolate the failure with the DP TRIP message, Table 102.

AM. OVERLOAD Message
(1) Corrective Action
(a) An UNDERVOLT TRIP message will show on the APU channel. The left or right channel will have two messages:
- UNDER VOLT TRIP
- OPPOSITE BUS OVERLOAD

APU POWER CHANNEL - TABLE 103

(b) If the left power channel shows OPPOSITE BUS OVERLOAD message, correct any short circuit to ground on:
1) Right 115v ac bus (WDM 24-21-21)
2) Right utility bus (WDM 24-51-23)
3) Right galley bus (WDM 24-21-21)
4) AC ground service bus (WDM 24-51-52)

(c) If the right power channel shows OPPOSITE BUS OVERLOAD message, correct any short circuit to ground on:
1) Left 115v ac bus (WDM 24-21-11)
2) Left utility bus (WDM 24-51-13)
3) Left galley bus (WDM 24-21-11)

AN. PMG/FIELD/ WIRING/GCU Message

(1) Corrective Action

(a) A SHORTED PMG TRIP message will also show for the APU channel.

(b) Remove the APU GCU (MM 24-22-02/401). Do a check for a short circuit to ground or short circuit to adjacent wiring between these pins of the APU generator control unit rack connector. The resistance of windings must be 1.4 ohms line to line at 77°F (WDM 24-21-41):

Component	Pin	Component	Pin
APU GCU	D1850C pin 2	APU GCU	D1850C pin 3
APU GCU	D1850C pin 2	APU GCU	D1850C pin 4
APU GCU	D1850C pin 3	APU GCU	D1850C pin 4

1) If you find a short circuit in the last step, do a check for continuity between these points on APU generator. The resistance of the windings must be 1.4 ohms line to line at 77°F (WDM 24-21-41):

APU POWER CHANNEL - TABLE 103

Component	Pin	Component	Pin
APU Gen	D2238 pin 1	APU Gen	D2238 pin 6
APU Gen	D2238 pin 1	APU Gen	D2238 pin 7

a) If you find no continuity in the last step, replace the APU generator (AMM 24-21-01/401).
b) If you find no continuity in the last step, correct the open circuit or short circuit between these points (WDM 24-21-41):

Component	Pin	Component	Pin
APU Gen	D2238 pin 1	APU GCU	D1850C pin 2
APU Gen	D2238 pin 6	APU GCU	D1850C pin 3
APU Gen	D2238 pin 7	APU GCU	D1850C pin 4

2) Install the APU GCU (MM 24-22-02/401).
3) Do not go to the next step "If you find no short circuit in the first step . . .".

(c) If you find no short circuit in the first step "Remove the APU GCU (MM 24-22-02/401). Do a check . . .", remove the APU GCU (MM 24-22-02/401). Do a check for continuity between these pins of the APU generator control unit rack connector. The resistance must be 7.5 ±0.75 ohms at 77°F (WDM 24-21-41):

APU POWER CHANNEL - TABLE 103

Component	Pin	Component	Pin
APU GCU	D1850B pin A1	APU Gen	D2238 pin 9

1) If you found no failure, replace the APU GCU (MM 24-22-02/401).
2) If you find no continuity, correct the short circuit or open circuit between the points in the last step.
3) Install the APU GCU (MM 24-22-02/401).

AO. REPLACE GCU (all codes except 6A and 6E) Message
(1) Corrective Action
(a) Do the steps for GCU FAILED (all codes except 6A and 6E).

AP. REPLACE GCU 6A Message
(1) Corrective Action
(a) Do the steps for GCU FAILED CODE 6A.

AQ. REPLACE GCU 3E Message
(1) Corrective Action
(a) Do the steps for GCU FAILED CODE 3E.

AR. SHORT PMG TRIP Message
(1) Corrective Action
(a) Look for a related message on the APU power channel to isolate the cause of the SHORTED PMG TRIP. Related message include:
- GCU FAILED
- PMG/FIELD/WIRING/GCU
(b) Correct these related messages.
(c) If none of the above messages show, replace the APU generator control unit M143 (MM 24-22-02/401).

APU POWER CHANNEL - TABLE 103

AS. SPEED LOSS IN FLIGHT Message
(1) Corrective Action
(a) Remove the APU GCU (AMM 24-22-02/401).
(b) Correct any open circuit between these points (WDM 24-22-41):

Component	Pin	Component	Pin
APU GCU M143	D1850A pin A11	Ground	---

(c) Install the APU GCU (MM 24-22-02/401).
(d) If the problem continues, replace the APU generator control unit M143 (MM 24-22-02/401).

AT. TIE BUS Message
(1) Corrective Action
(a) A DP TRIP message will also show on the APU power channel.
(b) Isolate the DP TRIP message, Table 102.

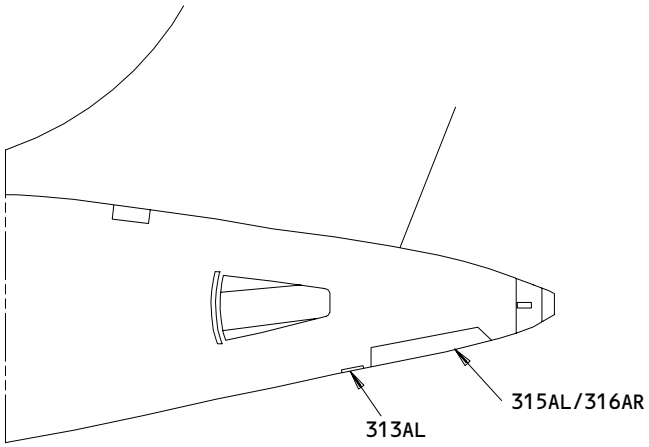
AU. UNDER FREQ TRIP Message
(1) Corrective Action
(a) Look for related messages on the APU power channel to isolate the cause of the UNDER FREQ TRIP. Related messages include:
1) GCU FAILED
2) IDG/PMG/WIRING
3) APU/PMG/WIRING
(b) Correct these related messages. If none of the above messages show, replace the APU generator control unit M143 (AMM 24-22-02/401).

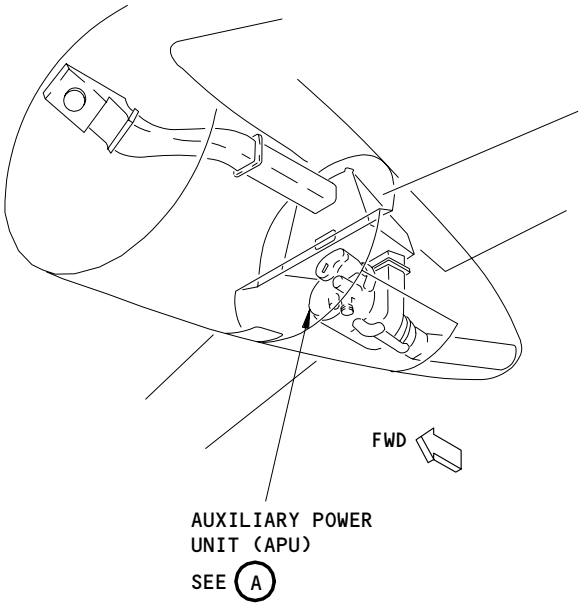
AV. UNDER VOLT Message
(1) Corrective Action
(a) Look for a related message on the APU power channel to isolate the cause of the UNDER VOLT TRIP. Related messages include:
1) FIELD/WIRING
2) GEN/WIRING
3) GCU FAILED
4) GCU/FIELD/WIRING
5) GEN/WIRING/GCU
6) OPEN POR/FDR/GEN
7) OVERLOAD
(b) Correct these related messages. If none of the above messages show, replace the APU generator control unit M143 (MM 24-22-02).

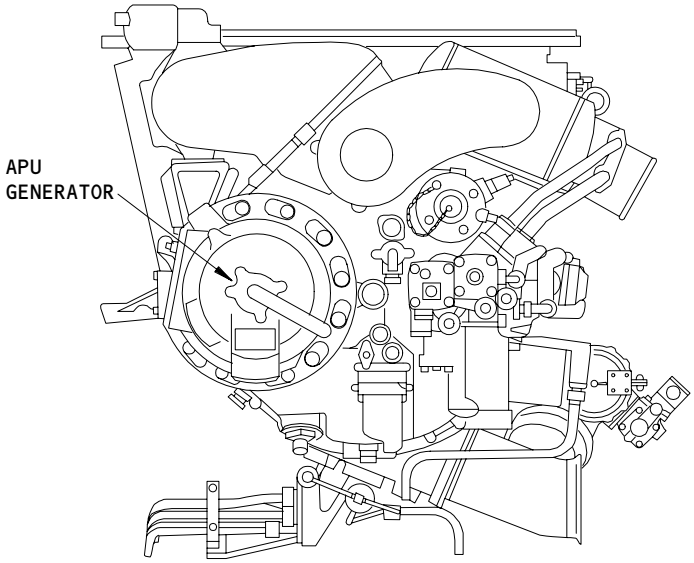
POWER AND REGULATION

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
GENERATOR - APU	--	1	APU, 315AL, 316AR	24-21-01

Power and Regulation - Component Index
Figure 101







AUXILIARY POWER UNIT (APU)
(VIEW IN THE AFT DIRECTION)

(A)

Power and Regulation - Component Location
Figure 102

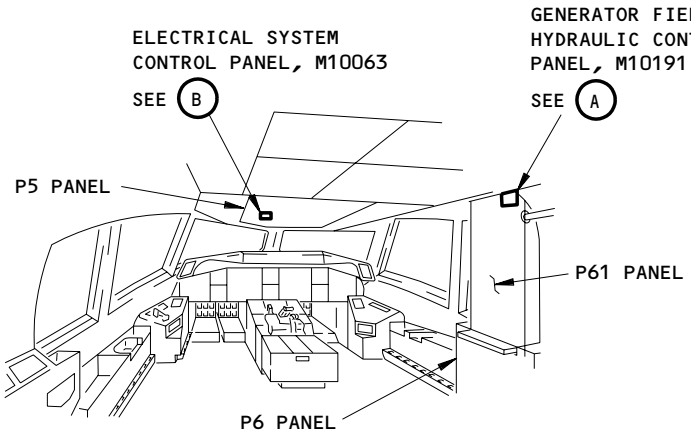
CONTROL

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –			FLIGHT COMPARTMENT, P6	
GEN CONT UNIT APU, C806		1	6B3	
CIRCUIT BREAKER – (FIM 31-01-31/101)				
LEFT BUS TIE, C902				24-22-03
LEFT GENERATOR, C901				24-22-03
CIRCUIT BREAKER – (FIM 31-01-32/101)				
RIGHT BUS TIE, C904				24-22-03
RIGHT GENERATOR, C903				24-22-03
CIRCUIT BREAKER – (FIM 31-01-34/101)				
AUX POWER, C905				24-22-03
PANEL – GENERATOR FIELD AND HYDRAULIC CONTROL, M10191 [1]	1	1	FLIGHT COMPARTMENT, P61	24-22-04
PANEL – ELECTRICAL SYSTEM CONTROL, M10063	1	1	FLIGHT COMPARTMENT, P5	24-22-01
UNIT – APU GENERATOR CONTROL, M143	2	1	821, MAIN EQUIPMENT CENTER, E5-3 [2]	24-22-02
UNIT – LEFT GENERATOR CONTROL, M144	2	1	821, MAIN EQUIPMENT CENTER, E5-1 [2]	24-22-02
UNIT – RIGHT GENERATOR CONTROL, M146	2	1	821, MAIN EQUIPMENT CENTER, E5-2 [2]	24-22-02

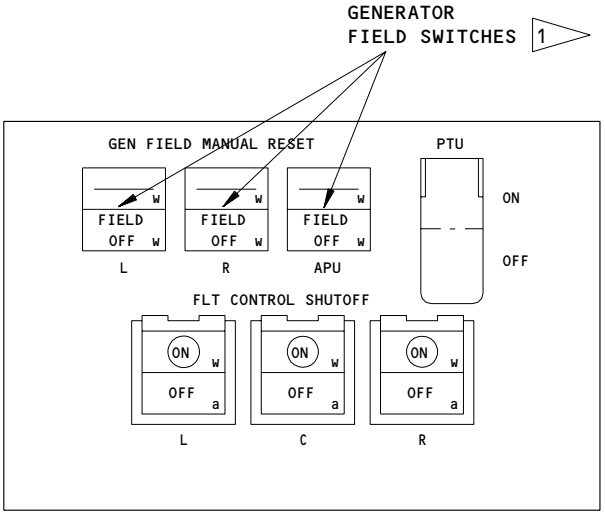
[1] IF INSTALLED

[2] ACCESS TO GCU THROUGH THE FOLLOWING PANEL AT THE FORWARD END OF THE FORWARD CARGO COMPARTMENT:
757-200
122AZ
757-300
122CZ

Control – Component Index
Figure 101

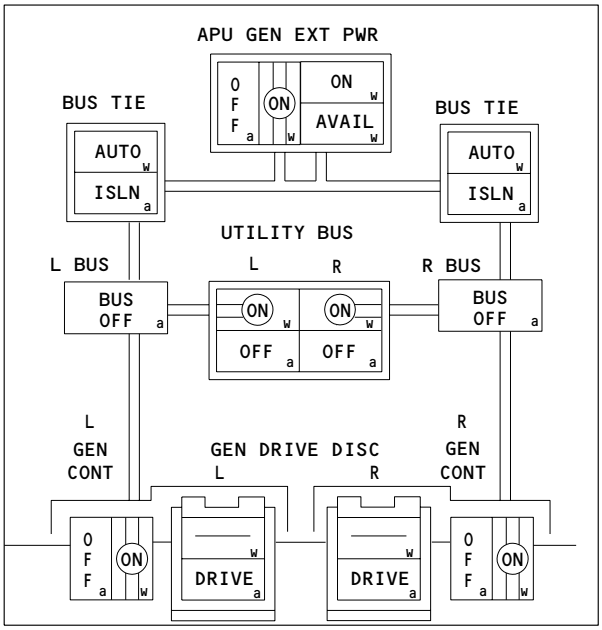


FLIGHT COMPARTMENT



GENERATOR FIELD AND HYDRAULIC
CONTROL PANEL, M10191 (P61)

A

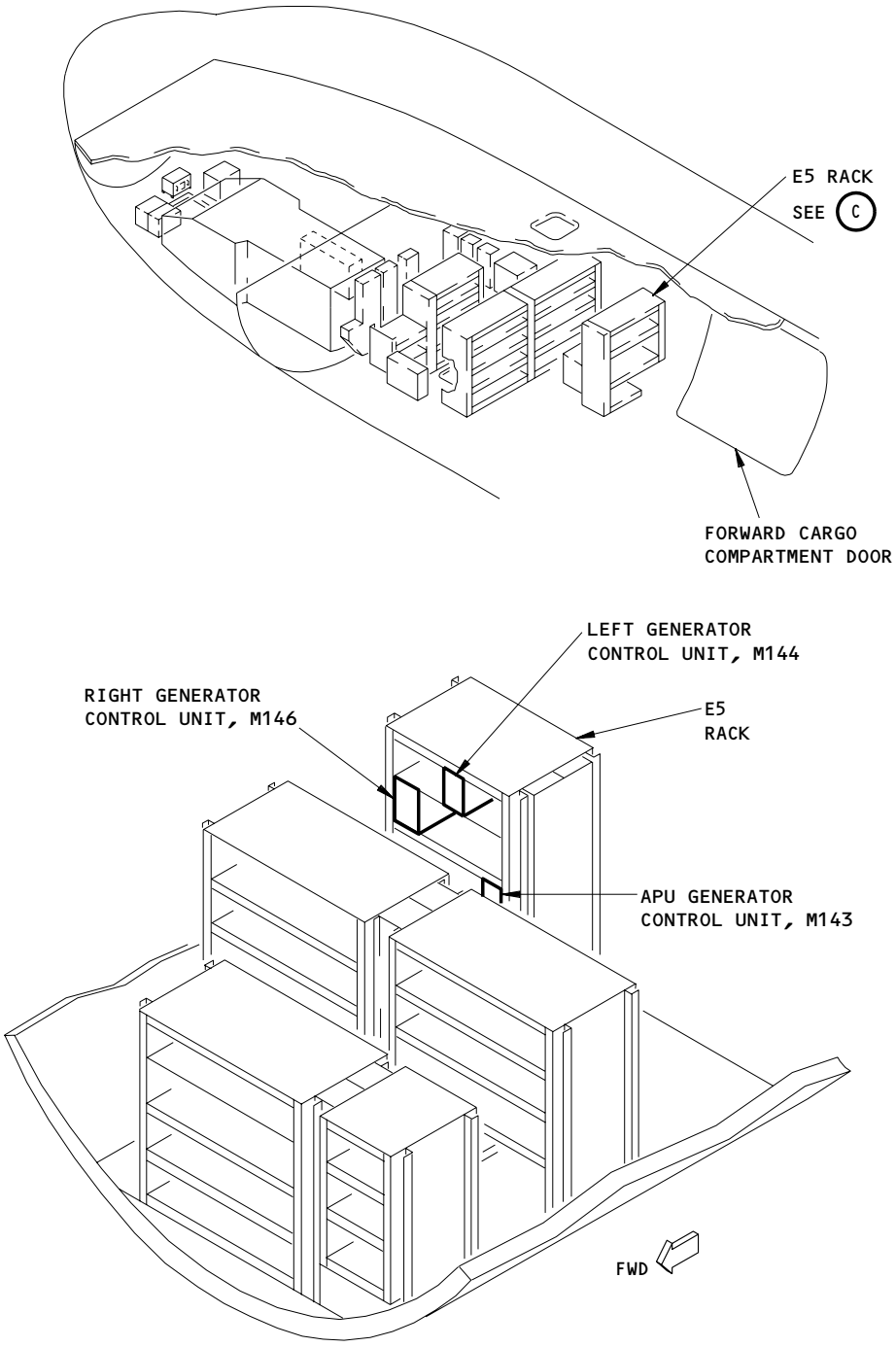


ELECTRICAL SYSTEM CONTROL
PANEL, M10063 (P5)

B

1 IF INSTALLED

Control - Component Location
Figure 102 (Sheet 1)



MAIN EQUIPMENT CENTER

C

Control - Component Location
Figure 102 (Sheet 2)

PREREQUISITES

MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (MM 31-41-00/201)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6A17,6A23,6C23,6H8,6M16,6M17,6M18,11Q33,11Q34,
11Q35,11Q36

MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:
ELECTRICAL POWER IS ON (MM 24-22-00/201)

EICAS MSG "CAPT INSTR XFER" DISPLAYED

1 PUSH THE "BUS TIE" SWITCHES ON THE P5 PANEL TO THE "AUTO" POSITION.
DOES THE EICAS MESSAGE "CAPT INSTR XFER" SHOW AFTER THE PREREQUISITES ARE COMPLETED?

YES → 5 REPLACE THE CAPTAIN'S INSTRUMENT BUS VOLTAGE SENSING UNIT M10374 (MM 24-51-08/401).
PUSH THE "ECS/MSG" SWITCH ON THE EICAS MAINT PANEL ON THE P61 PANEL. MAKE SURE THE EICAS MESSAGE "CAPT INSTR XFER" DOES NOT SHOW.

NO

2 THE SYSTEM IS OK.

EICAS Msg CAPT INSTR XFER Displayed
Figure 103

PREREQUISITES

MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (MM 31-41-00/201)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6A17,6A23,6C23,6D8,6M22,6M23,6M24,11Q6,11Q7,11Q8,
11Q9

MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:
ELECTRICAL POWER IS ON (MM 24-22-00/201)

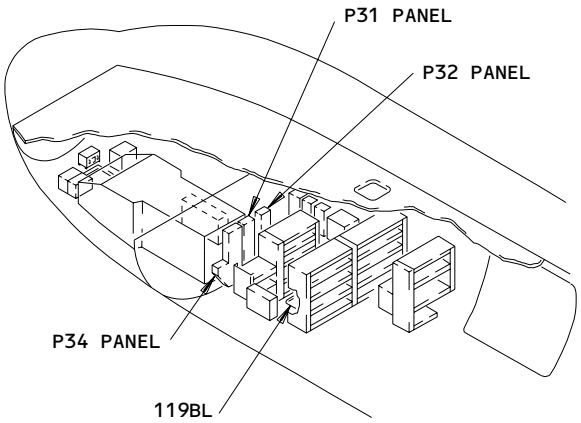
EICAS MSG "F/O INSTR XFER" DISPLAYED

EICAS Msg F/O INSTR XFER Displayed
Figure 104

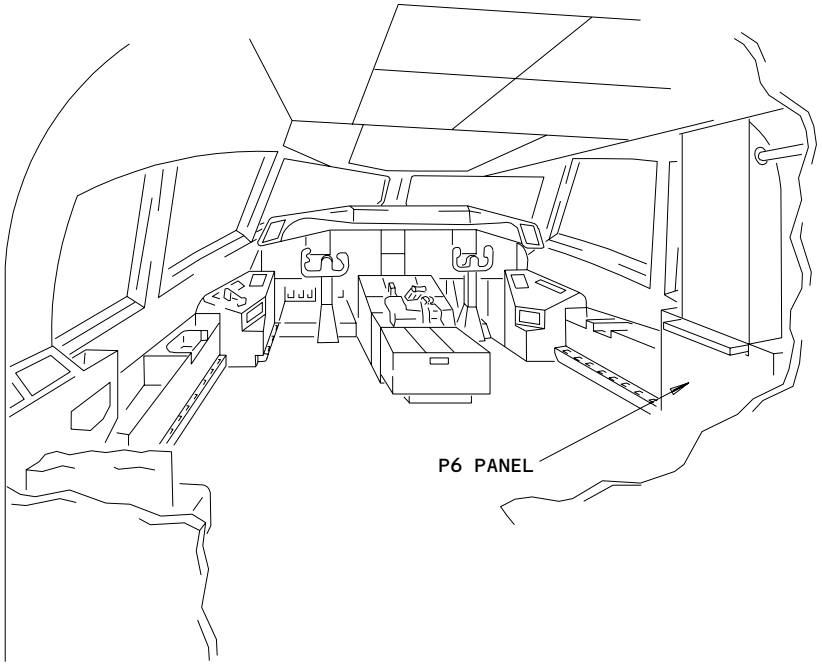
AC POWER FAULT SENSING

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
CIRCUIT BREAKERS - (REF 24-22-00, FIG. 101)				
AUX POWER, C905				
LEFT BUS TIE, C902				
LEFT GENERATOR, C901				
RIGHT BUS TIE, C904				
RIGHT GENERATOR, C903				
GENERATOR - (REF 24-11-00, FIG. 101)				
INTEGRATED DRIVE, M10160				
GENERATOR - (REF 24-21-00, FIG. 101)				
AUXILIARY POWER UNIT, M281				
TRANSFORMER - (REF 31-01-34, FIG. 101)				24-23-01
CURRENT DIFFERENTIAL PROTECTION APU GENERATOR, T111				
CURRENT DIFFERENTIAL PROTECTION APU TIE BUS, T115				24-33-01
CURRENT DIFFERENTIAL PROTECTION EXTERNAL POWER TIE BUS, T116				24-23-01
CURRENT GROUND POWER, T122				24-23-01
TRANSFORMER - (REF 31-01-32, FIG. 101)				
CURRENT DIFFERENTIAL PROTECTION RIGHT GENERATOR #1, T107				24-23-01
CURRENT DIFFERENTIAL PROTECTION RIGHT TIE BUS, T113				24-23-01
CURRENT RIGHT OVERLAP, T128				24-23-01
TRANSFORMER - (REF 31-01-31, FIG. 101)				
CURRENT DIFFERENTIAL TRANSFORMER LEFT GENERATOR #1, T105				24-23-01
CURRENT DIFFERENTIAL PROTECTION LEFT TIE BUS, T112				24-23-01
CURRENT LEFT OVERLAP, T127				24-23-01
TRANSFORMER - (REF 31-01-06, FIG. 101)				
CURRENT DIFFERENTIAL PROTECTION LEFT GENERATOR #2, T106				24-23-01
CURRENT DIFFERENTIAL PROTECTION RIGHT GENERATOR #2, T108				24-23-01
UNIT - (REF 24-22-00, FIG. 101)				
APU GENERATOR CONTROL, M143				
LEFT GENERATOR CONTROL, M144				
RIGHT GENERATOR CONTROL, M146				
UNIT - (REF 24-41-00, FIG. 101)				
BUS POWER CONTROL, M116				

AC Power Fault Sensing - Component Index
Figure 101



MAIN EQUIPMENT CENTER



FLIGHT COMPARTMENT

AC Power Fault Sensing - Component Location
Figure 102

HYDRAULIC MOTOR GENERATOR SYSTEM

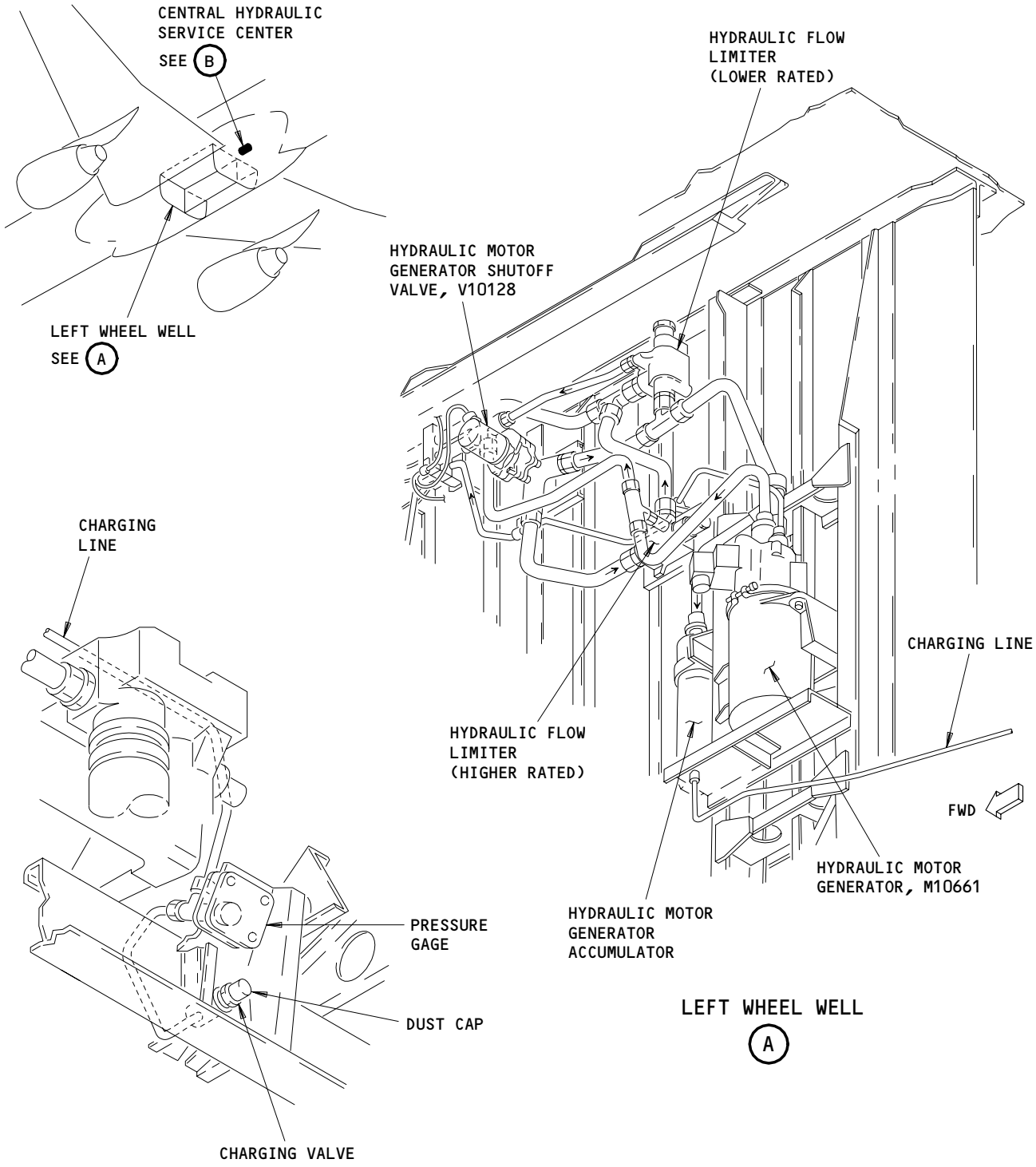
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
ACCUMULATOR - HYDRAULIC	1	1	LEFT WHEEL WELL	24-25-04
CIRCUIT BREAKERS -	2		FLIGHT COMPARTMENT, P11	
AC BUS SENSE LEFT, C4356		1	11R6	*
AC BUS SENSE RIGHT, C4357		1	11R29	*
CIRCUIT BREAKER -	2		FLIGHT COMPARTMENT, P6	
HYD GEN CONT, C4349		1	6C3	*
CIRCUIT BREAKERS -	2		FORWARD CARGO COMPARTMENT, MAIN EQUIPMENT CENTER, P71	
HMG BAT CHGR, C3061		1	71E1	*
HMG INST XFR BUS, C3060		1	71D1	*
HMG L XFR BUS, C3058		1	71B1	*
HMG R XFR BUS, C3059		1	71C1	*
HYD GEN AC VOLT SENSE, C4351		1	71A1	*
COMPUTERS - (31-41-00/102)				
LEFT EICAS, M10182				
RIGHT EICAS, M10181				
CONTROL UNIT - GENERATOR HYDRAULIC, M10662	2	1	119BL, MAIN EQUIPMENT CENTER, P71	24-25-02
GENERATOR - HYDRAULIC MOTOR, M10661	1	1	LEFT WHEEL WELL	24-25-01
LIMITER - HYDRAULIC FLOW (HIGH RATE)	1	1	LEFT WHEEL WELL	
LIMITER - HYDRAULIC FLOW (LOW RATE)	1	1	LEFT WHEEL WELL	
PANEL - MISC TEST, M10398	2	1	FLIGHT COMPARTMENT, P61	
RELAYS - (31-01-71/101)				
BOOST PUMP READY, K10698		1		
F/O 115V AC INSTR XFR BUS RELAY, K10640				
HYD GEN 28V DC SENSE, K10690				
115V AC INST TRANS BUS, K10565				
115V AC L TRANSFER, K10566				
115V AC R TRANSFER, K10567				
SWITCH - GND PROX/HYD GEN, S4	2	1	FLIGHT COMPARTMENT, P61, M10398	*
UNIT - TRANSFORMER RECTIFIER, T10060	2	1		24-25-05
VALVE - HYD MTR GEN S/O, V10128	1	1	LEFT WHEEL WELL	24-25-03

* SEE THE WDM EQUIPMENT LIST

Hydraulic Motor Generator System - Component Index
Figure 101

EFFECTIVITY
AIRPLANES WITH 10 KVA HYDRAULIC MOTOR GENERATOR;

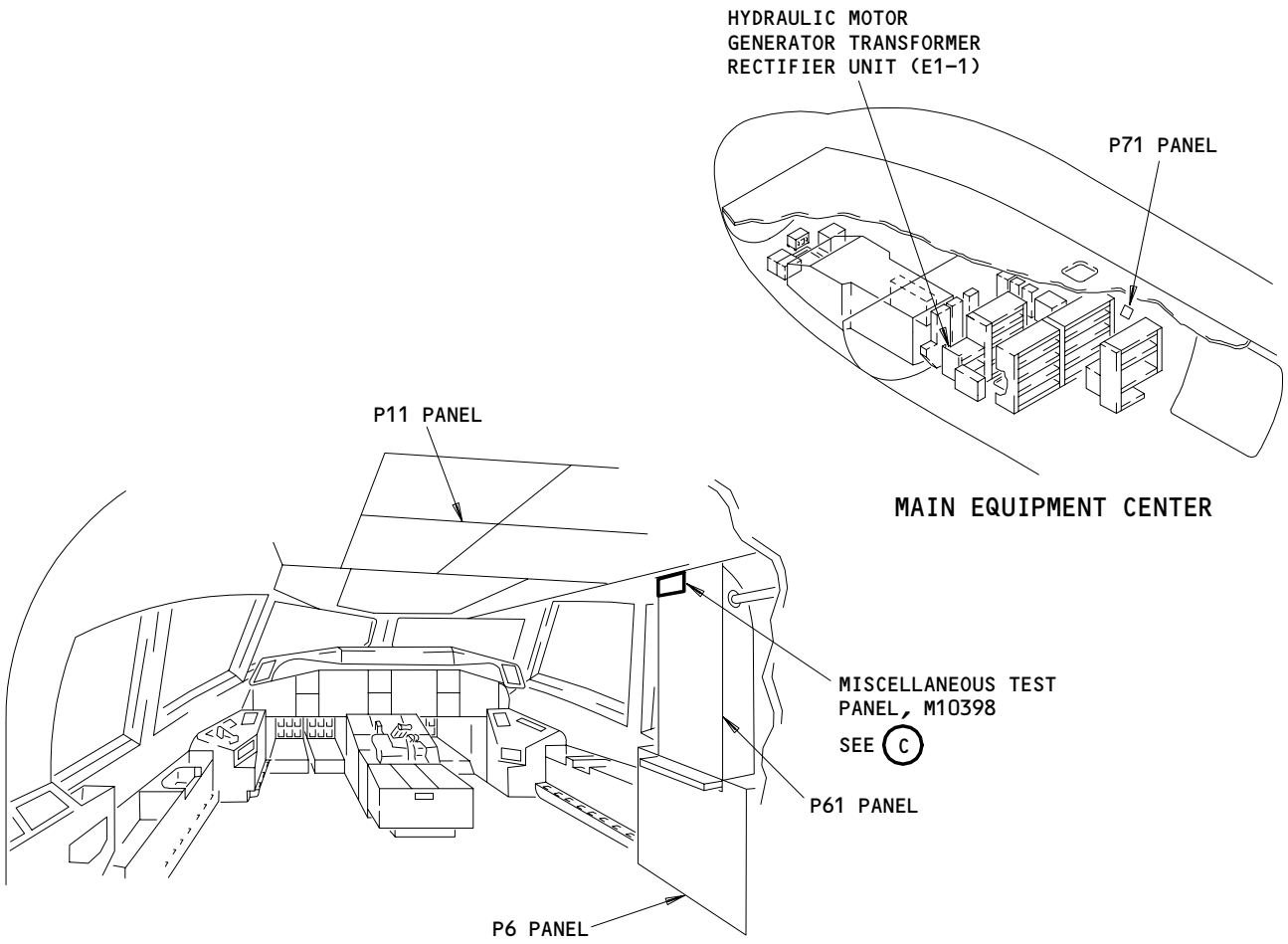
A63875



Hydraulic Motor Generator System – Component Location
Figure 102 (Sheet 1)

EFFECTIVITY
AIRPLANES WITH 10 KVA HYDRAULIC MOTOR GENERATOR;

A63960



Hydraulic Motor Generator System - Component Location
Figure 102 (Sheet 2)

EFFECTIVITY
AIRPLANES WITH 10 KVA HYDRAULIC MOTOR GENERATOR;

A63963

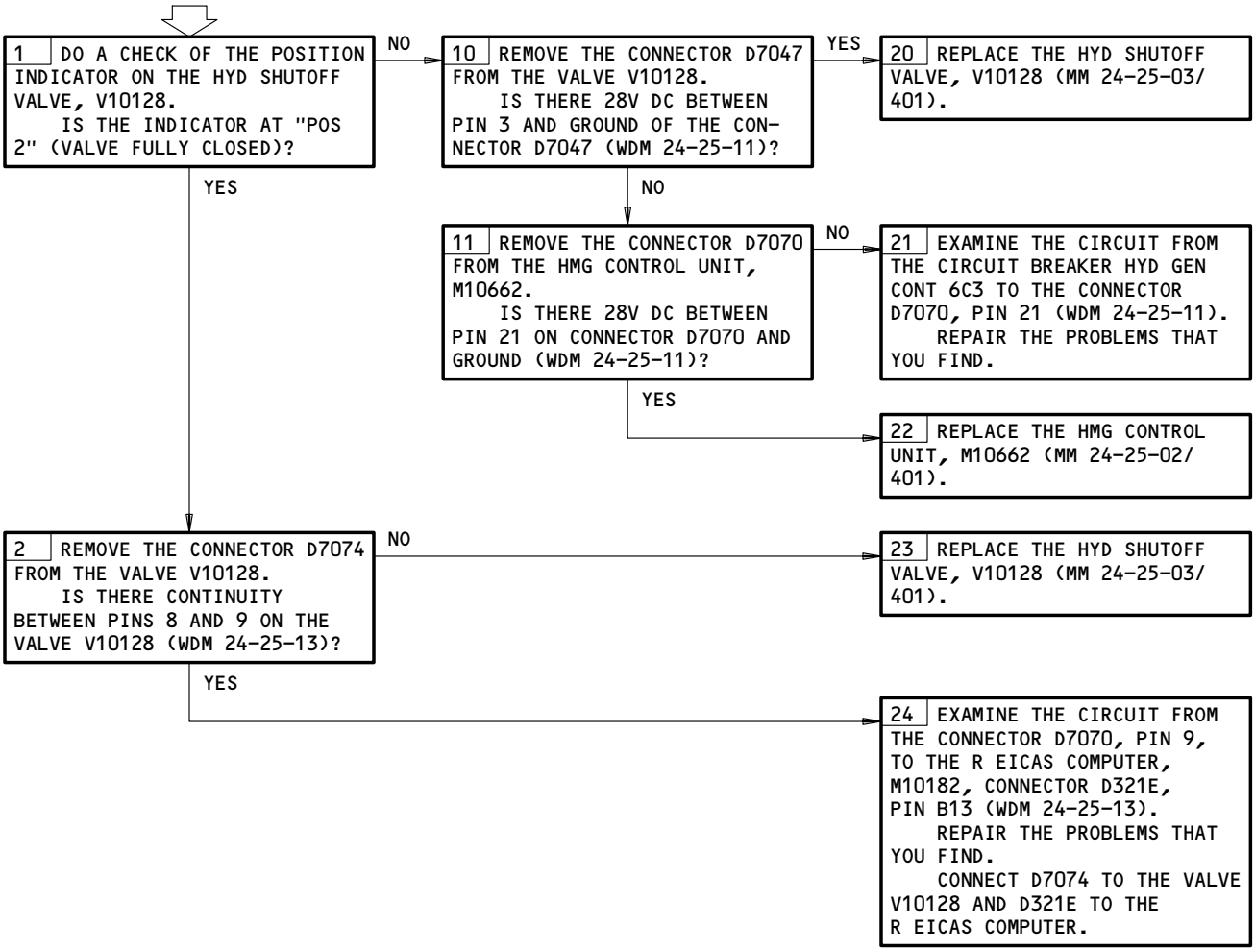
PREREQUISITES

MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (MM 31-41-00/201)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6C3,11R6,11R29

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (MM 24-22-00/201)

EICAS MSG HYD GEN VAL DISPLAYED



EICAS Msg Hyd Gen Val Displayed
Figure 103

PREREQUISITES

MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (MM 31-41-00/201)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6C3,11R6,11R29

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (MM 24-22-00/201)

EICAS MSG HYD GEN ON DISPLAYED

1 DO THE MAINTENANCE MESSAGE ERASE PROCEDURE (31-41-00/101, FIG. 109).
DOES THE EICAS MESSAGE "HYD GEN ON" SHOW?

YES → 10 REPLACE THE 115V AC INSTRUMENT TRANSFER BUS RELAY, K10565, ON THE P71 PANEL (WDM 24-25-12).
DO THE MAINTENANCE MESSAGE ERASE PROCEDURE (31-41-00/101, FIG. 109).

NO → 2 THE SYSTEM IS OK.

EICAS Msg HYD GEN ON Displayed
Figure 104

PREREQUISITES

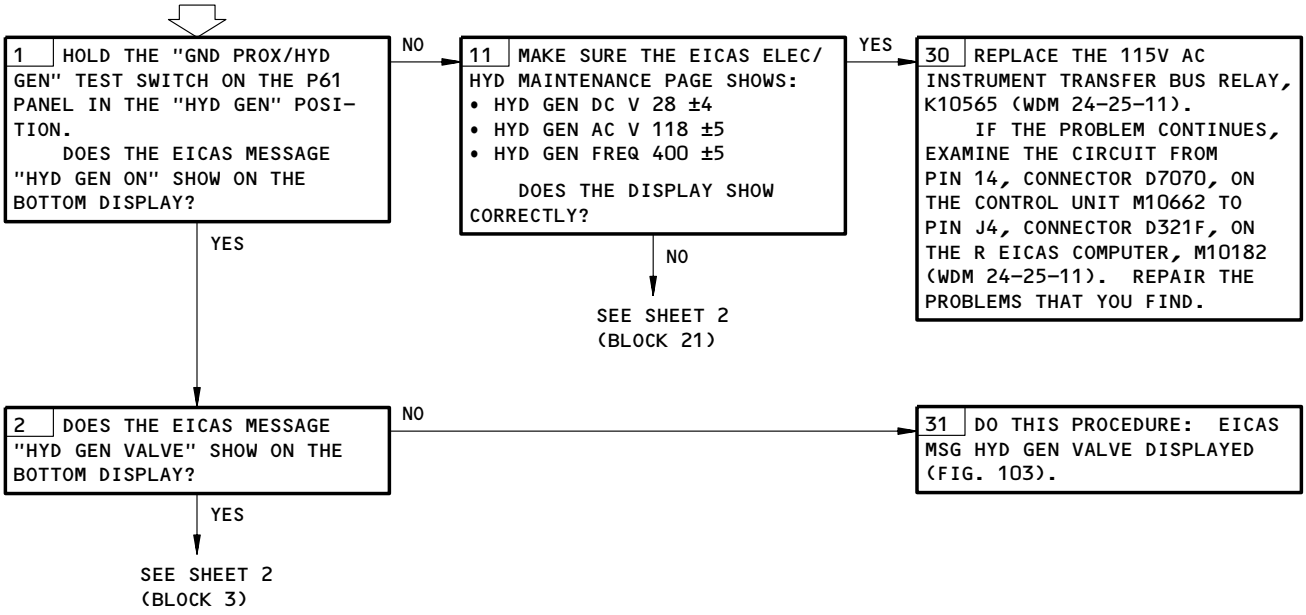
MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (AMM 31-41-00/201)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6C3, 6C7, 11R6, 11R29

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)
LEFT SYSTEM HYDRAULIC POWER IS ON (AMM 29-11-00/201)

HYDRAULIC MOTOR GENERATOR SYSTEM FAULT ISOLATION PROCEDURE

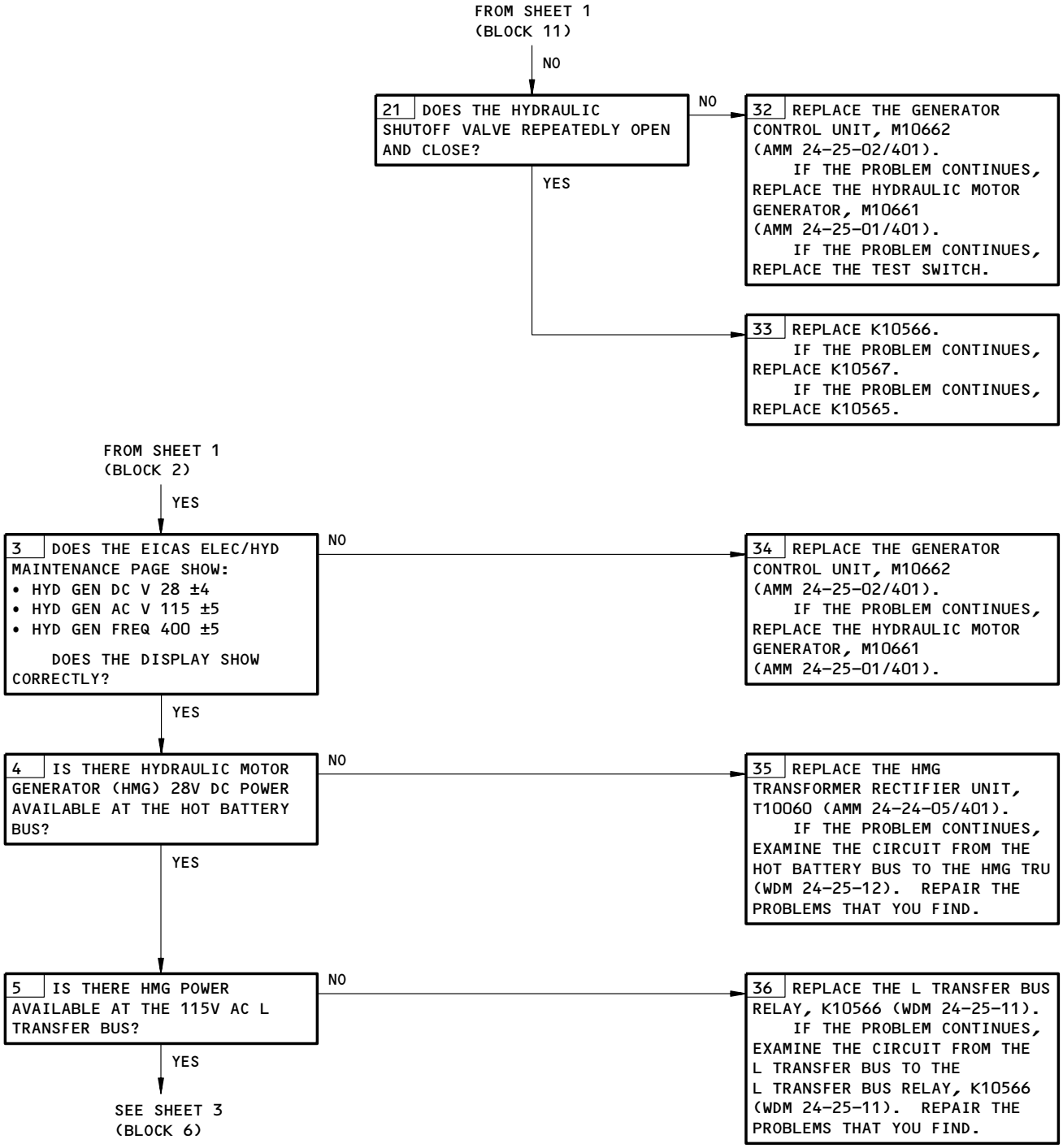
NOTE: WHEN YOU USE THE ACMPs, PRESSURIZE THE LEFT HYDRAULIC SYSTEM AND THE RIGHT HYDRAULIC SYSTEM (AMM 29-11-00/201). PUT THE PTU SWITCH ON THE P61 PANEL TO THE "ON" POSITION.



Hydraulic Motor Generator System Fault Isolation Procedure
Figure 105 (Sheet 1)

EFFECTIVITY
AIRPLANES WITH 10 KVA HYDRAULIC MOTOR GENERATOR;

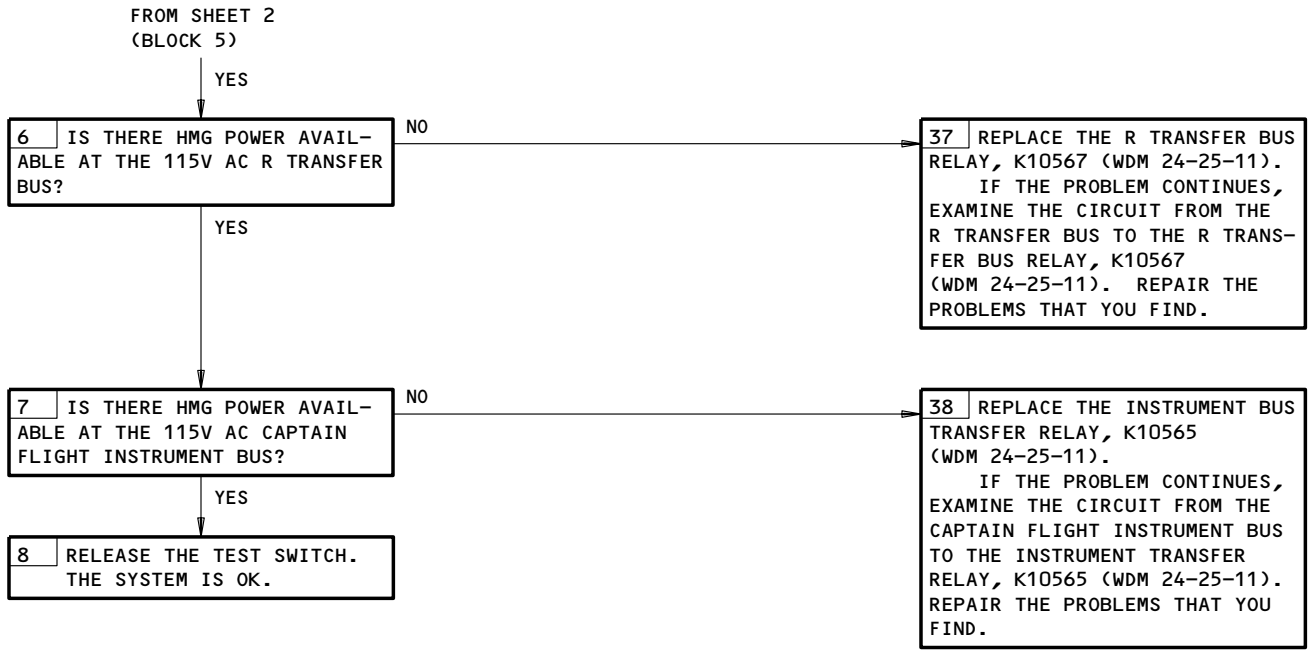
A63897



Hydraulic Motor Generator System Fault Isolation Procedure
Figure 105 (Sheet 2)

EFFECTIVITY
AIRPLANES WITH 10 KVA HYDRAULIC MOTOR GENERATOR;

A63917



Hydraulic Motor Generator System Fault Isolation Procedure
Figure 105 (Sheet 3)

EFFECTIVITY
AIRPLANES WITH 10 KVA HYDRAULIC MOTOR GENERATOR;

A63918

BATTERIES

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
BATTERY - APU, M208	2	1	822, AFT EQUIP CTR, E6	24-31-04
BATTERY - MAIN, M223	1	1	113AL, FWD EQUIP CTR	24-31-01
CHARGER - APU BATTERY, M207	2	1	822, AFT EQUIP CTR, E6-2	24-31-05
CHARGER - MAIN BATTERY, M218	1	1	113AL, FWD EQUIP CTR	24-31-02
CIRCUIT BREAKER -	2		FLT COMPT, P6	
APU/MAIN BAT TIE, C4282		1	6L7	
BAT BUS BAT PWR, C898		1	6L10	*
BAT BUS CONT, C887		1	6C10	*
BAT BUS PWR - TRU, C886		1	6D11	*
BAT CUR MON PWR, C4097		1	6A4	*
BAT OVHT PROT, C827		1	6D1	*
BAT XFR CONT, C814		1	6D2	*
CENTER BUS DC, C899		1	6L12	*
HOT BAT BUS, C897		1	6L9	*
INV PWR BAT, C813		1	6L11	*
MAIN BAT CHGR DC, C896		1	6L8	*
CIRCUIT BREAKER -	2	1	FLT COMPT, P11	
EXT STBY BAT TIE, C4276		1	11A19	
EXT STBY CONT PWR, C4275		1	11A20	
CIRCUIT BREAKER -			822, AFT EQUIP CTR, E6	
APU BAT CHGR, C868		1	822, AFT EQUIP CTR, E6	*
APU BAT OVHT PROT, C820		1	822, AFT EQUIP CTR, E6	*
APU BAT VOLT, C821		1	822, AFT EQUIP CTR, E6	*
APU BUS, C869		1	822, AFT EQUIP CTR, E6	*
CIRCUIT BREAKER -	1		119BL, MAIN EQUIP CTR, P34	
MAIN/APU BAT CHGR ENABLE, C4241		1	34A16	*
MAIN/APU BAT TIE REMOTE CONT, C4286		1	822, AFT EQUIP CTR, E6	
CIRCUIT BREAKER -	1		119BL, MAIN EQUIP CTR, P37	
APU BAT CHGR, C302		1	37B5	*
MAIN BAT CHGR, C301		1	37B2	*

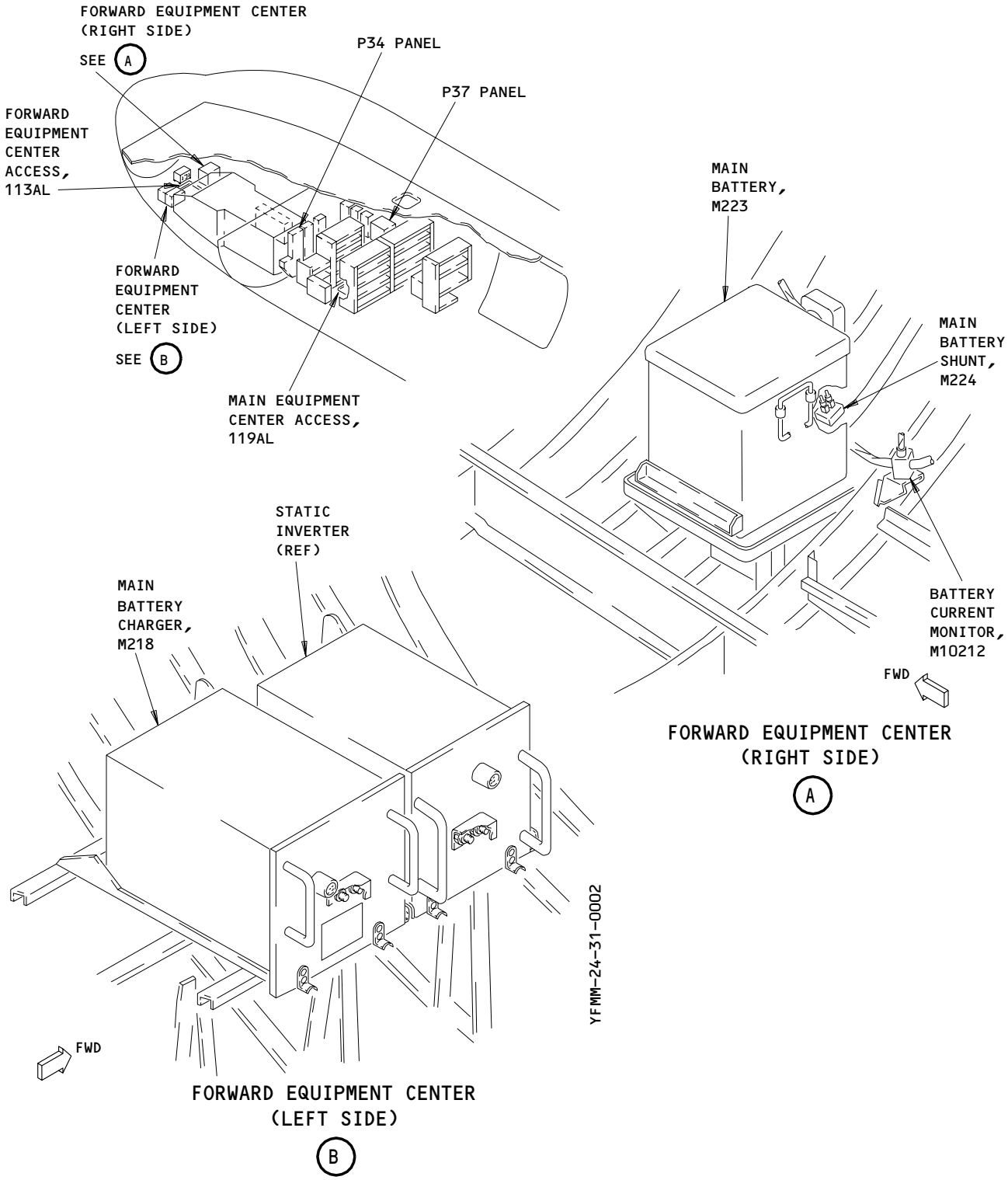
* SEE THE WDM EQUIPMENT LIST

Batteries - Component Index
Figure 101 (Sheet 1)

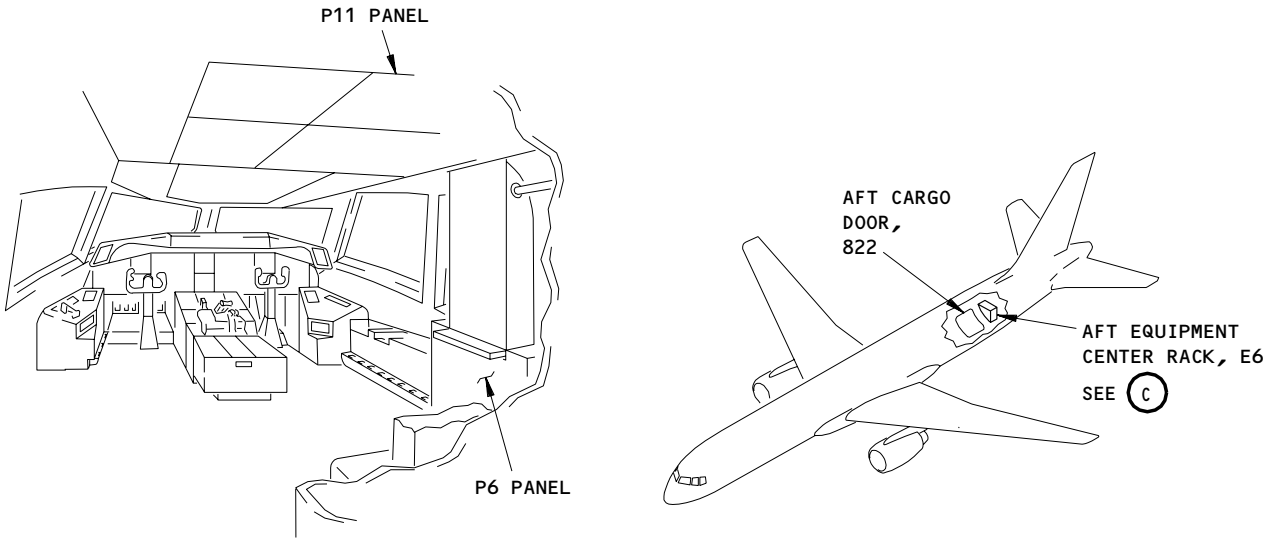
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
MONITOR - APU BATTERY CURRENT, M10495	2	1	822, AFT EQUIP CTR, E6	24-31-07
MONITOR - BATTERY CURRENT, M10212	1	1	113AL, FWD EQUIP CTR	24-31-03
RELAY - (FIM 31-01-36/101)				
ALTN EXT CONT LATCH, K10370				
RELAY - (FIM 31-01-86/101)				
APU BAT CHGR INLK, K116				
RELAY - (FIM 31-01-06/101)				
CENTER BUS ISLN, K123				
DC UNDER VOLTAGE SENSING, K113				
ISOL REQ, K122				
MAIN BAT, K104				
MAIN BAT CHGR DET, K10425				
MAIN BAT CHGR DISABLE, K115				
MAIN BAT TRANSFER, K106				
MAIN/APU BAT CHGR DET ENABLE, K10424				
SHUNT - APU BATTERY, M10251	2	1	822, AFT EQUIP CTR, E6	24-31-00
SHUNT - MAIN BATTERY, M224	1	1	113AL, FWD EQUIP AREA	24-31-00

* SEE THE WDM EQUIPMENT LIST

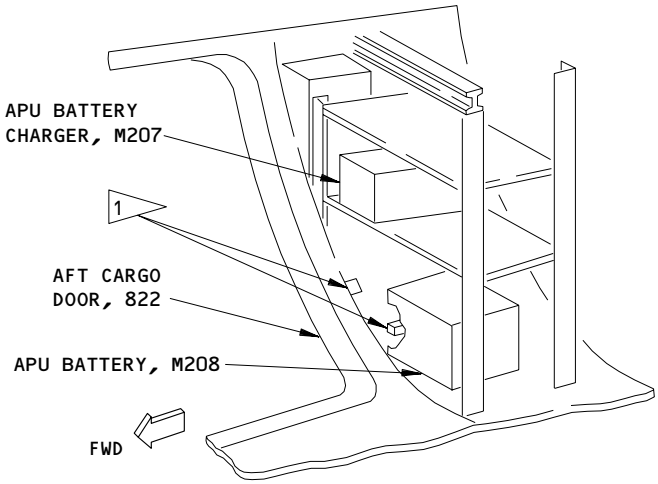
Batteries - Component Index
Figure 101 (Sheet 2)



Batteries - Component Location
Figure 102 (Sheet 1)



FLIGHT COMPARTMENT



AFT EQUIPMENT CENTER RACK, E6

C

1 APU BATTERY SHUNT, M10251,
IS AT ONE OF THESE LOCATIONS

Batteries - Component Location
Figure 102 (Sheet 2)

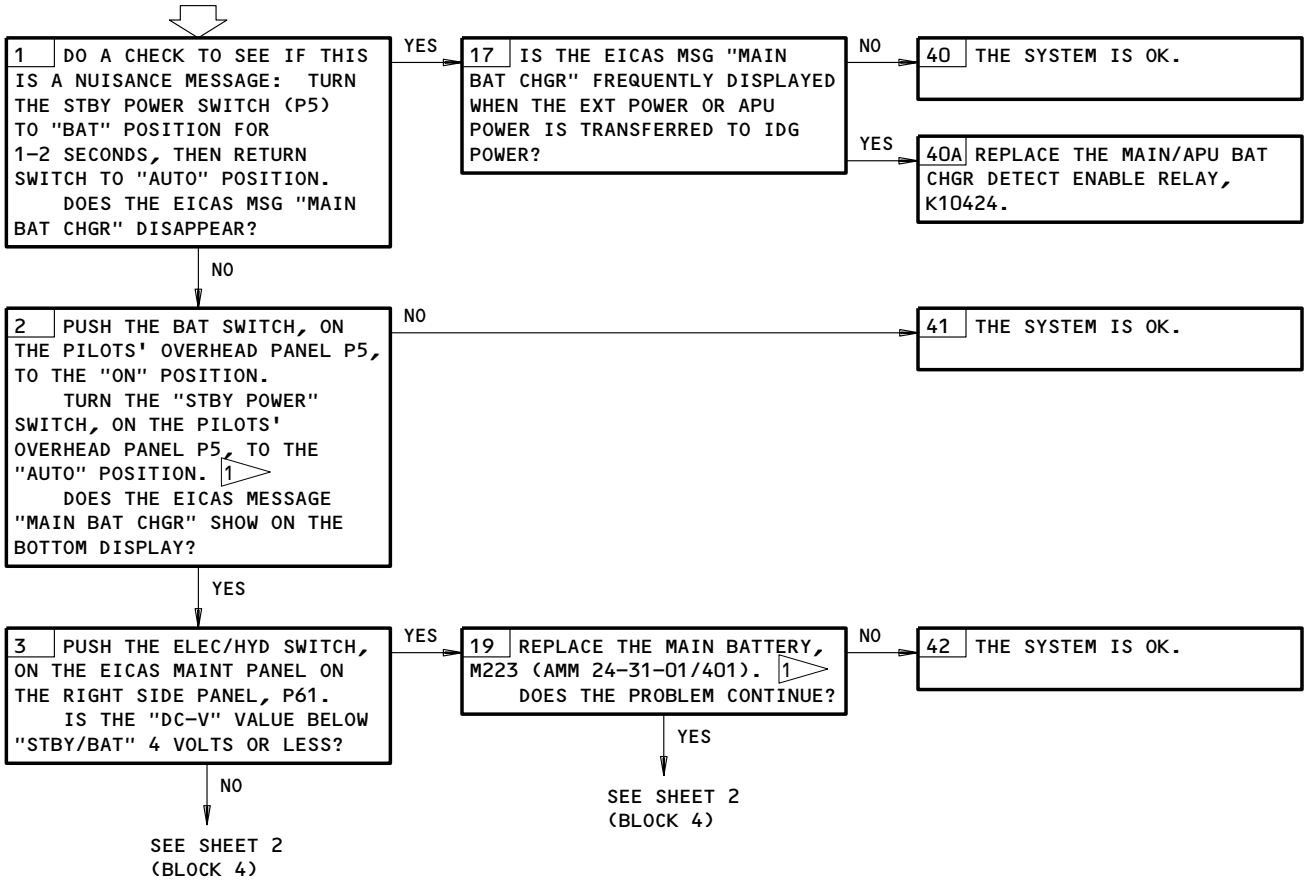
PREREQUISITES

MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (AMM 31-41-00/201)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6A1, 6A2, 6A4, 6C10, 6C17, 6C23, 6D1, 6D2, 6G5, 6L8, 6L10, 34A16, 37B2

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)

EICAS MSG "MAIN BAT CHGR" DISPLAYED

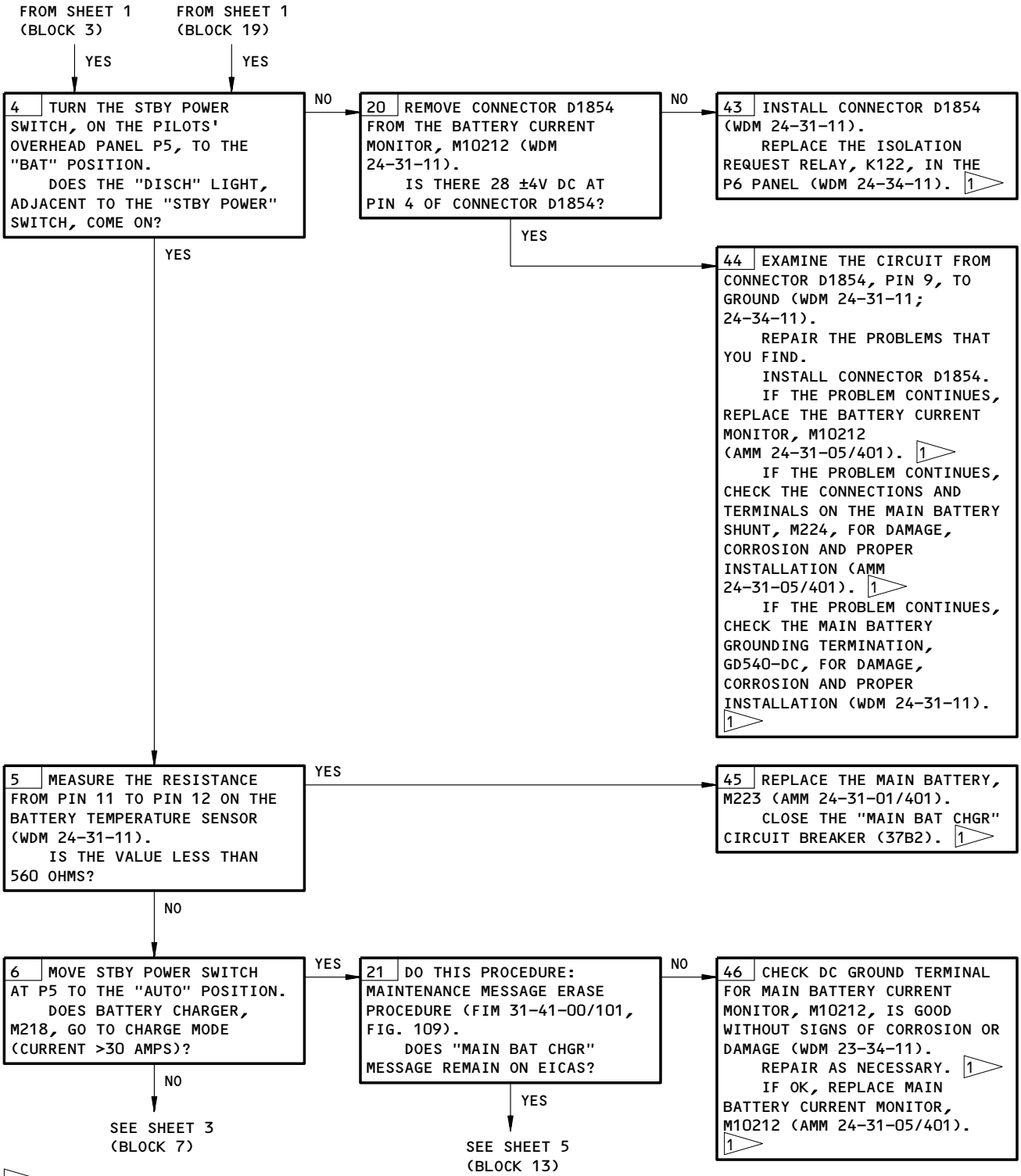


1 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109).

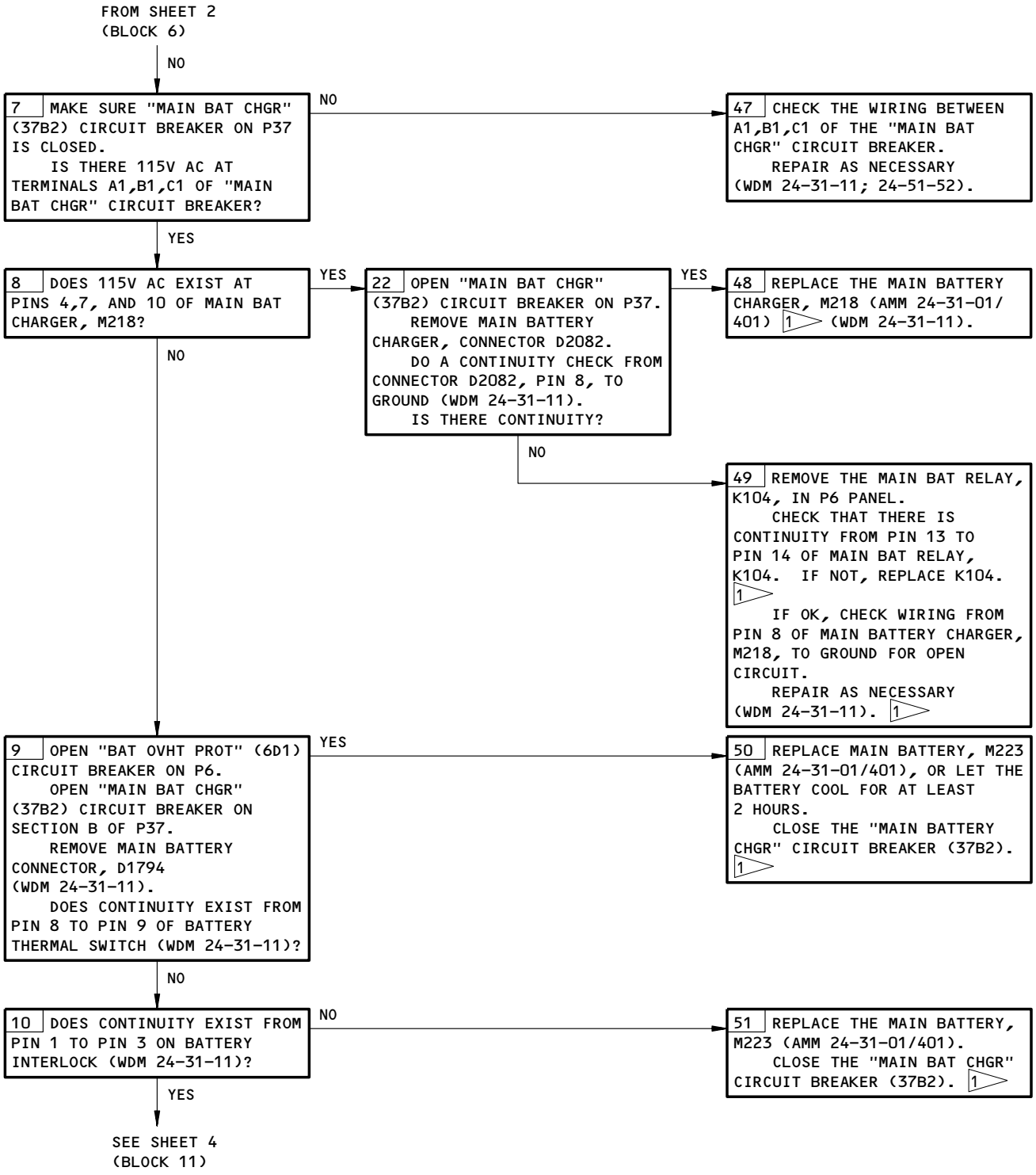
EICAS Msg MAIN BAT CHGR Displayed
Figure 103 (Sheet 1)

EFFECTIVITY
AIRPLANES WITH BATTERY CHARGER THAT DOES NOT HAVE THE CHARGER AND BATTERY LEDs

E69296



EICAS Msg MAIN BAT CHGR Displayed
Figure 103 (Sheet 2)

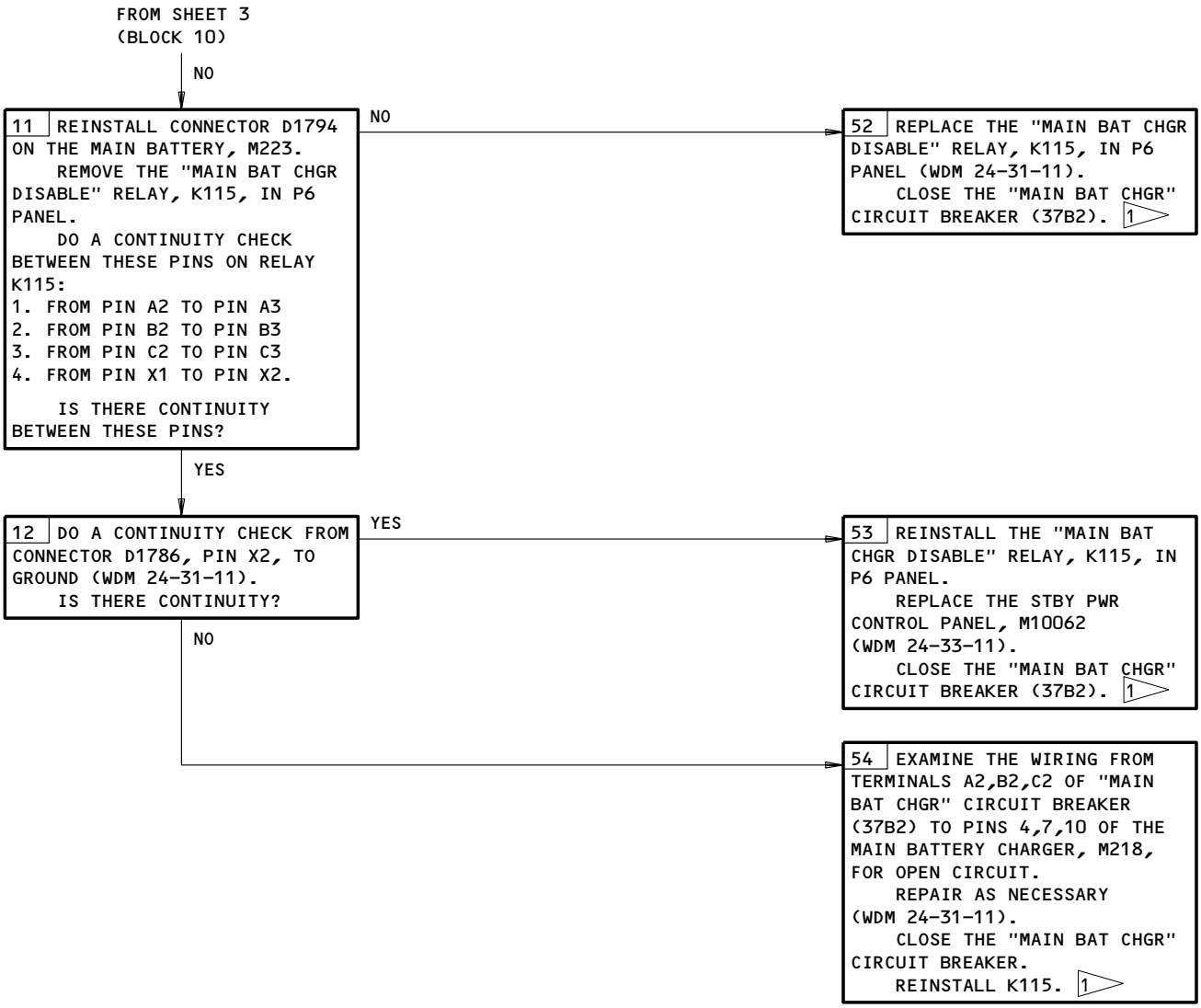


1 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109).

EICAS Msg MAIN BAT CHGR Displayed
Figure 103 (Sheet 3)

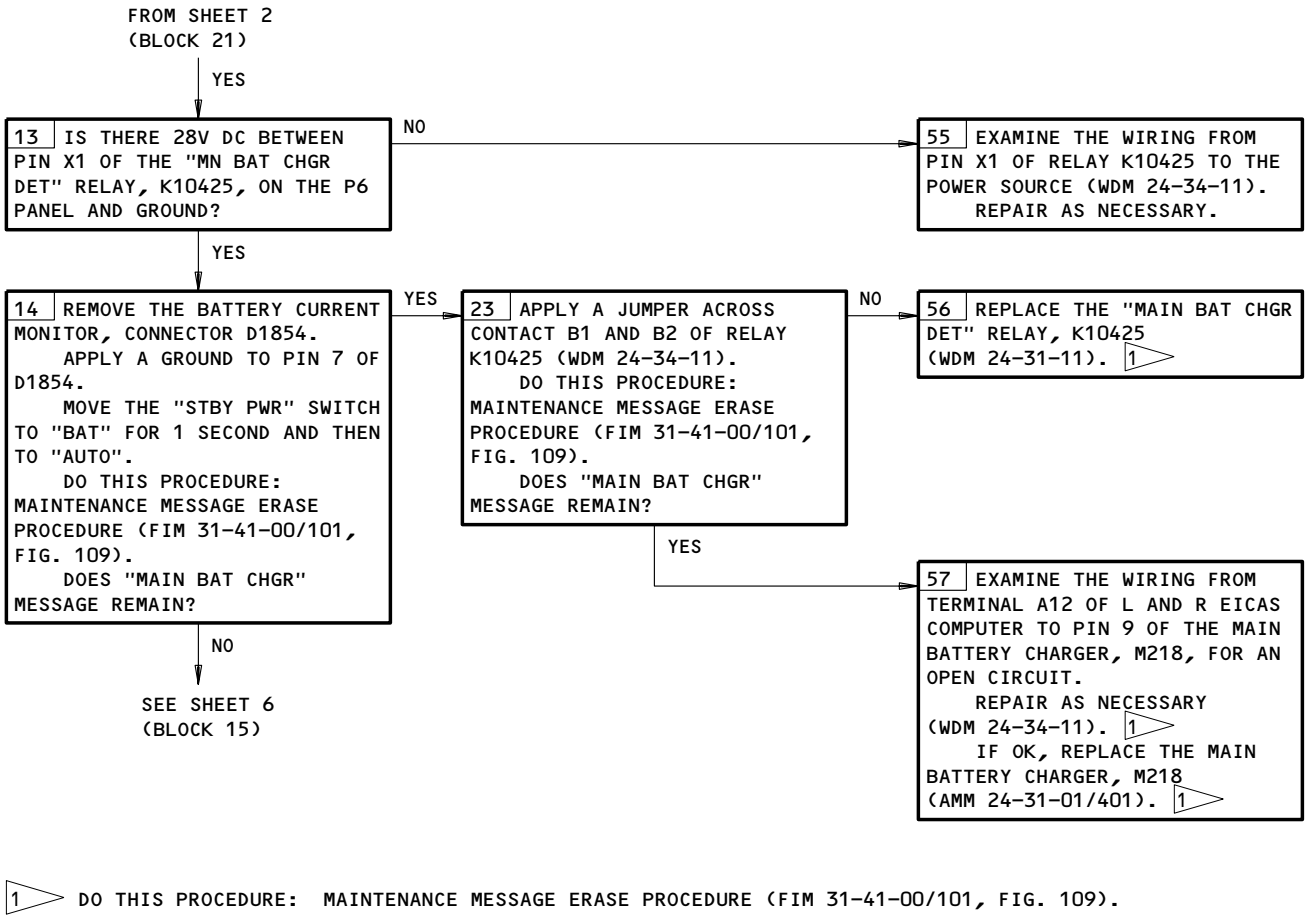
EFFECTIVITY
AIRPLANES WITH BATTERY CHARGER THAT DOES NOT HAVE THE CHARGER AND BATTERY LEDs

E69323



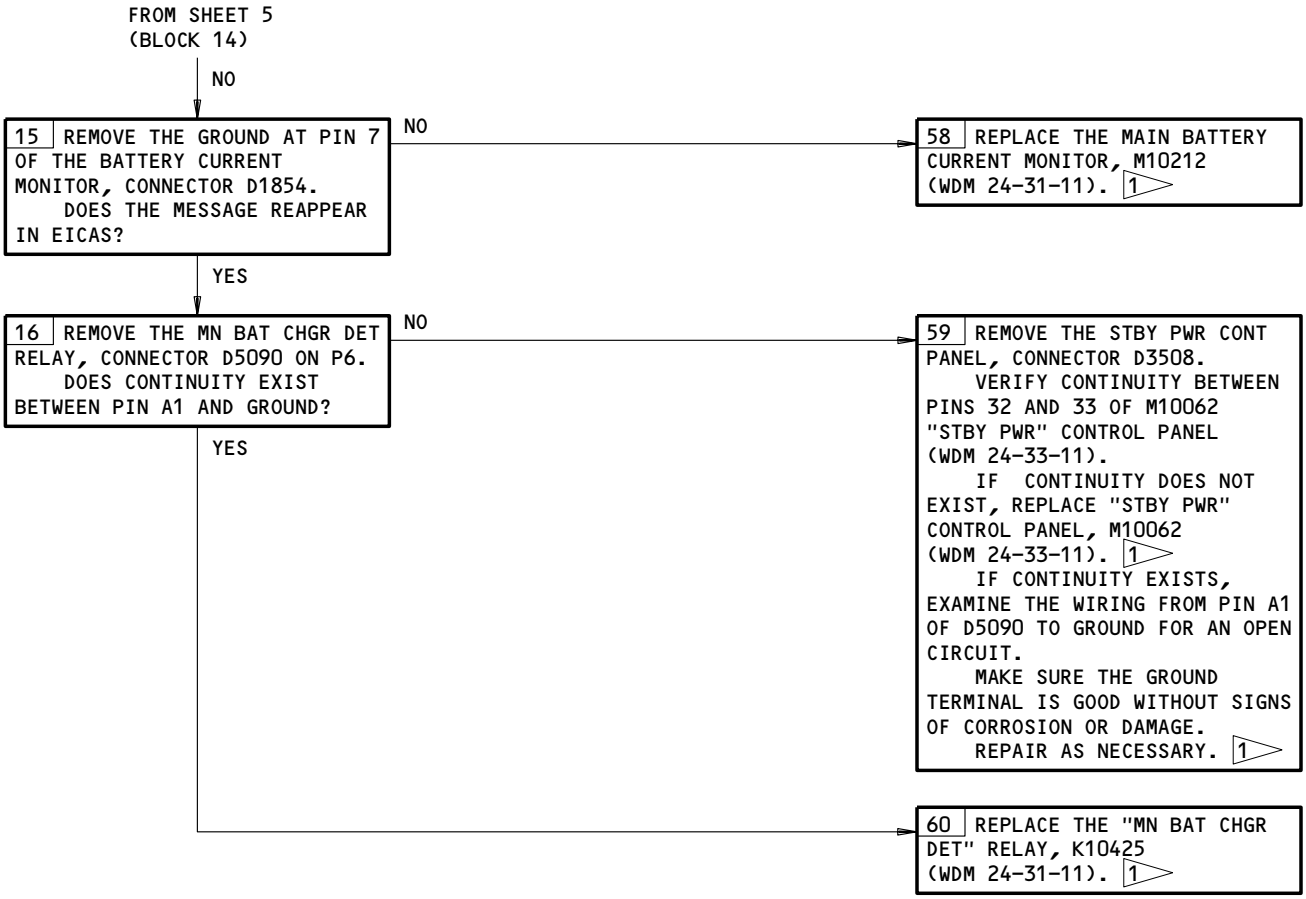
1 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109).

EICAS Msg MAIN BAT CHGR Displayed
Figure 103 (Sheet 4)



1 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109).

EICAS Msg MAIN BAT CHGR Displayed
Figure 103 (Sheet 5)



1 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109).

EICAS Msg MAIN BAT CHGR Displayed
Figure 103 (Sheet 6)

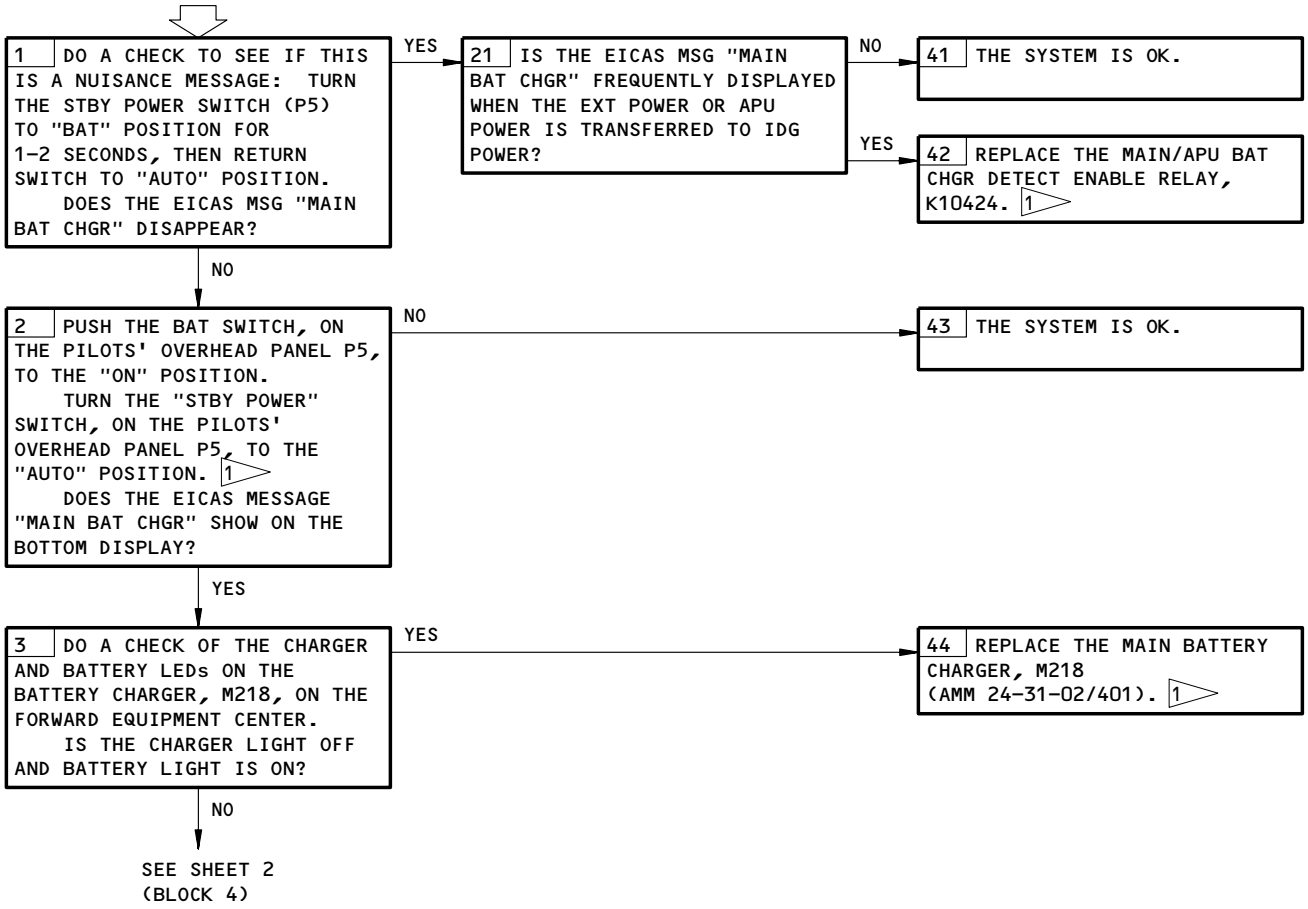
PREREQUISITES

MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (AMM 31-41-00/201)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6A1, 6A2, 6A4, 6C10, 6C17, 6C23, 6D1, 6D2, 6G5, 6L8, 6L10, 34A16, 37B2

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)

EICAS MSG "MAIN BAT CHGR" DISPLAYED

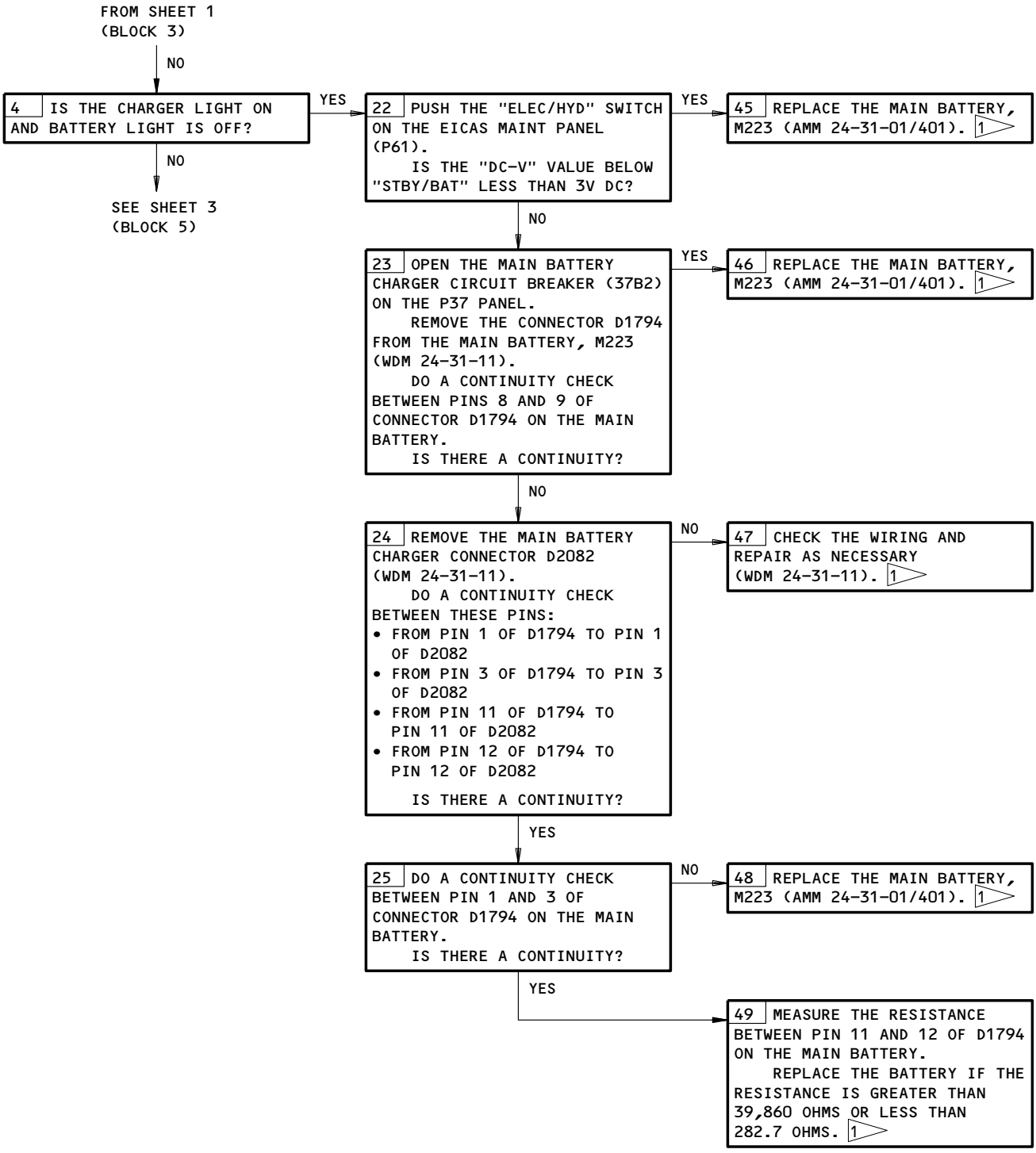


1 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109).

EICAS Msg MAIN BAT CHGR Displayed
Figure 103A (Sheet 1)

EFFECTIVITY
AIRPLANES WITH BATTERY CHARGER THAT HAS THE CHARGER AND BATTERY LEDs

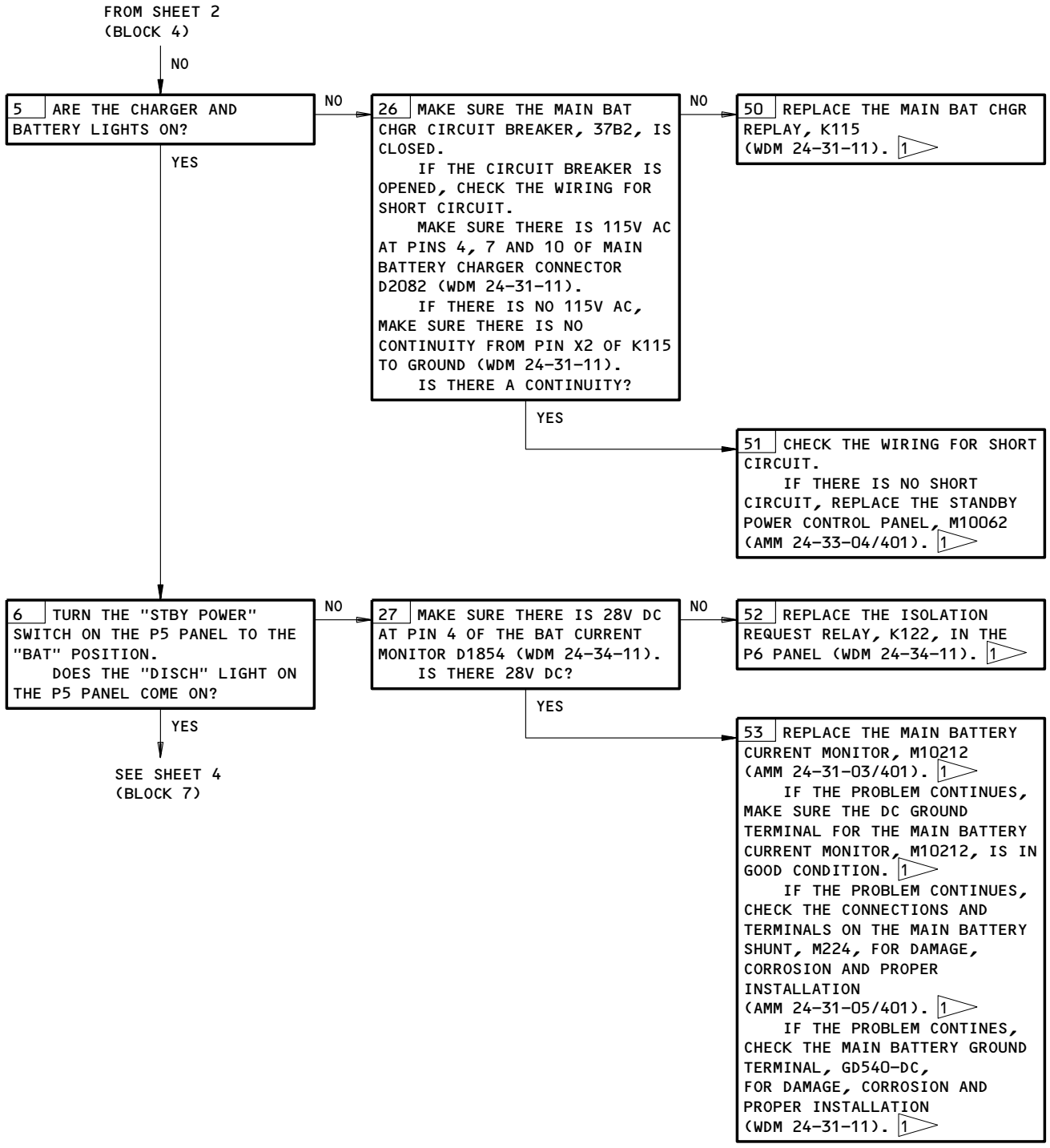
N47014



1 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109).

EICAS Msg MAIN BAT CHGR Displayed
Figure 103A (Sheet 2)

N47046

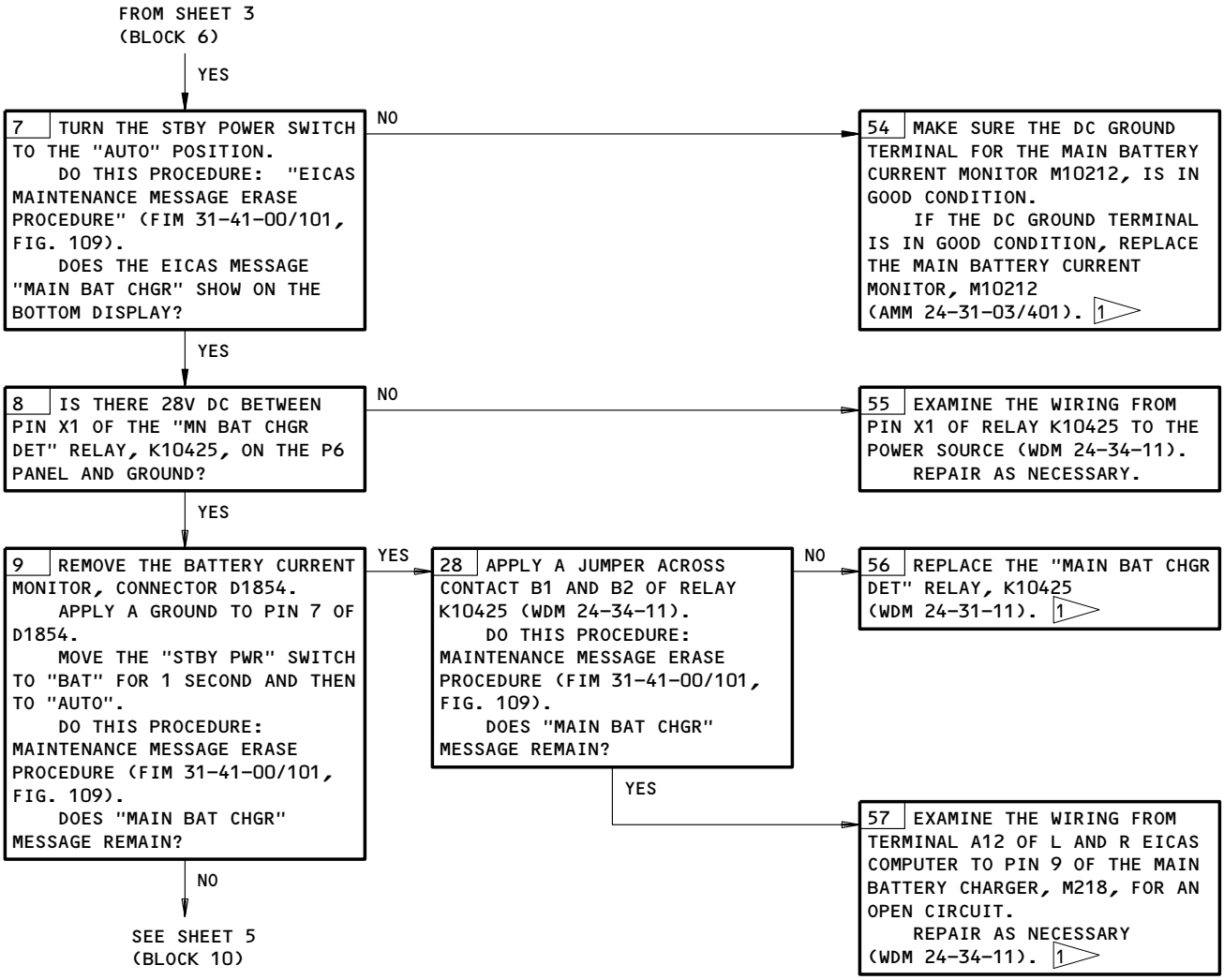


1 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109).

EICAS Msg MAIN BAT CHGR Displayed
Figure 103A (Sheet 3)

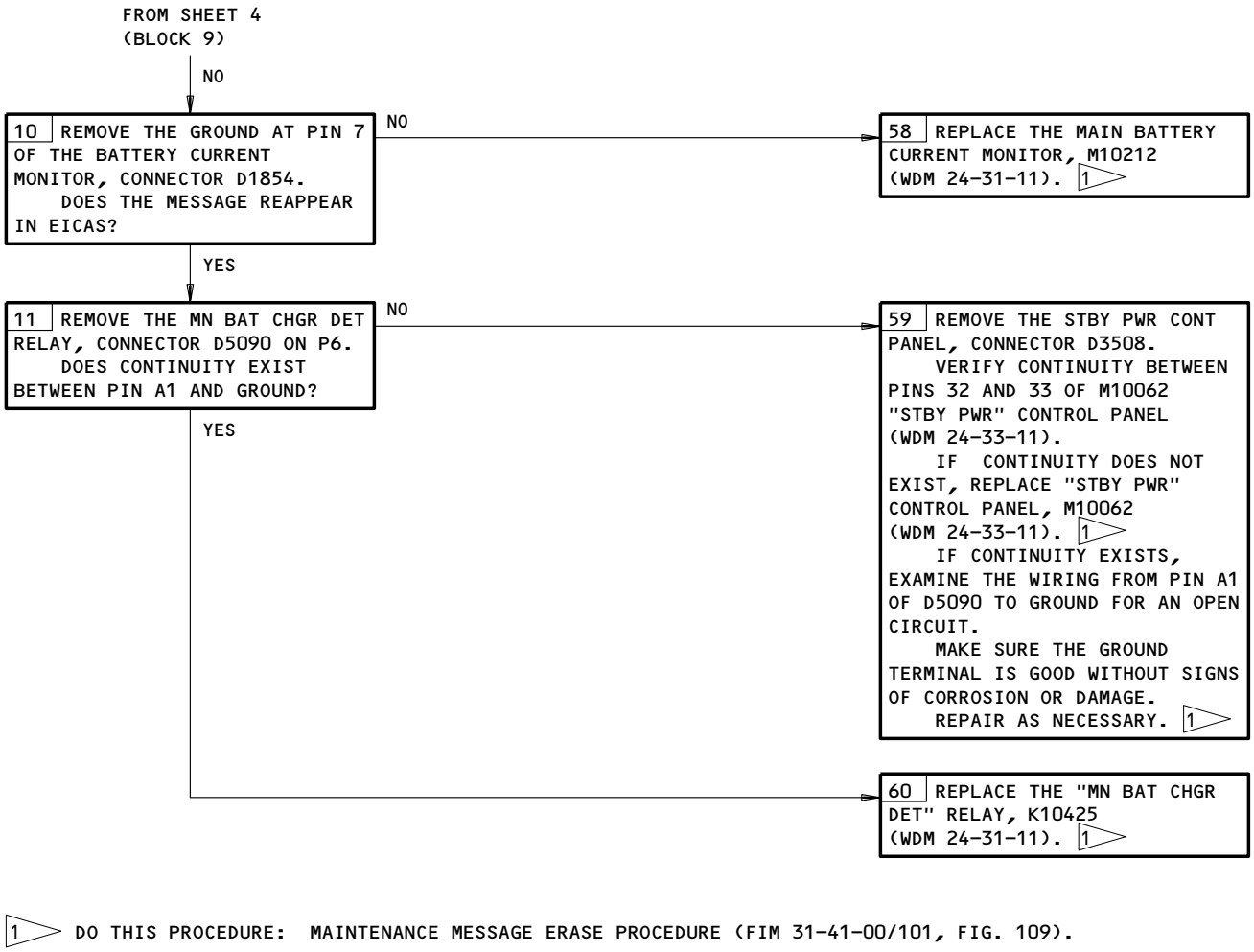
EFFECTIVITY
AIRPLANES WITH BATTERY CHARGER THAT HAS THE CHARGER AND BATTERY LEDs

N47196



1 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109).

EICAS Msg MAIN BAT CHGR Displayed
Figure 103A (Sheet 4)



1 DO THIS PROCEDURE: MAINTENANCE MESSAGE ERASE PROCEDURE (FIM 31-41-00/101, FIG. 109).

EICAS Msg MAIN BAT CHGR Displayed
Figure 103A (Sheet 5)

PREREQUISITES

MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (AMM 31-41-00/201)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6A4,37B5; ON THE E6 RACK, APU BAT OVHT PROT
APU BAT BUS

MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)

EICAS MSG "APU BAT CHGR" DISPLAYED

1 PUSH THE "BAT" SWITCH, ON THE PILOTS' OVERHEAD PANEL P5, TO THE "ON" POSITION. TURN THE "STBY POWER" SWITCH, ON THE PILOTS' OVERHEAD PANEL P5, TO THE "AUTO" POSITION.
DO THE "MAINTENANCE MESSAGE ERASE PROCEDURE" (FIM 31-41-00/101, FIG. 109).
DOES THE EICAS MESSAGE "APU BAT CHGR" SHOW ON THE BOTTOM DISPLAY?

YES → 10 PUSH THE "ELEC HYD" SWITCH ON THE EICAS MAINT PANEL ON THE RIGHT SIDE PANEL, P61.
IS THE "DC-A" VALUE BELOW "APU/BAT" A POSITIVE VALUE?

YES → 20 REPLACE THE APU BATTERY CURRENT MONITOR, M10495 (AMM 24-31-07/401). 1
IF THE PROBLEM CONTINUES, REPLACE THE APU BATTERY CHARGER DETECTION RELAY, K10418 (WDM 24-33-12). 1
IF THE PROBLEM CONTINUES, REPLACE THE BATTERY DISCHARGE INDICATION INHIBIT RELAY, K10422 (WDM 24-33-12). 1

NO → 11 IS THE "DC-V" VALUE BELOW "APU/BAT" MORE THAN 4 VOLTS?

NO → 21 REPLACE THE APU BATTERY, M208 (AMM 24-31-03/401). 1

YES → 12 OPEN "APU BAT CHGR" CIRCUIT BREAKER, 37B5, ON PLATE B OF THE P37 PANEL.
REMOVE ELECTRICAL CONNECTOR D1890 FROM THE APU BATTERY (WDM 24-31-41).
IS THERE CONTINUITY BETWEEN PINS 8 AND 9 ON THE CONNECTOR ON THE APU BATTERY?

YES → 13 MEASURE THE RESISTANCE BETWEEN PINS 11 AND 12 ON THE CONNECTOR ON THE APU BATTERY (WDM 24-31-41).
IS THE RESISTANCE LESS THAN 560 OHMS?

NO → 14 IS THERE CONTINUITY BETWEEN PINS 1 AND 3 ON THE CONNECTOR ON THE APU BATTERY (WDM 24-31-41)?

YES → 22 INSTALL CONNECTOR D1890 ON THE APU BATTERY (WDM 24-31-41).
REPLACE THE APU BATTERY CHARGER, M207 (AMM 24-31-04/401). 1
IF THE PROBLEM CONTINUES, REPLACE THE APU BATTERY CHARGER RELAY, K116 (WDM 24-31-41). 1

NO → 2 THE SYSTEM IS OK.

1 DO THE "MAINTENANCE MESSAGE ERASE PROCEDURE" (FIM 31-41-00/101, FIG. 109)

EICAS Msg APU BAT CHGR Displayed
Figure 104

PREREQUISITES

MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (31-41-00/201)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6L7,11A19,11A20

MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:
ELECTRICAL POWER IS ON (MM 24-22-00/201)

EICAS MSG "APU BAT NO STBY" DISPLAYED

1 DO THE "MAINTENANCE MESSAGE ERASE PROCEDURE" (31-41-00, FIG. 109)

EICAS Msg APU BAT NO STBY Displayed
Figure 105

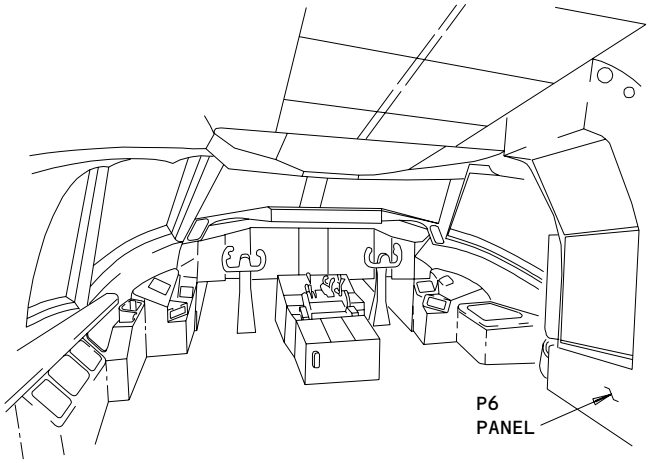
TRANSFORMER-RECTIFIER

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
BATTERY - (FIM 24-31-00/101)				
APU, M208		1		
CIRCUIT BREAKER -			FLT COMPT, P6	
APU START TRU CONT, C865 1		1	6H12	*
BAT BUS CONT, C887		1	6C10	
BAT BUS PWR TRU, C886		1	6D11	
C BUS PWR, C884		1	6C9	*
DC BUS TIE CONT, C879		1	6A6	
INV PWR TRU, C885		1	6D10	
L TRU, C312		1	6C17 OR 31EE2	*
L DC VOLT SENSE, C4142		1	6C11	
R DC VOLT SENSE, C4143		1	6H10	
R TRU, C318		1	6C23 OR 32EE2	*
SECT 1, C891, C882		1	6H8,6D8	
SECT 2, C890, C883		1	6H7,6D7	
TIE L, C881		1	6D9	*
TIE R, C889		1	6H9	*
CIRCUIT BREAKER 1			119BL, MAIN EQUIP CTR, P32	
APU START TRU POWER, C3000		1		*
CIRCUIT BREAKER 1			822, AFT EQUIP CTR, E6	
APU TRU FAN, C89		1		*
COMPUTER - (FIM 34-41-00/101)				
LEFT EICAS, M10181				
RIGHT EICAS, M10182				
CONTACTOR - (FIM 49-41-00/101)				
APU CRANK, K117				
CONTROL UNIT - (FIM 31-01-06/101)				
DC TIE, M10213				
PANEL - (FIM 24-22-00/101)				
ELECTRICAL SYSTEM CONTROL, M10063				
RELAY - (FIM 31-01-06/101)				
CENTER BUS ISOLAITON, K123				
DC TIE, K108				
RELAY - (FIM 31-01-86/101) 1				
APU START, K197				
APU START TRU FAN CONTROL, K619				*
APU START TRU OVERHEAT, K616				*
APU TRU START, K10010				*
TRANSFORMER - (FIM 31-01-06/101)				
DIFFERENTIAL PROTECTION CURRENT, T106, T108				
TRANSFORMER - (FIM 31-01-32/101)				
DIFFERENTIAL PROTECTION CURRENT, T107				
UNIT - APU START TRANSFORMER RECTIFIER, T189 1	--	1	822, AFT EQUIP CTR, E6	24-32-01
UNIT - DC TIE CONTROL, M10213		1	FLT COMPT, P6	24-32-03
UNIT - LEFT TRANSFORMER RECTIFIER, T101	--	1	119BL, MAIN EQUIP CTR, E1-2	24-32-01
UNIT - RIGHT TRANSFORMER RECTIFIER, T102	--	1	119BL, MAIN EQUIP CTR, E1-1	24-32-01

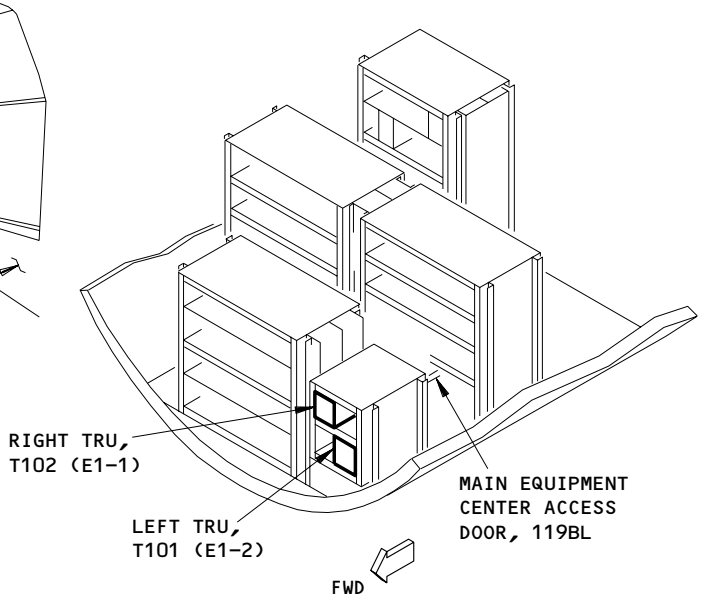
* SEE THE WDM EQUIPMENT LIST

1 AIRPLANES WITH APU START TRU

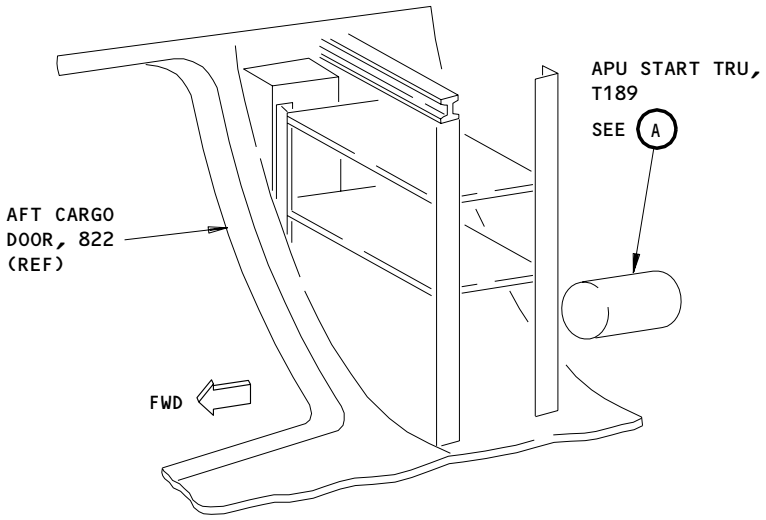
Transformer-Rectifier - Component Index
Figure 101



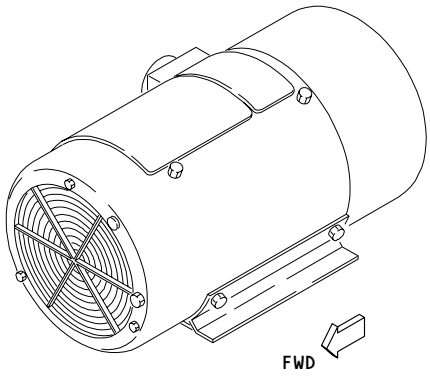
FLIGHT COMPARTMENT



MAIN EQUIPMENT CENTER



AFT EQUIPMENT CENTER RACK, E6



APU START TRANSFORMER
RECTIFIER UNIT, T189

A 1

1 AIRPLANES WITH APU START TRU

Transformer-Rectifier - Component Location
Figure 102

PREREQUISITES

MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (AMM 31-41-00/201)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6A6, 6C10, 6C11, 6C17, 6C23, 6D9, 6D11, 6H7, 6H9, 6H10

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)

EICAS MSG "TR UNIT" DISPLAYED

1 MAKE SURE THE TWO "BUS TIE" SWITCHES, ON THE PILOTS' OVERHEAD PANEL P5, ARE SET TO THE "AUTO" POSITION.

NOTE: IF THESE CIRCUIT BREAKERS WERE OPENED FOR MORE THAN 11.5 ±1.5 SECONDS TO DO MAINTENANCE, THE EICAS MESSAGE "TR UNIT" WILL SHOW ON THE BOTTOM DISPLAY:

L TRU, 31EE2 OR 6C17
R TRU, 32EE2 OR 6C23
L DC VOLT SENSE, 6C11
R DC VOLT SENSE, 6H10

THE PROCEDURE THAT FOLLOWS WILL REMOVE THE EICAS MESSAGE IF IT WAS CAUSED BY MAINTENANCE.

OPEN "DC TIE CONT" CIRCUIT BREAKER, 6A6, ON THE P6 PANEL. STOP FOR A MINIMUM OF THREE SECONDS. CLOSE THE "DC TIE CONT" CIRCUIT BREAKER.
DOES THE EICAS MESSAGE "TR UNIT" SHOW ON THE BOTTOM DISPLAY?

NOTE: IT CAN BE 13 SECONDS BEFORE THE MESSAGE SHOWS AGAIN.

YES → 10 OPEN "DC TIE CONT" CIRCUIT BREAKER, 6A6, ON THE P6 PANEL.
PUSH THE "ELEC HYD" SWITCH ON THE "EICAS MAINT" PANEL ON THE RIGHT SIDE PANEL, P61.
IS THE "DC-V" VALUE BELOW L (R) LESS THAN 21.5 VOLTS.

YES → 20 CLOSE THE "DC TIE CONT" CIRCUIT BREAKER, 6A6, ON THE P6 PANEL.
REPLACE THE LEFT (RIGHT) TRU, T101 (T102) (AMM 24-32-01/401).
PUSH THE "ECS MSG" SWITCH ON THE "EICAS MAINT" PANEL ON THE RIGHT SIDE PANEL, P61.
MAKE SURE THE EICAS MESSAGE "TR UNIT" DOES NOT SHOW ON THE BOTTOM DISPLAY.

NO → 11 PUSH THE "ECS MSG" SWITCH ON THE "EICAS MAINT" PANEL ON THE RIGHT SIDE PANEL, P61.
DOES THE EICAS MESSAGE "TR UNIT" SHOW ON THE BOTTOM DISPLAY?

YES → 21 CLOSE THE "DC TIE CONT" CIRCUIT BREAKER, 6A6, ON THE P6 PANEL.
REPLACE THE DC TIE RELAY, K108 (AMM 24-32-02/401).
MAKE SURE THE EICAS MESSAGE "TR UNIT" DOES NOT SHOW ON THE BOTTOM DISPLAY.

NO → 22 CLOSE THE "DC TIE CONT" CIRCUIT BREAKER, 6A6, ON THE P6 PANEL.
REPLACE THE DC TIE CONTROL UNIT, M10213 (AMM 24-32-03/401).
MAKE SURE THE EICAS MESSAGE "TR UNIT" DOES NOT SHOW ON THE BOTTOM DISPLAY.

NO → 2 THE SYSTEM IS OK.

EICAS Msg TR UNIT Displayed
Figure 103

STANDBY POWER

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
BATTERY - (REF 24-31-00, FIG. 101)				
APU, M208				
CHARGER - (REF 24-31-00, FIG. 101)				
APU BATTERY, M207				
CIRCUIT BREAKERS			FLT COMPT, P6	
AC STBY BUS OFF, C892		1	6M13	*
AC STBY BUS PWR, C874		1	6K16	*
APU/MAIN BAT TIE, C4282		1	6L7	*
BAT BUS CONT, C887		1	6C10	*
BAT BUS DISTR, C829		1	6A1	*
BAT BUS PWR, C898		1	6L10	*
BAT BUS PWR TRU, C886		1	6D11	*
BAT CUR MON PWR, C4097		1	6A4	*
BAT XFR CONT, C814		1	6D2	*
DC STBY, C872		1	6A2	*
DC STBY BUS OFF, C811		1	6A3	*
INVERTER CENTER BUS AC, C875		1	6M14	*
INVERTER VOLT SENSE, C817		1	6M15	*
INV PWR BAT, C813		1	6L11	*
INV PWR TRU, C885		1	6D10	*
STBY BUS OFF LT BAT VM, C4217			6G5	*
STBY PWR CONT, C828			6A5	*
CIRCUIT BREAKERS			FLT COMPT, P11	
EXT STBY BAT, C4276		1	11A19	*
EXT STBY CONT, C4275		1	11A20	*
CIRCUIT BREAKER			822, AFT EQUIP CTR RACK, E6	
BAT DISCH IND INHIBIT, C4286		1		*
CIRCUIT BREAKER - MAIN/APU BATTERY TIE REMOTE CONTROL, M104916		1	822, AFT EQUIP CTR RACK, E6	24-33-02
COMPUTER - (REF 31-41-00, FIG. 101)				
LEFT EICAS, M10181				
RIGHT EICAS, M10182				
CONTACTOR - (REF 49-41-00, FIG. 101)				
APU CRANK, K117				

* SEE THE WDM EQUIPMENT LIST

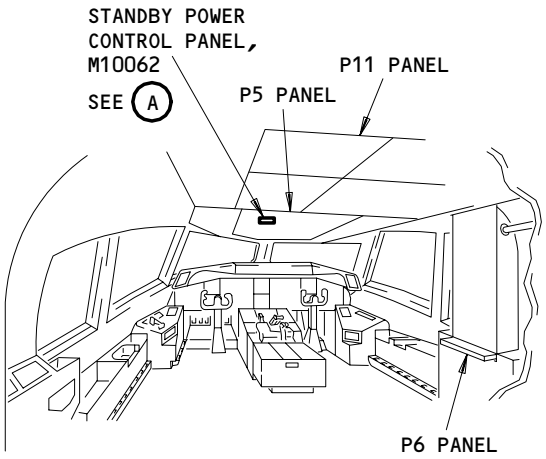
Standby Power - Component Index
Figure 101 (Sheet 1)

STANDBY POWER

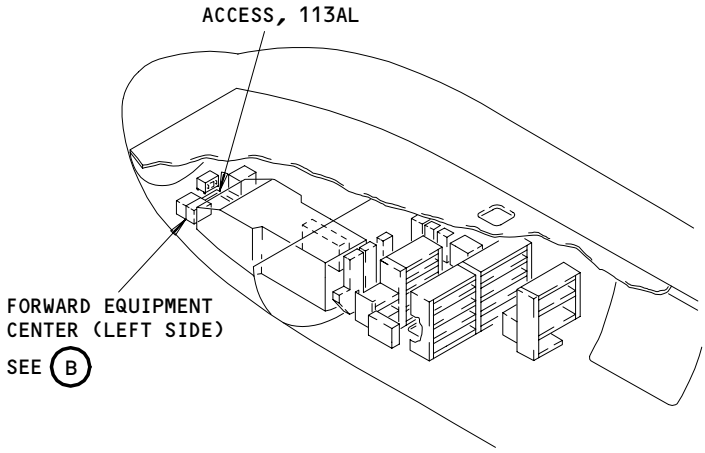
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
INVERTER – STATIC, M217		1	113AL, FWD EQUIP CTR	24-33-03
LIGHT – APU BATTERY DISCHARE, YTGL3	1	1	FLT COMPT, P5, STANDBY POWER CONTROL PANEL, M10062	*
LIGHT – MAIN BATTERY DISCHARGE, YTGL1	1	1	FLT COMPT, P5, STANDBY POWER CONTROL PANEL, M10062	*
LIGHT – STANDBY BUS OFF, YTGL2	1	1	FLT COMPT, P5, STANDBY POWER CONTROL PANEL, M10062	*
MONITOR – (REF 24-31-00, FIG. 101)				
APU BATTERY CURRENT, M10495				
PANEL – STANDBY POWER CONTROL, M10062		1	FLT COMPT, P5	24-33-04
RELAYS – (REF 31-01-06, FIG. 101)				
AC STANDBY BUS OFF, K138				
AC STANDBY POWER, K105				24-33-01
CTR BUS ISOL, K123				
DC STANDBY BUS OFF, K110				
EXT STBY PWR IND, K10416				
ISOL REQ, K122				
MAIN/APU BAT CHGR DET ENABLE, K10424				
MAIN BATTERY, K104				24-33-02
MAIN BAT CHGR DET, K10425				
MAIN BATTERY TRANSFER, K106				24-33-02
STANDBY POWER, K109				24-33-01
UNDER VOLTAGE SENSE, K113				
RELAY – (REF 31-01-86, FIG. 101)				
APU BAT CHARGER DET, K10418				
APU START, K197				
BATTERY DISCHARGE INDICATION INHIBIT, K10422				
SWITCH – BATTERY, YTGS2	1	1	FLT COMPT, P5, STANDBY POWER CONTROL PANEL, M10062	*
SWITCH – STANDBY POWER, YTGS1	1	1	FLT COMPT, P5, STANDBY POWER CONTROL PANEL, M10062	*
TRANSFORMER – (REF 31-01-06, FIG. 101)				
DIFFERENTIAL PROTECTION CURRENT, LEFT GEN, T106				

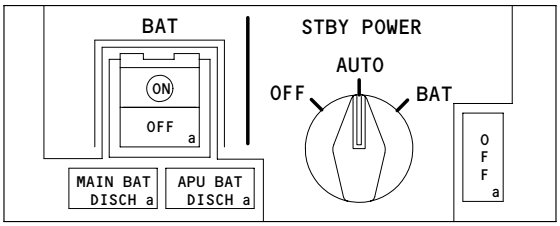
* SEE THE WDM EQUIPMENT LIST

Standby Power – Component Index
Figure 101 (Sheet 2)



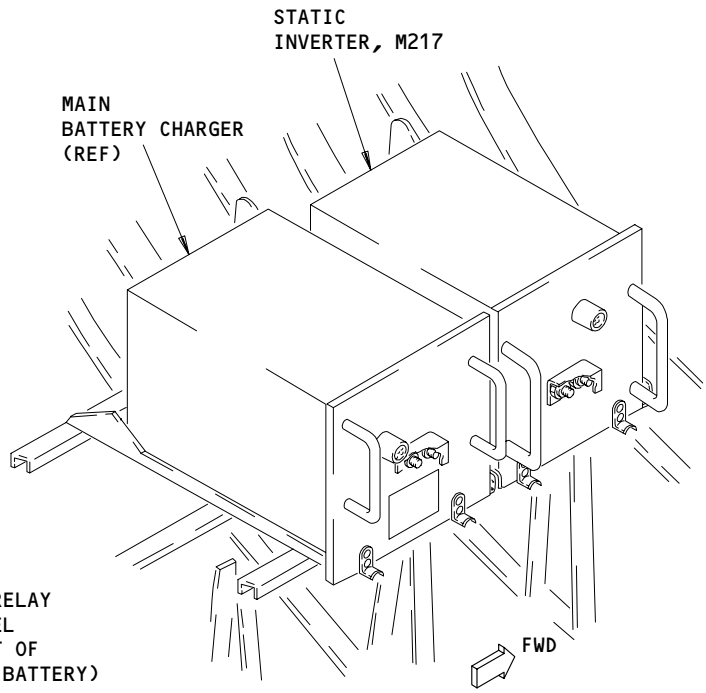
FLIGHT COMPARTMENT





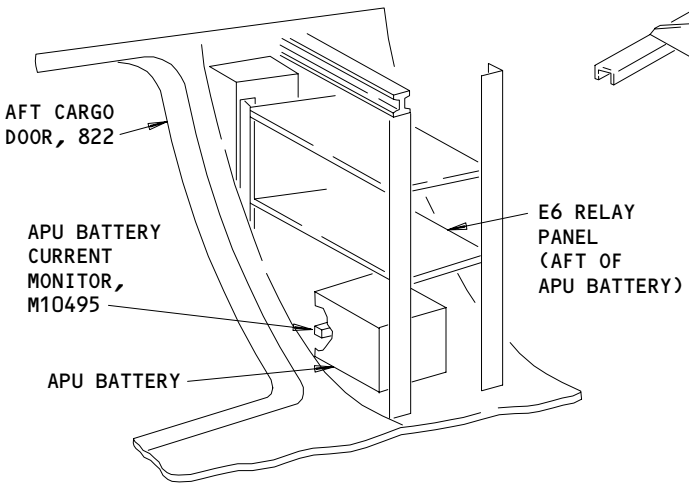
STANDBY POWER CONTROL PANEL, M10062

A



FORWARD EQUIPMENT CENTER
(LEFT SIDE)

B



AFT EQUIPMENT CENTER RACK, E6

C

Standby Power - Component Location
Figure 102

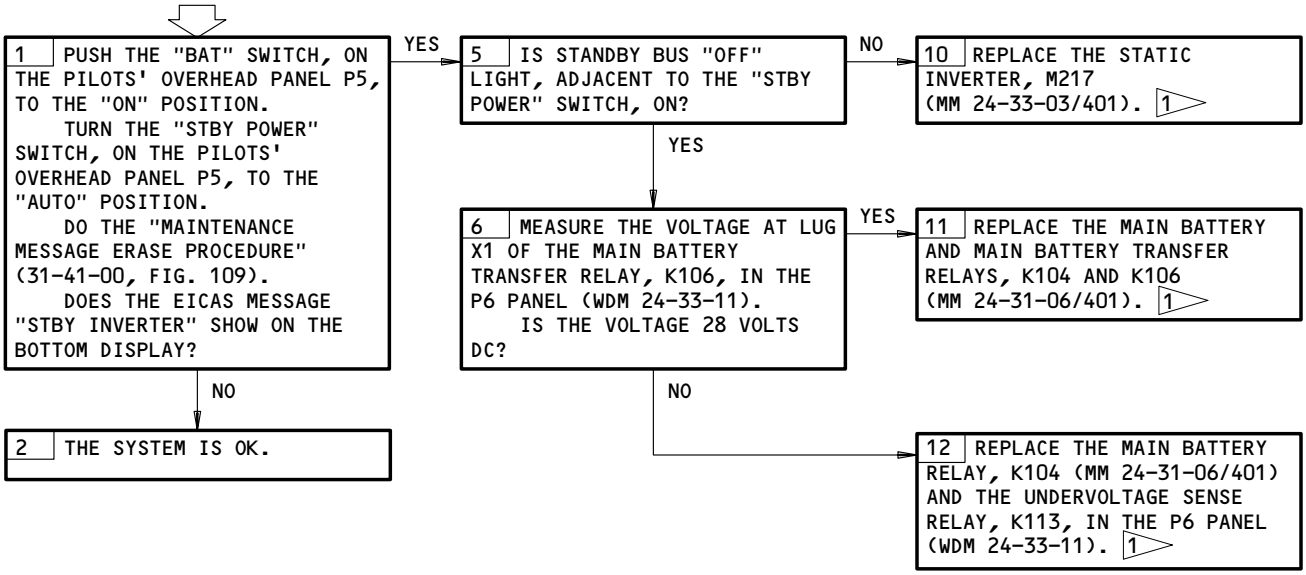
PREREQUISITES

MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (MM 31-41-00/201)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6A1,6A2,6A3,6A5,6C10,6C17,6C23,6D2,6D10,6D11,6G5,
6K16,6L10,6L11,6M13

MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:
ELECTRICAL POWER IS ON (MM 24-22-00/201)

EICAS MSG "STBY INVERTER" DISPLAYED



1 DO THE "MAINTENANCE MESSAGE ERASE PROCEDURE" (31-41-00, FIG. 109).

EICAS Msg STBY INVERTER Displayed
Figure 103

EICAS MSG "STANDBY BUS OFF" DISPLAYED, "STBY POWER" SWITCH IN "AUTO" POSITION

PREREQUISITES

MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (MM 31-41-00/201)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6A1,6A2,6A3,6A4,6A5,6C10,6C17,6C23,6D1,6D2,6D10, 6D11,6G5,6K16,6L8,6L10,6L11,6M13,6M15,37B2

MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:
ELECTRICAL POWER IS ON (MM 24-22-00/201)

1 TURN THE "STBY POWER" SWITCH, ON THE PILOTS' OVERHEAD PANEL P5, TO THE "AUTO" POSITION.
OPEN THE "STBY PWR CONT" CIRCUIT BREAKER 6A5, ON THE P6 PANEL.
DOES THE EICAS MESSAGE "STANDBY BUS OFF" SHOW ON THE TOP DISPLAY?

NO → 10 REPLACE THE STANDBY POWER CONTROL PANEL, M10062 (MM 24-33-04/401).

YES ↓

2 CLOSE THE "STBY PWR CONT" CIRCUIT BREAKER, 6A5, ON THE P6 PANEL.
MEASURE THE VOLTAGE AT TERMINAL B OF THE "DC STBY BUS OFF" CIRCUIT BREAKER, 6A3, IN THE P6 PANEL.
IS THE VOLTAGE 28 ±4 VOLTS DC?

NO → 11 REPLACE THE STANDBY POWER RELAY, K109 (MM 24-33-01/401).

YES ↓

3 REMOVE THE DC STBY BUS OFF RELAY, K110, IN THE P6 PANEL (WDM 24-33-11).
DOES THE EICAS MESSAGE "STANDBY BUS OFF" SHOW ON THE TOP EICAS DISPLAY?

NO → 12 REPLACE THE DC STANDBY BUS OFF RELAY, K110, IN THE P6 PANEL (WDM 24-33-11).

YES →

13 REPLACE THE AC STANDBY BUS OFF RELAY, K138, IN THE P6 PANEL (WDM 24-33-11).
INSTALL THE DC STANDBY BUS OFF RELAY, K110 (WDM 24-33-11).

EICAS Msg STANDBY BUS OFF Displayed, Stby Power in AUTO Pos
Figure 104

EICAS MSG "STANDBY BUS OFF" DISPLAYED, "STBY POWER" SWITCH IN "BAT" POSITION

PREREQUISITES

MAKE SURE THIS SYSTEM WILL OPERATE:
EICAS (AMM 31-41-00/201)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6A1,6A2,6A3,6A4,6A5,6C10,6C17,6C23,6D1,6D2,6D10, 6D11,6G5,6K16,6L8,6L10,6L11,6M13,6M15,37B2

MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:
ELECTRICAL POWER IS ON (AMM 24-22-00/201)

1 PUSH THE "BAT" SWITCH, ON THE PILOTS' OVERHEAD PANEL P5, TO THE "ON" POSITION.
MAKE SURE THE STBY POWER SWITCH, ON THE PILOT'S OVERHEAD PANEL P5, IS IN THE BAT POSITION.
OPEN THE "STBY PWR CONT" CIRCUIT BREAKER, 6A5, ON THE P6 PANEL.
DOES THE EICAS MESSAGE "STANDBY BUS OFF" SHOW ON THE TOP DISPLAY?

NO → 10 REPLACE THE STANDBY POWER CONTROL PANEL M10062 (AMM 24-33-04/401).

YES ↓

2 CLOSE THE "STBY PWR CONT" CIRCUIT BREAKER, 6A5, ON THE P6 PANEL.
MEASURE THE VOLTAGE AT TERMINAL B OF THE "DC STBY BUS OFF" CIRCUIT BREAKER, 6A3, ON THE P6 PANEL.
IS THE VOLTAGE 28 ±4 VOLTS DC?

NO → 6 MEASURE THE VOLTAGE AT TERMINAL 14 OF THE MAIN BATTERY TRANSFER RELAY, K106, IN THE P6 PANEL (WDM 24-33-11).
IS THE VOLTAGE ZERO?

YES → 11 REPLACE THE STANDBY POWER RELAY, K109 (AMM 24-33-01/401).

NO → 12 REPLACE THE STANDBY POWER CONTROL PANEL, M10062 (AMM 24-33-04/401).

YES ↓

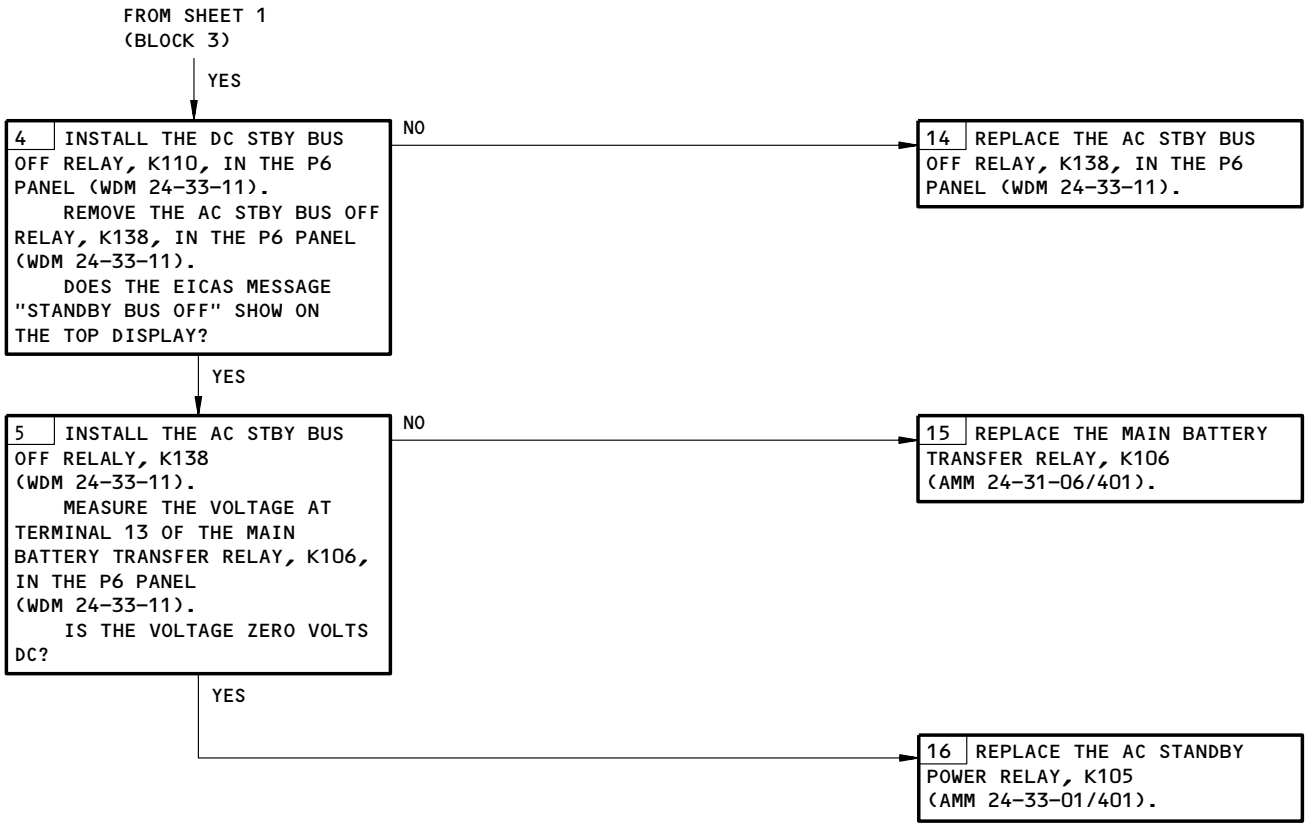
3 REMOVE THE DC STBY BUS OFF RELAY, K110, IN THE P6 PANEL. (WDM 24-33-11).
DOES THE EICAS MESSAGE "STANDBY BUS OFF" SHOW ON THE TOP DISPLAY?

NO → 13 REPLACE THE DC STBY BUS OFF RELAY, K110 IN THE P6 PANEL (WDM 24-33-11).

YES ↓

SEE SHEET 2
(BLOCK 4)

EICAS Msg STANDBY BUS OFF Displayed, Stby Power Switch in BAT Position
Figure 105 (Sheet 1)



EICAS Msg STANDBY BUS OFF Displayed, Stby Power Switch in BAT Position
Figure 105 (Sheet 2)

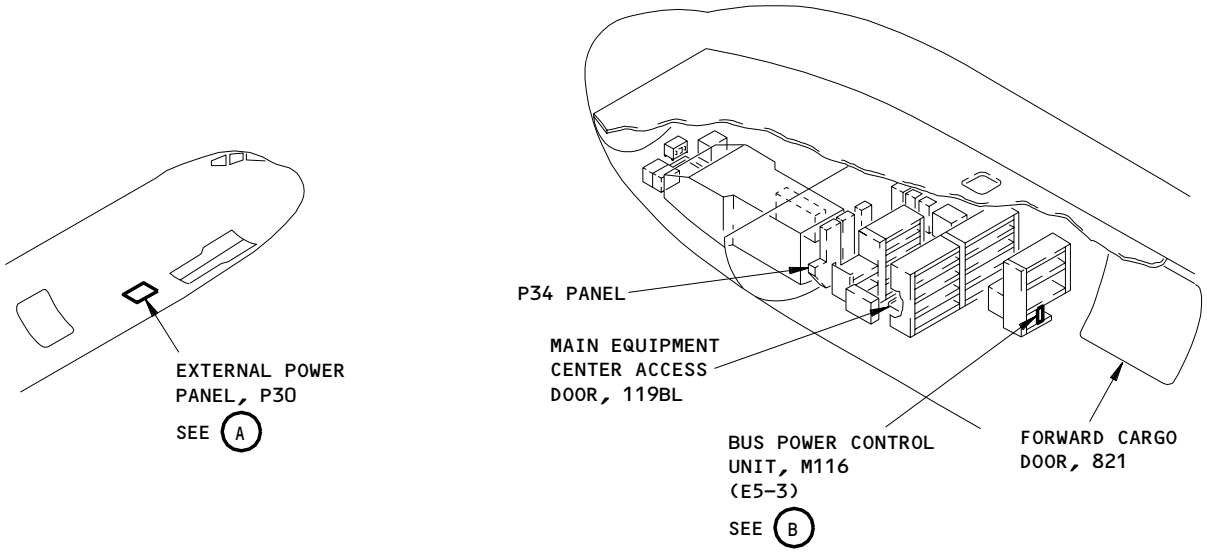
814296

EXTERNAL POWER

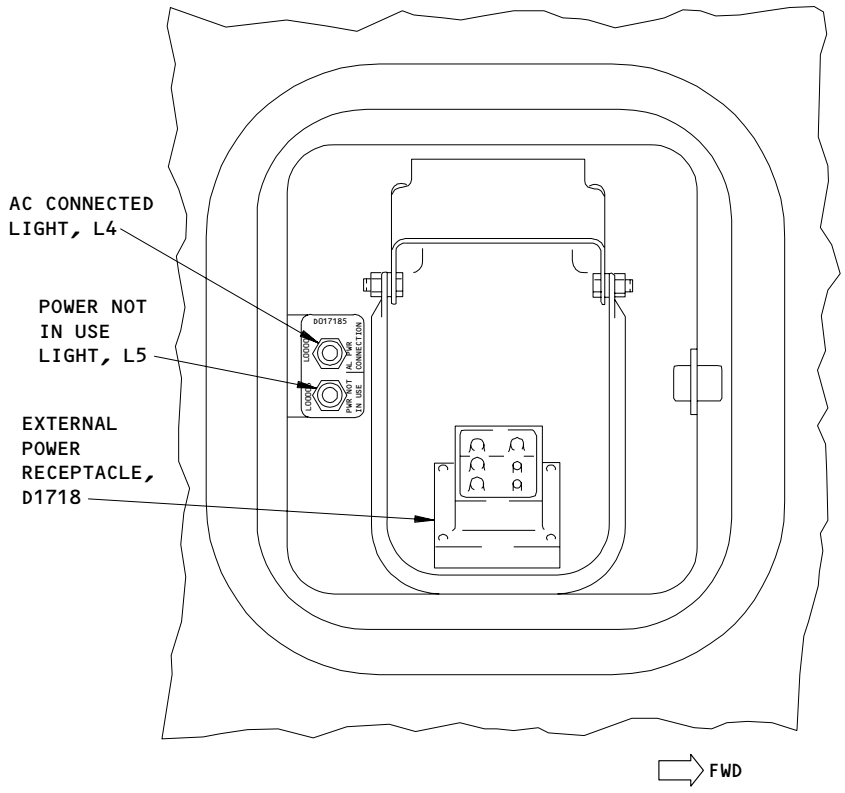
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
BREAKER - (REF 24-22-00, FIG. 101)				
AUXILIARY POWER, C905				
CIRCUIT BREAKER	--		FLT COMPT, P6	
BUS PWR CONT UNIT, C809		1	6B4	*
CIRCUIT BREAKER	--		FLT COMPT, P11	
BPCU SEC, C803		1	11R32	*
CIRCUIT BREAKER	--		119BL, MAIN EQUIP CTR, P34	
GROUND POWER BPCU, C320		1	34M6, SECT A	*
CONTACTOR - (REF 31-01-34, FIG. 101)				24-41-01
EXTERNAL POWER, K114				
LIGHT - AC CONNECTED, L4	--	1	120AR, P30	*
LIGHT - HOT BUS WARNING, L15	--	1	119BL, P34	*
LIGHT - POWER NOT IN USE, L5	--	1	120AR, P30	*
PANEL - (REF 24-22-00, FIG. 101)				
ELECTRICAL POWER SYSTEM CONTROL, M10063				
PANEL - (REF 24-33-00, FIG. 101)				
STANDBY POWER CONTROL, M10062				
RECEPTACLE - EXTERNAL POWER, D1718	--	1	120AR, P30	24-41-02
TRANSFORMER - (REF 31-01-34, FIG. 101)				
CURRENT DIFFERENTIAL PROTECTION EXTERNAL POWER TIE BUS, T116				
GRND POWER CURRENT, T122				
UNIT - BUS POWER CONTROL, M116	--	1	821, FWD CARGO COMPT, E5-3	24-41-03
UNIT - (REF 24-22-00, FIG. 101)				
APU GENERATOR CONTROL, M143				
LEFT GENERATOR CONTROL, M144				
RIGHT GENERATOR CONTROL, M146				

* SEE THE WDM EQUIPMENT LIST

External Power - Component Index
Figure 101

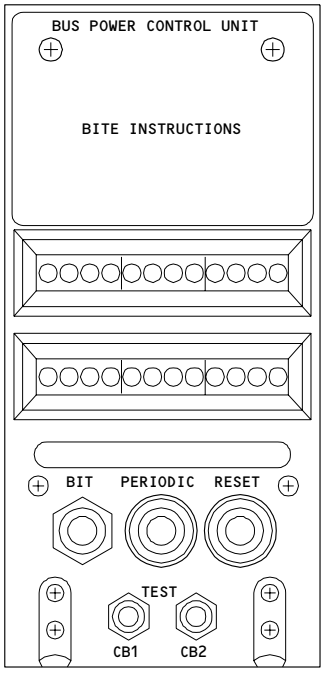


MAIN EQUIPMENT CENTER



EXTERNAL POWER PANEL, P30

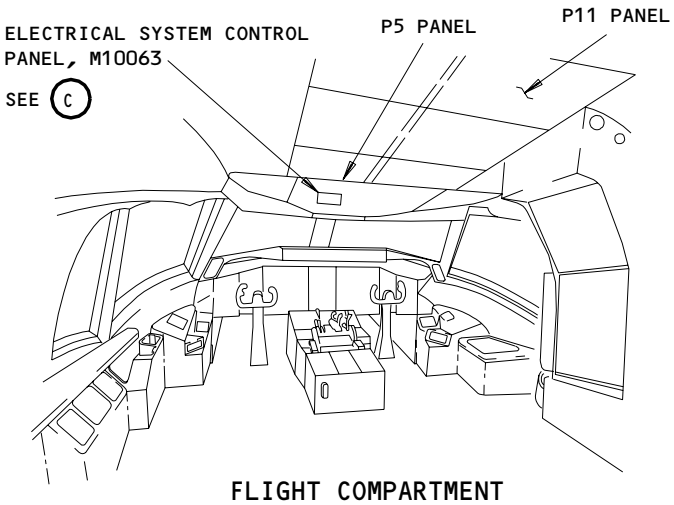
A



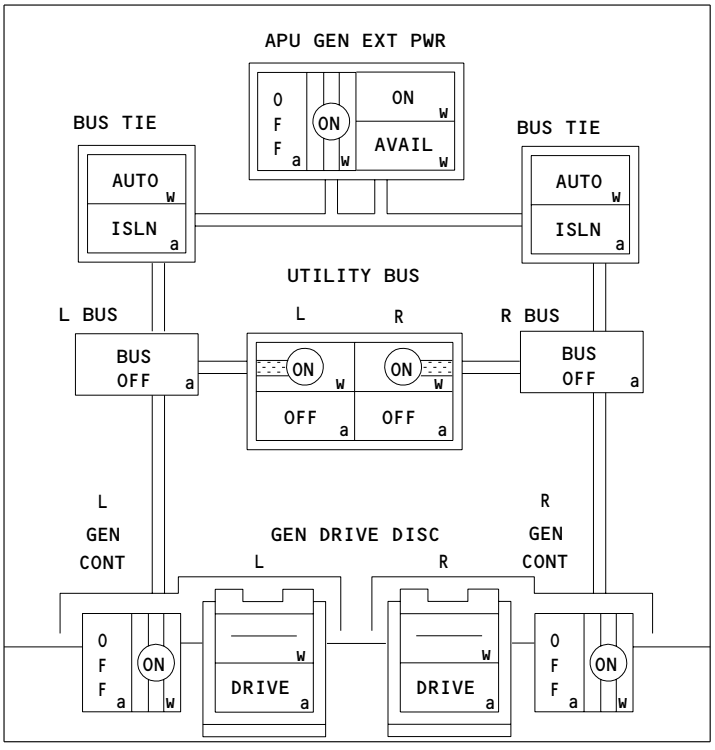
BUS POWER CONTROL UNIT, M116

B

External Power - Component Location
Figure 102 (Sheet 1)



FLIGHT COMPARTMENT



ELECTRICAL SYSTEM CONTROL PANEL, MI0063

C

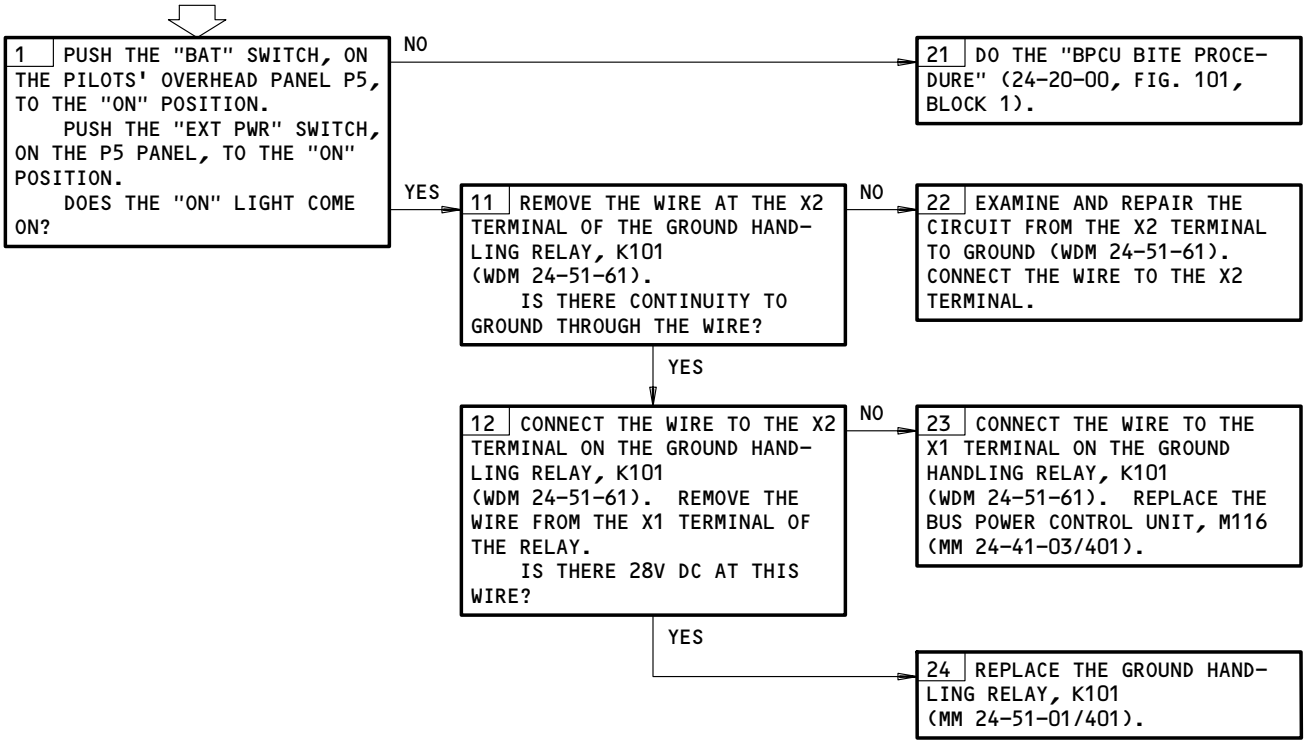
External Power - Component Location
Figure 102 (Sheet 2)

EXT PWR "ON" LGT REMAINS EXTIN WHEN PRESSED WITH "AVAIL" LGT ILLUM AND NO AC POWER ON AIRPLANE

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6B4,11R32,34B2,34D2

MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:
EXTERNAL ELECTRICAL POWER IS ON (MM 24-22-00/201)



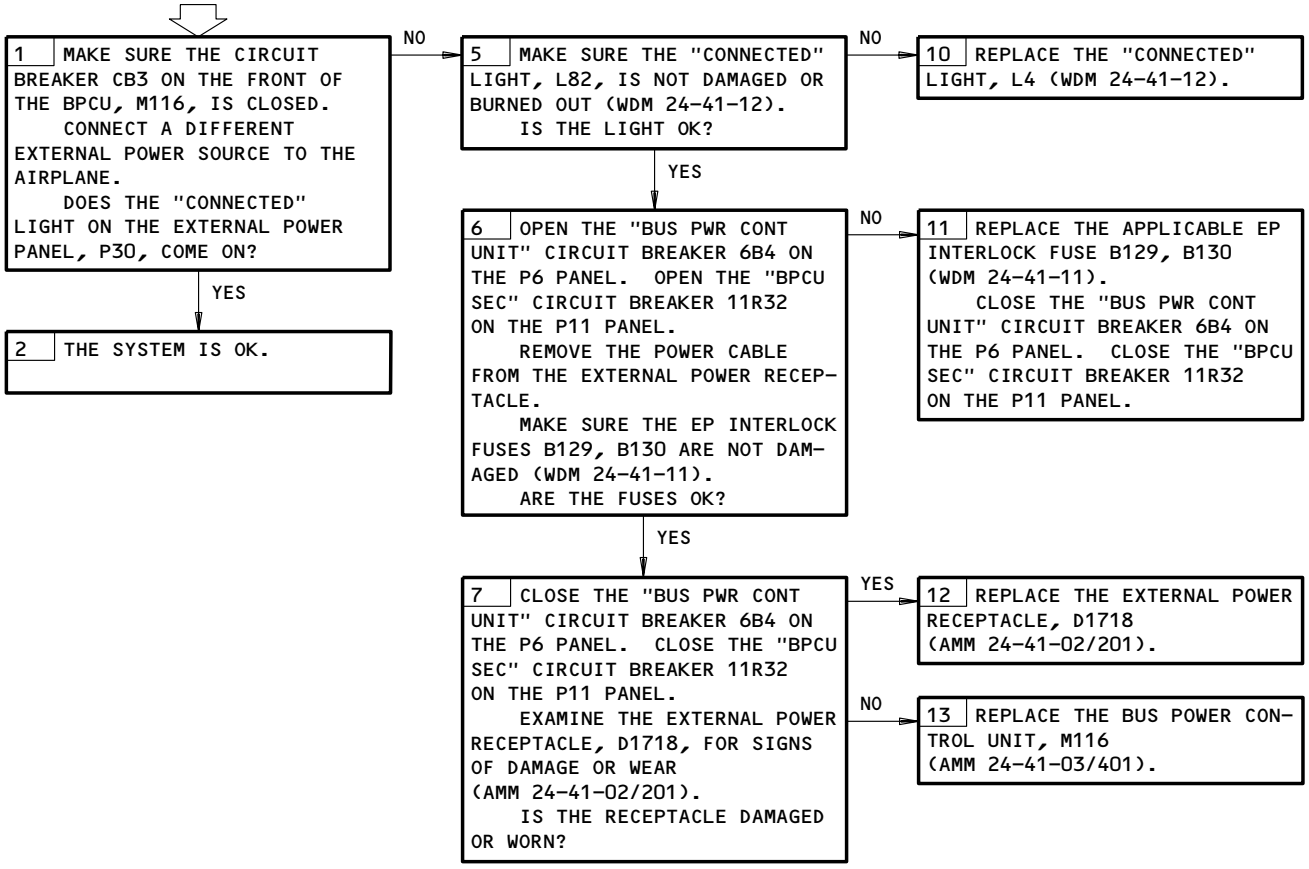
Ext Pwr ON Lgt Remains Extin When Pressed with AVAIL Lgt Illum and No AC Power on Airplane
Figure 103

EXTERNAL POWER "AVAIL" OR "CONNECTED" LGT EXTIN WITH EXTERNAL POWER CONNECTED TO RECEPTACLE

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6B4,11R32,34B2

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
POWER TO THE GROUND HANDLING BUS (AMM 24-22-00/201)



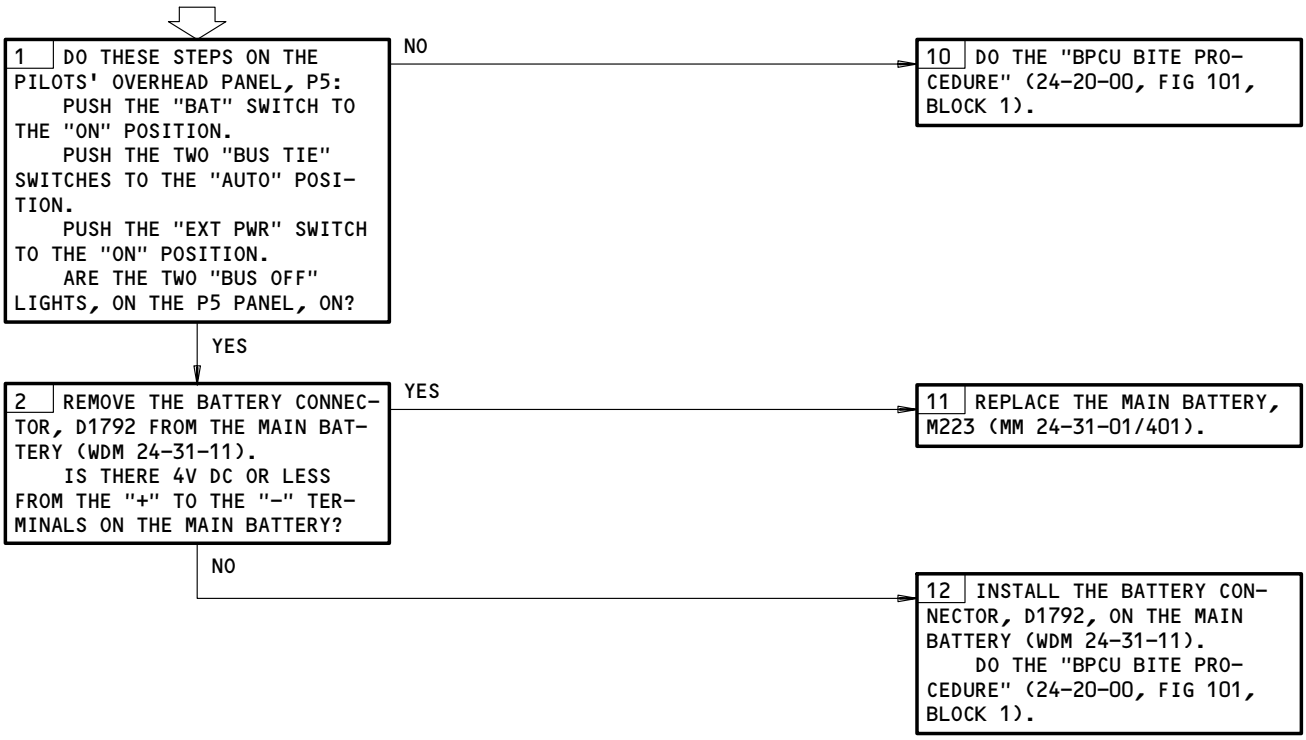
External Power CONNECTED Lgt Extin with External Power Connected to Receptacle
Figure 104

"BUS OFF" LGT ON WITH "EXT PWR" SWITCH ON, "BAT" SWITCH ON, "BUS TIE" SWITCHES IN "AUTO"

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6A1,6B1,6B2,6B4,6D2,6L10,34B2(PLATE A)

MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:
EXTERNAL ELECTRICAL POWER IS ON (MM 24-22-00/201)
THE "ON" LIGHT IN THE "EXT PWR" SWITCH IS ON AT THE P5 PANEL



BUS OFF Lgt on with EXT PWR Switch on, BAT Switch on, BUS TIE Switches in AUTO
Figure 105

115-VOLT AC POWER DISTRIBUTION

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
CIRCUIT BREAKERS			FLT COMPT, P6	
ϕA CAPT PRIM INSTR BUS, C4264		1	6M16	*
ϕB CAPT PRIM INSTR BUS, C4265		1	6M17	*
ϕC CAPT PRIM INSTR BUS, C4266		1	6M18	*
ϕA F/O PRIM INSTR BUS, C4267		1	6M22	*
ϕB F/O PRIM INSTR BUS, C4268		1	6M23	*
ϕC F/O PRIM INSTR BUS, C4269		1	6M24	*
AC STBY BUS PWR, C874		1	6K16	*
CENTER BUS AC, C876		1	6K17	*
28V AC BUS L, C877		1	6K18	*
28V AC BUS R, C878		1	6K24	*
115V AC BUS L SEC 1, C313		1	6C14	*
115V AC BUS L SEC 2, C308		1	6A17	*
115V AC BUS L SEC 3, C310		1	6A14	*
115V AC BUS R SEC 1, C319		1	6C20	*
115V AC BUS R SEC 2, C307		1	6A23	*
115V AC BUS R SEC 3, C317		1	6A20	*
CIRCUIT BREAKERS			FLT COMPT, P11	
LIGHTING CAPT INSTR ALT BUS A, C4227		1	11Q34	*
LIGHTING CAPT INSTR ALT BUS B, C4229		1	11Q35	*
LIGHTING CAPT INSTR ALT BUS C, C4231		1	11Q36	*
LIGHTING F/O INSTR ALT BUS A, C4266		1	11Q7	*
LIGHTING F/O INSTR ALT BUS B, C4228		1	11Q8	*
LIGHTING F/O INSTR ALT BUS C, C4230		1	11W9	*
LIGHTING CAPT INSTR XFR CONT, C4225		1	11Q33	*
LIGHTING F/O INST XFR CONT, C4224		1	11Q6	*
MISC SYS CAT III BUS ISOL L, C824		1	11R3	*
MISC SYS CAT III BUS ISOL R, C825		1	11R30	*
MISC SYS UTIL BUS L, C822		1	11R4	*
MISC SYS UTIL BUS R, C823		1	11R31	*
CIRCUIT BREAKER			119BL, MAIN EQUIP CTR, P31	
UTIL BUS - LEFT, C311		1	31A2	*
CIRCUIT BREAKERS			119BL, MAIN EQUIP CTR, P32	
R GEN GND SVCE BUS, C316		1	32A8	*
UTIL BUS - RIGHT, C315		1	32A7	*
CIRCUIT BREAKERS			119BL, MAIN EQUIP CTR, P34	
GND SVCE BUS APU, C322		1	34A2, SECT C	*
GND SVCE BUS EXT PWR, C306		1	34E2, SECT C	*

* SEE THE WDM EQUIPMENT LIST

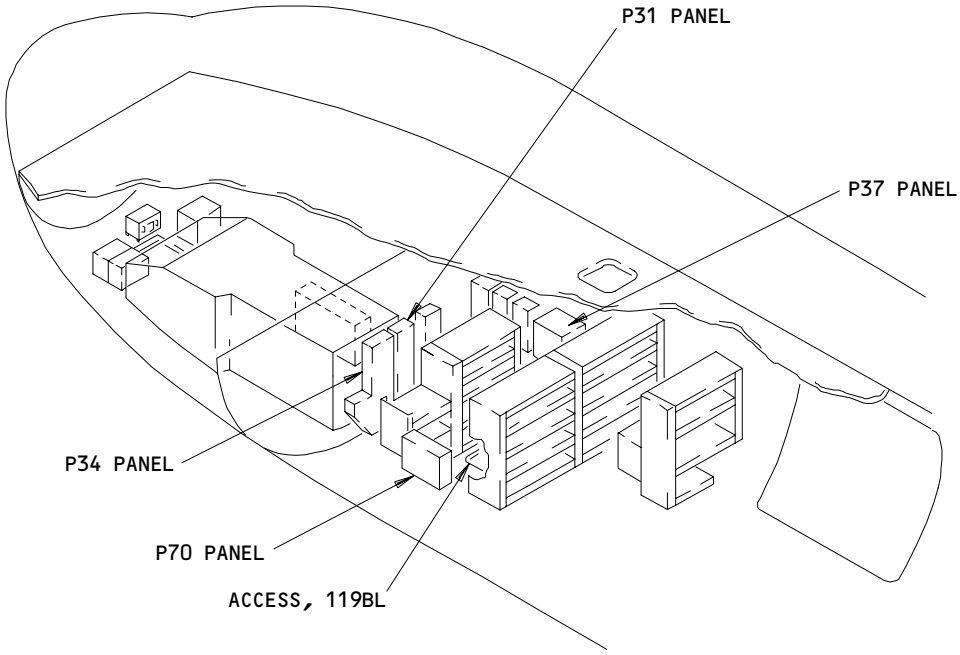
115-Volt AC Power Distribution - Component Index
Figure 101 (Sheet 1)

115-VOLT AC POWER DISTRIBUTION

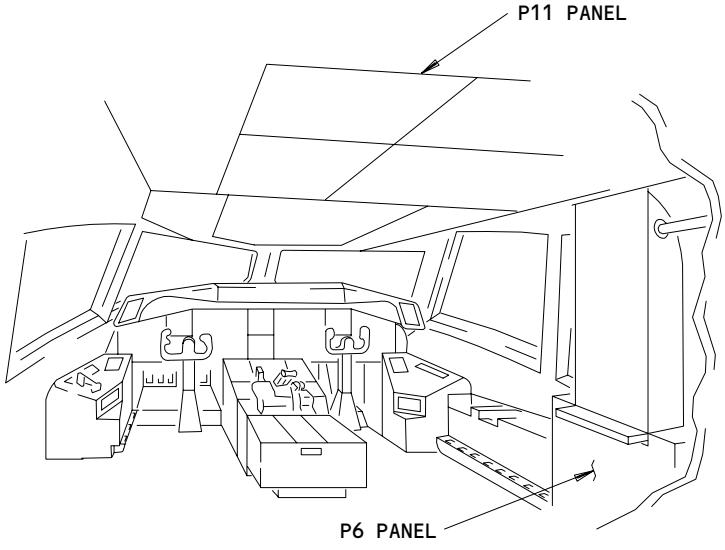
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
RELAYS - (REF 31-01-06, FIG. 101)				
CENTER BUS ISOLATION, K123				*
CENTER BUS TRANSFER, K107				*
ISOLATION REQUEST, K122				*
RELAYS (REF 31-01-34, FIG. 101)				
GROUND HANDLING, K101				24-51-01
GROUND SERVICE SELECT, K103				24-51-04
RELAYS (REF 31-01-37, FIG. 101)				
GALLEY GROUND LOAD SHED, K10136				*
GROUND GALLEY LOAD SHED CONT, K10391				*
GROUND SERVICE TRANSFER, K102				24-51-03
RIGHT UTILITY BUS, K120				24-51-02
UTILITY/GALLEY POWER FLIGHT RESET, K10109				*
UTILITY BUS GALLEYS R, K10298				*
RELAY (REF 31-01-70, FIG. 101)				
LEFT UTILITY BUS, K119				24-51-02
UNIT (REF 31-01-06, FIG. 101)				
CAPTAIN'S INSTRUMENT BUS VOLTAGE SENSING, M10374				24-51-08
FIRST OFFICER'S INSTRUMENT BUS VOLTAGE SENSING, M10375				24-51-08

* SEE THE WDM EQUIPMENT LIST

115-Volt AC Power Distribution - Component Index
Figure 101 (Sheet 2)



MAIN EQUIPMENT CENTER



FLIGHT COMPARTMENT

115 Volt AC Power Distribution - Component Location
Figure 102

UTILITY BUS "OFF" LT ON (ON GND OR INFLT WITH 2 GEN OPERATION)

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6B4

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION:
ELECTRICAL POWER IS ON (MM 24-22-00/201)

1 PUSH THE "BIT" SWITCH ON THE BUS POWER CONTROL UNIT, M116, AT E5-3.
DOES THE "BPCU FAIL" MESSAGE SHOW ON THE EXTERNAL POWER CHANNEL OF THE BPCU DISPLAY?

YES → 2 DO THE APPLICABLE CORRECTION FROM THE "AC GENERATION BITE PROCEDURE" (24-20-00, TABLE 101).

NO → 3 REPLACE THE ELECTRICAL SYSTEM CONTROL PANEL, M10063 (MM 24-22-01/401).
IF THE PROBLEM CONTINUES, REPLACE RELAY K10109 IN THE LEFT MISCELLANEOUS ELECTRICAL EQUIPMENT PANEL, P37 (WDM 24-51-71).
IF THE PROBLEM CONTINUES, REPLACE THE LEFT (RIGHT) UTILITY BUS RELAY, K119 (K120) (MM 24-51-02/401).

Utility Bus "OFF" Lt On (on Gnd or Inflt 2 Gen Operation)
Figure 103

PREREQUISITES

MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:

ENGINE GENERATORS ARE OFF

UTILITY BUS "OFF" LT REMAINED ILLUM AFTER ENGINE START USING APU

1 REMOVE THE LEFT (RIGHT) UTILITY BUS RELAY K119 (K120) (MM 24-51-05/401). SUPPLY 28V DC BETWEEN PINS X1 AND X2 ON THE RELAY.

IS THERE CONTINUITY BETWEEN PINS 13 AND 14 ON THE RELAY?

YES → 2 REPLACE THE LEFT (RIGHT) BUS RELAY, K119 (K120) (MM 24-51-02/401).

NO → 3 INSTALL THE LEFT (RIGHT) UTILITY BUS RELAY K119 (K120) (MM 24-51-05/401).

REPLACE THE ELECTRICAL SYSTEM CONTROL PANEL, M10063 (MM 24-22-01/401).

IF THE PROBLEM CONTINUES, DO THE "UTILITY BUS FAILS TO AUTOMATICALLY RESET AFTER ENG START WITH APU" PROCEDURE (24-51-00, FIG. 105A, BLOCK 1).

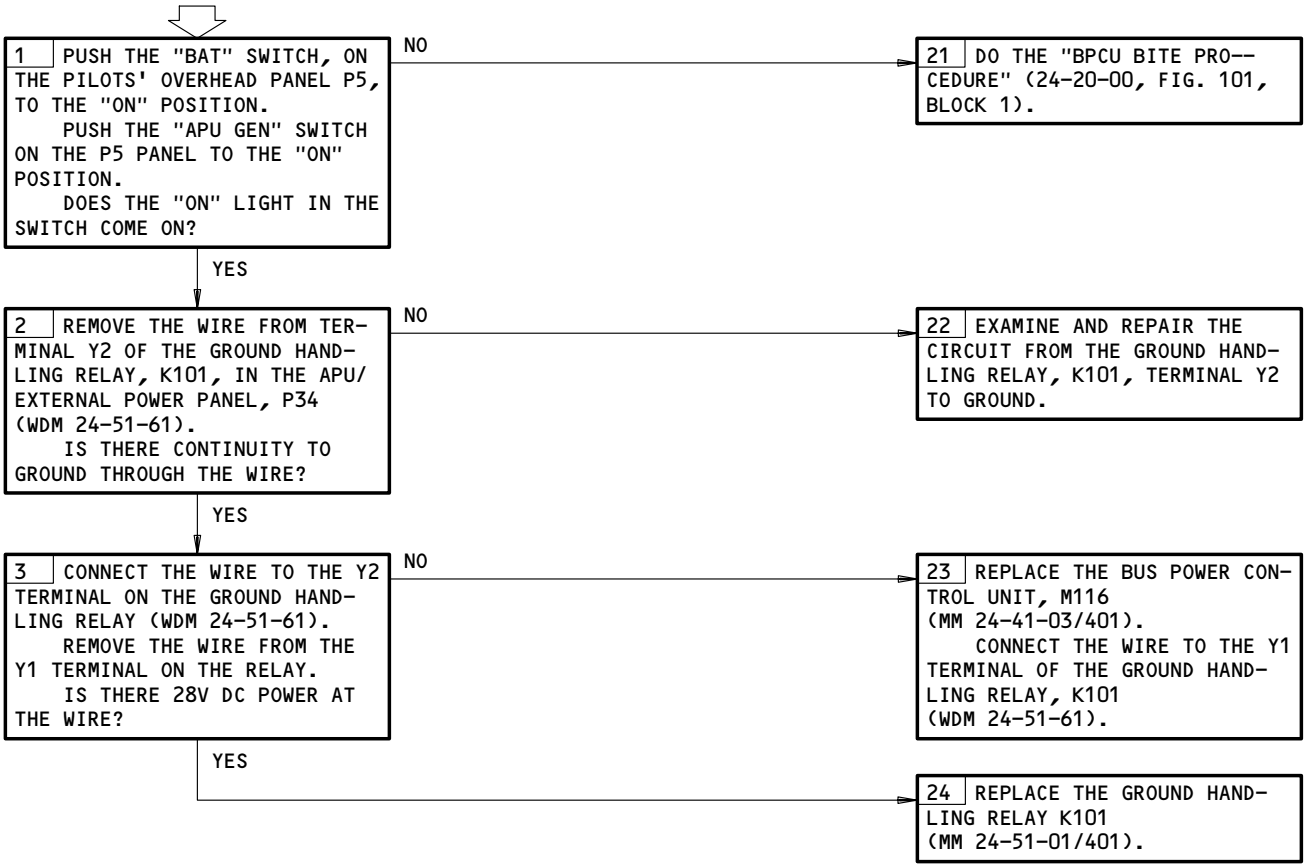
Utility Bus "OFF" Lt Remained Illum After Engine Start Using APU
Figure 104

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6B3,6B4,34C2,34G2

MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:
- ELECTRICAL POWER IS ON (MM 24-22-00/201)
- APU IS ON (MM 49-11-00/201)

APU WON'T POWER GROUND HANDLING BUS



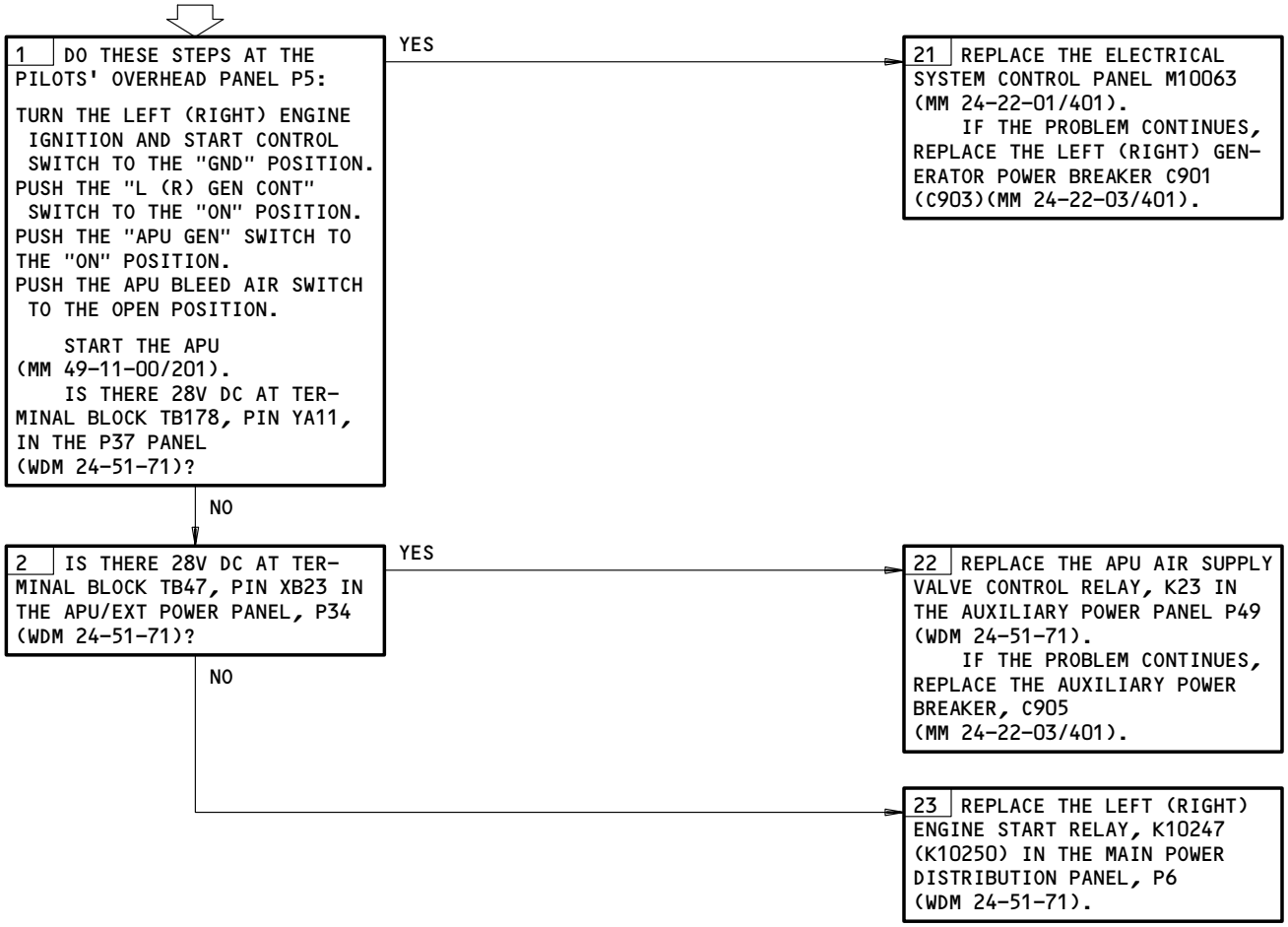
APU Won't Power Ground Handling Bus
Figure 105

UTILITY BUS FAILS TO AUTOMATICALLY RESET AFTER ENG START WITH APU

PREREQUISITES

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED:
6B1,6B2,6B4,11R4,11R31

MAKE SURE THE AIRPLANE IS IN THE CONFIGURATION THAT FOLLOWS:
ELECTRICAL POWER IS ON (MM 24-22-00/201)



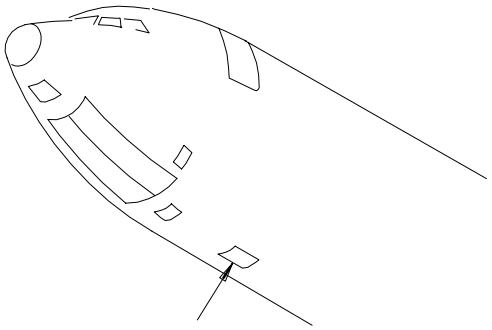
Utility Bus Fails to Automatically Reset After Eng Start with APU
Figure 105A

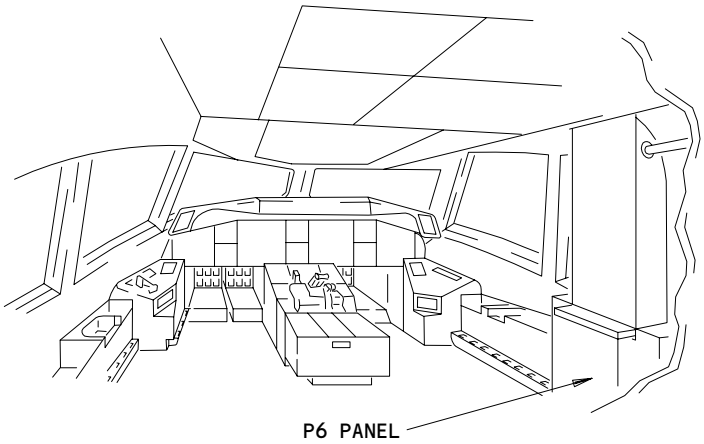
28 VOLT AC POWER DISTRIBUTION

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
AUTOTRANSFORMER - (FIM 31-01-33/101)				
RIGHT 28V AC BUS, T124				
AUTOTRANSFORMER - (FIM 31-01-37/101)				
GROUND SERVICE BUS, T126				
AUTOTRANSFORMER - (FIM 31-01-70/101)				
LEFT 28V AC BUS, T123				
CIRCUIT BREAKER -	--		FLT COMPT, P6	
28V AC BUS LEFT, C877		1	6K18	*
28V AC BUS RIGHT, C878		1	6K24	*
CIRCUIT BREAKER -	--		119BL, MAIN EQUIP CTR, P37	
GND XFMR, C871		1	37E5	*

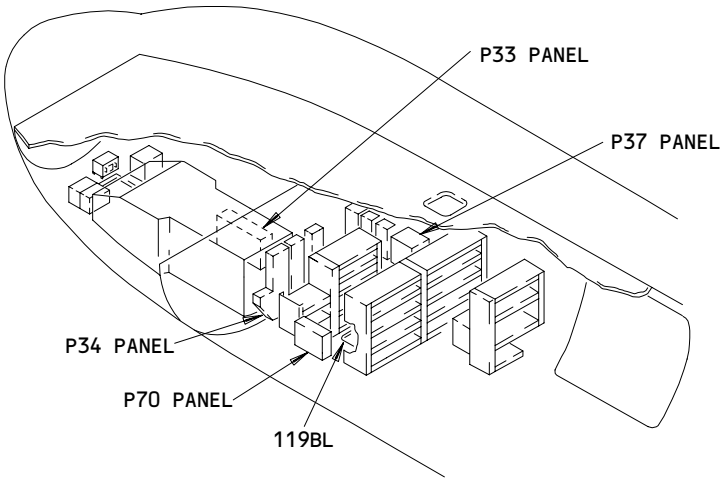
* SEE THE WDM EQUIPMENT LIST

28 Volt AC Power Distribution - Component Index
Figure 101





FLIGHT COMPARTMENT



MAIN EQUIPMENT CENTER

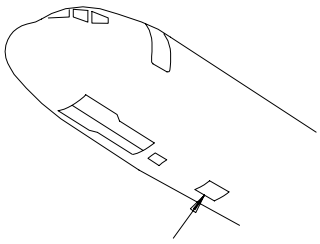
28 Volt AC Power Distribution - Component Location
Figure 102

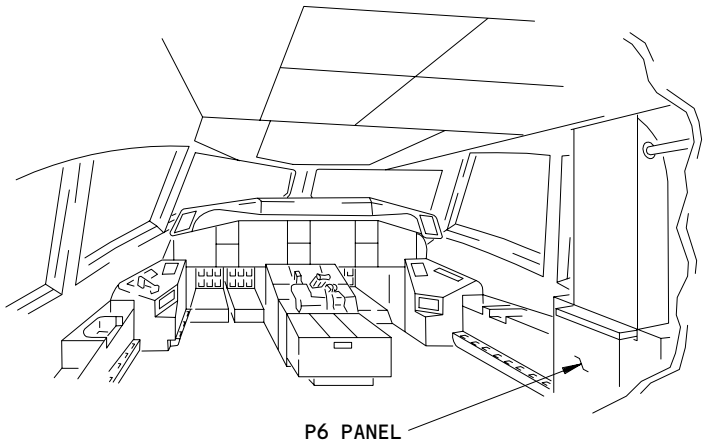
28 VOLT DC POWER DISTRIBUTION

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –			FLT COMPT, P6	
BAT BUS DISTR, C829		1	6A1	*
CENTER BUS DC, C899		1	6L12	*
HOT BAT BUS, C897		1	6L9	*
LEFT DC BUS SEC 1, C882		1	6D8	*
LEFT DC BUS SEC 2, C883		1	6D7	*
RIGHT DC BUS SEC 1, C891		1	6H8	*
RIGHT DC BUS SEC 2, C890		1	6H7	*
CIRCUIT BREAKER –			119BL, MAIN EQUIP CTR, P34	
GROUND HANDLING TRU, C304			34B1, SECT A	*
TR UNIT – (FIM 31-01-34/101)				24-54-01
GROUND HANDLING BUS, T103				

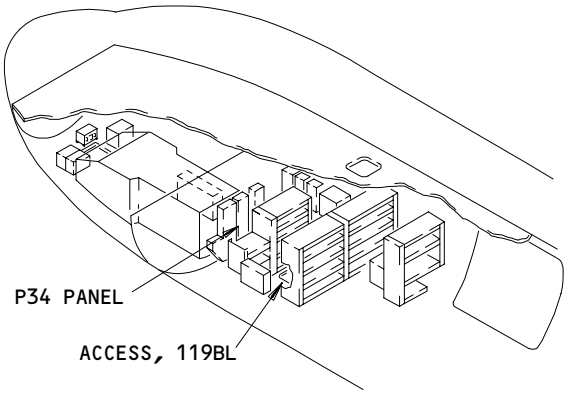
* SEE THE WDM EQUIPMENT LIST

28 Volt DC Power Distribution – Component Index
Figure 101





FLIGHT COMPARTMENT



MAIN EQUIPMENT CENTER

28 Volt DC Power Distribution - Component Location
Figure 102